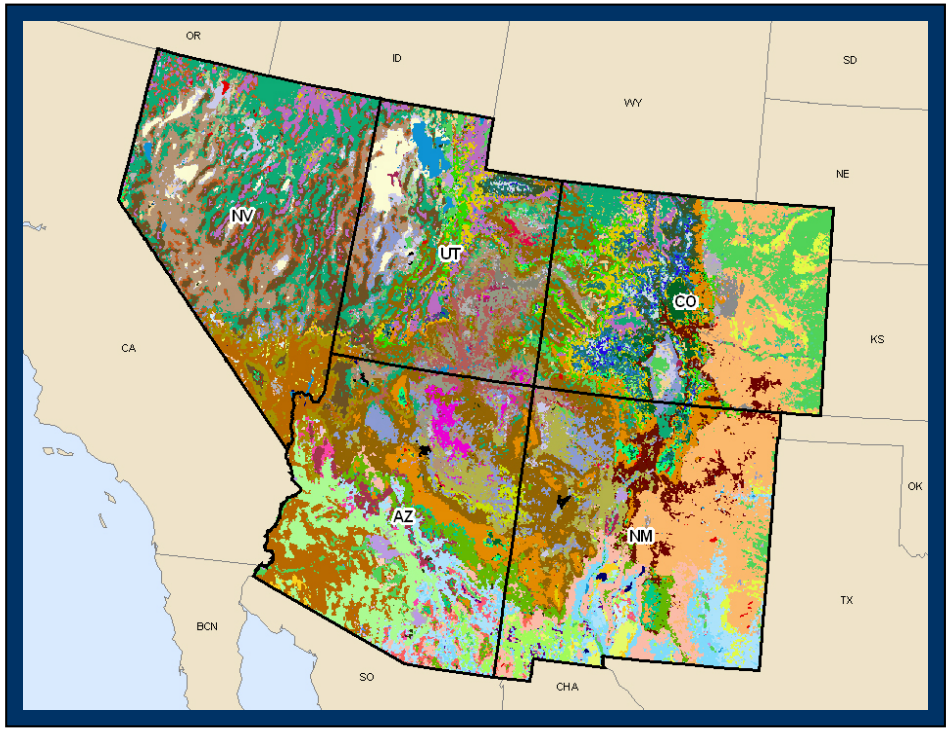
Southwest Regional GAP Analysis Project - Land Cover Descriptions

Inter-Mountain Basins
Montane Sagebrush
Steppe

Rocky Mountain
Alpine Bedrock
and Scree

Mediterranean California
Red Fir Forest and Woodland



Western Great Plains
Foothill and Piedmont Grassland

Great Basin
Pinyon-Juniper Woodland

Rocky Mountain
Subalpine Dry-Mesic
Spruce-Fir Forest and Woodland

Inter-Mountain Basins
Semi-Desert
Grassland

Sonoran
Paloverde-Mixed Cacti
Desert Scrub

Colorado Plateau
Mixed Bedrock
Canyon and Tableland

Chihuahuan
Mixed Desert and
Thorn Scrub

Contacts for SWReGAP:

Regional Coordinator
USGS/Biological Resources Discipline, Las Cruces
Julie Prior-Magee, jpmagee@nmsu.edu (505) 646-1084

Arizona
USGS, Colorado Plateau Field Station, Flagstaff
Kathryn Thomas, kathryn_a_thomas@usgs.gov (929) 556-7466 ext.235

Colorado
Colorado Division of Wildlife and BLM-NSTC, Denver
Don Schrupp, hqwris@lamar.colostate.edu (303) 291-7277
Dianne Osborne, Dianne_Osborne@blm.gov (303) 236-5664
Lee O'Brien, lee@nrel.colostate.edu (970) 482-1802

Nevada
U.S. Environmental Protection Agency, Las Vegas
William Kepner, kepner.william@epa.gov (702) 798-2193
David Bradford, bradford.david@epa.gov (702) 798-2681

Lockheed Martin Environmental Services
Todd Sajwaj, tsajwaj@lmepo.com (702) 897-3283

New Mexico
New Mexico Coop Fish & Wildlife Research Unit, Las Cruces
Ken Boykin, kboykin@nmsu.edu (505) 646-6303

Utah
Utah State University, RS/GIS Laboratory, Logan
Doug Ramsey, doug.ramsey@usu.edu (435) 797-3783
John Lowry, jlowry@gis.usu.edu (435) 797-0653

NatureServe
NatureServe, Boulder
Keith Schulz, Keith_Schulz@natureserve.org (303) 541-0356

TABLE OF CONTENTS

* Approximate National Land Cover Dataset (NLCD) 2001 Land Cover Class Definitions

Index A. Alphabetized by Ecological System Name / Land Cover Type

Index B. Alphabetized by SCODE

S025	Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland	79
S026	Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland	49
S028	Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	75
S029	Northern Pacific Mesic Subalpine Parkland	65
S030	Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland	77
S031	Rocky Mountain Lodgepole Pine Forest	71
S032	Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland	67
S033	Mediterranean California Dry-Mesic Mixed Conifer Forest and Woodland	59
S034	Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland	73
S035	Madrean Pine-Oak Forest and Woodland	53
S036	Southern Rocky Mountain Ponderosa Pine Woodland	85
S038	Southern Rocky Mountain Pinyon-Juniper Woodland	83
S039	Colorado Plateau Pinyon-Juniper Woodland	45
S040	Great Basin Pinyon-Juniper Woodland	47
S042	Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	87
S043	Rocky Mountain Alpine Dwarf-Shrubland	123
S045	Inter-Mountain Basins Mat Saltbush Shrubland	113
S046	Rocky Mountain Gambel Oak-Mixed Montane Shrubland	125
S047	Rocky Mountain Lower Montane-Foothill Shrubland	127
S048	Western Great Plains Sandhill Shrubland	143
S050	Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland	117
S051	Madrean Encinal	51
S052	Colorado Plateau Pinyon-Juniper Shrubland	105
S053	Great Basin Semi-Desert Chaparral	107
S054	Inter-Mountain Basins Big Sagebrush Shrubland	111
S055	Great Basin Xeric Mixed Sagebrush Shrubland	109
S056	Colorado Plateau Mixed Low Sagebrush Shrubland	103
S057	Mogollon Chaparral	119
S058	Apacherian-Chihuahuan Mesquite Upland Scrub	89
S059	Colorado Plateau Blackbrush-Mormon-tea Shrubland	101
S060	Mojave Mid-Elevation Mixed Desert Scrub	121
S061	Chihuahuan Succulent Desert Scrub	97
S062	Chihuahuan Mixed Desert and Thorn Scrub	91
S063	Sonoran Paloverde-Mixed Cacti Desert Scrub	137
S065	Inter-Mountain Basins Mixed Salt Desert Scrub	115
S068	Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	95
S069	Sonora-Mojave Creosotebush-White Bursage Desert Scrub	129
S070	Sonora-Mojave Mixed Salt Desert Scrub	131
S071	Inter-Mountain Basins Montane Sagebrush Steppe	161
S074	Southern Rocky Mountain Juniper Woodland and Savanna	175
S075	Inter-Mountain Basins Juniper Savanna	159
S077	Apacherian-Chihuahuan Semi-Desert Grassland and Steppe	147
S078	Inter-Mountain Basins Big Sagebrush Steppe	157

S079	Inter-Mountain Basins Semi-Desert Shrub-Steppe	165
S080	Chihuahuan Gypsophilous Grassland and Steppe	151
S081	Rocky Mountain Dry Tundra	171
S083	Rocky Mountain Subalpine Mesic Meadow	173
S085	Southern Rocky Mountain Montane-Subalpine Grassland	177
S086	Western Great Plains Foothill and Piedmont Grassland	179
S087	Central Mixedgrass Prairie	149
S088	Western Great Plains Shortgrass Prairie	183
S089	Western Great Plains Sand Prairie	181
S090	Inter-Mountain Basins Semi-Desert Grassland	163
S091	Rocky Mountain Subalpine-Montane Riparian Shrubland	201
S092	Rocky Mountain Subalpine-Montane Riparian Woodland	203
S093	Rocky Mountain Lower Montane Riparian Woodland and Shrubland	199
S094	North American Warm Desert Lower Montane Riparian Woodland and Shrubland	191
S095	Western Great Plains Riparian Woodland and Shrubland	207
S096	Inter-Mountain Basins Greasewood Flat	189
S097	North American Warm Desert Riparian Woodland and Shrubland	195
S098	North American Warm Desert Riparian Mesquite Bosque	193
S100	North American Arid West Emergent Marsh	211
S102	Rocky Mountain Alpine-Montane Wet Meadow	213
S103	Temperate Pacific Subalpine-Montane Wet Meadow	215
S105	Mediterranean California Subalpine-Montane Fen	209
S108	Western Great Plains Saline Depression Wetland	217
S109	Chihuahuan-Sonoran Desert Bottomland and Swale Grassland	155
S111	Madrean Upper Montane Conifer-Oak Forest and Woodland	57
S112	Madrean Pinyon-Juniper Woodland	55
S113	Chihuahuan Sandy Plains Semi-Desert Grassland	153
S114	Sonora-Mojave Semi-Desert Chaparral	133
S115	Madrean Juniper Savanna	167
S116	Chihuahuan Mixed Salt Desert Scrub	93
S117	Coahuilan Chaparral	99
S118	Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	187
S120	Western Great Plains Floodplain	205
S121	Mediterranean California Red Fir Forest and Woodland	63
S122	Sierra Nevada Subalpine Lodgepole Pine Forest and Woodland	81
S123	Mediterranean California Ponderosa-Jeffrey Pine Forest and Woodland	61
S125	Rocky Mountain Foothill Limber Pine-Juniper Woodland	69
S128	Wyoming Basins Low Sagebrush Shrubland	145
S129	Sonoran Mid-Elevation Desert Scrub	135
S132	Western Great Plains Tallgrass Prairie	185
S134	North Pacific Montane Grassland	169
S136	Southern Colorado Plateau Sand Shrubland	139
S138	Western Great Plains Mesquite Woodland and Shrubland	141

This page intentionally left blank.

Southwest Regional GAP Analysis Project - Land Cover Descriptions

S010 Colorado Plateau Mixed Bedrock Canyon and Tableland

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Matrix

Concept Summary The distribution of this ecological system is centered on the Colorado Plateau where it is comprised of barren and sparsely vegetated landscapes (generally <10% plant cover) of steep cliff faces, narrow canyons, and open tablelands of predominantly sedimentary rocks, such as sandstone, shale, and limestone. Some eroding shale layers similar to Inter-Mountain Basins Shale Badland (CES304.789) may be interbedded between the harder rocks. The vegetation is characterized by very open tree canopy or scattered trees and shrubs with a sparse herbaceous layer. Common species includes Pinus edulis, Pinus ponderosa, Juniperus spp., Cercocarpus intricatus, and other short-shrub and herbaceous species, utilizing moisture from cracks and pockets where soil accumulates.

Range Colorado Plateau.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT092502MD32_1.JPG

PhotoID : UT061301GM06_1.JPG

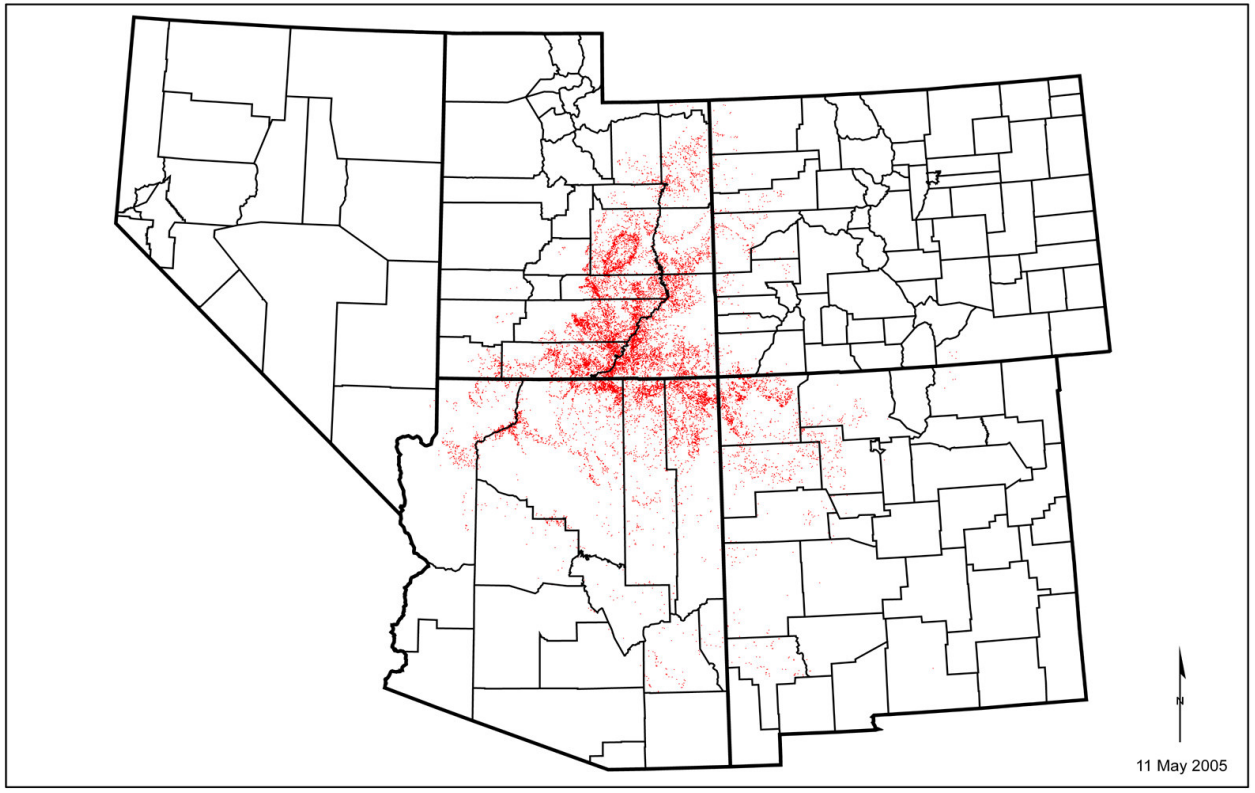
PhotoID : UT100800GM09_1.JPG

S010 Colorado Plateau Mixed Bedrock Canyon and Tableland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S012 Inter-Mountain Basins Active and Stabilized Dune

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

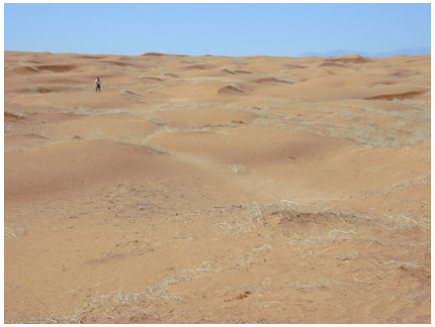
Concept Summary This ecological system occurs in Intermountain West basins and is composed of unvegetated to moderately vegetated (<10-30% plant cover) active and stabilized dunes and sandsheets. Species occupying these environments are often adapted to shifting, coarse-textured substrates (usually quartz sand) and form patchy or open grasslands, shrublands or steppe composed of Achnatherum hymenoides, Artemisia filifolia, Artemisia tridentata ssp. tridentata, Atriplex canescens, Ephedra spp., Coleogyne ramosissima, Ericameria nauseosa, Leymus flavescens, Prunus virginiana, Psoralidium lanceolatum, Purshia tridentata, Sporobolus airoides, Tetradymia tetrameres, or Tiquilia spp.

Range This system occurs in intermountain basins of the western U.S.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos



PhotoID : UT091402MD10_1.JPG

PhotoID : UT091802MD35_1.JPG

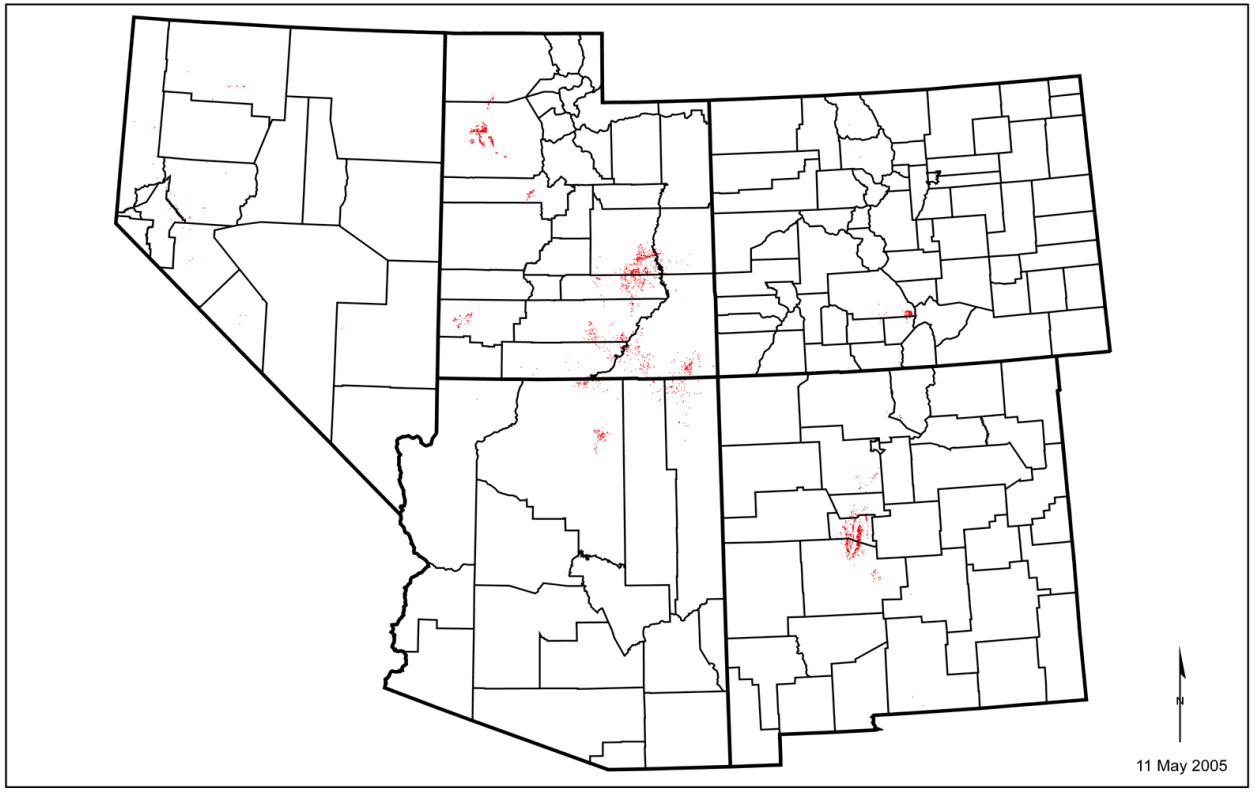
Southwest Regional GAP Analysis Project - Land Cover Descriptions

S012 Inter-Mountain Basins Active and Stabilized Dune

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S009 Inter-Mountain Basins Cliff and Canyon

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is found from foothill to subalpine elevations and includes barren and sparsely vegetated landscapes (generally <10% plant cover) of steep cliff faces, narrow canyons, and smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock types. Also included is vegetation of unstable scree and talus slopes that typically occurs below cliff faces. Widely scattered trees and shrubs may include Abies concolor, Pinus edulis, Pinus flexilis, Pinus monophylla, Juniperus spp., Artemisia tridentata, Purshia tridentata, Cercocarpus ledifolius, Ephedra spp., Holodiscus discolor, and other species often common in adjacent plant communities.

Range Was mapped by SWReGAP in CO, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT100902MD20_1.JPG

PhotoID : UT070202GM05_1.JPG

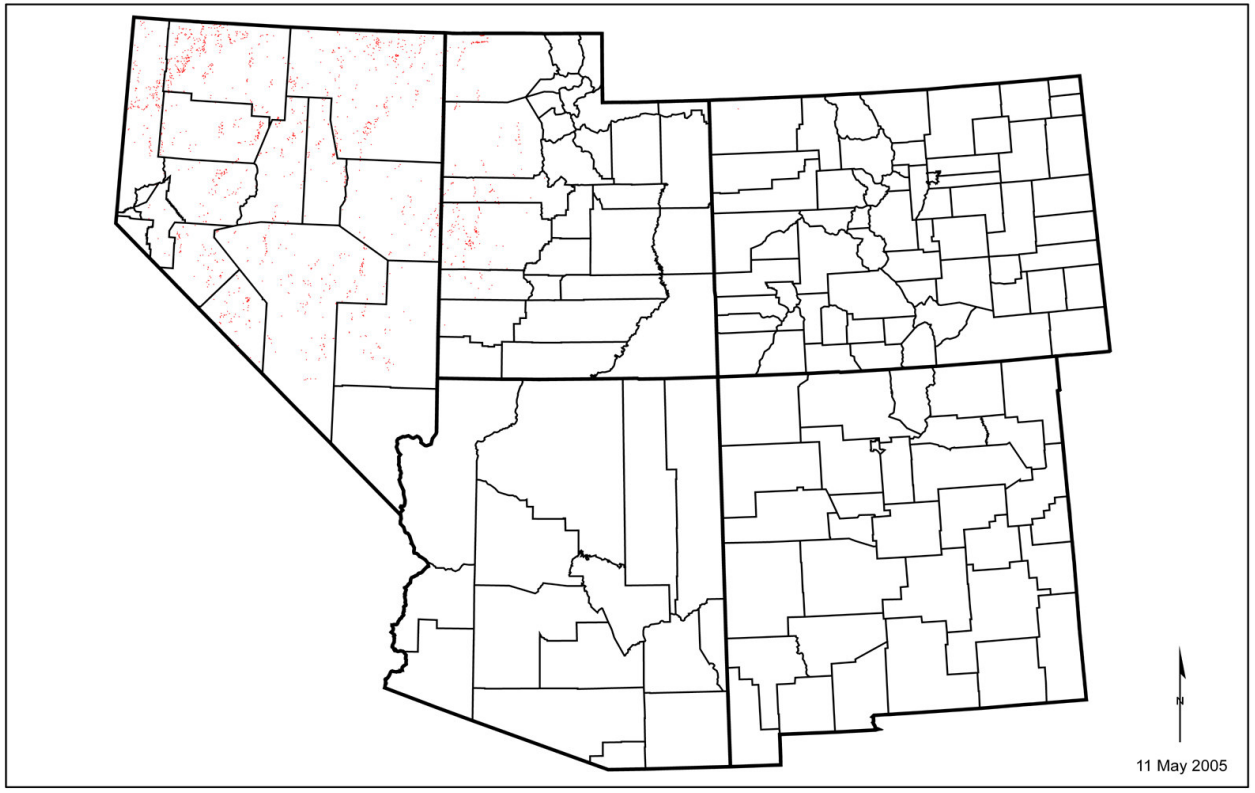
PhotoID : NV093003MD06_1.jpg

S009 Inter-Mountain Basins Cliff and Canyon

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S015 Inter-Mountain Basins Playa

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is composed of barren and sparsely vegetated playas (generally <10% plant cover) found in the intermountain western U.S. Salt crusts are common throughout, with small saltgrass beds in depressions and sparse shrubs around the margins. These systems are intermittently flooded. The water is prevented from percolating through the soil by an impermeable soil subhorizon and is left to evaporate. Soil salinity varies greatly with soil moisture and greatly affects species composition. Characteristic species may include Allenrolfea occidentalis, Sarcobatus vermiculatus, Grayia spinosa, Puccinellia lemmonii, Leymus cinereus, Distichlis spicata, and/or Atriplex spp.

Range This system occurs throughout the Intermountain western U.S., extending east into the southwestern Great Plains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061102MD03_2.JPG

PhotoID : UT061802JD08_1.JPG

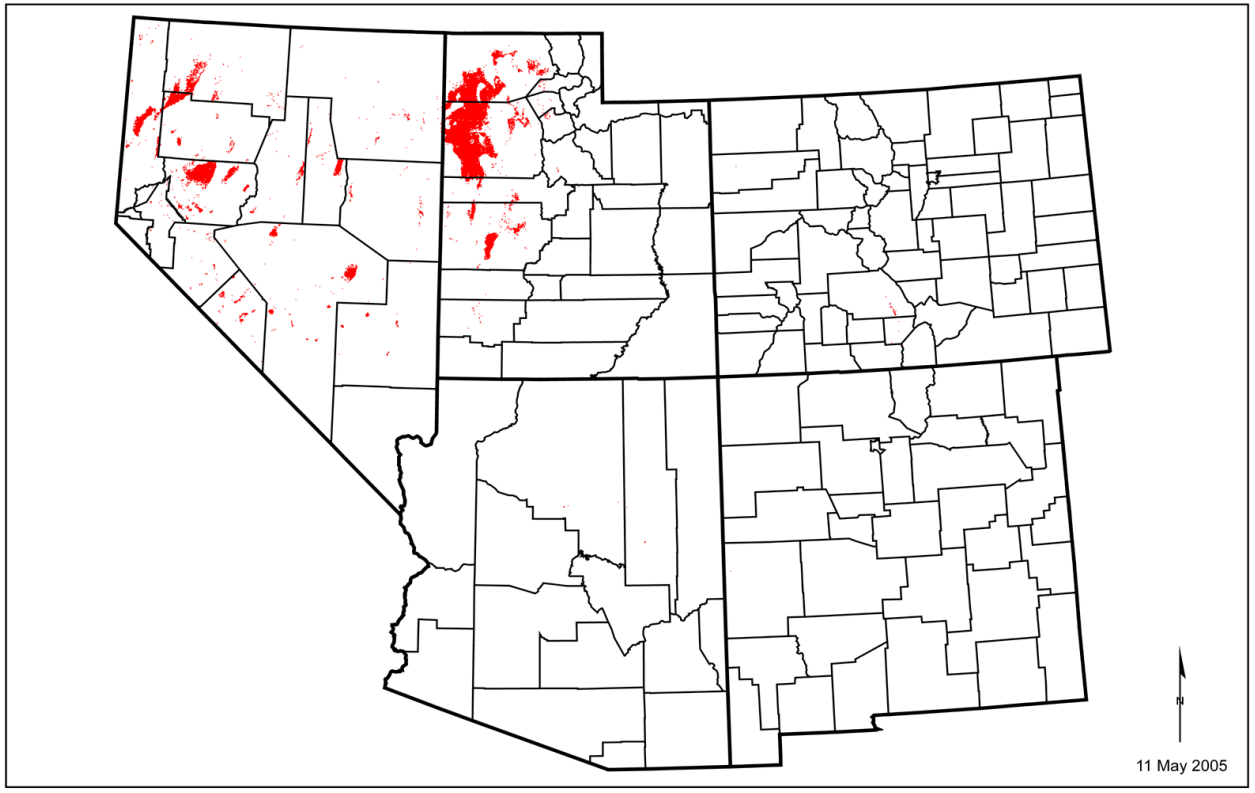
PhotoID : UT061302JD25_2.JPG

S015 Inter-Mountain Basins Playa

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S011 Inter-Mountain Basins Shale Badland

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This widespread ecological system of the intermountain western U.S. is composed of barren and sparsely vegetated substrates (<10% plant cover) typically derived from marine shales but also includes substrates derived from siltstones and mudstones (clay). Landforms are typically rounded hills and plains that form a rolling topography. The harsh soil properties and high rate of erosion and deposition are driving environmental variables supporting sparse dwarf-shrubs, e.g., Atriplex corrugata, Atriplex gardneri, Artemisia pedatifida, and herbaceous vegetation.

Range This system is found in the intermountain western U.S. It is confirmed by Oregon and Washington review to not occur in either of those states.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT050103MD06_1.JPG

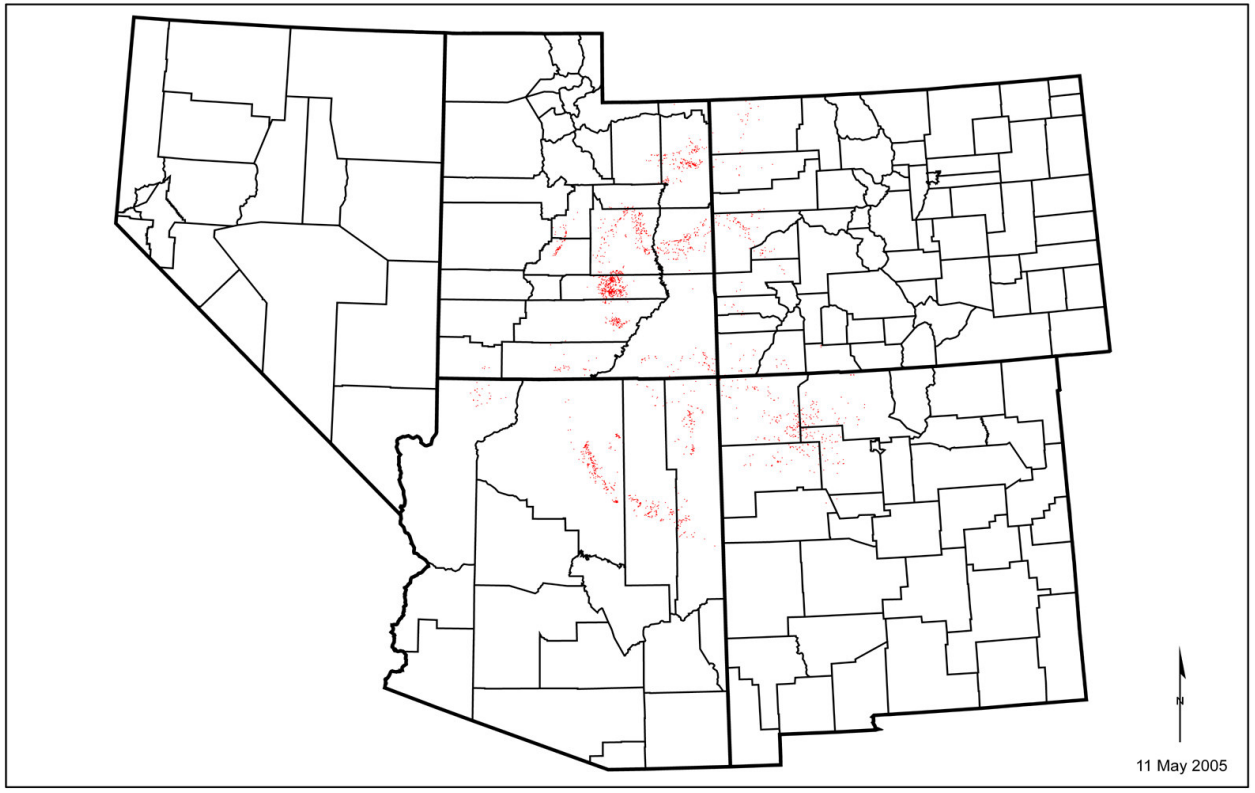
PhotoID : UT100200GM03_1.JPG

S011 Inter-Mountain Basins Shale Badland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,UT

Distribution Map



S013 Inter-Mountain Basins Volcanic Rock and Cinder Land

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system occurs in the intermountain western U.S. and is limited to barren and sparsely vegetated volcanic substrates (generally <10% plant cover) such as basalt lava (malpais), basalt dikes with associated colluvium, basalt cliff faces and uplifted "backbones," tuff, cinder cones or cinder fields. It may occur as large-patch, small-patch and linear (dikes) spatial patterns. Vegetation is variable and includes a variety of species depending on local environmental conditions, e.g., elevation, age and type of substrate. At montane and foothill elevations scattered Pinus ponderosa, Pinus flexilis, or Juniperus spp. trees may be present. Shrubs such as Ephedra spp., Atriplex canescens, Eriogonum corymbosum, Eriogonum ovalifolium, and Fallugia paradoxa are often present on some lava flows and cinder fields. Species typical of sand dunes such as Andropogon hallii and Artemisia filifolia may be present on cinder substrates.

Range

Occurs in the Intermountain western U.S. and is limited to barren and sparsely vegetated volcanic substrates.

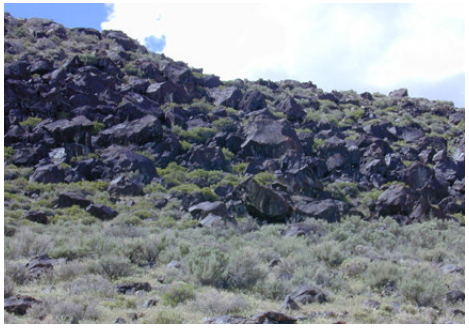
Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT073103JK16_1.jpg

PhotoID : UT052102MD27_1.JPG



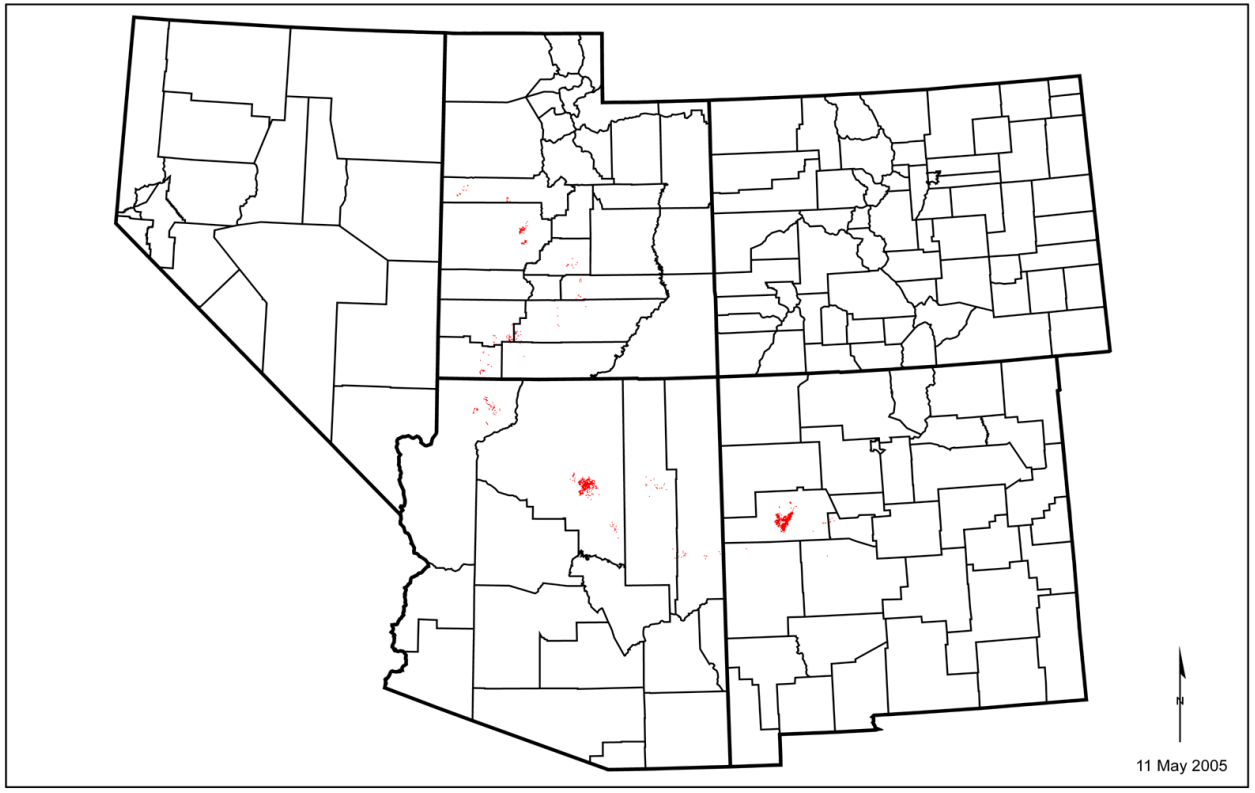
PhotoID : UT052202GM16_1.JPG

S013 Inter-Mountain Basins Volcanic Rock and Cinder Land

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,UT

Distribution Map



S014 Inter-Mountain Basins Wash

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Linear

Concept Summary This barren and sparsely vegetated (generally <10% plant cover) ecological system is restricted to intermittently flooded streambeds and banks that are often lined with shrubs such as Sarcobatus vermiculatus, Ericameria nauseosa, Fallugia paradoxa, and/or Artemisia cana ssp. cana (in more northern and mesic stands). Grayia spinosa may dominate in the Great Basin. Shrubs form a continuous or intermittent linear canopy in and along drainages but do not extend out into flats. Typically it includes patches of saltgrass meadow where water remains for the longest periods. Soils are generally less alkaline than those found in the playa system. Desert scrub species (e.g., Acacia greggii, Prosopis spp.), that are common in the Mojave, Sonoran and Chihuahuan desert washes, are not present. This type can occur in limited portions of the southwestern Great Plains.

Range This system occurs throughout the Intermountain western U.S. extending east into the western Great Plains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061103JK56_1.JPG

PhotoID : UT100800GM19_1.JPG

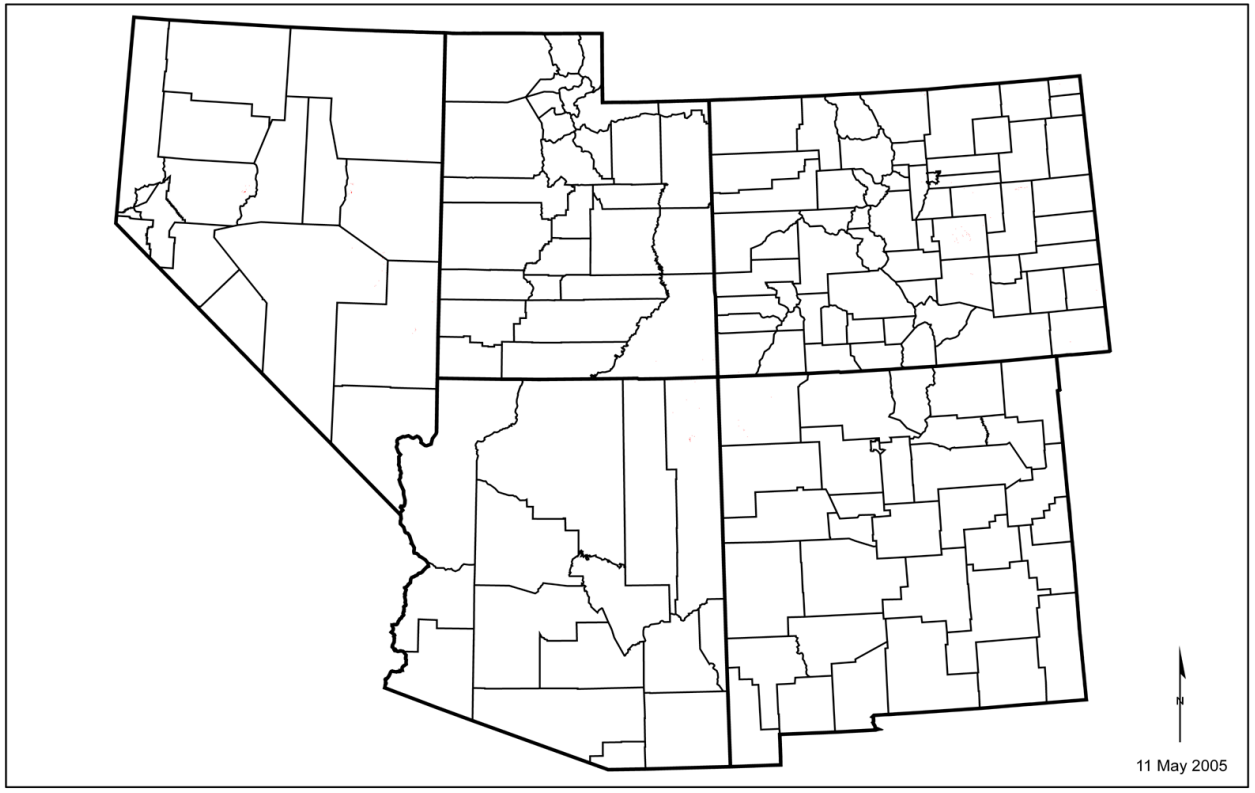
PhotoID : UT100200GM06_1.JPG

S014 Inter-Mountain Basins Wash

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



S003 Mediterranean California Alpine Bedrock and Scree

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This system occurs in limited alpine environments mostly concentrated in the Sierra Nevada, but also on Mount Shasta and as far south as the Peninsular Ranges and White Mountains. Alpine elevations begin around 3500 m (10,600 feet) in the southern mountain ranges and 2700 m (8200 feet) in the southern Cascades. These are barren and sparsely vegetated alpine substrates, typically including both bedrock outcrops and scree slopes, with nonvascular (lichen)-dominated communities. This also encompasses a limited area of "alpine desert" with unstable sandy substrates and scattered individuals of Astragalus spp., Arabis spp., Draba spp., and Oxytropis spp., which mostly fall to the east of the Sierra Nevada crest. Exposure to desiccating winds, rocky and sometimes unstable substrates, and a short growing season limit plant growth.

Range Concentrated in the Sierra Nevada, but also on Mount Shasta and as far south as the Peninsular Ranges and White Mountains. Alpine elevations begin around 3500 m (10,600 feet) in the southern mountain ranges and 2700 m (8200 feet) in the southern Cascades.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV070103DE02.JPG

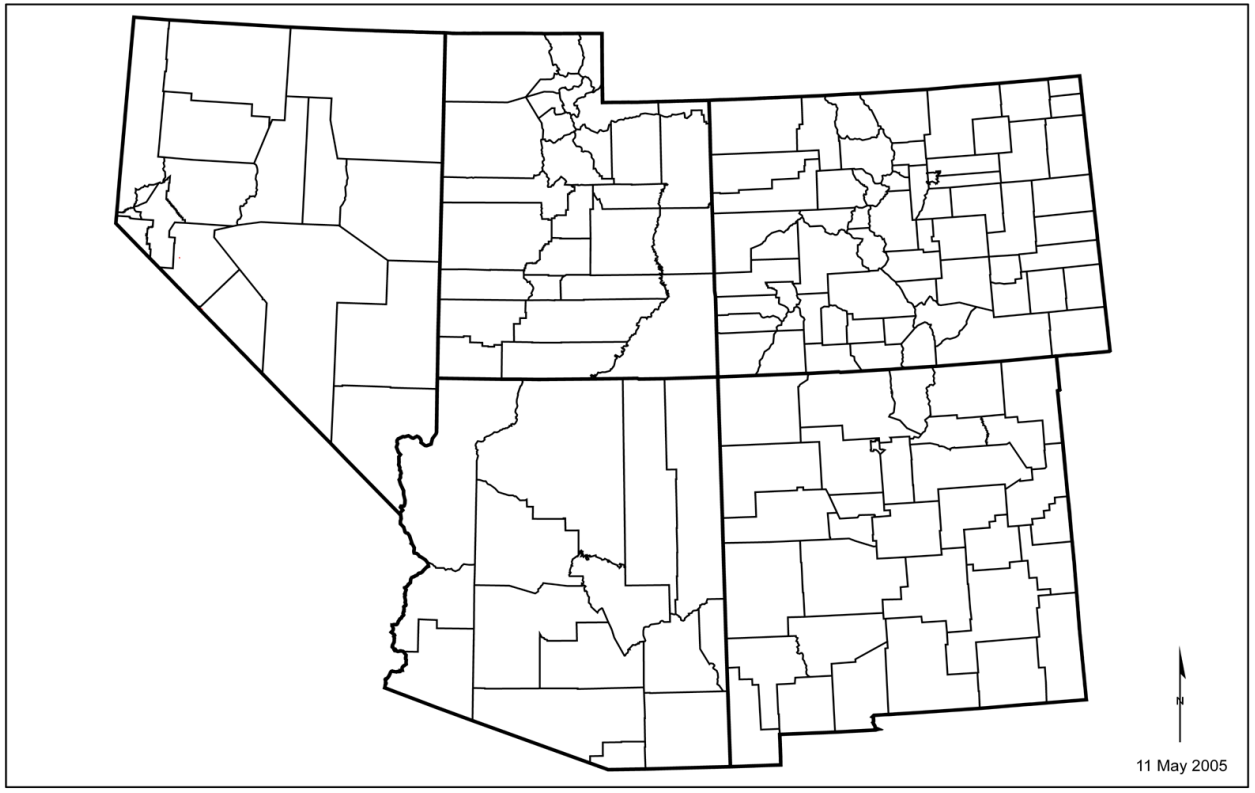
PhotoID : NV072303PJ04.jpg

S003 Mediterranean California Alpine Bedrock and Scree

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S001 North American Alpine Ice Field

Field Photos

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This widespread ecological system is composed of unvegetated landscapes of annual/perennial ice and snow and exposed rock and rubble at the highest elevations, where snowfall exceeds melting. The primary ecological processes include snow/ice retention and/or decadal movement (active moraines and till), wind desiccation, and permafrost. The snowpack/ice field never melts or if so, then for only a few weeks. The alpine substrate/ice field ecological system is part of the alpine mosaic consisting of alpine tundra dry meadow, wet meadow, fell-fields, and dwarf-shrubland.

Range This ecological system is found throughout North America where altitude results in permanent ice and snow fields, from the mountains of Alaska south and east through the cordillera of the Cascades and the Rocky Mountains.

Additional Information

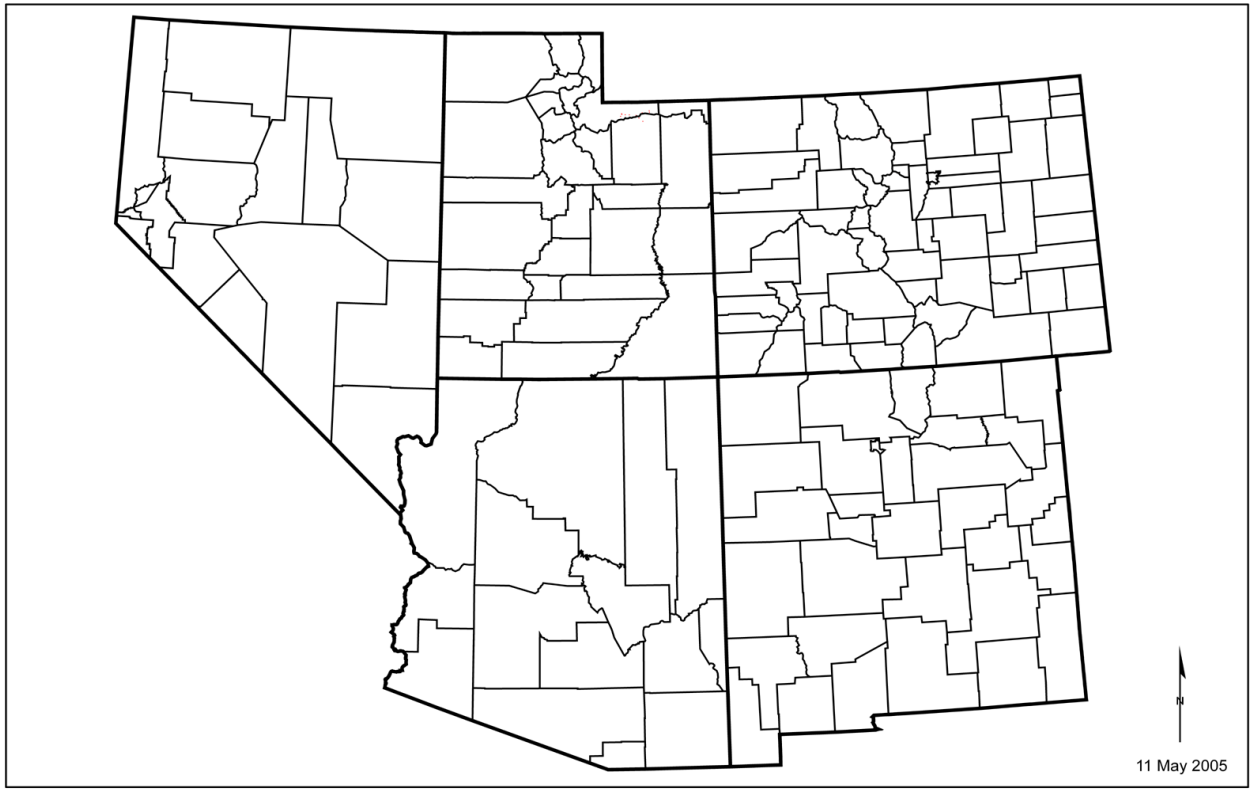
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S001 North American Alpine Ice Field

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S018 North American Warm Desert Active and Stabilized Dune

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs across the warm deserts of North America and is composed of unvegetated to sparsely vegetated (generally <10% plant cover) active dunes and sandsheets derived from quartz or gypsum sands. Common vegetation includes Ambrosia dumosa, Abronia villosa, Eriogonum deserticola, Larrea tridentata, Pleuraphis rigida, Poliomintha spp., Prosopis spp., Psorothamnus spp., Artemisia filifolia, and Rhus microphylla. Dune "blowouts" and subsequent stabilization through succession are characteristic processes.

Range Occurs across the warm deserts of North America.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM081002DC07_1.JPG

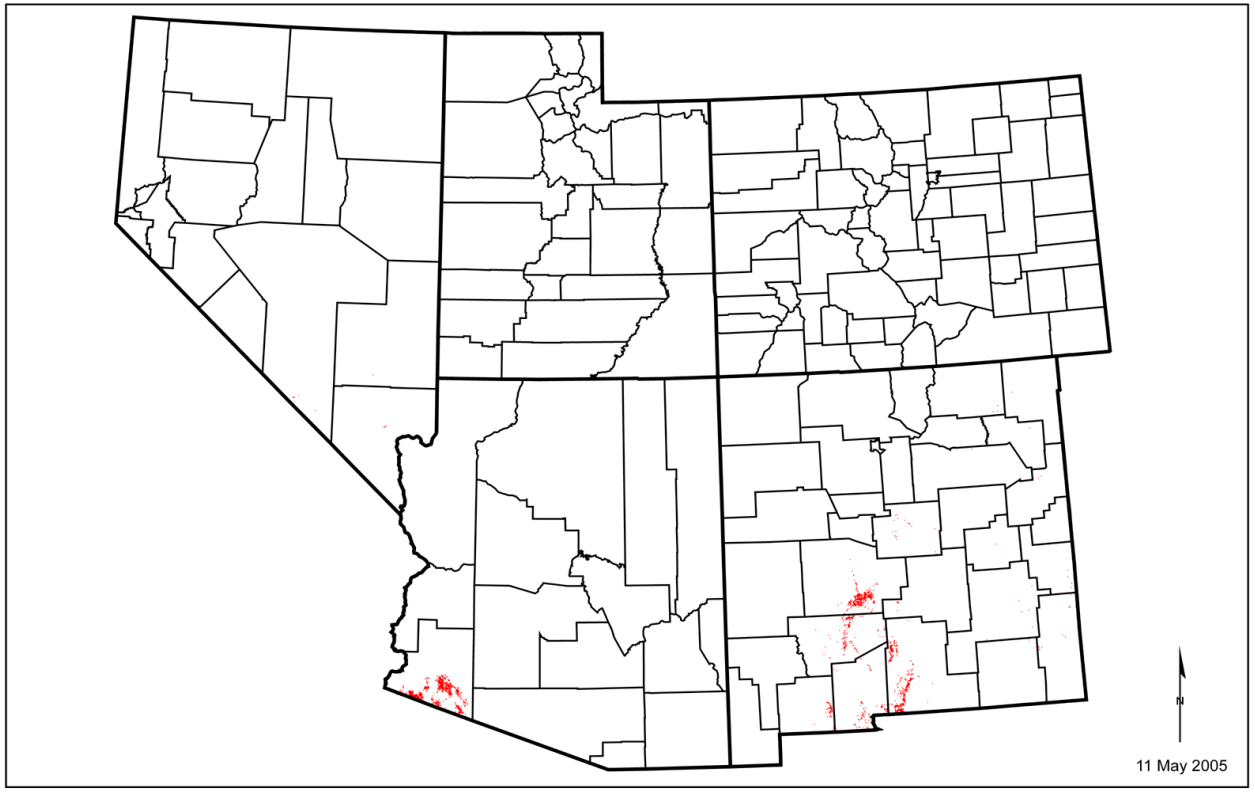
PhotoID : NM072601BM07_2.JPG

S018 North American Warm Desert Active and Stabilized Dune

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S017 North American Warm Desert Badland

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is restricted to barren and sparsely vegetated (generally <10% plant cover) substrates typically derived from marine shale or mudstone (badlands and mudhills). The harsh soil properties and high rate of erosion and deposition are driving environmental variables supporting sparse shrubs and dwarf-shrubs e.g., Atriplex hymenelytra, and herbaceous vegetation.

Range Was mapped by SWReGAP in AZ and NV.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ020204RM001_1.JPG

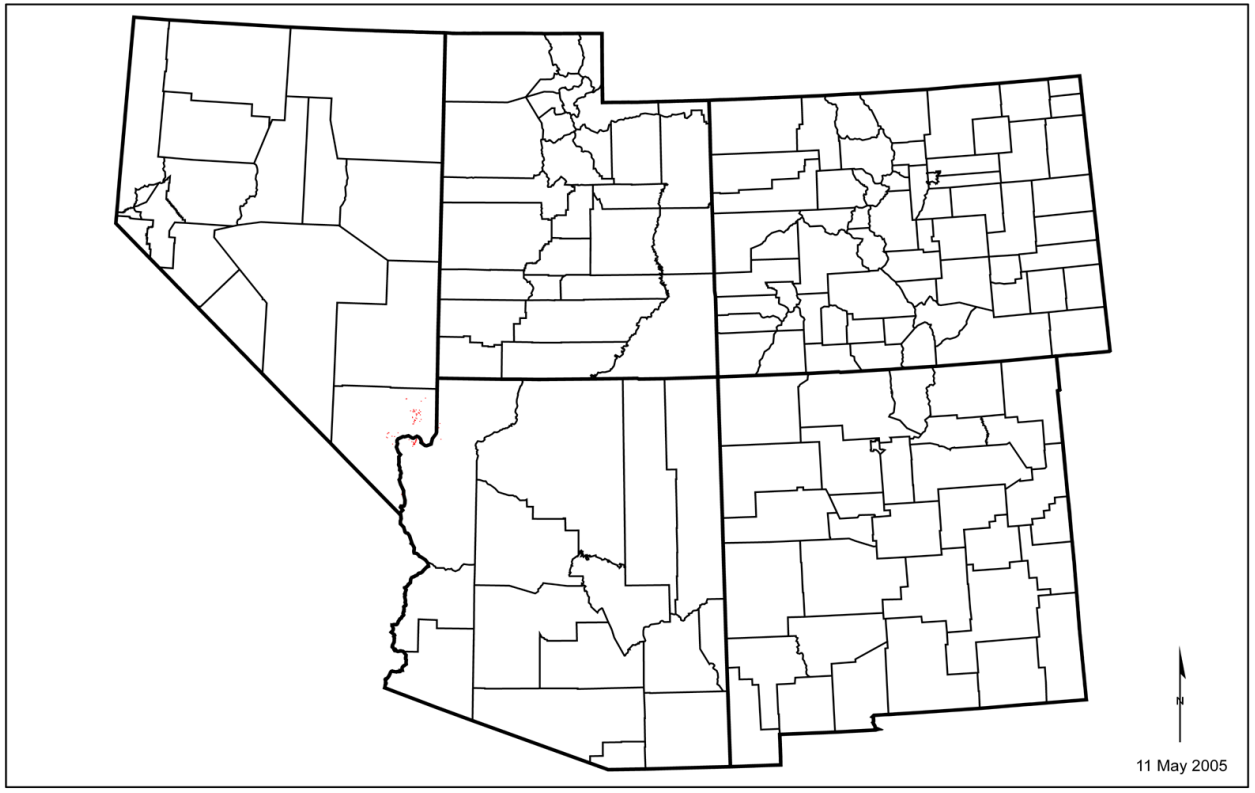
PhotoID : AZ020204RM001_2.JPG

S017 North American Warm Desert Badland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S016 North American Warm Desert Bedrock Cliff and Outcrop

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

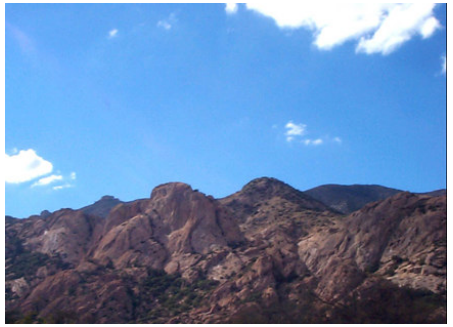
Concept Summary This ecological system is found from subalpine to foothill elevations and includes barren and sparsely vegetated landscapes (generally <10% plant cover) of steep cliff faces, narrow canyons, and smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock types. Also included are unstable scree and talus slopes that typically occur bellow cliff faces. Species present are diverse and may include Bursera microphylla, Fouquieria splendens, Nolina bigelovii, Opuntia bigelovii, and other desert species, especially succulents. Lichens are predominant lifeforms in some areas. May include a variety of desert shrublands less than 2 ha (5 acres) in size from adjacent areas.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos



PhotoID : AZ102102ES16_2.JPG

PhotoID : NM071403CK09_2.JPG

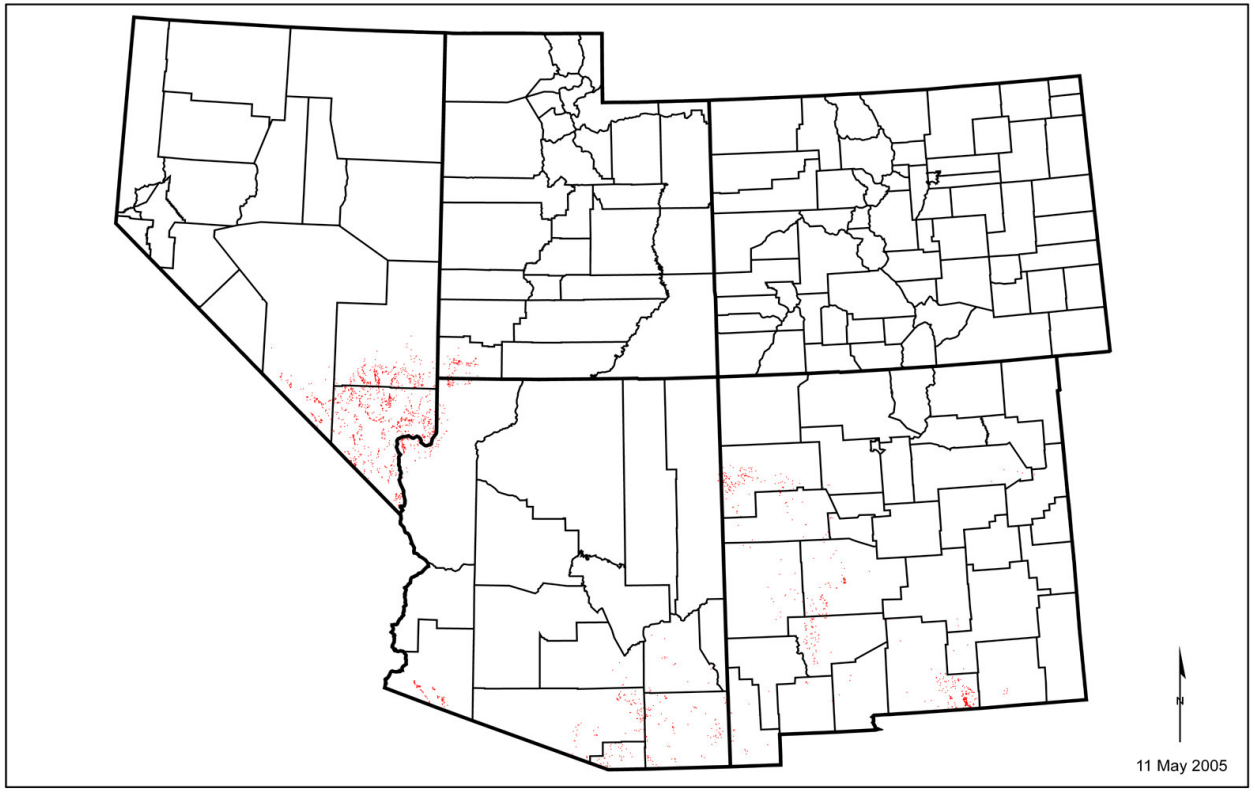
PhotoID : AZ101802ES16_1.JPG

S016 North American Warm Desert Bedrock Cliff and Outcrop

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S021 North American Warm Desert Pavement

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs throughout much of the warm deserts of North America and is composed of unvegetated to very sparsely vegetated (<2% plant cover) landscapes, typically flat basins where extreme temperature and wind develop ground surfaces of fine to medium gravel coated with "desert varnish." Very low cover of desert scrub species such as Larrea tridentata or Eriogonum fasciculatum is usually present. However, ephemeral herbaceous species may have high cover in response to seasonal precipitation, including Chorizanthe rigida, Eriogonum inflatum, and Geraea canescens.

Range Occurs throughout much of the warm deserts of North America.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM091400BM05_1.JPG

PhotoID : NM091400BM05_2.JPG

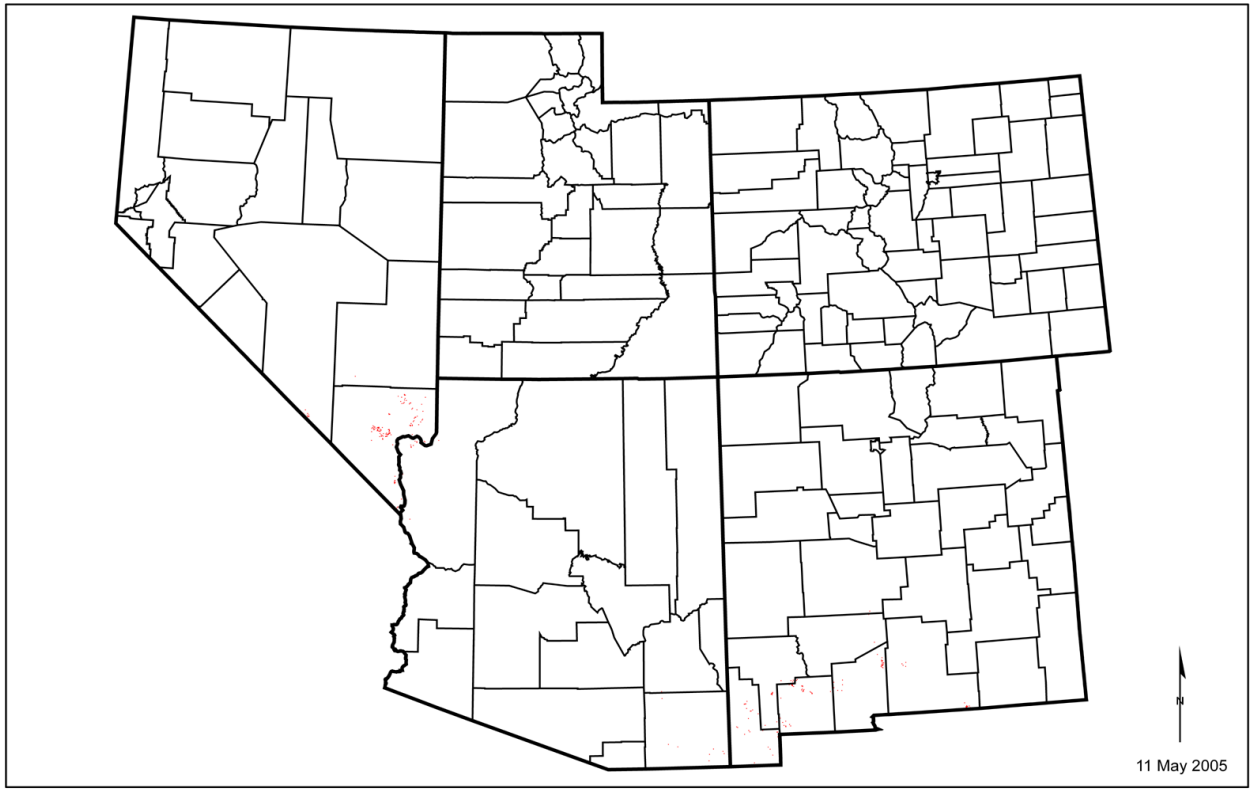
PhotoID : NM071602DC04_2.JPG

S021 North American Warm Desert Pavement

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S022 North American Warm Desert Playa

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This system is composed of barren and sparsely vegetated playas (generally <10% plant cover) found across the warm deserts of North America, extending into the extreme southern end of the San Joaquin Valley in California. Playas form with intermittent flooding, followed by evaporation, leaving behind a saline residue. Salt crusts are common throughout, with small saltgrass beds in depressions and sparse shrubs around the margins. Subsoils often include an impermeable layer of clay or caliche. Large desert playas tend to be defined by vegetation rings formed in response to salinity. Given their common location in wind-swept desert basins, dune fields often form downwind of large playas. In turn, playas associated with dunes often have a deeper water supply. Species may include Allenrolfea occidentalis, Suaeda spp., Distichlis spicata, Eleocharis palustris, Oryzopsis spp., Sporobolus spp., Tiquilia spp., or Atriplex spp. Ephemeral herbaceous species may have high cover periodically. Adjacent vegetation is typically Sonora-Mojave Desert Mixed Salt Desert Scrub (CES302.749), Chihuahuan Mixed Salt Desert Scrub (CES302.017), Gulf of California Coastal Mixed Salt Desert Scrub (CES302.015), Baja California del Norte Gulf Coast Ocotillo-Limberbush-Creosotebush Desert Scrub (CES302.014), or Chihuahuan Creosotebush Basin Desert Scrub (CES302.731).

Range Found across the warm deserts of North America, extending into the extreme southern end of the San Joaquin Valley in California.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM120402DC03_1.JPG

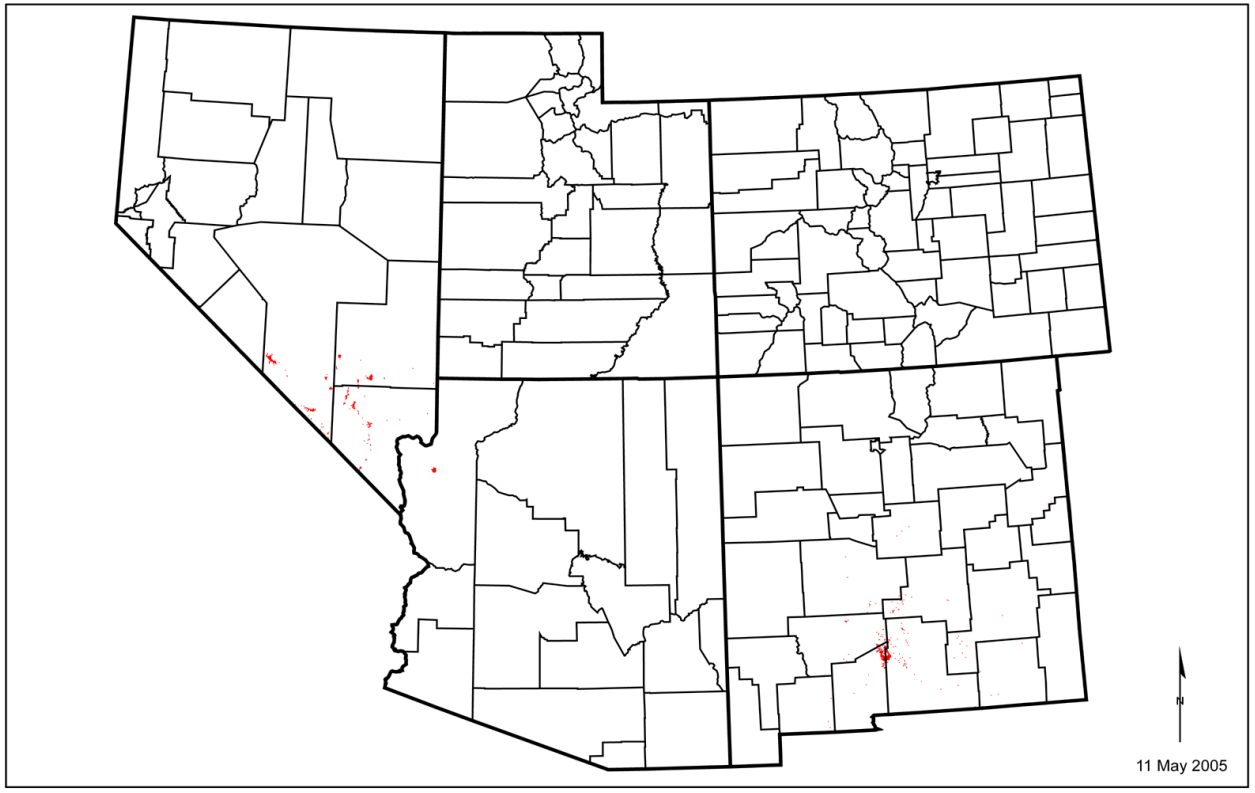
PhotoID : NM061203CK05_2.JPG

S022 North American Warm Desert Playa

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S019 North American Warm Desert Volcanic Rockland

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs across the warm deserts of North America and is restricted to barren and sparsely vegetated (<10% plant cover) volcanic substrates such as basalt lava (malpais) and tuff. Vegetation is variable and includes a variety of species depending on local environmental conditions, e.g., elevation, age and type of substrate. Typically scattered Larrea tridentata, Atriplex hymenelytra, or other desert shrubs are present.

Range Occurs across the warm deserts of North America.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ020104RM006_2.JPG

PhotoID : AZ020104RM006_1.JPG

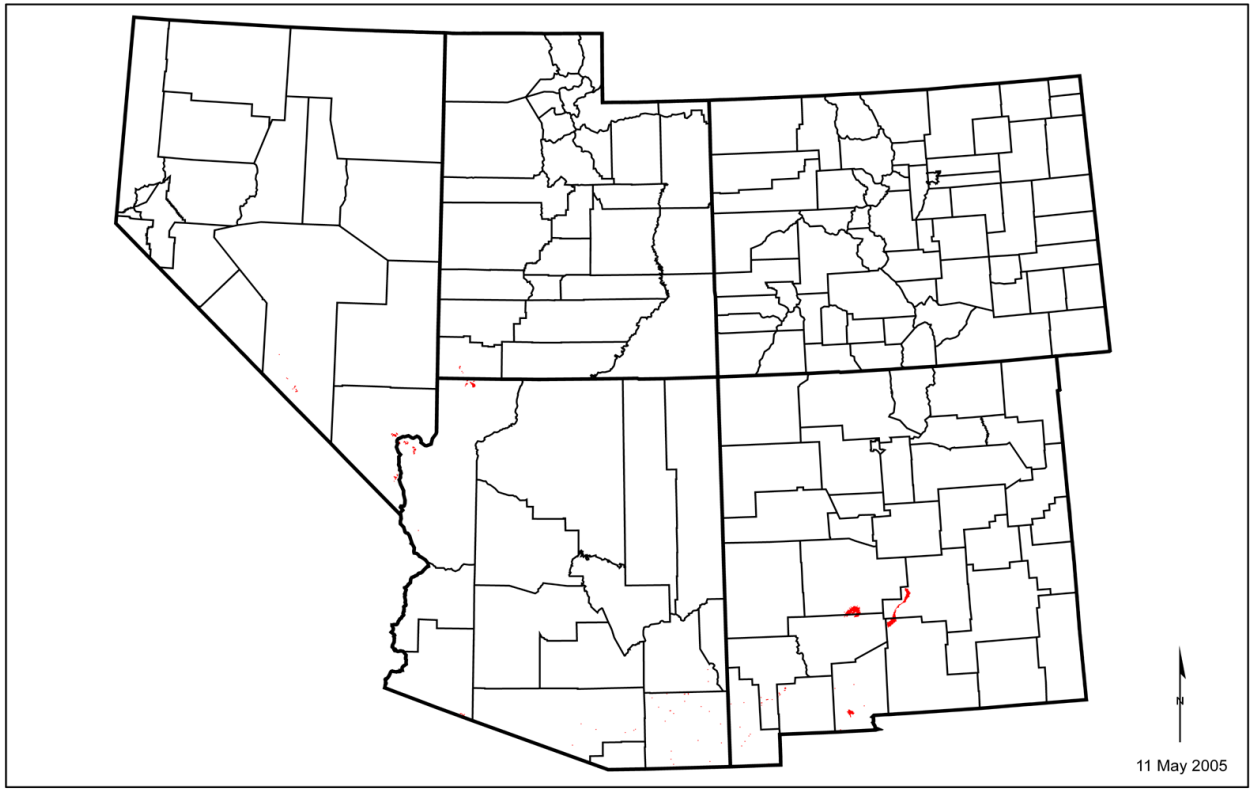
PhotoID : AZ061301BM18_2.JPG

S019 North American Warm Desert Volcanic Rockland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S002 Rocky Mountain Alpine Bedrock and Scree

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is restricted to the highest elevations of the Rocky Mountains, from Alberta and British Columbia south into New Mexico, west into the highest mountain ranges of the Great Basin. It is composed of barren and sparsely vegetated alpine substrates, typically including both bedrock outcrop and scree slopes, with nonvascular- (lichen) dominated communities. Exposure to desiccating winds, rocky and sometimes unstable substrates, and a short growing season limit plant growth. There can be sparse cover of forbs, grasses, lichens and low shrubs.

Range Restricted to the highest elevations of the Rocky Mountains, from Alberta and British Columbia south into New Mexico, west into the highest mountain ranges of the Great Basin.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT090502JD19_1.JPG

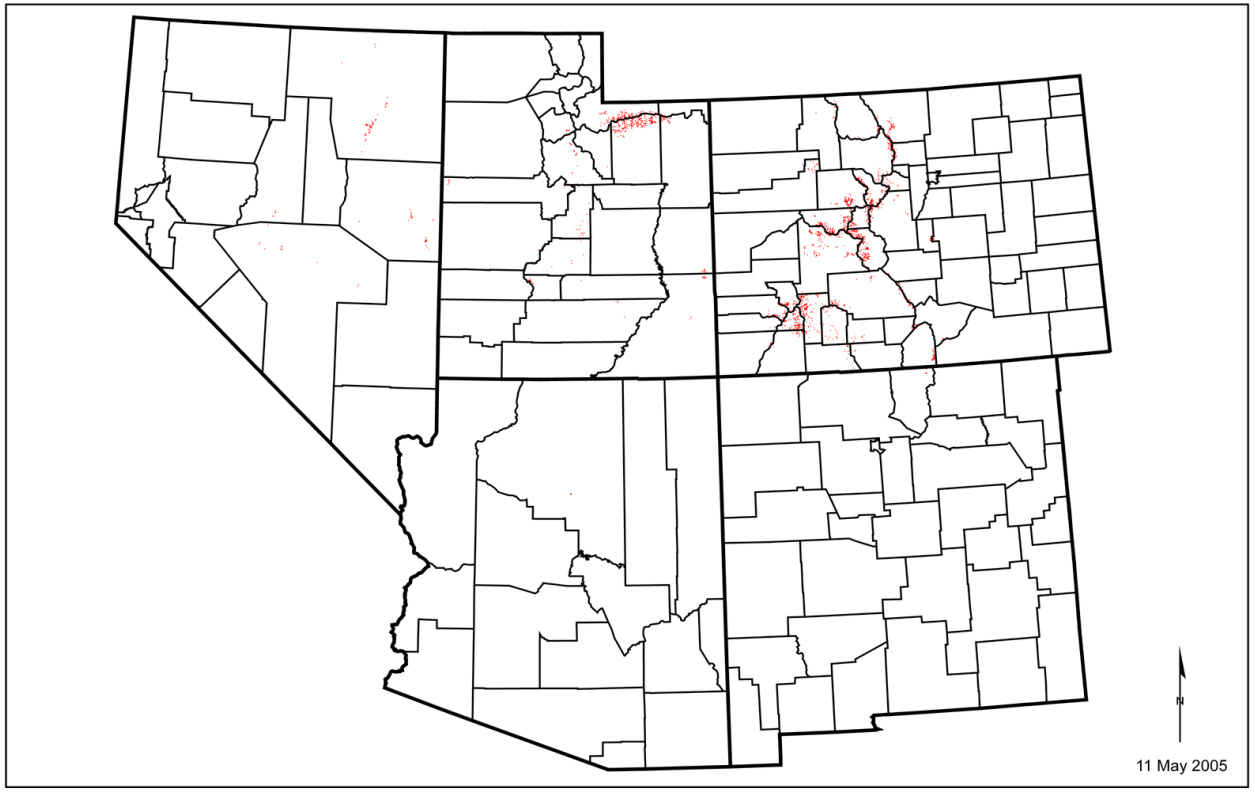
PhotoID : UT090702MD07_2.JPG

S002 Rocky Mountain Alpine Bedrock and Scree

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S004 Rocky Mountain Alpine Fell-Field

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is found discontinuously at alpine elevations throughout the Rocky Mountains, west into the mountainous areas of the Great Basin, and north into the Canadian Rockies. Small areas are represented in the westside of the Okanagan Ecoregion in the eastern Cascades. These are wind-scoured fell-fields that are free of snow in the winter, such as ridgetops and exposed saddles, exposing the plants to severe environmental stress. Soils on these windy unproductive sites are shallow, stony, low in organic matter, and poorly developed; wind deflation often results in a gravelly pavement. Most fell-field plants are cushioned, or matted, frequently succulent, flat to the ground in rosettes and often densely haired and thickly cutinized. Plant cover is 15-50%, while exposed rocks make up the rest. Fell-fields are usually within or adjacent to alpine tundra dry meadows. Common species include Arenaria capillaris, Carex albonigra, Carex paysonis, Geum rossii, Kobresia myosuroides, Minuartia obtusiloba, Myosotis asiatica, Paronychia pulvinata, Phlox pulvinata, Sibbaldia procumbens, and Silene acaulis.

Range This system is found discontinuously at alpine elevations throughout the Rocky Mountains, west into the mountainous areas of the Great Basin.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070701GM25_1.JPG

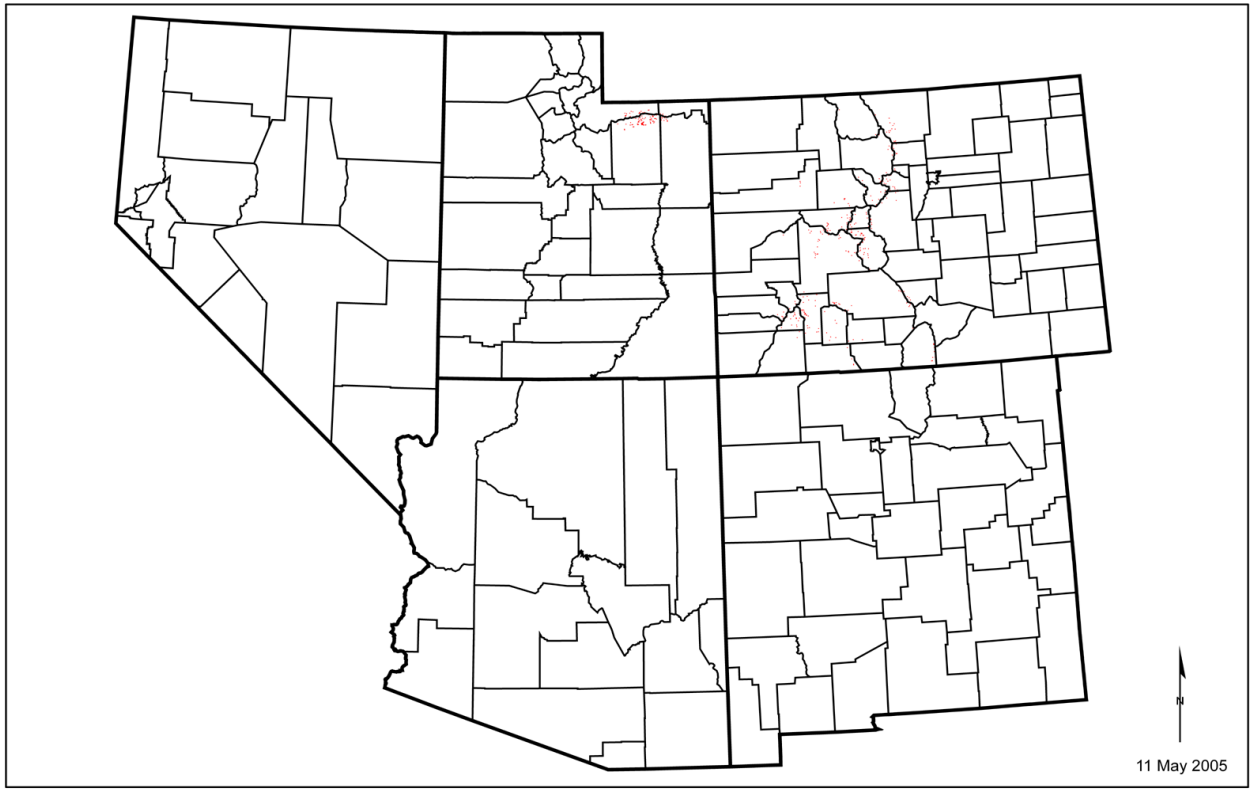
PhotoID : UT070701GM25_2.JPG

S004 Rocky Mountain Alpine Fell-Field

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S006 Rocky Mountain Cliff, Canyon and Massive Bedrock

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary This ecological system of barren and sparsely vegetated landscapes (generally <10% plant cover) is found from foothill to subalpine elevations on steep cliff faces, narrow canyons, and smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock types. It is located throughout the Rocky Mountains and northeastern Cascade Ranges in North America. Also included are unstable scree and talus slopes that typically occur below cliff faces. There may be small patches of dense vegetation, but it typically includes scattered trees and/or shrubs. Characteristic trees includes species from the surrounding landscape, such as Pseudotsuga menziesii, Pinus ponderosa, Pinus flexilis, Populus tremuloides, Abies concolor, Abies lasiocarpa, or Pinus edulis and Juniperus spp. at lower elevations. There may be scattered shrubs present, such as species of Holodiscus, Ribes, Physocarpus, Rosa, Juniperus, and Jamesia americana, Mahonia repens, Rhus trilobata, or Amelanchier alnifolia. Soil development is limited, as is herbaceous cover.

Range This system is located throughout the Rocky Mountain and northeastern Cascade Ranges in North America.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071503JK13_1.JPG

PhotoID : UT090502JD22_1.JPG

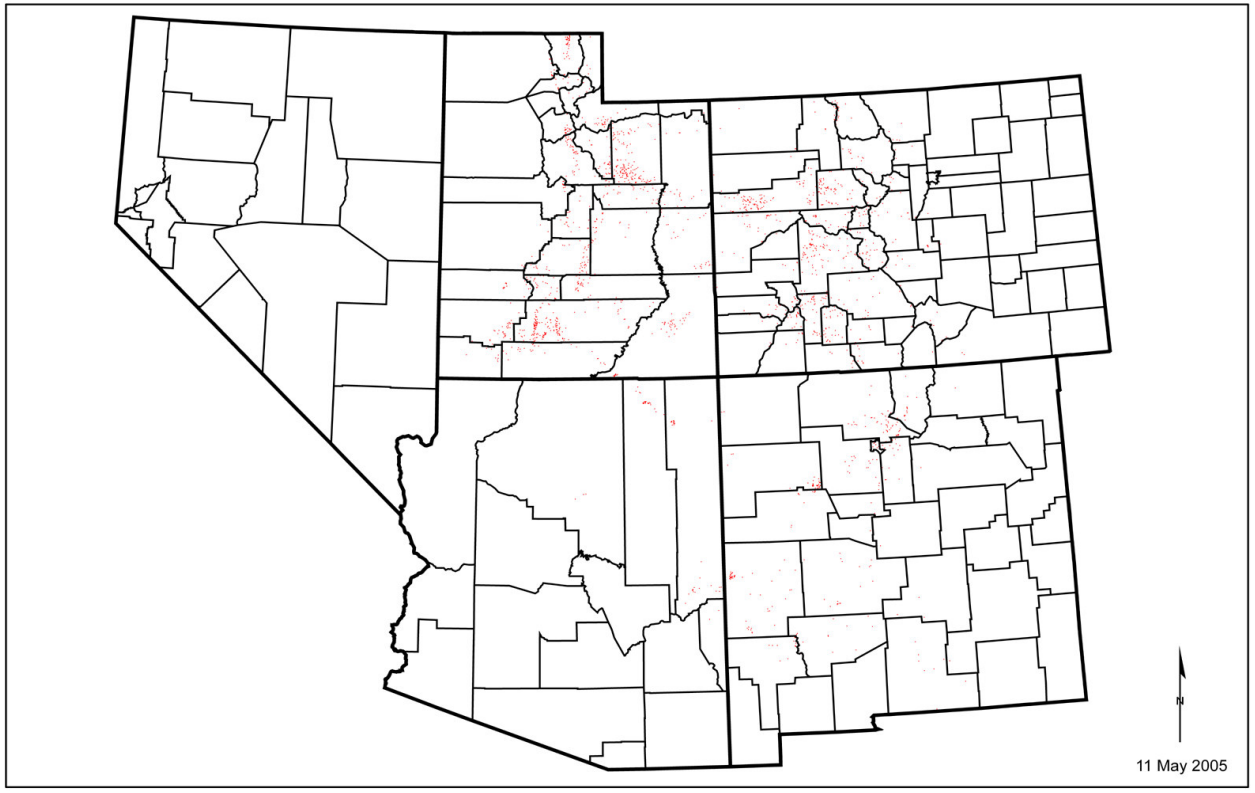
PhotoID : UT070402GM09_1.JPG

S006 Rocky Mountain Cliff, Canyon and Massive Bedrock

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S007 Sierra Nevada Cliff and Canyon

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Large patch

Concept Summary Found from foothill to subalpine elevations throughout the Sierra Nevada and nearby mountain ranges, these are barren and sparsely vegetated areas (<10% plant cover) of steep cliff faces, narrow canyons, and smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock. This system also includes unstable scree and talus slopes typically occurring below cliff faces. Scattered vegetation may include Abies magnifica, Pseudotsuga menziesii, Pinus contorta var. murrayana, Pinus ponderosa, Pinus jeffreyi, Populus tremuloides, or Pinus monophylla, Juniperus osteosperma, and Cercocarpus ledifolius at lower elevations. There may be shrubs including species of Arctostaphylos or Ceanothus. Soil development is limited as is herbaceous cover.

Range Found from foothill to subalpine elevations throughout the Sierra Nevada and nearby mountain ranges.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV070303DE02.JPG

PhotoID : NV070303DE07.JPG

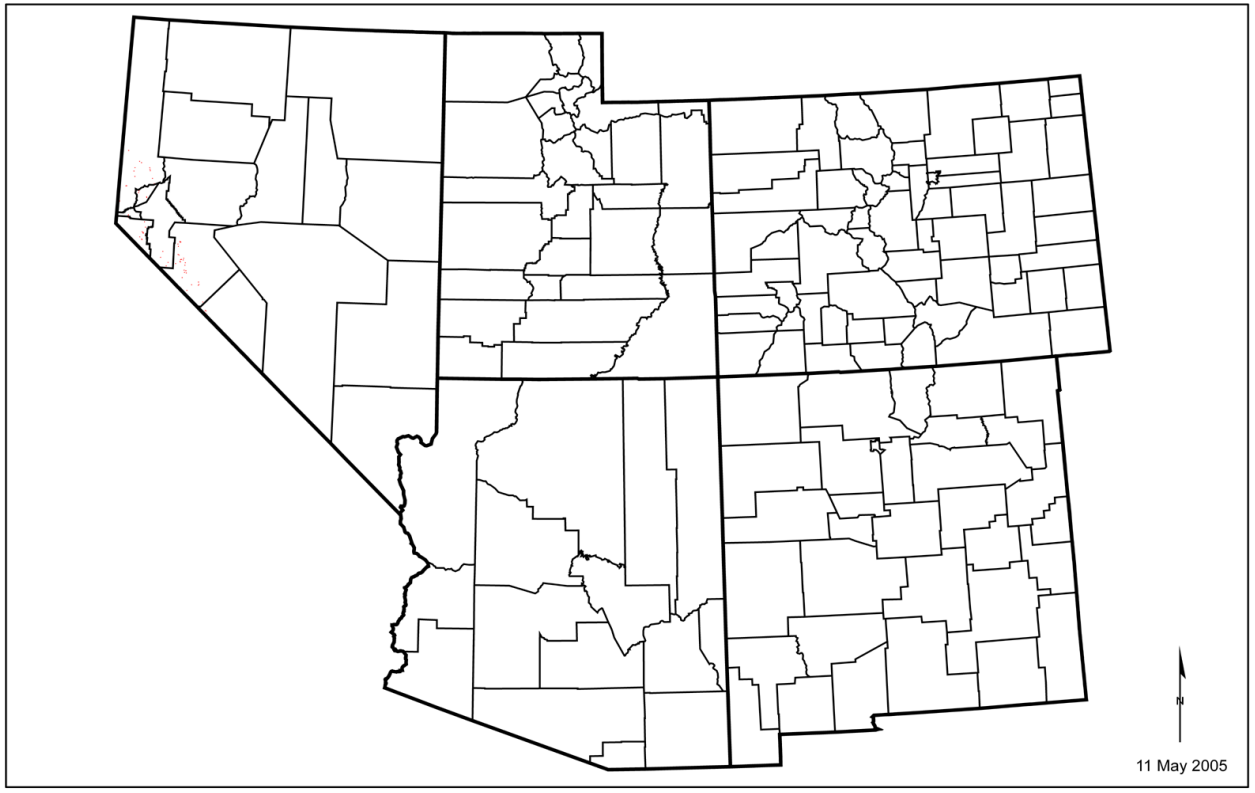
PhotoID : NV082103BB31.JPG

S007 Sierra Nevada Cliff and Canyon

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S008 Western Great Plains Cliff and Outcrop

Field Photos

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Small patch

Concept Summary This system includes cliffs and outcrops throughout the Western Great Plains Division. Substrate can range from sandstone and limestone, which can often form bands in the examples of this system. Vegetation is restricted to shelves, cracks and crevices in the rock. However, this system differs from Western Great Plains Badlands (CES303.663) in that often the soil is slightly developed and less erodible, and some grass and shrub species can occur at greater than 10%. Common species in this system include short shrubs such as Rhus trilobata and Artemisia longifolia and mixedgrass species such as Bouteloua curtipendula and Bouteloua gracilis and Calamovilfa longifolia. Drought and wind erosion are the most common natural dynamics affecting this system.

Range This system ranges throughout the Western Great Plains Division from northern Texas to southern Canada.

Additional Information

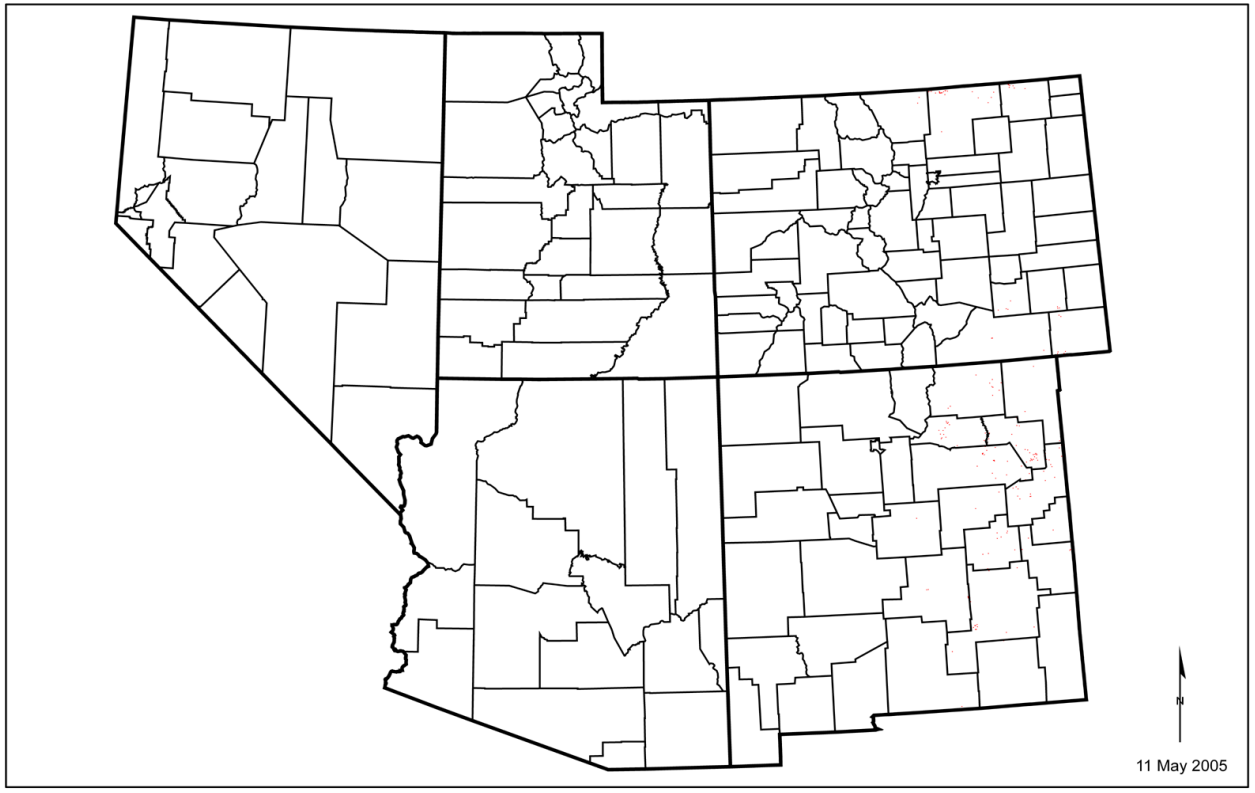
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S008 Western Great Plains Cliff and Outcrop

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S023 Rocky Mountain Aspen Forest and Woodland

Approximate NLCD Land Cover Class Deciduous Forest

Spatial Scale / Pattern Large patch

Concept Summary

This widespread ecological system is more common in the southern and central Rocky Mountains, but occurs throughout much of the western U.S. and north into Canada, in the montane and subalpine zones. Elevations generally range from 1525 to 3050 m (5000-10,000 feet), but occurrences can be found at lower elevations in some regions. Distribution of this ecological system is primarily limited by adequate soil moisture required to meet its high evapotranspiration demand, and secondarily is limited by the length of the growing season or low temperatures. These are upland forests and woodlands dominated by Populus tremuloides without a significant conifer component (<25% relative tree cover). The understory structure may be complex with multiple shrub and herbaceous layers, or simple with just an herbaceous layer. The herbaceous layer may be dense or sparse, dominated by graminoids or forbs. Associated shrub species include Symphoricarpos spp., Rubus parviflorus, Amelanchier alnifolia, and Arctostaphylos uva-ursi. Occurrences of this system originate and are maintained by stand-replacing disturbances such as avalanches, crown fire, insect outbreak, disease and windthrow, or clearcutting by man or beaver, within the matrix of conifer forests.

Range

More common in the southern and central Rocky Mountains, but occurs throughout much of the western U.S. and north into Canada, in the montane and subalpine zones. Elevations generally range from 1525 to 3050 m (5000-10,000 feet), but occurrences can be found at lower elevations in some regions.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT060702MD06_3.JPG

PhotoID : UT082002MD18_1.JPG

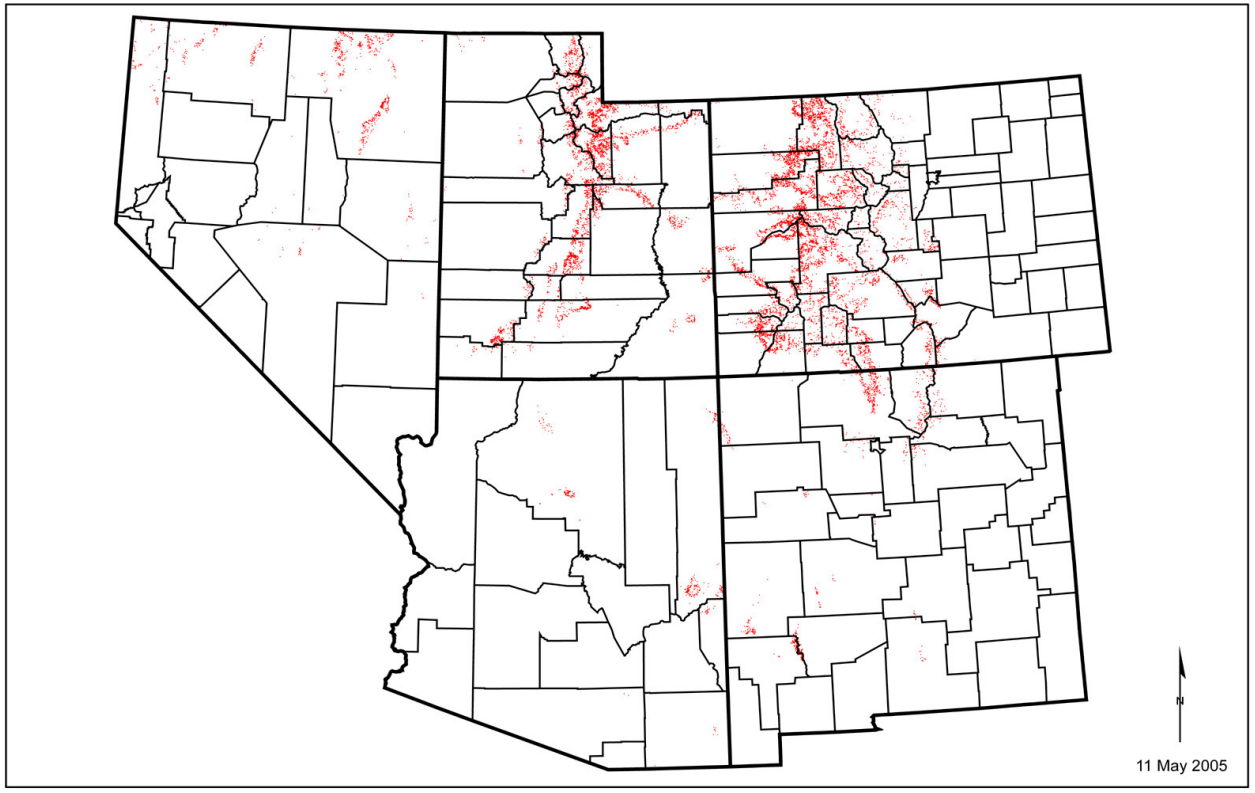
PhotoID : UT090602MD04_2.JPG

S023 Rocky Mountain Aspen Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S024 Rocky Mountain Bigtooth Maple Ravine Woodland

Approximate NLCD Land Cover Class Deciduous Forest

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system occurs in cool ravines, on toeslopes and slump benches associated with riparian areas in the northern and central Wasatch Range and Tavaputs Plateau extending into southern Idaho, as well as in scattered localities in southwestern Utah, central Arizona and New Mexico and the Trans-Pecos of Texas. Substrates are typically rocky colluvial or alluvial soils with favorable soil moisture. These woodlands are dominated by Acer grandidentatum but may include mixed stands codominated by Quercus gambelii or with scattered conifers. Some stands may include Acer negundo or Populus tremuloides as minor components. It also occurs on steeper, north-facing slopes at higher elevations, often adjacent to Rocky Mountain Gambel Oak-Mixed Montane Shrubland (CES306.818) or Rocky Mountain Aspen Forest and Woodland (CES306.813).

Range

Occurs in the northern and central Wasatch Range and Tavaputs Plateau extending into southern Idaho, as well as in scattered localities in southwestern Utah, central Arizona and New Mexico and the Trans-Pecos of Texas.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT052002MD01_1.JPG

PhotoID : UT072602JD02_2.JPG

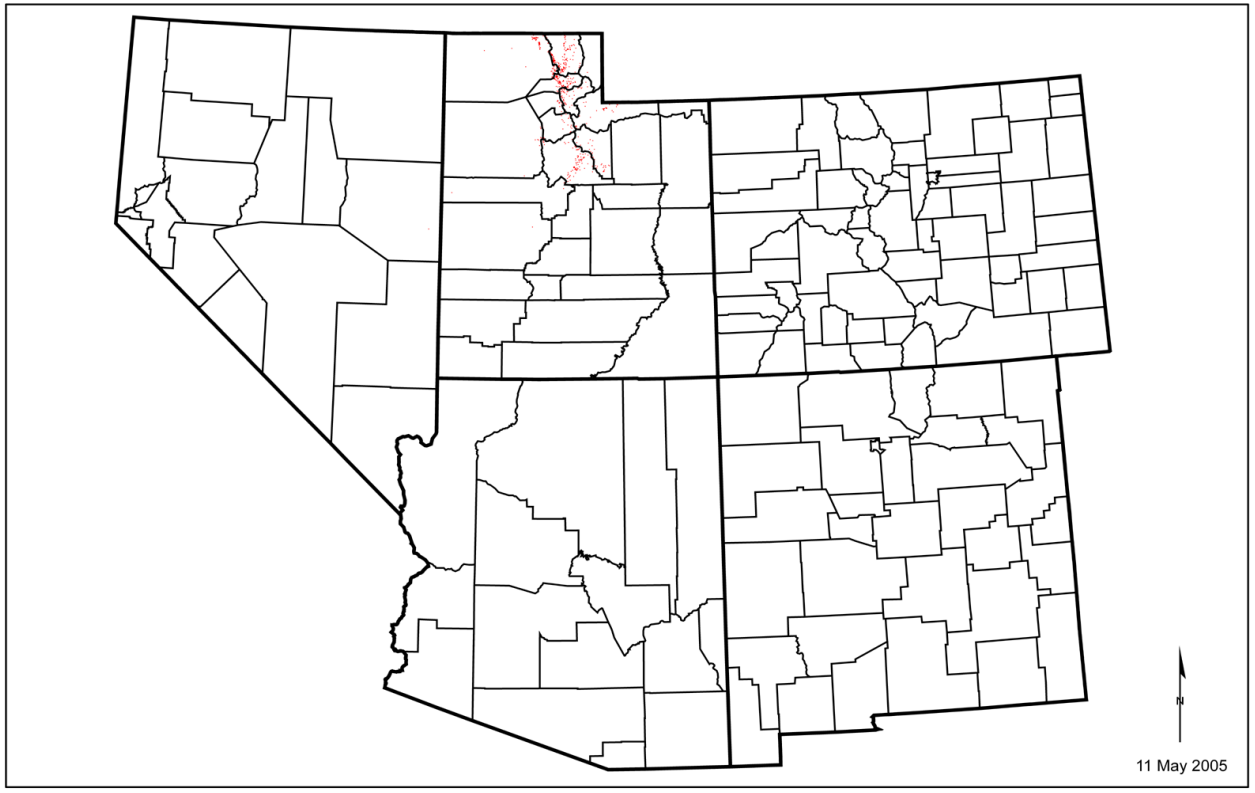
PhotoID : UT102302JD02_2.JPG

S024 Rocky Mountain Bigtooth Maple Ravine Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project

S039 Colorado Plateau Pinyon-Juniper Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary

This ecological system occurs in dry mountains and foothills of the Colorado Plateau region including the Western Slope of Colorado to the Wasatch Range, south to the Mogollon Rim and east into the northwestern corner of New Mexico. It is typically found at lower elevations ranging from 1500-2440 m. These woodlands occur on warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and drought, are thought to limit the distribution of pinyon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Soils supporting this system vary in texture ranging from stony, cobbly, gravelly sandy loams to clay loam or clay. Pinus edulis and/or Juniperus osteosperma dominate the tree canopy. In the southern portion of the Colorado Plateau in northern Arizona and northwestern New Mexico, Juniperus monosperma and hybrids of Juniperus spp may dominate or codominate the tree canopy. Juniperus scopulorum may codominate or replace Juniperus osteosperma at higher elevations. Understory layers are variable and may be dominated by shrubs, graminoids, or be absent. Associated species include Arctostaphylos patula, Artemisia tridentata, Cercocarpus intricatus, Cercocarpus montanus, Coleogyne ramosissima, Purshia stansburiana, Purshia tridentata, Quercus gambelii, Bouteloua gracilis, Pleuraphis jamesii, or Poa fendleriana. This system occurs at higher elevations than Great Basin Pinyon-Juniper Woodland (CES304.773) and Colorado Plateau shrubland systems where sympatric.

Range

Occurs on dry mountains and foothills of the Colorado Plateau region from the Western Slope of Colorado to the Wasatch Range, south to the Mogollon Rim. It is typically found at lower elevations ranging from 1500-2440 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT050803MD24_1.JPG

PhotoID : UT050803MD22_1.JPG

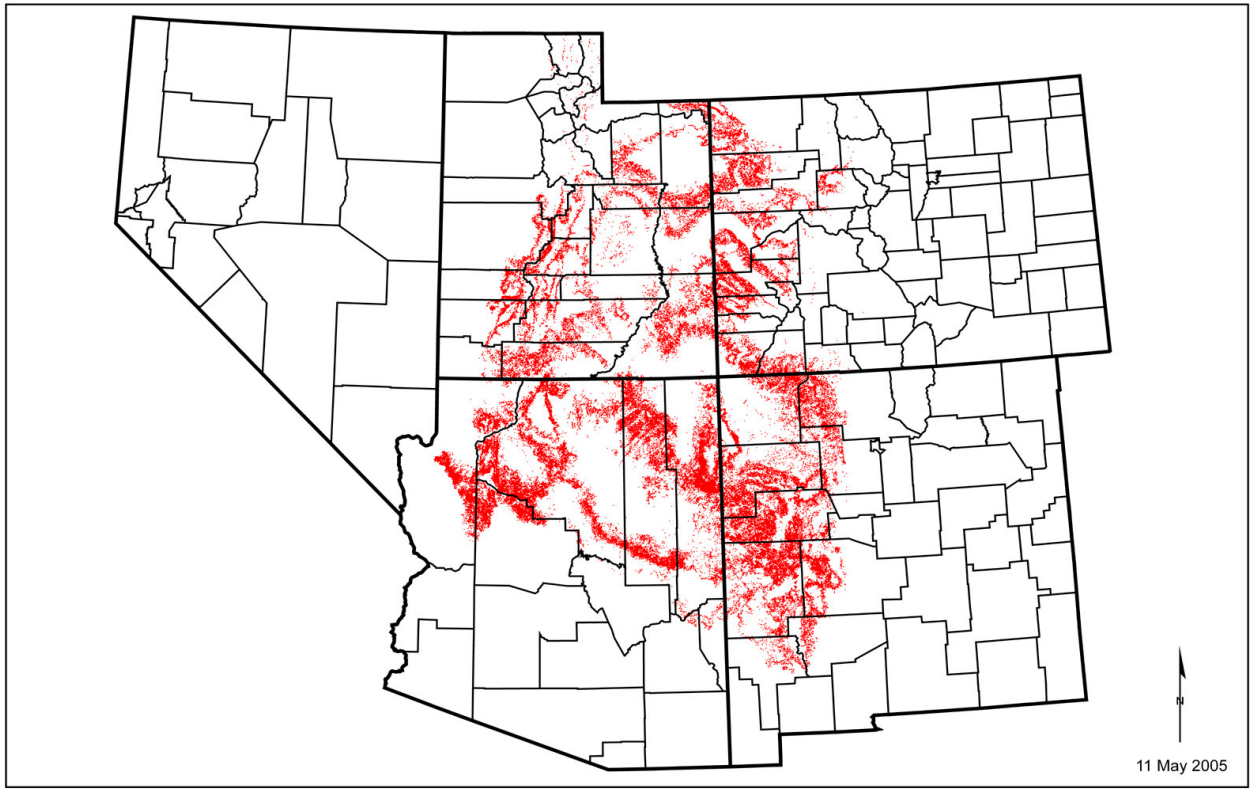
PhotoID : UT062603MD06_1.JPG

S039 Colorado Plateau Pinyon-Juniper Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S040 Great Basin Pinyon-Juniper Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary This ecological system occurs on dry mountain ranges of the Great Basin region and eastern foothills of the Sierra Nevada. It is typically found at lower elevations ranging from 1600-2600 m. These woodlands occur on warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and drought, are thought to limit the distribution of pinyon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Woodlands dominated by a mix of Pinus monophylla and Juniperus osteosperma, pure or nearly pure occurrences of Pinus monophylla, or woodlands dominated solely by Juniperus osteosperma comprise this system. Cercocarpus ledifolius is a common associate. Understory layers are variable. Associated species include shrubs such as Arctostaphylos patula, Artemisia arbuscula, Artemisia nova, Artemisia tridentata, Cercocarpus ledifolius, Cercocarpus intricatus, Coleogyne ramosissima, Quercus gambelii, Quercus turbinella, and bunch grasses Hesperostipa comata, Festuca idahoensis, Pseudoroegneria spicata, Leymus cinereus (= Elymus cinereus), and Poa fendleriana. This system occurs at lower elevations than Colorado Plateau Pinyon-Juniper Woodland (CES304.767) where sympatric.

Range Occurs on dry mountain ranges of the Great Basin region and eastern foothills of the Sierra Nevada, typically at lower elevations ranging from 1600-2600 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT101702MD09_1.JPG

PhotoID : UT060502GM18_1.JPG

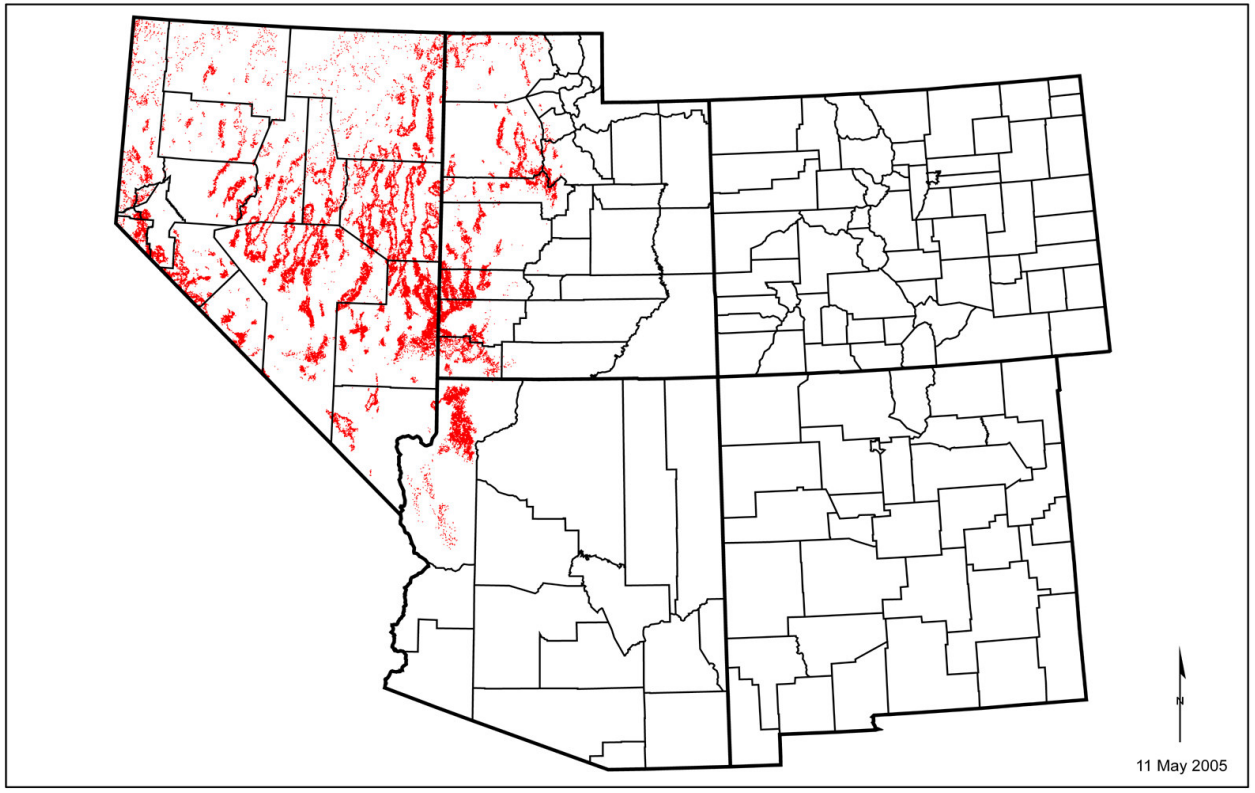
PhotoID : UT051002MD04_1.JPG

S040 Great Basin Pinyon-Juniper Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S026 Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system extends from the Mojave Desert and Sierra Nevada across the central Great Basin to the central Wasatch and western Uinta mountains. These open woodlands are typically found on high-elevation ridges and rocky slopes above subalpine forests and woodlands. Site are harsh, exposed to desiccating winds with rocky substrates and a short growing season that limit plant growth. Parent materials include dolomitic, limestone or granitic rocks. Occurrences can be found on all aspects but are more common on southwestern exposures on steep convex slopes and ridges between 2530 and 3600 m (8300-12,000 feet). Stands are strongly dominated by Pinus flexilis and/or Pinus longaeva. Pinus monophylla may be present in lower-elevation stands. If present, shrub and herbaceous layers are generally sparse and composed of xeric shrubs, graminoids and cushion plants. Associated species may include Antennaria rosea, Arenaria kingii, Artemisia tridentata, Cercocarpus intricatus, Chamaebatiaria millefolium, Cymopterus cinerarius, Elymus elymoides, Erigeron pygmaeus, Eriogonum ovalifolium, Festuca brachyphylla, Koeleria macrantha, Leptodactylon pungens, Ribes cereum, or Ribes montigenum.

Range

This system extends from the Mojave Desert and Sierra Nevada across the Great Basin to the central Wasatch and extreme western Uinta mountains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070701GM24_1.JPG

PhotoID : UT070701GM24_2.JPG

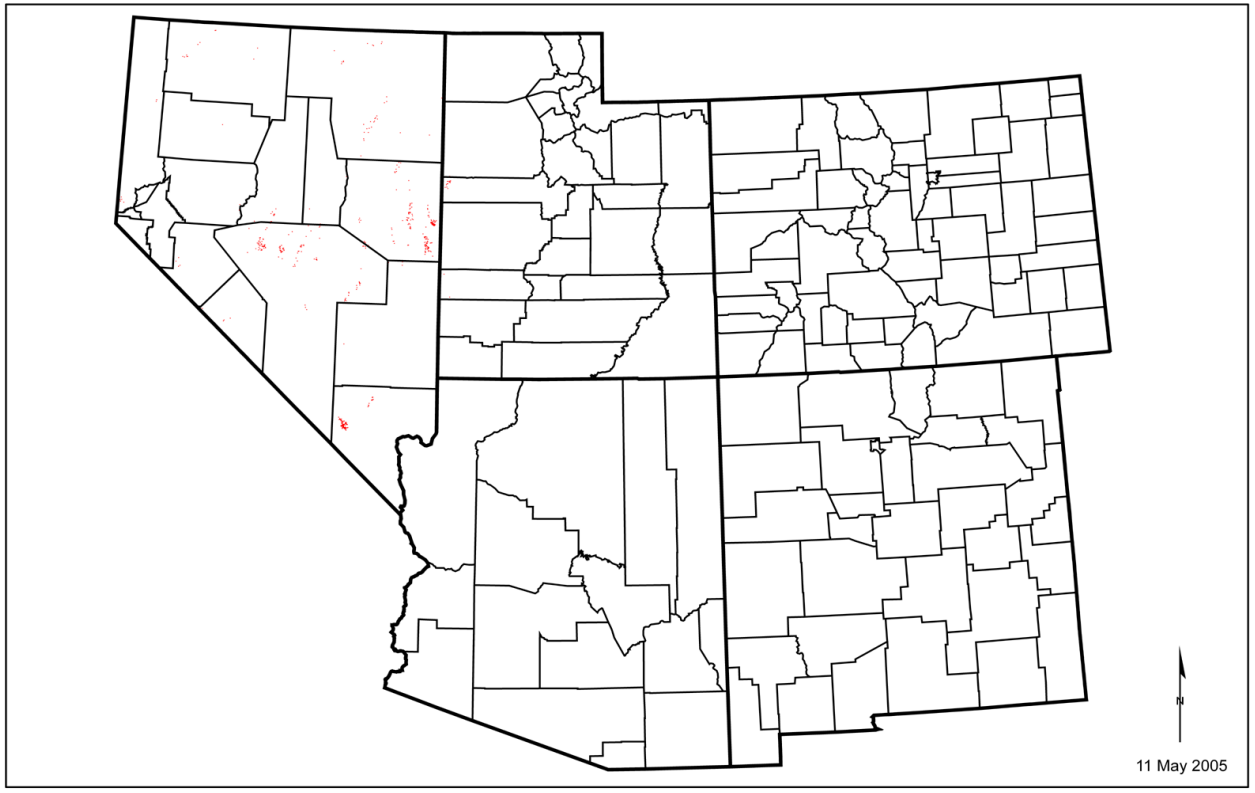
PhotoID : UT093000GM27_2.JPG

S026 Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S051 Madrean Encinal

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

Madrean Encinal occurs on foothills, canyons, bajadas and plateaus in the Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, extending north into Trans-Pecos Texas, southern New Mexico and sub-Mogollon Arizona. These woodlands are dominated by Madrean evergreen oaks along a low-slope transition below Madrean Pine-Oak Forest and Woodland (CES305.796) and Madrean Pinyon-Juniper Woodland (CES305.797). Lower elevation stands are typically open woodlands or savannas where they transition into desert grasslands, chaparral or in some cases desertscrub. Common evergreen oak species include Quercus arizonica, Quercus emoryi, Quercus intricata, Quercus grisea, Quercus oblongifolia, Quercus toumeyi, and in Mexico Quercus chihuahuensis and Quercus albocincta. Madrean pine, Arizona cypress, pinyon and juniper trees may be present, but do not codominate. Chaparral species such as Arctostaphylos pungens, Cercocarpus montanus, Purshia spp., Garrya wrightii, Quercus turbinella, Frangula betulifolia (= Rhamnus betulifolia), or Rhus spp. may be present but do not dominate. The graminoid layer is usually prominent between trees in grassland or steppe that is dominated by warm-season grasses such as Aristida spp., Bouteloua gracilis, Bouteloua curtipendula, Bouteloua rothrockii, Digitaria californica, Eragrostis intermedia, Hilaria belangeri, Leptochloa dubia, Muhlenbergia spp., Pleuraphis jamesii, or Schizachyrium cirratum, species typical of Chihuahuan Piedmont Semi-Desert Grassland (CES302.735). This system includes seral stands dominated by shrubby Madrean oaks typically with a strong graminoid layer. In transition areas with drier chaparral systems, stands of chaparral are not dominated by Madrean oaks; however, Madrean Encinal may extend down along drainages.

Range

Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, Trans-Pecos Texas, southern New Mexico and southeastern Arizona.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061501BM13_1.JPG

PhotoID : AZ061201BM07_1.JPG

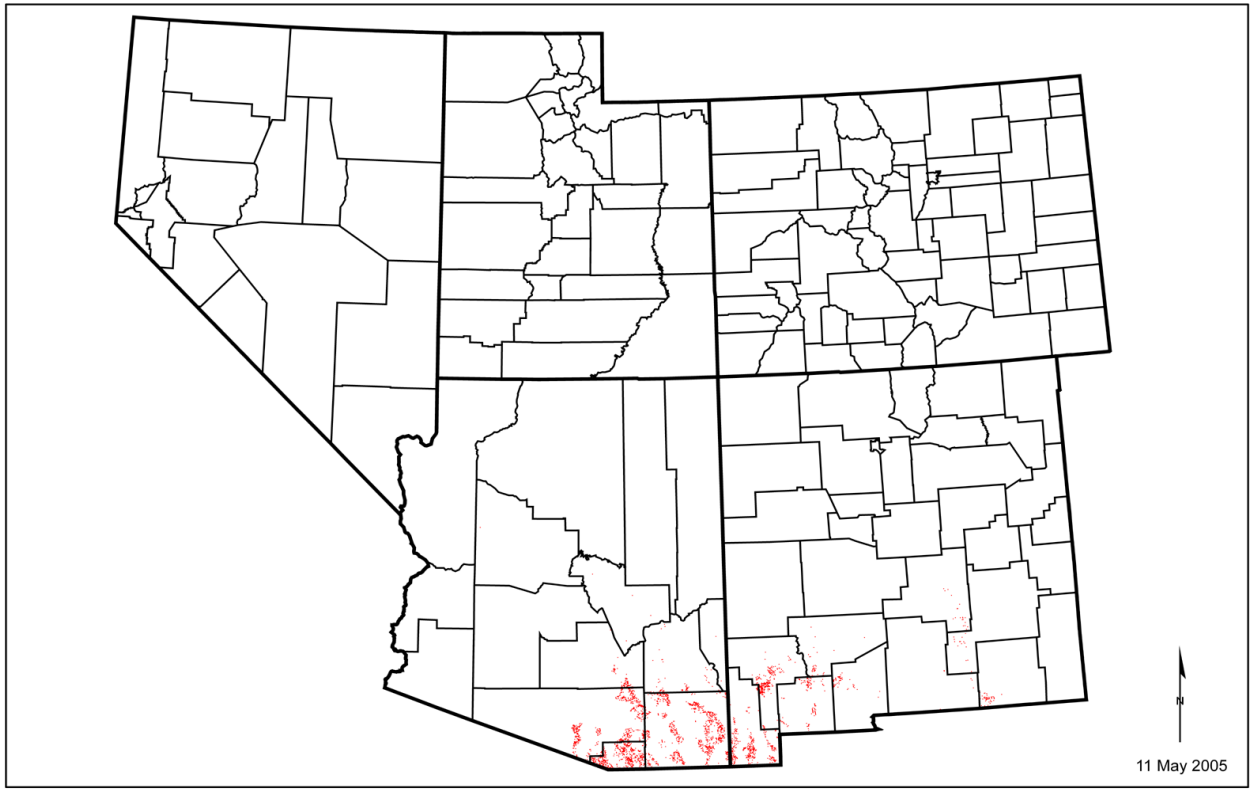
PhotoID : AZ061101BM02_1.JPG

S051 Madrean Encinal

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S035 Madrean Pine-Oak Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

This system occurs on mountains and plateaus in the Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, Trans-Pecos Texas, southern New Mexico and Arizona, generally south of the Mogollon Rim. These forests and woodlands are composed of Madrean pines (Pinus arizonica, Pinus engelmannii, Pinus leiophylla, or Pinus strobiformis) and evergreen oaks (Quercus arizonica, Quercus emoryi, or Quercus grisea) intermingled with patchy shrublands on most mid-elevation slopes (1500-2300 m elevation). Other tree species include Cupressus arizonica, Juniperus deppeana, Pinus cembroides, Pinus discolor, Pinus ponderosa (with Madrean pines or oaks), and Pseudotsuga menziesii. Subcanopy and shrub layers may include typical encinal and chaparral species such as Agave spp., Arbutus arizonica, Arctostaphylos pringlei, Arctostaphylos pungens, Garrya wrightii, Nolina spp., Quercus hypoleucoides, Quercus rugosa, and Quercus turbinella. Some stands have moderate cover of perennial graminoids such as Muhlenbergia emersleyi, Muhlenbergia longiligula, Muhlenbergia virescens, and Schizachyrium cirratum. Fires are frequent with perhaps more crown fires than ponderosa pine woodlands, which tend to have more frequent ground fires on gentle slopes.

Range

Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, Trans-Pecos Texas, southern New Mexico and Arizona, generally south of the Mogollon Rim.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061101BM10_2.JPG

PhotoID : AZ080800BM01_2.JPG

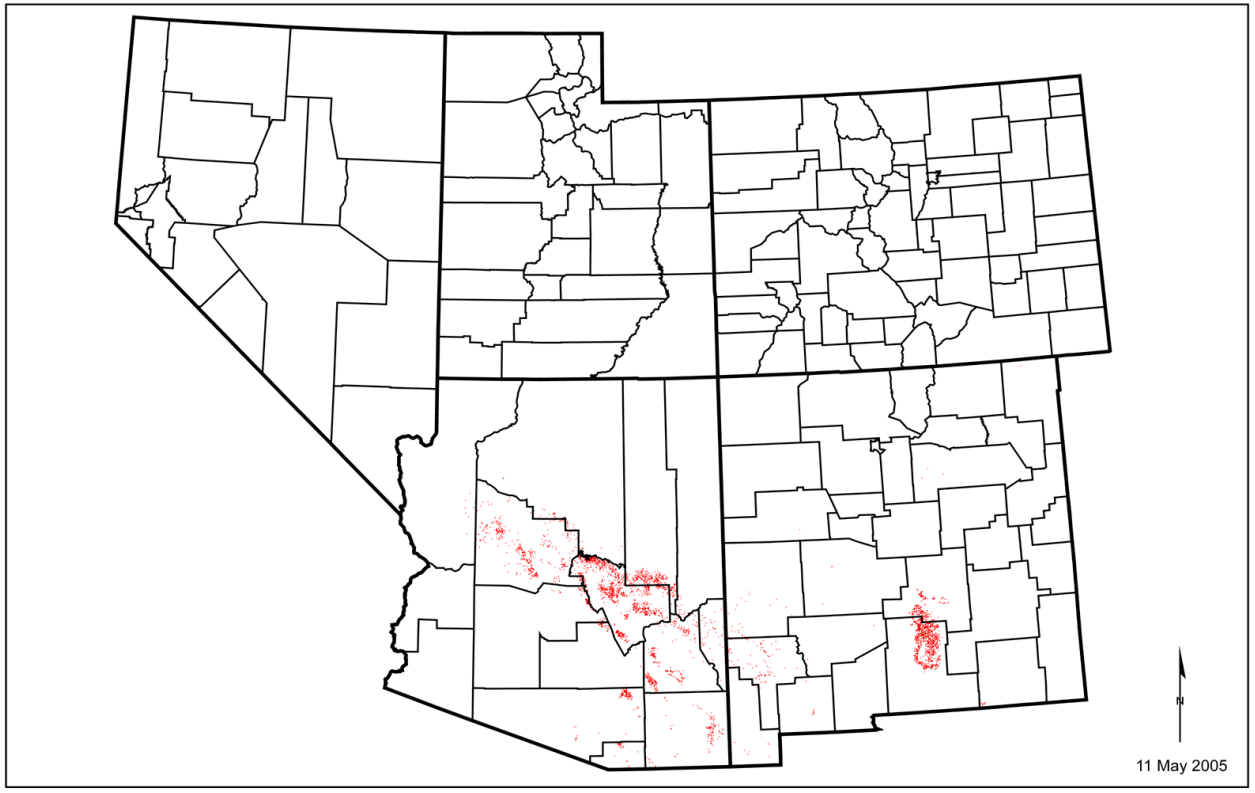
PhotoID : NM091002DC04_2.JPG

S035 Madrean Pine-Oak Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S112 Madrean Pinyon-Juniper Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary

This system occurs on foothills, mountains and plateaus in the Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, Trans-Pecos Texas, southern New Mexico and Arizona, generally south of the Mogollon Rim. Substrates are variable, but soils are generally dry and rocky. The presence of Pinus cembroides, Pinus discolor, or other Madrean trees and shrubs is diagnostic of this woodland system. Juniperus coahuilensis, Juniperus deppeana, Juniperus pinchotii, Juniperus monosperma, and/or Pinus edulis may be present to dominant. Madrean oaks such as Quercus arizonica, Quercus emoryi, Quercus grisea, or Quercus mohriana may be codominant. Pinus ponderosa is absent or sparse. If present, understory layers are variable and may be dominated by shrubs or graminoids.

Range

Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, Trans-Pecos Texas, southern New Mexico and Arizona, generally south of the Mogollon Rim.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061301BM11_2.JPG

PhotoID : AZ061201BM05_2.JPG

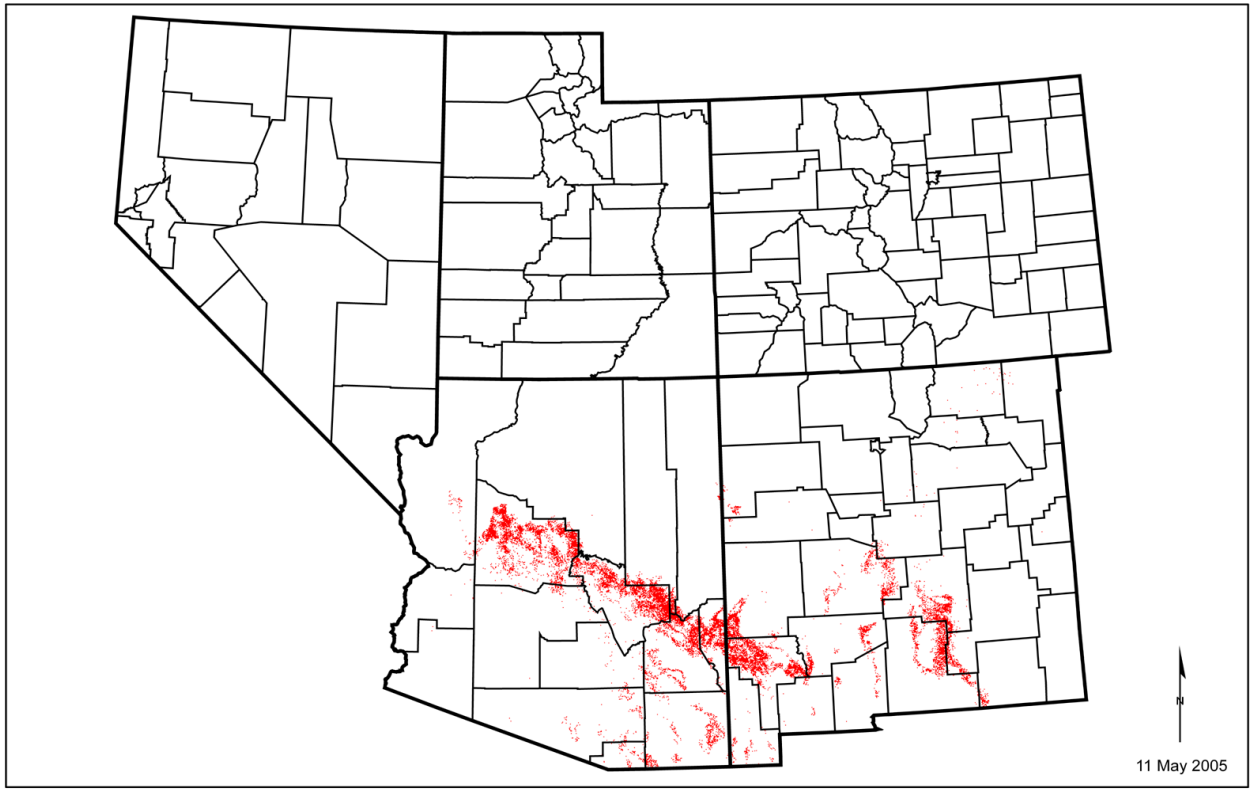
PhotoID : NM052203JP05_1.JPG

S112 Madrean Pinyon-Juniper Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S111 Madrean Upper Montane Conifer-Oak Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary This system occurs at the upper elevations in the Sierra Madre Occidentale and Sierra Madre Orientale. In the U.S., it is restricted to north and east aspects at high elevations (1980-2440 m) in the Sky Islands (Chiricahua, Huachuca, Pinaleno, Santa Catalina, and Santa Rita mountains) and along the Nantanes Rim. It is more common in Mexico and does not occur in Arizona central highlands. The vegetation is characterized by large- and small-patch forests and woodlands dominated by Pseudotsuga menziesii, Abies coahuilensis, or Abies concolor and Madrean oaks such as Quercus hypoleucoides and Quercus rugosa. It is similar to Rocky Mountain Montane Dry-Mesic Mixed Conifer Forest and Woodland (CES306.823).

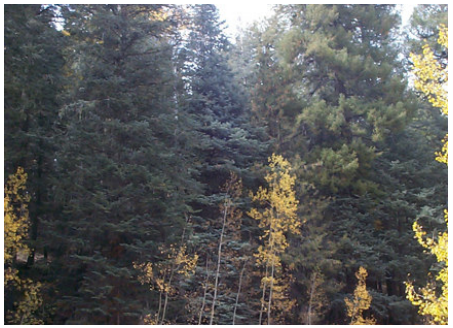
Range Sierra Madre Occidentale and Sierra Madre Orientale; in the U.S., it is restricted to north and east aspects at high elevations (1980-2440 m) in the Sky Islands (Chiricahua, Huachuca, Pinaleno, Santa Catalina, and Santa Rita mountains) and along the Nantanes Rim.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM061400BM01_1.JPG



PhotoID : AZ102002ES13_2.JPG

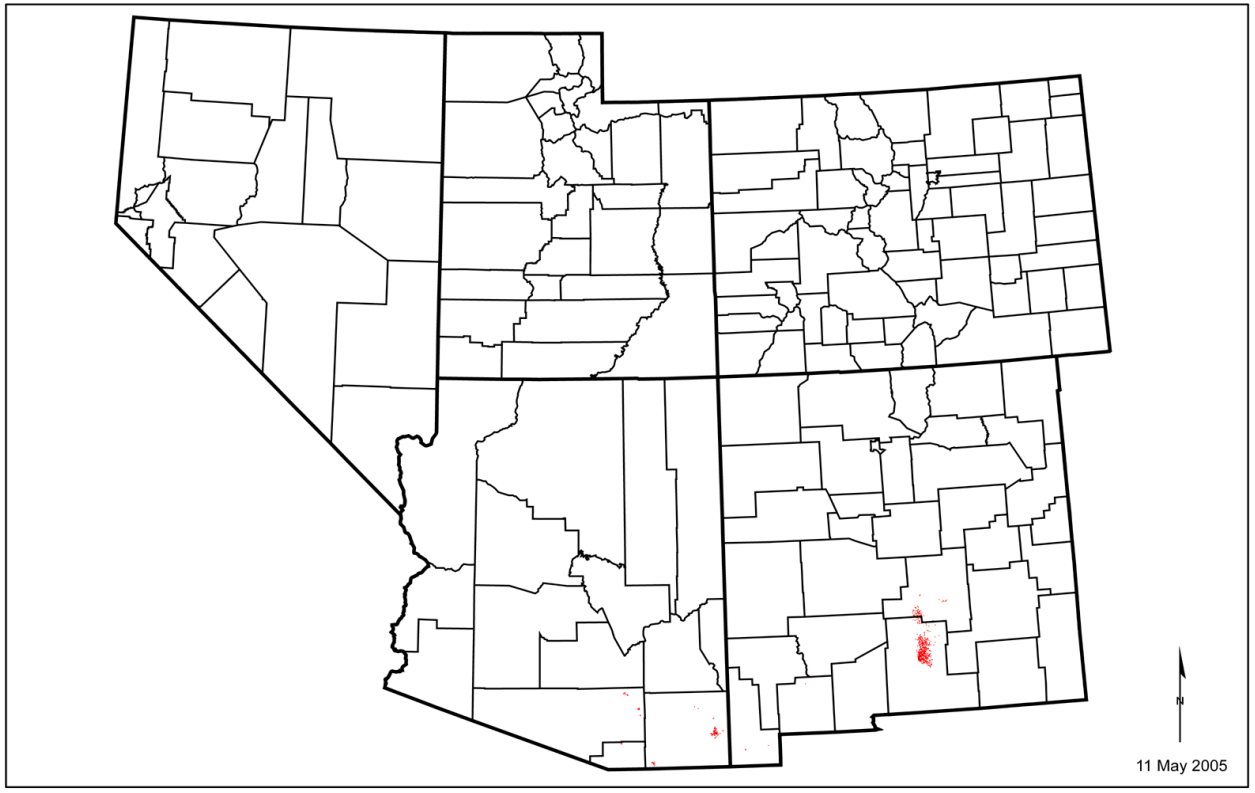
PhotoID : NM052303JP05_2.JPG

S111 Madrean Upper Montane Conifer-Oak Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S033 Mediterranean California Dry-Mesic Mixed Conifer Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary These mixed-conifer forests occur on all aspects in lower montane zones (600-1800 m in northern California; 1200-2150 m in southern California). Pseudotsuga menziesii, Calocedrus decurrens, Pinus lambertiana, and Quercus kelloggii, Acer macrophyllum (in mesic pockets) are most frequent, but Pinus ponderosa, Pinus jeffreyi, Pinus attenuata may codominate in the Sierra Nevada foothills. Pseudotsuga macrocarpa is present in this system in the Transverse Ranges of southern California. Historically, frequent and low-intensity fire maintained these woodlands. This system occurs in a variety of topo-edaphic positions, such as upper slopes at higher elevations, canyon sideslopes, ridgetops, and south- and west-facing slopes which burn relatively frequently. Due to fire suppression, the majority of these forests now have closed canopies, where in the past a moderately high fire frequency (20-30 years) formerly maintained an open forest of many conifers.

Range Lower montane zones (600-1800 m in northern California; 1200-2150 m in southern California).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV082303DE08.jpg

PhotoID : NV082703DE06.jpg

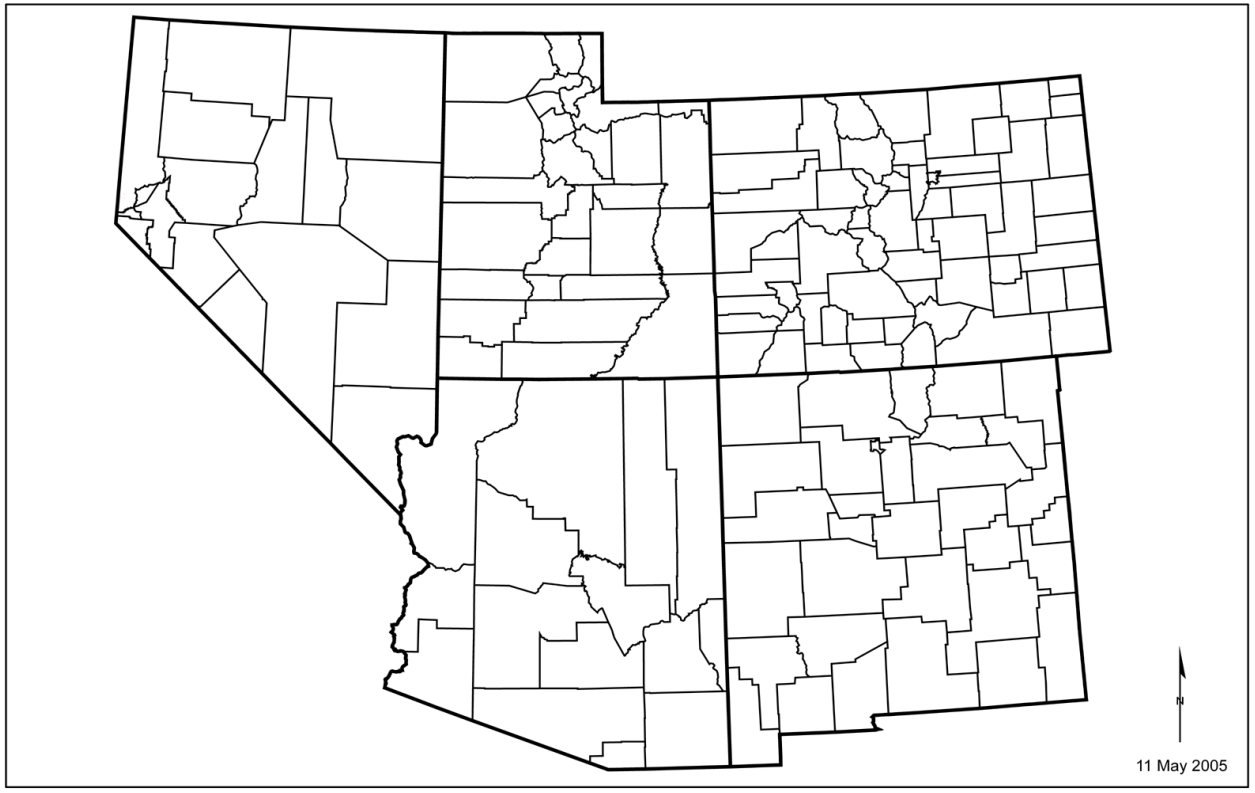
PhotoID : NV072203JS01.JPG

S033 Mediterranean California Dry-Mesic Mixed Conifer Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S123 Mediterranean California Ponderosa-Jeffrey Pine Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

These forests are found on warm, xeric sites in foothills and mountains from southern Oregon (600-1830 m [1800-5000 feet]) south throughout the Transverse Ranges and into northern Baja California (1200-2740 m [4000-8300 feet]). While the two dominant pines tend to segregate by soil fertility and temperature regimes, they may co-occur in certain areas (e.g., Modoc Plateau). Pinus jeffreyi replaces Pinus ponderosa as dominant at higher elevations. Understory species include Arctostaphylos patula, Ceanothus cordulatus, Ceanothus prostratus, Ceanothus integerrimus, Eriogonum wrightii, Frangula rubra (= Rhamnus rubra), Lupinus elatus, and Symphoricarpos rotundifolius var. parishii (= Symphoricarpos parishii). Historically, frequent localized ground fires maintained these systems.

Range

Foothills and mountains from southern Oregon (600-1830 m [1800-5000 feet]) south throughout the Transverse Ranges and into northern Baja California (1200-2740 m [4000-8300 feet]).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV072603JS22.JPG

PhotoID : NV072603JS15.JPG

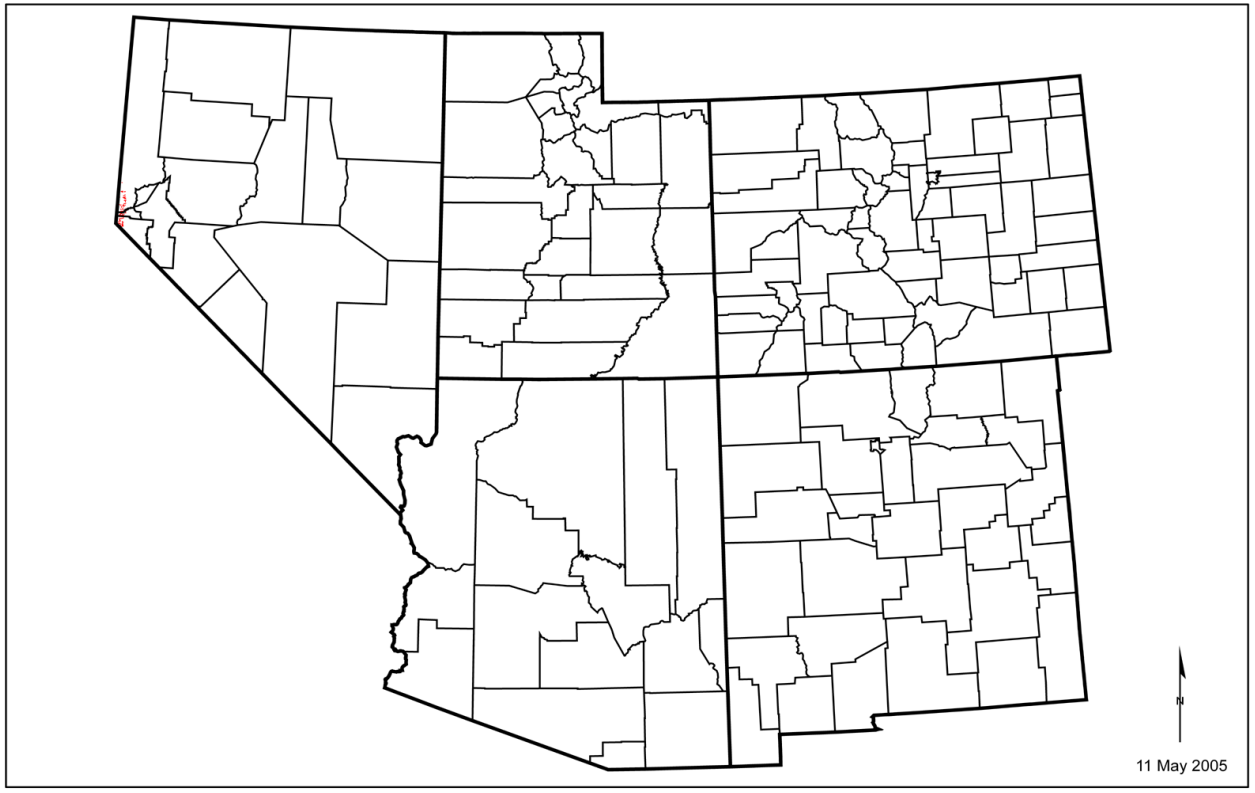
PhotoID : NV082103DE12.jpg

S123 Mediterranean California Ponderosa-Jeffrey Pine Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S121 Mediterranean California Red Fir Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary This system includes high-elevation (1600-2700 m [4850-8200 feet]) forests and woodlands dominated by Abies magnifica (= var. magnifica), Abies X shastensis (= Abies magnifica var. shastensis), Abies procera, and Pinus contorta var. murrayana. It is typically found on deep, well-drained soils throughout this elevation zone from the central Sierra Nevada north and west into southern Oregon. Heavy snowpack is a major source of soil moisture throughout the growing season. Driving ecological processes are occasional blow-down, insect outbreaks and stand-replacing fire. Common understory species include Lonicera conjugialis, Quercus vacciniifolia, Ribes viscosissimum, and Symphoricarpos rotundifolius. This system commonly occurs above mixed conifer forests with Abies concolor and overlaps in elevation with forests and woodlands of Pinus contorta var. murrayana.

Range It is typically found on deep, well-drained soils throughout the high-elevation zone (1600-2700 m [4850-8200 feet]) from the central Sierra Nevada north and west into southern Oregon.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV082303DE04.jpg

PhotoID : NV072203JS04.JPG

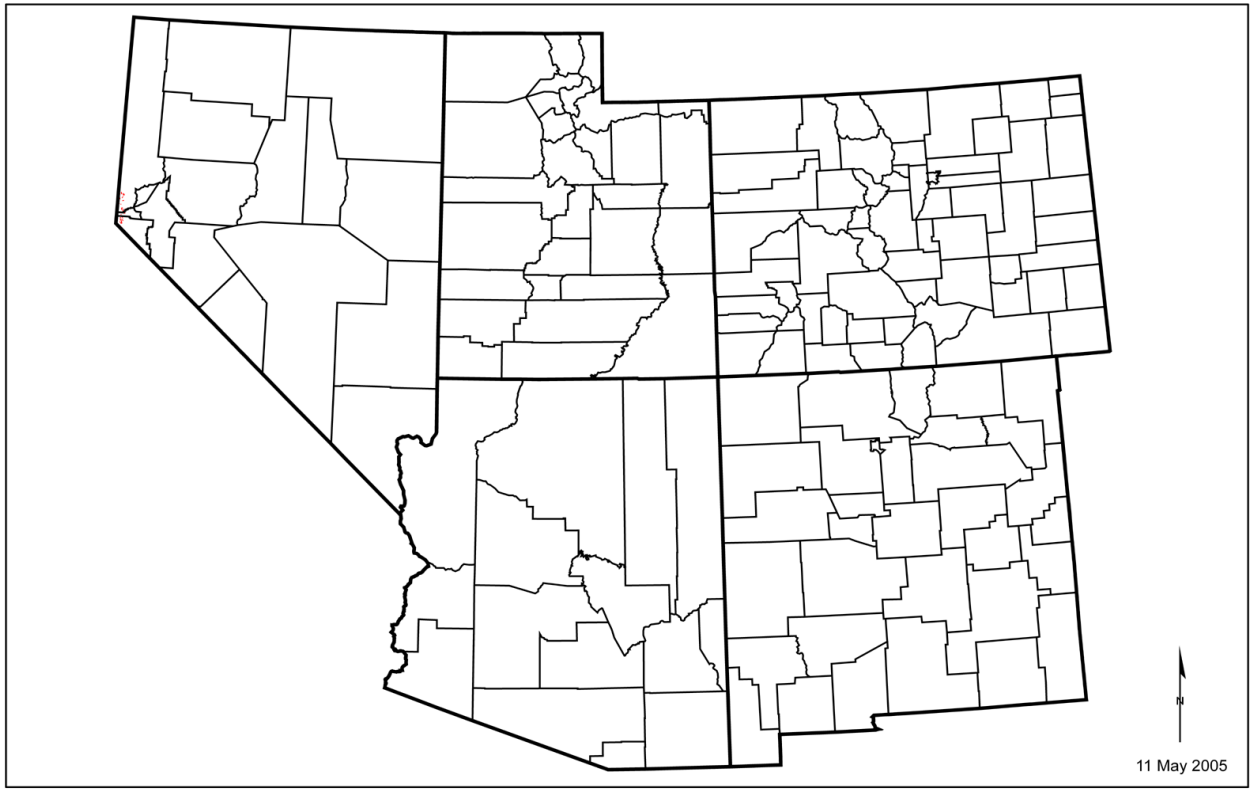
PhotoID : NV072403PJ11.jpg

S121 Mediterranean California Red Fir Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S029 Northern Pacific Mesic Subalpine Parkland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary This system occurs on ridges and rocky slopes around timberline at 2600 m (7900 feet) in the central Sierra Nevada and 2450 m (8000 feet) in the southern Cascades. These woodlands are found on concave or mesic slopes in areas with long-lasting snowpack and better soil development than other drier and more exposed subalpine woodlands. Characteristic species include Tsuga mertensiana, Abies magnifica, Abies procera, Pinus albicaulis, Juniperus communis, and Penstemon davidsonii, as well as patches of grasses, sedges, and forbs grading into adjacent meadows.

Range Occurs on ridges and rocky slopes around timberline at 2600 m (7900 feet) in the central Sierra Nevada and 2450 m (8000 feet) in the southern Cascades.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV072303PJ02.jpg

PhotoID : NV072703JS04.JPG

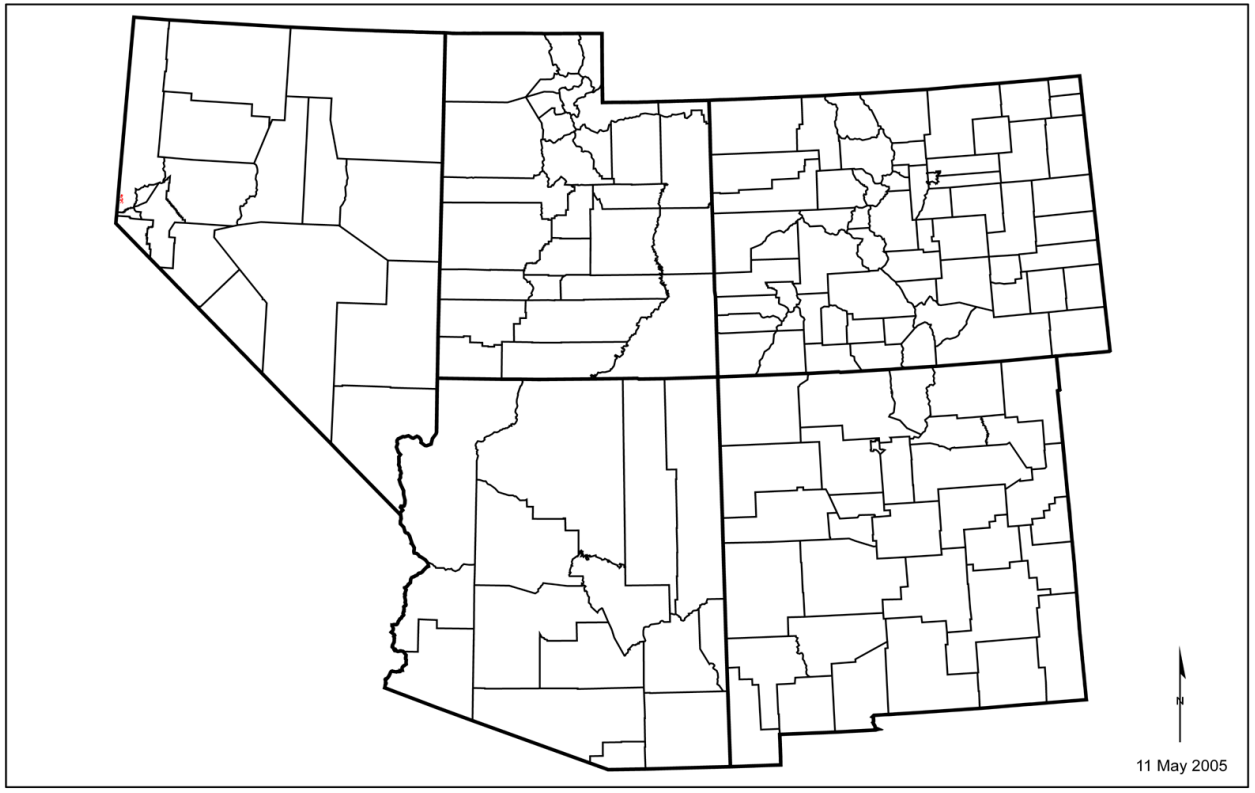
PhotoID : NV072703JS07.JPG

S029 Northern Pacific Mesic Subalpine Parkland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S032 Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary This is a highly variable ecological system of the montane zone of the Rocky Mountains. It occurs throughout the southern Rockies, north and west into Utah, Nevada, western Wyoming and Idaho. These are mixed-conifer forests occurring on all aspects at elevations ranging from 1200 to 3300 m. Rainfall averages less than 75 cm per year (40-60 cm) with summer "monsoons" during the growing season contributing substantial moisture. The composition and structure of overstory is dependent upon the temperature and moisture relationships of the site, and the successional status of the occurrence. Pseudotsuga menziesii and Abies concolor are most frequent, but Pinus ponderosa may be present to codominant. Pinus flexilis is common in Nevada. Pseudotsuga menziesii forests occupy drier sites, and Pinus ponderosa is a common codominant. Abies concolor-dominated forests occupy cooler sites, such as upper slopes at higher elevations, canyon sideslopes, ridgetops, and north- and east-facing slopes which burn somewhat infrequently. Picea pungens is most often found in cool, moist locations, often occurring as smaller patches within a matrix of other associations. As many as seven conifers can be found growing in the same occurrence, and there are a number of cold-deciduous shrub and graminoid species common, including Arctostaphylos uva-ursi, Mahonia repens, Paxistima myrsinites, Symphoricarpos oreophilus, Jamesia americana, Quercus gambelii, and Festuca arizonica. This system was undoubtedly characterized by a mixed severity fire regime in its "natural condition," characterized by a high degree of variability in lethality and return interval.

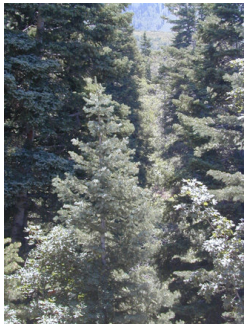
Range Occurs throughout the southern Rockies, north and west into Utah, Nevada, western Wyoming and Idaho.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT090701GM18_1.JPG



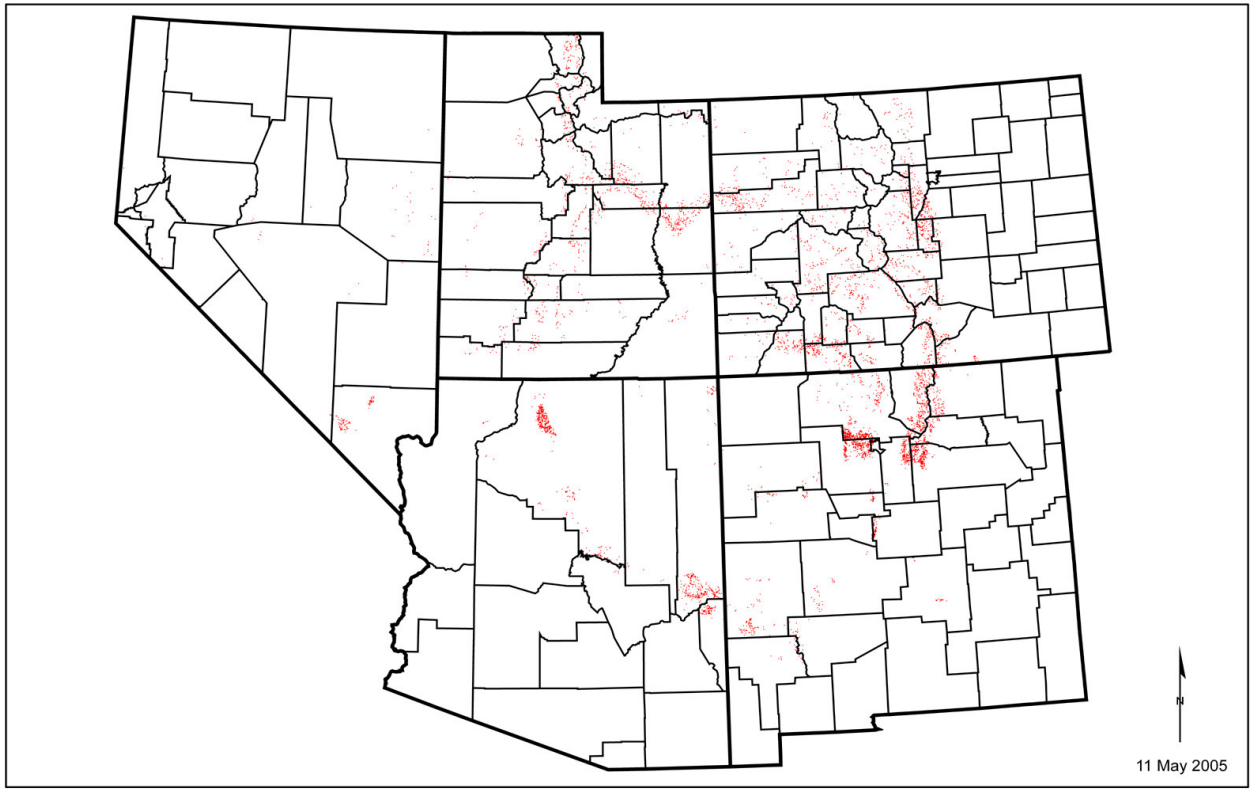
PhotoID : UT072302MD07_1.JPG

S032 Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S125 Rocky Mountain Foothill Limber Pine-Juniper Woodland

Field Photos

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system occurs in foothill and lower montane zones in the Rocky Mountains from northern Montana south to central Colorado and on escarpments across Wyoming extending out into the western Great Plains. Elevation ranges from 1000-2400 m. It is restricted to shallow soils and fractured bedrock derived from a variety of parent material including limestone, sandstone, dolomite, granite and colluvium. Soils have a high rock component (typically over 50% cover) and are coarse to fine-textured, often gravelly and calcareous. Slopes are typically moderately steep to steep. At higher elevations it is limited to the most xeric aspects on rock outcrops, and at lower elevations to the relatively mesic north aspects. Fire is infrequent and spotty because rocky substrates prevent a continuous vegetation canopy needed to spread. Vegetation is characterized by an open tree canopy or patchy woodland that is dominated by either Pinus flexilis, Juniperus osteosperma, or Juniperus scopulorum. Pinus edulis is not present. A sparse to moderately dense short-shrub layer, if present, may include a variety of shrubs, such as Artemisia nova, Artemisia tridentata, Cercocarpus ledifolius, Cercocarpus montanus, Cornus sericea, Ericameria nauseosa, Purshia tridentata, Rhus trilobata, or Rosa woodsii. Herbaceous layers are generally sparse, but range to moderately dense and are typically dominated by perennial graminoids such as Bouteloua gracilis, Leucopoa kingii, Hesperostipa comata, Koeleria macrantha, Piptatherum micranthum, Poa secunda, or Pseudoroegneria spicata. Within this ecological system there may be small patches of grassland or shrubland composed of some of the above species.

Range

Occurs in foothill and lower montane zones in the Rocky Mountains from northern Montana south to central Colorado and on escarpments across Wyoming extending out into the western Great Plains. Elevation ranges from 1000-2400 m.

Additional Information

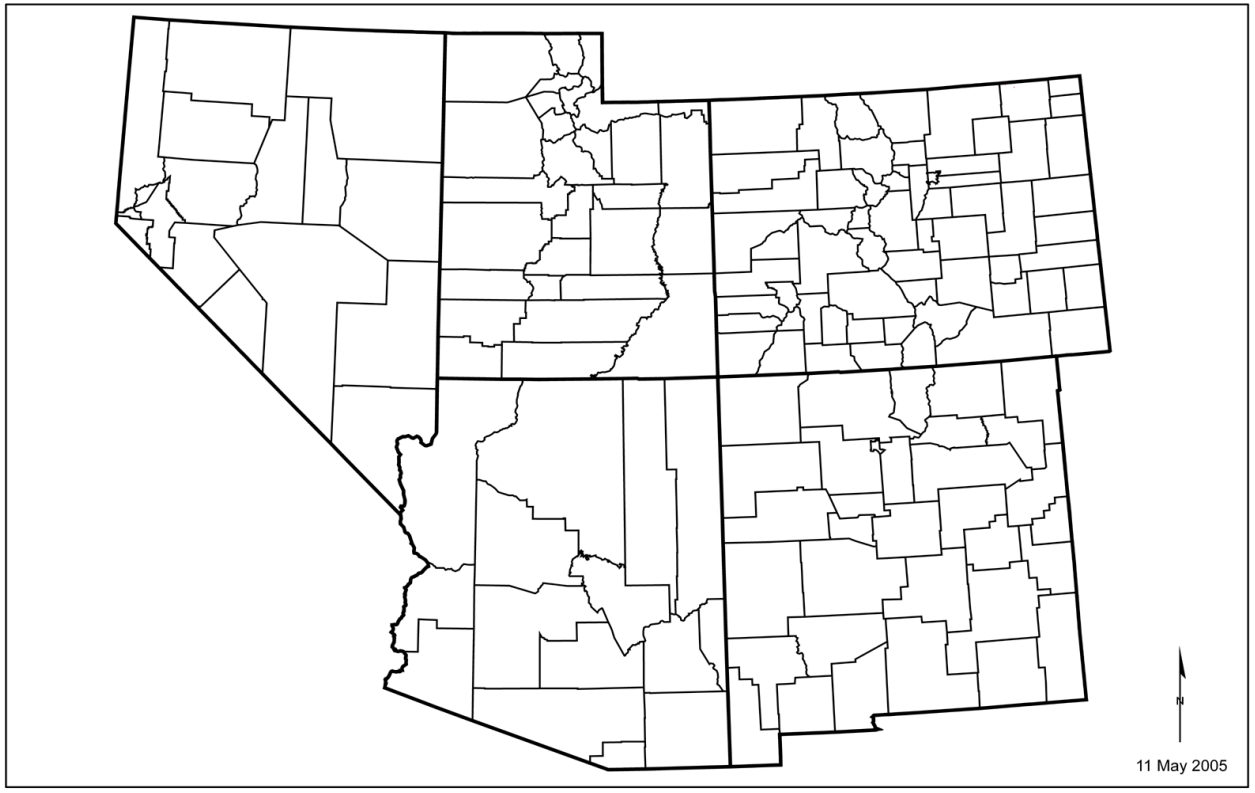
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S125 Rocky Mountain Foothill Limber Pine-Juniper Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S031 Rocky Mountain Lodgepole Pine Forest

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary

This system is widespread in upper montane to subalpine elevations of the Rocky Mountains, Intermountain region, and north into the Canadian Rockies. These are subalpine forests where the dominance of Pinus contorta is related to fire history and topo-edaphic conditions. Following stand-replacing fires, Pinus contorta will rapidly colonize and develop into dense, even-aged stands. Most forests in this ecological system are early- to mid-successional forests which developed following fires. Some Pinus contorta forests will persist on sites that are too extreme for other conifers to establish. These include excessively well-drained pumice deposits, glacial till and alluvium on valley floors where there is cold air accumulation, warm and droughty shallow soils over fractured quartzite bedrock, and shallow moisture-deficient soils with a significant component of volcanic ash. Soils supporting these forests are typically well-drained, gravelly, coarse-textured, acidic, and rarely formed from calcareous parent materials. These forests are dominated by Pinus contorta with shrub, grass, or barren understories. Sometimes there are intermingled mixed conifer/Populus tremuloides stands with the latter occurring with inclusions of deeper, typically fine-textured soils. The shrub stratum may be conspicuous to absent; common species include Arctostaphylos uva-ursi, Ceanothus velutinus, Linnaea borealis, Mahonia repens, Purshia tridentata, Spiraea betulifolia, Spiraea douglasii, Shepherdia canadensis, Vaccinium caespitosum, Vaccinium scoparium, Vaccinium membranaceum, Symphoricarpos albus, and Ribes spp. In southern interior British Columbia, this system is usually an open lodgepole pine forest found extensively between 500 and 1600 m elevation in the Columbia range. In the Interior Cedar Hemlock and Interior Douglas-fir zones, Tsuga heterophylla or Pseudotsuga menziesii may present.

Range

Upper montane to subalpine elevations of the Rocky Mountains, Intermountain region, and north into the Canadian Rockies.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071703JK13_1.JPG

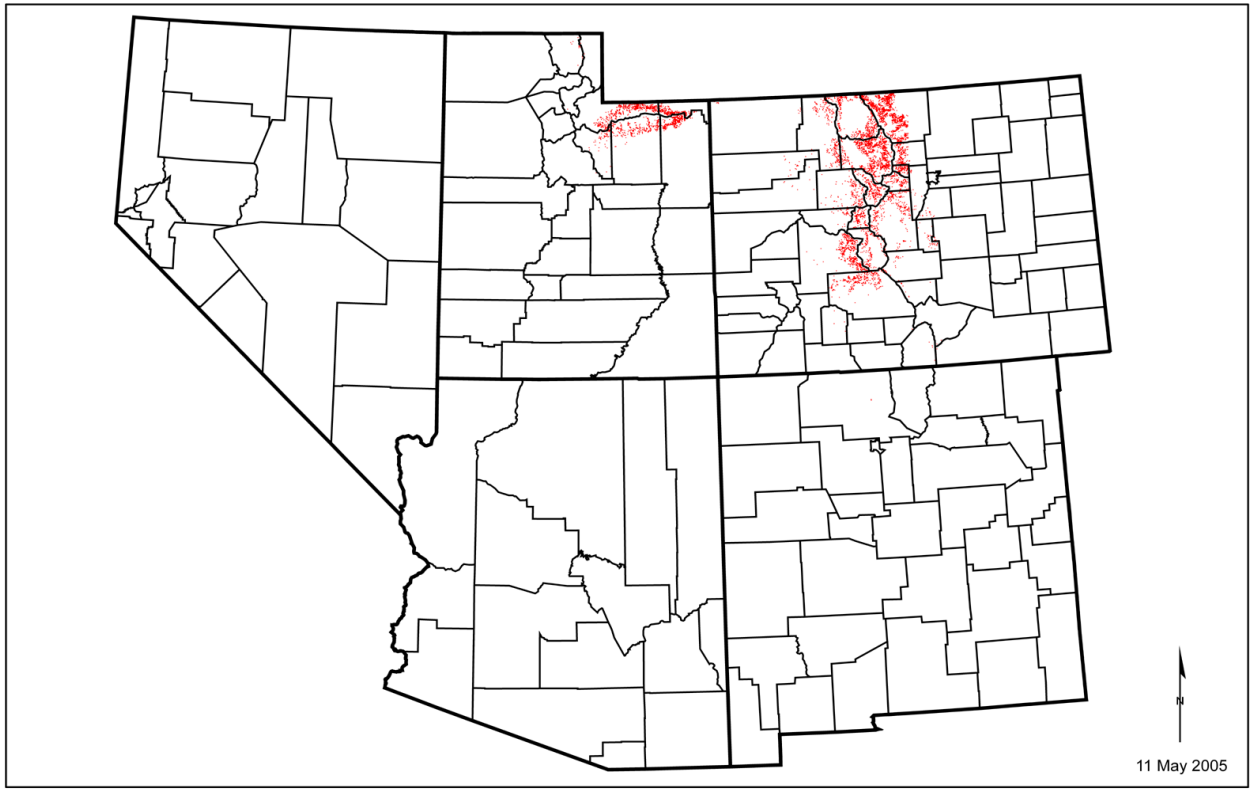
PhotoID : UT071103MD04_2.JPG

S031 Rocky Mountain Lodgepole Pine Forest

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S034 Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

These are mixed-conifer forests of the Rocky Mountains west into the ranges of the Great Basin, occurring predominantly in cool ravines and on north-facing slopes. Elevations range from 1200 to 3300 m. Occurrences of this system are found on cooler and more mesic sites than Rocky Mountain Montane Dry-Mesic Mixed Conifer Forest and Woodland (CES306.823). Such sites include lower and middle slopes of ravines, along stream terraces, moist, concave topographic positions and north- and east-facing slopes which burn somewhat infrequently. Pseudotsuga menziesii and Abies concolor are most common canopy dominants, but Picea engelmannii, Picea pungens, or Pinus ponderosa may be present. This system includes mixed conifer/Populus tremuloides stands. A number of cold-deciduous shrub species can occur, including Acer glabrum, Acer grandidentatum, Alnus incana, Betula occidentalis, Cornus sericea, Jamesia americana, Physocarpus malvaceus, Robinia neomexicana, Vaccinium membranaceum, and Vaccinium myrtillus. Herbaceous species include Bromus ciliatus, Carex geyeri, Carex rossii, Carex siccata, Muhlenbergia virescens, Pseudoroegneria spicata, Erigeron eximius, Fragaria virginiana, Luzula parviflora, Osmorhiza berteroi, Packera cardamine, Thalictrum occidentale, and Thalictrum fendleri. Naturally occurring fires are of variable return intervals, and mostly light, erratic, and infrequent due to the cool, moist conditions.

Range

Rocky Mountains west into the ranges of the Great Basin, occurring predominantly in cool ravines and on north-facing slopes. Elevations range from 1200 to 3300 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT073103JK10_1.jpg

PhotoID : UT063002LL10_1.JPG

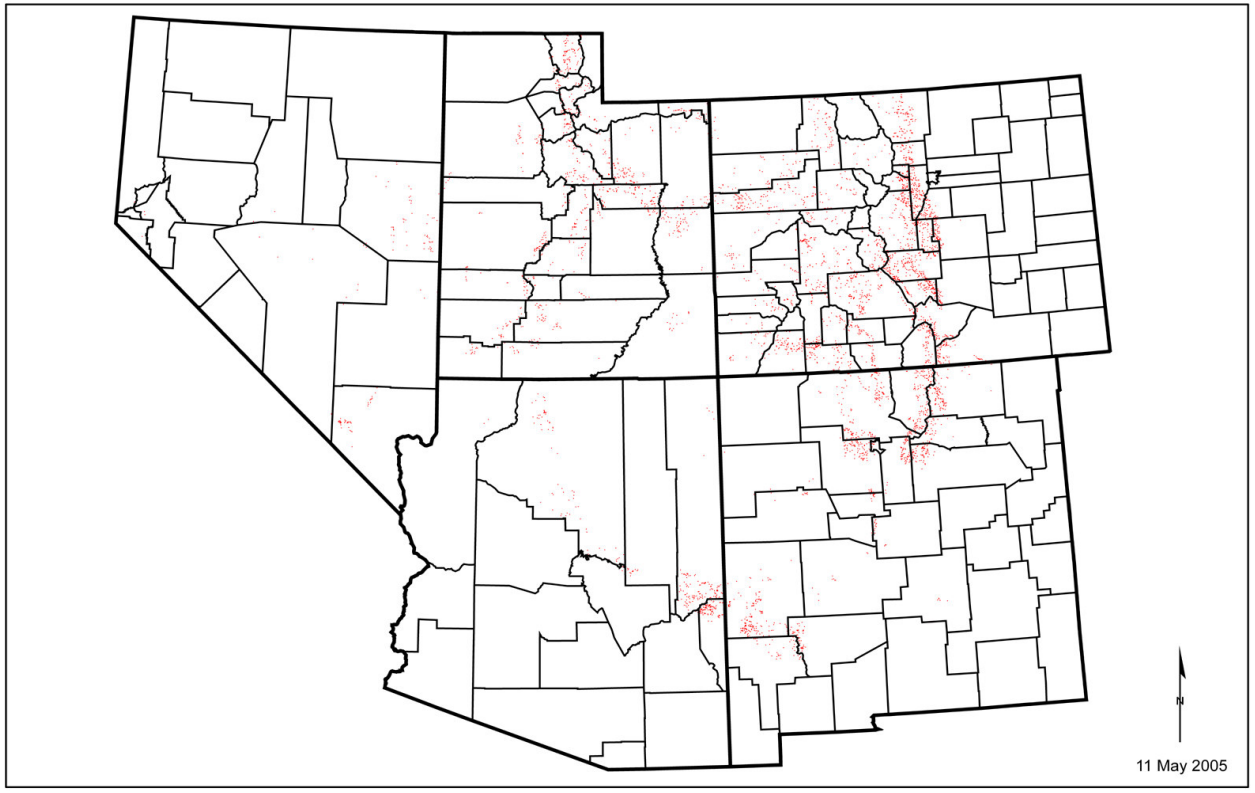
PhotoID : UT070302MD02_1.JPG

S034 Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S028 Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary

Engelmann spruce and subalpine fir forests comprise a substantial part of the subalpine forests of the Cascades and Rocky Mountains from southern British Columbia east into Alberta, south into New Mexico and the Intermountain region. They are the matrix forests of the subalpine zone, with elevations ranging from 1275 m in its northern distribution to 3355 m in the south (4100-11,000 feet). They often represent the highest elevation forests in an area. Sites within this system are cold year-round, and precipitation is predominantly in the form of snow, which may persist until late summer. Snowpacks are deep and late-lying, and summers are cool. Frost is possible almost all summer and may be common in restricted topographic basins and benches. Despite their wide distribution, the tree canopy characteristics are remarkably similar, with Picea engelmannii and Abies lasiocarpa dominating either mixed or alone. Pseudotsuga menziesii may persist in occurrences of this system for long periods without regeneration. Pinus contorta is common in many occurrences, and patches of pure Pinus contorta are not uncommon, as well as mixed conifer/Populus tremuloides stands. In some areas, such as Wyoming, Picea engelmannii-dominated forests are on limestone or dolomite, while nearby codominated spruce-fir forests are on granitic or volcanic rocks. Xeric species may include Juniperus communis, Linnaea borealis, Mahonia repens, or Vaccinium scoparium. More northern occurrences often have taller, more mesic shrub and herbaceous species, such as Empetrum nigrum, Rhododendron albiflorum, and Vaccinium membranaceum. Disturbance includes occasional blow-down, insect outbreaks and stand-replacing fire.

Range

This system is found in the Cascades and Rocky Mountains from southern interior British Columbia east into Alberta, south into New Mexico and the Intermountain region.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT073001GM09_1.JPG

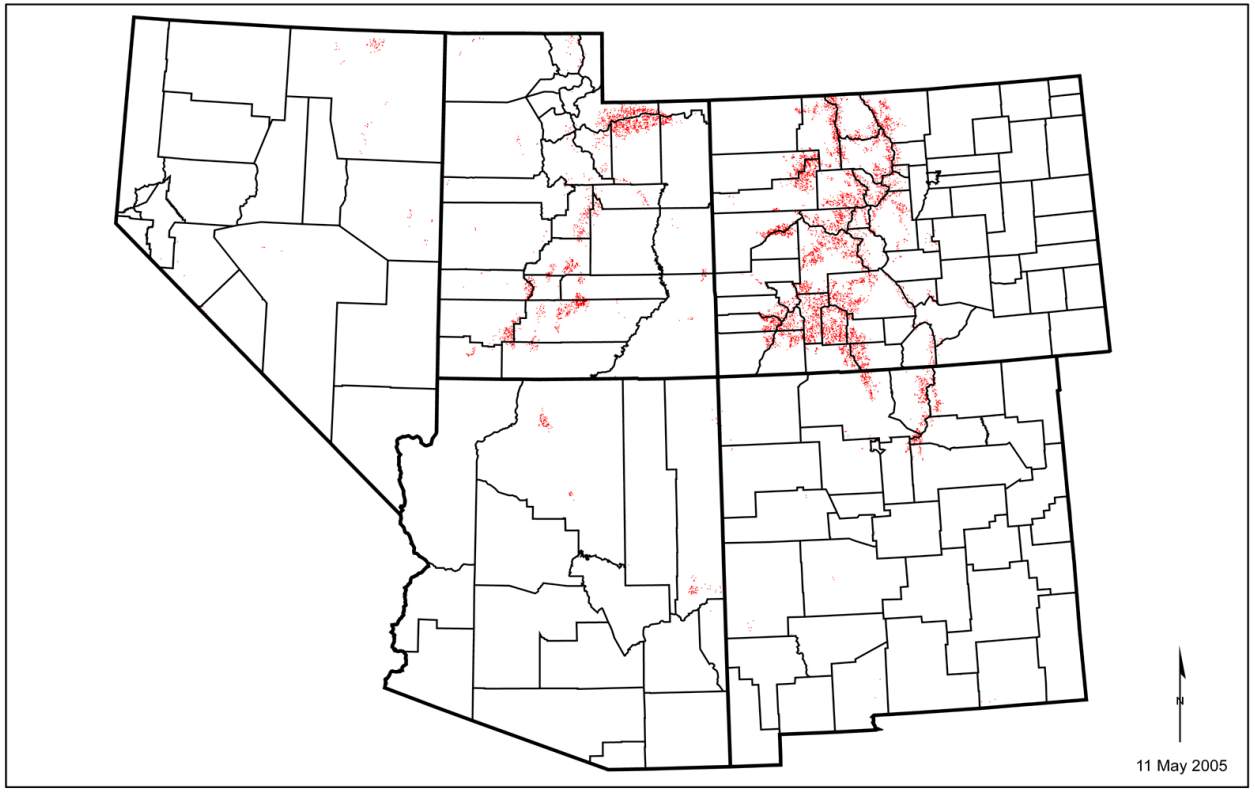
PhotoID : UT073001GM09_2.JPG

S028 Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S030 Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

This is a high-elevation system of the Rocky Mountains, dominated by Picea engelmannii and Abies lasiocarpa. It extends eastward into the northeastern Olympic Mountains and the northeastern side of Mount Rainier in Washington. Occurrences are typically found in locations with cold-air drainage or ponding, or where snowpacks linger late into the summer, such as north-facing slopes and high-elevation ravines. They can extend down in elevation below the subalpine zone in places where cold-air ponding occurs; northerly and easterly aspects predominate. These forests are found on gentle to very steep mountain slopes, high-elevation ridgetops and upper slopes, plateau-like surfaces, basins, alluvial terraces, well-drained benches, and inactive stream terraces. In the Olympics and northern Cascades, the climate is more maritime than typical for this system, but due to the lower snowfall in these rainshadow areas, summer drought may be more significant than snowpack in limiting tree regeneration in burned areas. Picea engelmannii is rare in these areas. Mesic understory shrubs include Menziesia ferruginea, Vaccinium membranaceum, Rhododendron albiflorum, Amelanchier alnifolia, Rubus parviflorus, Ledum glandulosum, Phyllodoce empetriformis, and Salix spp. Herbaceous species include Actaea rubra, Maianthemum stellatum, Cornus canadensis, Erigeron eximius, Gymnocarpium dryopteris, Rubus pedatus, Saxifraga bronchialis, Tiarella spp., Lupinus arcticus ssp. subalpinus, Valeriana sitchensis, and graminoids Luzula glabrata var. hitchcockii or Calamagrostis canadensis. Disturbances include occasional blow-down, insect outbreaks and stand-replacing fire.

Range

This system is found at high elevations of the Rocky Mountains, extending east into the northeastern Olympic Mountains and the northeastern side of Mount Rainier in Washington.

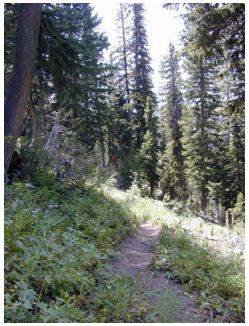
Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT080802LL12_1.JPG

PhotoID : UT070402GM25_1.JPG



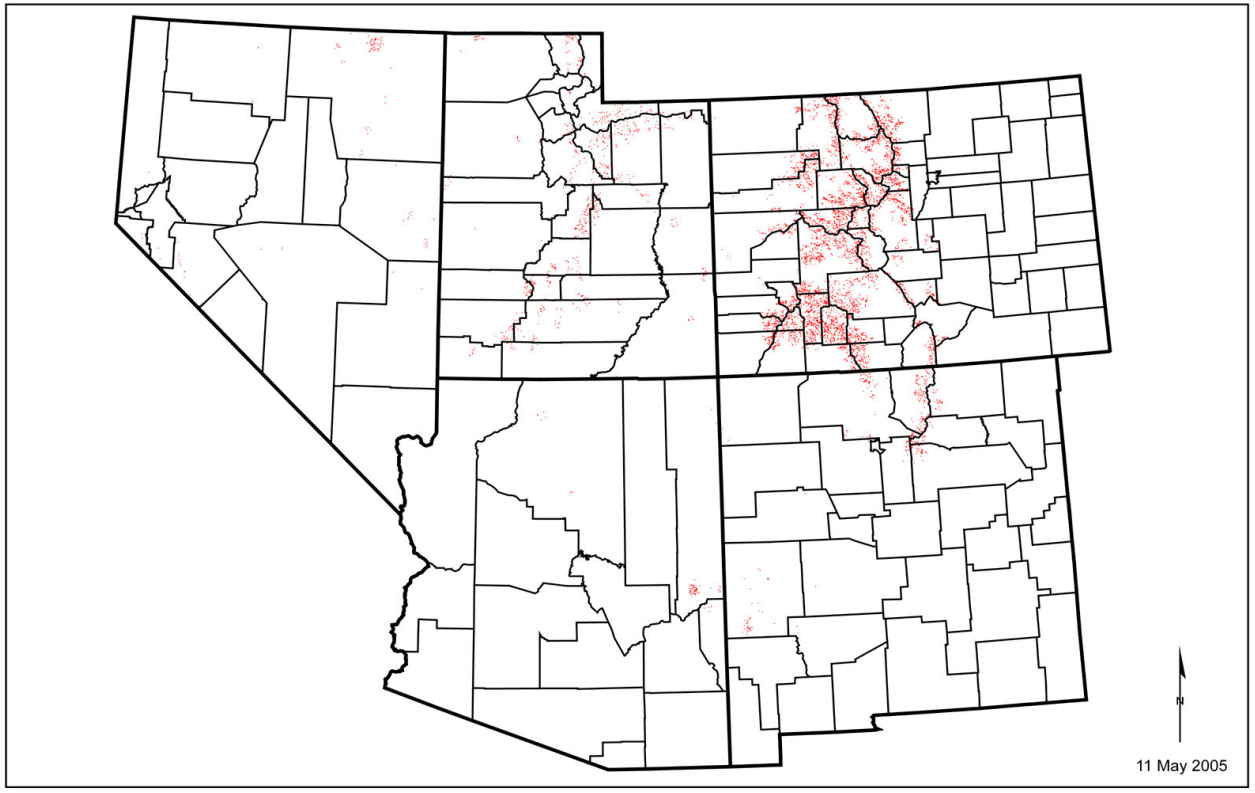
PhotoID : UT080901GM11_2.JPG

S030 Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S025 Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system occurs throughout the Rocky Mountains on dry, rocky ridges and slopes near upper treeline above the matrix spruce-fir forest. It extends down to the lower montane in the central and northern Rocky Mountains and northeastern Great Basin mountains where dominated by Pinus flexilis, particularly along the Front Range north into Canada. Sites are harsh, exposed to desiccating winds, with rocky substrates and a short growing season that limit plant growth. Higher-elevation occurrences are found well into the subalpine-alpine transition on wind-blasted, mostly west-facing slopes and exposed ridges. Calcareous substrates are important for Pinus flexilis-dominated communities in the northern Rocky Mountains and possibly elsewhere. The open tree canopy is often patchy and is strongly dominated by Pinus flexilis or Pinus aristata with the latter restricted to southern Colorado, northern New Mexico and the San Francisco Mountains in Arizona. In the northern Rockies and northern Great Basin, Pinus albicaulis is found in some occurrences. Other trees such as Juniperus spp., Pinus contorta, Pinus ponderosa, or Pseudotsuga menziesii are occasionally present. Arctostaphylos uva-ursi, Cercocarpus ledifolius, Juniperus communis, Mahonia repens, Purshia tridentata, Ribes montigenum, or Vaccinium spp. may form an open shrub layer in some stands. The herbaceous layer, if present, is generally sparse and composed of xeric graminoids, such as Calamagrostis purpurascens, Festuca arizonica, Festuca idahoensis, Festuca thurberi, or Pseudoroegneria spicata, or more alpine plants.

Range

This system occurs throughout the Rocky Mountains on dry, rocky ridges and slopes near upper treeline, including the Uinta and northern Wasatch mountains, and the Jarbridge Mountains in northeastern Nevada.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT080901GM15_1.JPG

PhotoID : NM061400BM03_2.JPG

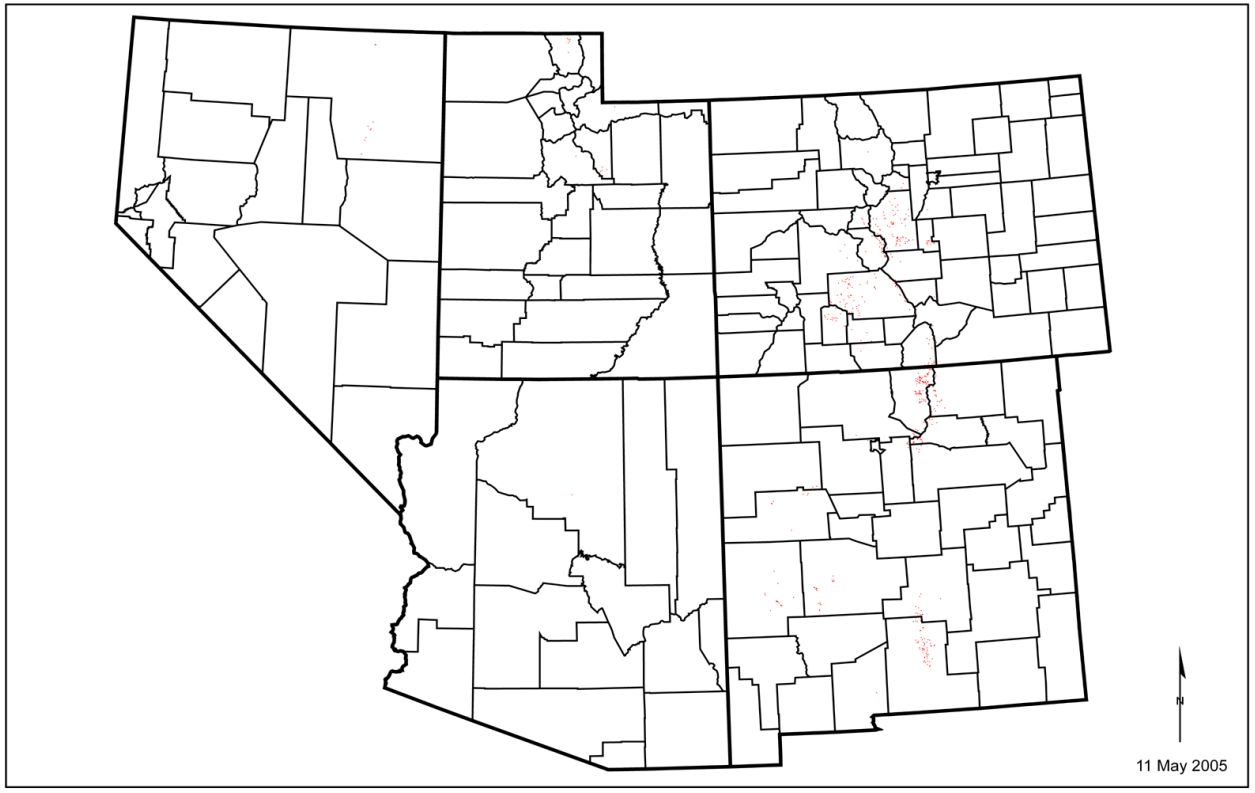
PhotoID : UT080901GM12_2.JPG

S025 Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S122 Sierra Nevada Subalpine Lodgepole Pine Forest and Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Large patch

Concept Summary This system is widespread in glacial basins at upper montane to subalpine elevations of the central and northern Sierra Nevada and Peninsular Ranges where cold-dry conditions exist (1800-2450 m [6000-8000 feet] in the north and 2450-3600 m [8000-12,000 feet] in the south). These forests are dominated by Pinus contorta var. murrayana with shrub, grass, or barren understories. Soils are often shallow and coarse-textured. Avalanche, as well as tree mortality from insect outbreak and disease, drought and associated wildfire, are drivers of community structure and composition. Associated plant species include Arctostaphylos nevadensis, Ceanothus cordulatus, Cercocarpus ledifolius, Chrysolepis sempervirens, Phyllodoce breweri, and Ribes montigenum.

Range Glacial basins at upper montane to subalpine elevations of the central and northern Sierra Nevada and Peninsular Ranges where cold-dry conditions exist (1800-2450 m [6000-8000 feet] in the north and 2450-3600 m [8000-12,000 feet] in the south).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV072303JS04.JPG

PhotoID : NV072503JS15.JPG

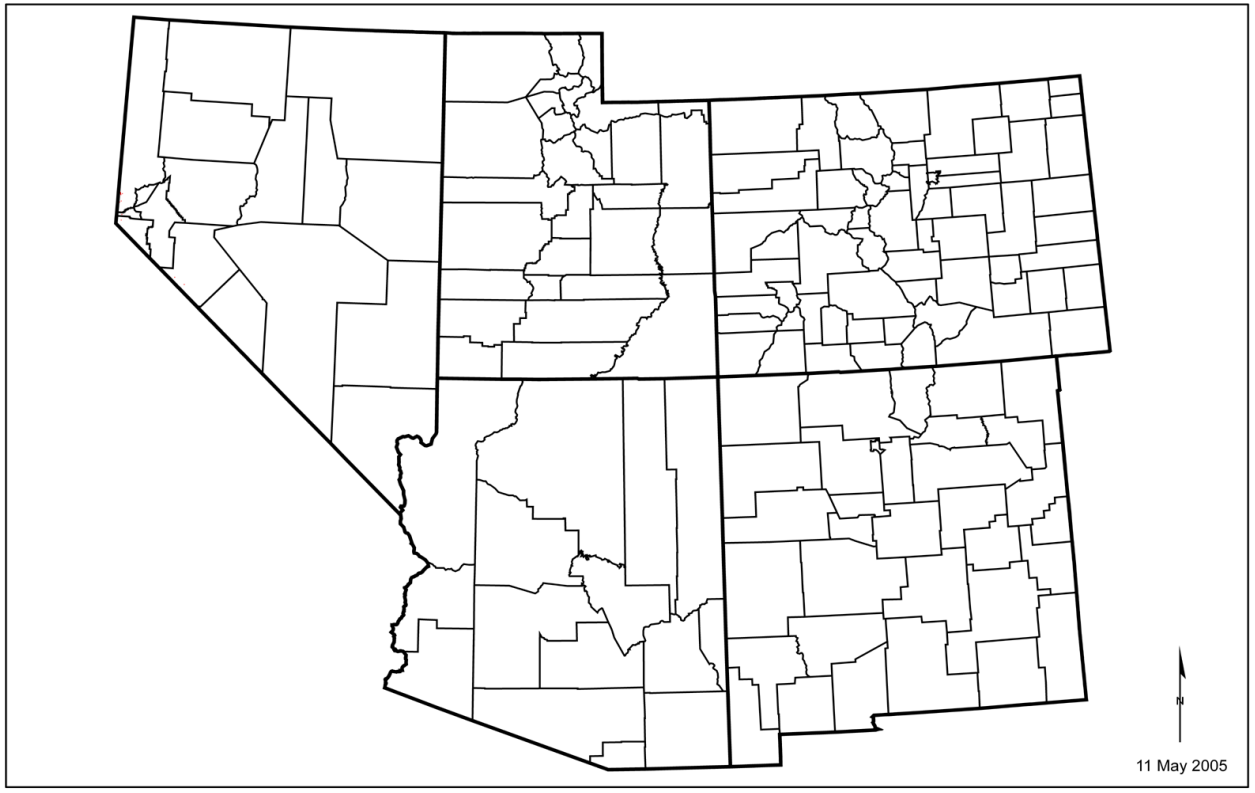
PhotoID : NV070403PJ01.JPG

S122 Sierra Nevada Subalpine Lodgepole Pine Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S038 Southern Rocky Mountain Pinyon-Juniper Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary

This southern Rocky Mountain ecological system occurs on dry mountains and foothills in southern Colorado east of the Continental Divide, in mountains and plateaus of north-central New Mexico, and extends out onto limestone breaks in the southeastern Great Plains. These woodlands occur on warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and drought, are thought to limit the distribution of pinyon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Soils supporting this system vary in texture ranging from stony, cobbly, gravelly sandy loams to clay loam or clay. Pinus edulis and/or Juniperus monosperma dominate the tree canopy. Juniperus scopulorum may codominate or replace Juniperus monosperma at higher elevations. Stands with Juniperus osteosperma are representative the Colorado Plateau and are not included in this system. In southern transitional areas between Madrean Pinyon-Juniper Woodland (CES305.797) and Southern Rocky Mountain Pinyon-Juniper Woodland (CES306.835) in central New Mexico, Juniperus deppeana becomes common. Understory layers are variable and may be dominated by shrubs, graminoids, or be absent. Associated species are more typical of southern Rocky Mountains than the Colorado Plateau and include Artemisia bigelovii, Cercocarpus montanus, Quercus gambelii, Achnatherum scribneri, Bouteloua gracilis, Festuca arizonica, or Pleuraphis jamesii.

Range

Occurs on dry mountains and foothills in southern Colorado, in mountains and plateaus of northern New Mexico and Arizona, and extends out onto breaks in the Great Plains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM071700BM10_2.JPG

PhotoID : NM071700BM13_2.JPG

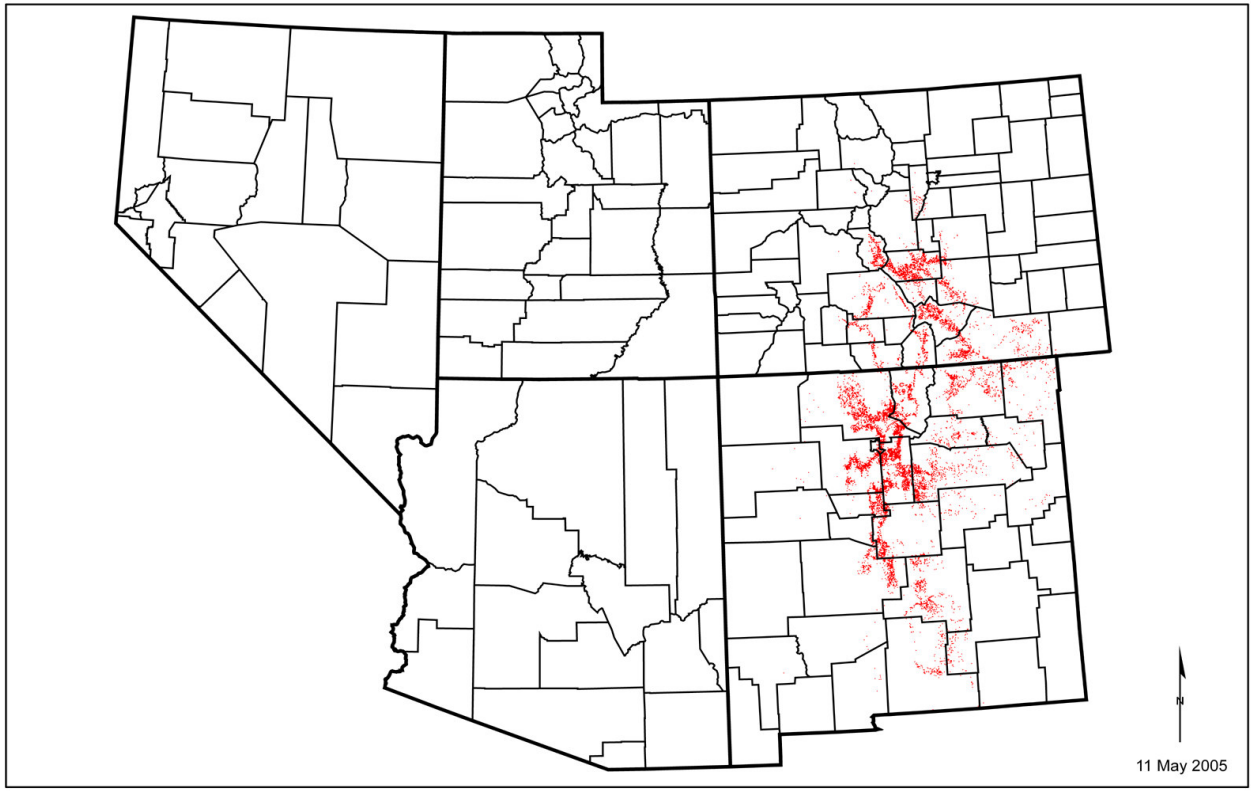
PhotoID : CO092603EW01_1.JPG

S038 Southern Rocky Mountain Pinyon-Juniper Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S036 Southern Rocky Mountain Ponderosa Pine Woodland

Approximate NLCD Land Cover Class Evergreen Forest

Spatial Scale / Pattern Matrix

Concept Summary

This very widespread ecological system is most common throughout the cordillera of the Rocky Mountains, from the Greater Yellowstone region south. It is also found in the Colorado Plateau region, west into scattered locations in the Great Basin, and in the Black Hills of South Dakota and Wyoming. These woodlands occur at the lower treeline/ecotone between grassland or shrubland and more mesic coniferous forests typically in warm, dry, exposed sites. Elevations range from less than 1900 m in northern Wyoming to 2800 m in the New Mexico mountains. Occurrences are found on all slopes and aspects; however, moderately steep to very steep slopes or ridgetops are most common. This ecological system generally occurs on igneous, metamorphic, and sedimentary material derived soils, with characteristic features of good aeration and drainage, coarse textures, circumneutral to slightly acid pH, an abundance of mineral material, rockiness, and periods of drought during the growing season. Northern Rocky Mountain Ponderosa Pine Woodland (CES306.030) in the eastern Cascades, Okanagan and northern Rockies regions receives winter and spring rains, and thus has a greater spring "green-up" than the drier woodlands in the central Rockies. Pinus ponderosa (primarily var. scopulorum and var. brachyptera) is the predominant conifer; Pseudotsuga menziesii, Pinus edulis, and Juniperus spp. may be present in the tree canopy. The understory is usually shrubby, with Artemisia nova, Artemisia tridentata, Arctostaphylos patula, Arctostaphylos uva-ursi, Cercocarpus montanus, Purshia stansburiana, Purshia tridentata, Quercus gambelii, Symphoricarpos oreophilus, Prunus virginiana, Amelanchier alnifolia, and Rosa spp. common species. Pseudoroegneria spicata and species of Hesperostipa, Achnatherum, Festuca, Muhlenbergia, and Bouteloua are some of the common grasses. Mixed fire regimes and ground fires of variable return intervals maintain these woodlands, depending on climate, degree of soil development, and understory density.

Range

This system is found throughout, from central and southeastern Montana, south through the Rocky Mountains of Colorado and into New Mexico. In Arizona it occurs on the Mogollon Rim north into the Colorado Plateau region and west into scattered locations of the Great Basin.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT050803MD12_1.JPG

PhotoID : UT050603MD02_2.JPG

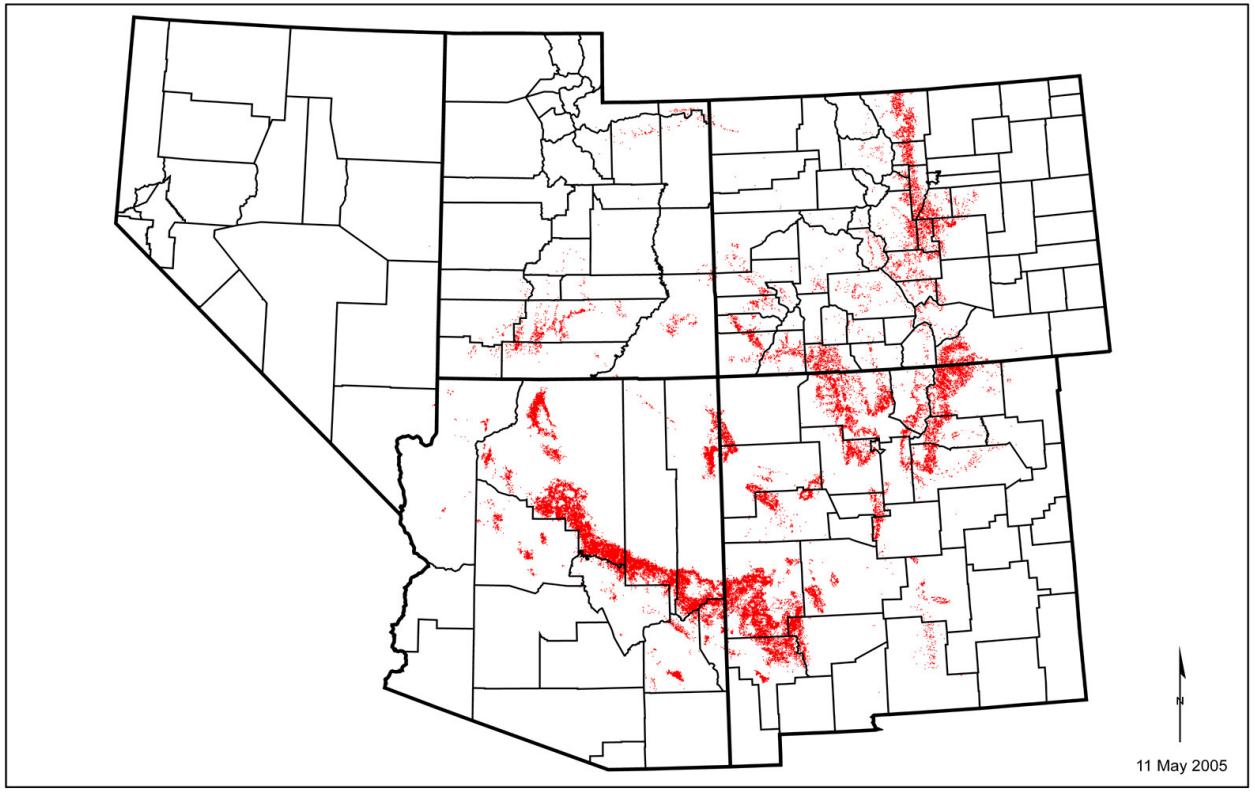
PhotoID : UT090802MD06_2.JPG

S036 Southern Rocky Mountain Ponderosa Pine Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S042 Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland

Approximate NLCD Land Cover Class Mixed Forest

Spatial Scale / Pattern Matrix

Concept Summary

This ecological system occurs on montane slopes and plateaus in Utah, western Colorado, northern Arizona, eastern Nevada, southern Idaho and western Wyoming. Elevations range from 1700 to 2800 m. Occurrences are typically on gentle to steep slopes on any aspect but are often found on clay-rich soils in intermontane valleys. Soils are derived from alluvium, colluvium and residuum from a variety of parent materials but most typically occur on sedimentary rocks. The tree canopy is composed of a mix of deciduous and coniferous species, codominated by Populus tremuloides and conifers, including Pseudotsuga menziesii, Abies concolor, Abies lasiocarpa, Picea engelmannii, Picea pungens, Pinus contorta, Pinus flexilis, and Pinus ponderosa. As the occurrences age, Populus tremuloides is slowly reduced until the conifer species become dominant. Common shrubs include Amelanchier alnifolia, Prunus virginiana, Acer grandidentatum, Symphoricarpos oreophilus, Juniperus communis, Paxistima myrsinites, Rosa woodsii, Spiraea betulifolia, Symphoricarpos albus, or Mahonia repens. Herbaceous species include Bromus carinatus, Calamagrostis rubescens, Carex geyeri, Elymus glaucus, Poa spp., and Achnatherum, Hesperostipa, Nassella, and/or Piptochaetium spp. (= Stipa spp.), Achillea millefolium, Arnica cordifolia, Asteraceae spp., Erigeron spp., Galium boreale, Geranium viscosissimum, Lathyrus spp., Lupinus argenteus, Mertensia arizonica, Mertensia lanceolata, Maianthemum stellatum, Osmorhiza berteroi (= Osmorhiza chilensis), and Thalictrum fendleri. Most occurrences at present represent a late-seral stage of aspen changing to a pure conifer occurrence. Nearly a hundred years of fire suppression and livestock grazing have converted much of the pure aspen occurrences to the present-day aspen-conifer forest and woodland ecological system.

In order to capture important habitat characteristics of an aspen-mixed conifer ecological system for vertebrate habitat modeling, SW ReGAP land cover mappers mapped patches of aspen-mixed conifer stands outside its normal range into the Southern Rocky Mountains. In the Southern Rocky Mountains, this system occurs as small to large patches of aspen-mixed conifer woodland that could also be interpreted as seral stands within several Rocky Mountain conifer forest and woodland systems including: S028 Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland, S030 Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland, S031 Rocky Mountain Lodgepole Pine Forest, S032 Rocky Mountain Montane Dry-Mesic Mixed Conifer Forest and Woodland, S034 Rocky Mountain Montane Mesic Mixed Conifer Forest and Woodland, and S036 Rocky Mountain Ponderosa Pine Woodland (see individual descriptions for additional information).

Range

Occurs on montane slopes and plateaus in Utah, eastern Nevada, southern Idaho and western Wyoming. Elevations range from 1700 to 2800 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070903MD30_1.JPG

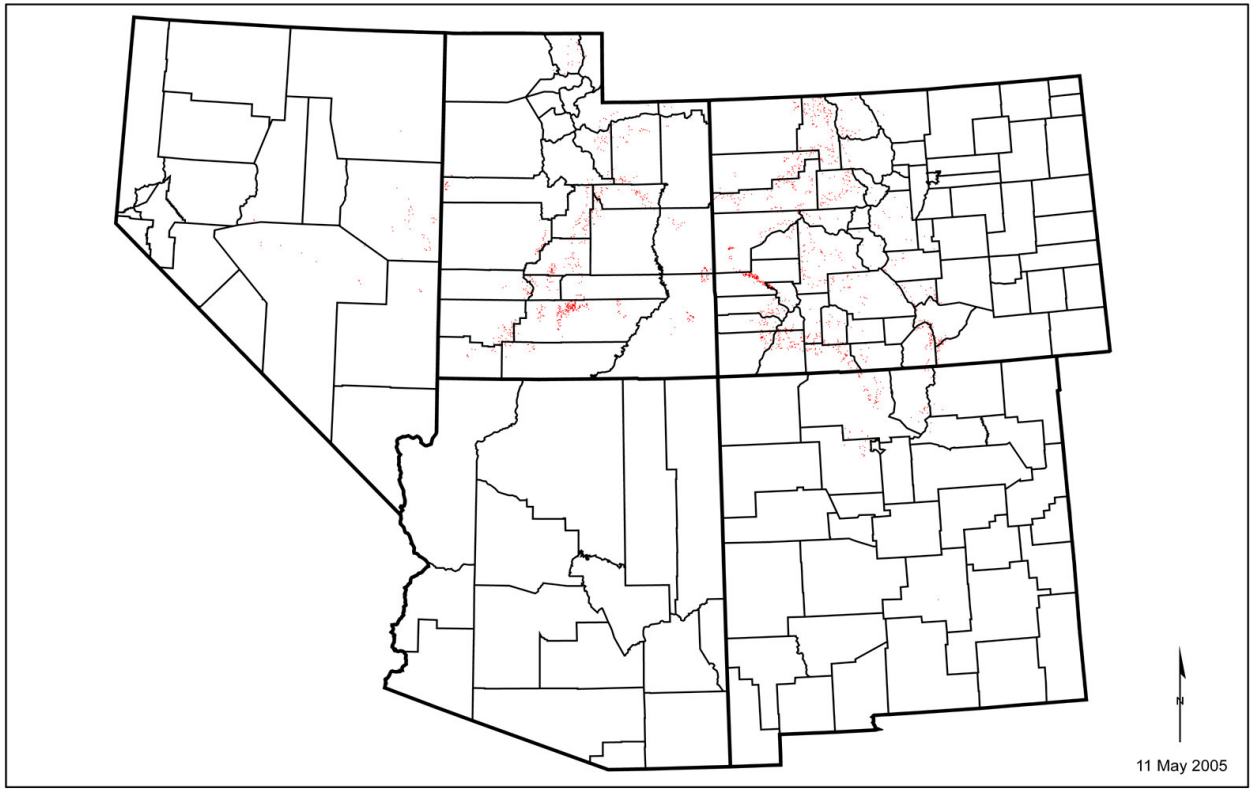
PhotoID : UT062603JK46_1.JPG

S042 Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project

S058 Apacherian-Chihuahuan Mesquite Upland Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary

This ecological system occurs as upland shrublands that are concentrated in the extensive grassland-shrubland transition in foothills and piedmont in the Chihuahuan Desert. It extends into the Sky Island region to the west and the Edwards Plateau to the east. Substrates are typically derived from alluvium, often gravelly without a well-developed argillic or calcic soil horizon that would limit infiltration and storage of winter precipitation in deeper soil layers. Prosopis spp. and other deep-rooted shrubs exploit this deep soil moisture that is unavailable to grasses and cacti. Vegetation is typically dominated by Prosopis glandulosa or Prosopis velutina and succulents. Other desert scrub that may codominate or dominate includes Acacia neovernicosa, Acacia constricta, Juniperus monosperma, or Juniperus coahuilensis. Grass cover is typically low. During the last century, the area occupied by this system has increased through conversion of desert grasslands as a result of drought, overgrazing by livestock, and/or decreases in fire frequency. It is similar to Chihuahuan Mixed Desert and Thorn Scrub (CES302.734) but is generally found at higher elevations where Larrea tridentata and other desert scrub are not codominant. It is also similar to Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub (CES302.737) but does not occur on eolian-deposited substrates.

Range

This system is found on foothills and piedmont in the Chihuahuan Desert, extending into the Sky Island region and into the lower Mogollon Rim to the west and the Edwards Plateau to the east.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ062801BM15_2.JPG

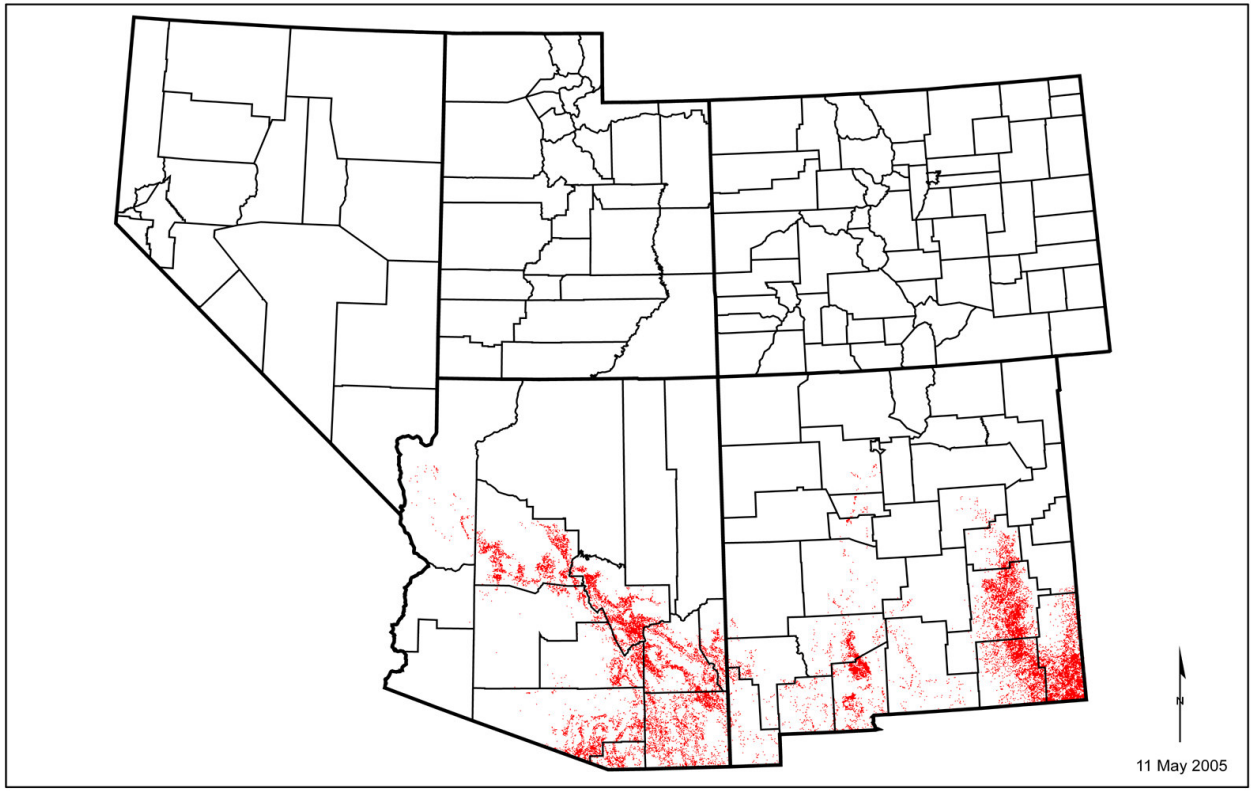
PhotoID : AZ062801BM15_1.JPG

S058 Apacherian-Chihuahuan Mesquite Upland Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



S062 Chihuahuan Mixed Desert and Thorn Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary This widespread Chihuahuan Desert land cover type is composed of two ecological systems the Chihuahuan Creosotebush Xeric Basin Desert Scrub (CES302.731) and the Chihuahuan Mixed Desert and Thorn Scrub (CES302.734). This cover type includes xeric creosotebush basins and plains and the mixed desert scrub in the foothill transition zone above, sometimes extending up to the lower montane woodlands. Vegetation is characterized by Larrea tridentata alone or mixed with thornscrub and other desert scrub such as Agave lechuguilla, Aloysia wrightii, Fouquieria splendens, Dasylirion leiophyllum, Flourensia cernua, Leucophyllum minus, Mimosa aculeaticarpa var. biuncifera, Mortonia scabrella (= Mortonia sempervirens ssp. scabrella), Opuntia engelmannii, Parthenium incanum, Prosopis glandulosa, and Tiquilia greggii. Stands of Acacia constricta Acacia neovernicosa or Acacia greggii dominated thornscrub are included in this system, and limestone substrates appear important for at least these species. Grasses such as Dasyochloa pulchella, Bouteloua curtipendula, Bouteloua eriopoda, Bouteloua ramosa, Muhlenbergia porteri and Pleuraphis mutica may be common, but generally have lower cover than shrubs.

Range Chihuahuan Desert.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM082100BM06_1.JPG

PhotoID : NM072503JP11_3.JPG

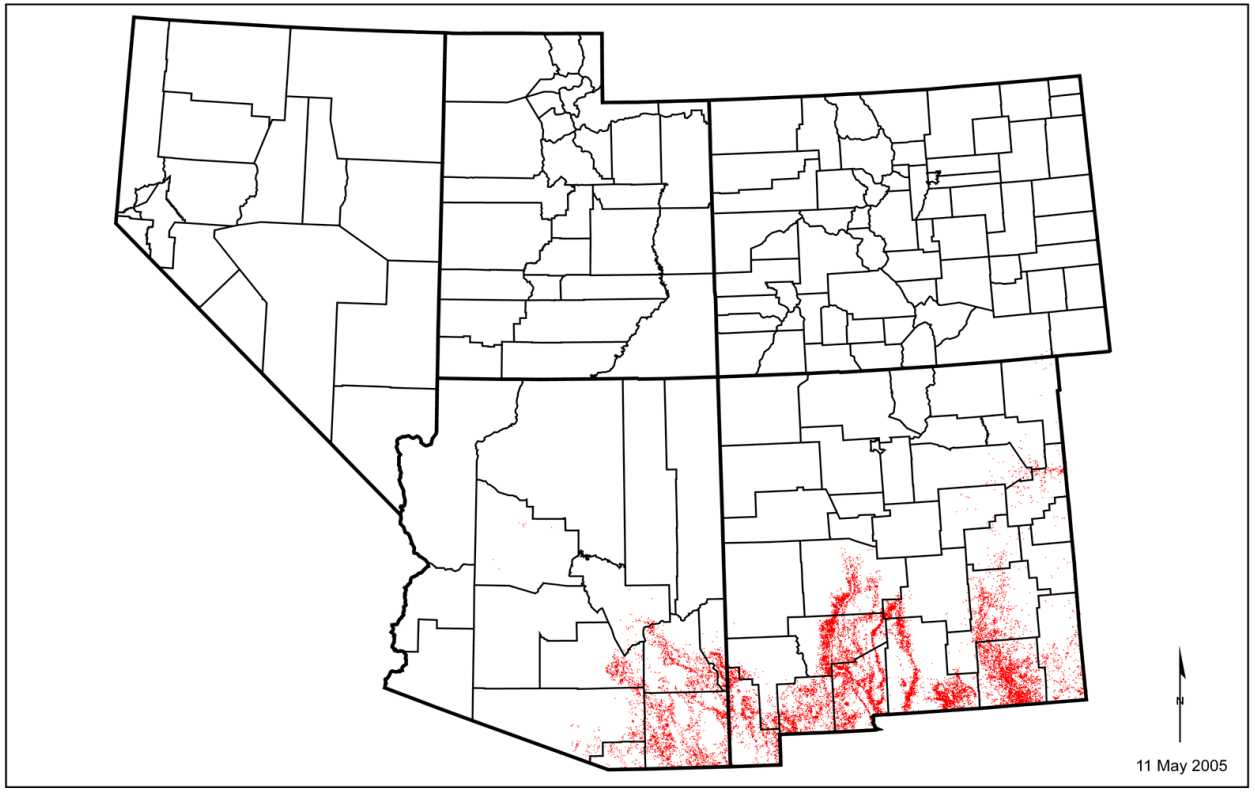
PhotoID : NM080802DC02_1.JPG

S062 Chihuahuan Mixed Desert and Thorn Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S116 Chihuahuan Mixed Salt Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This system includes extensive open-canopied shrublands of typically saline basins in the Chihuahuan Desert. Stands often occur on alluvial flats and around playas. Substrates are generally fine-textured, saline soils. Vegetation is typically composed of one or more Atriplex species such as Atriplex canescens, Atriplex obovata, or Atriplex polycarpa along with species of Allenrolfea, Flourensia, Salicornia, Suaeda, or other halophytic plants. Graminoid species may include Sporobolus airoides, Pleuraphis mutica, or Distichlis spicata at varying densities.

Range Saline basins in the Chihuahuan Desert.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM042401BM03_2.JPG

PhotoID : NM091100BM02_1.JPG

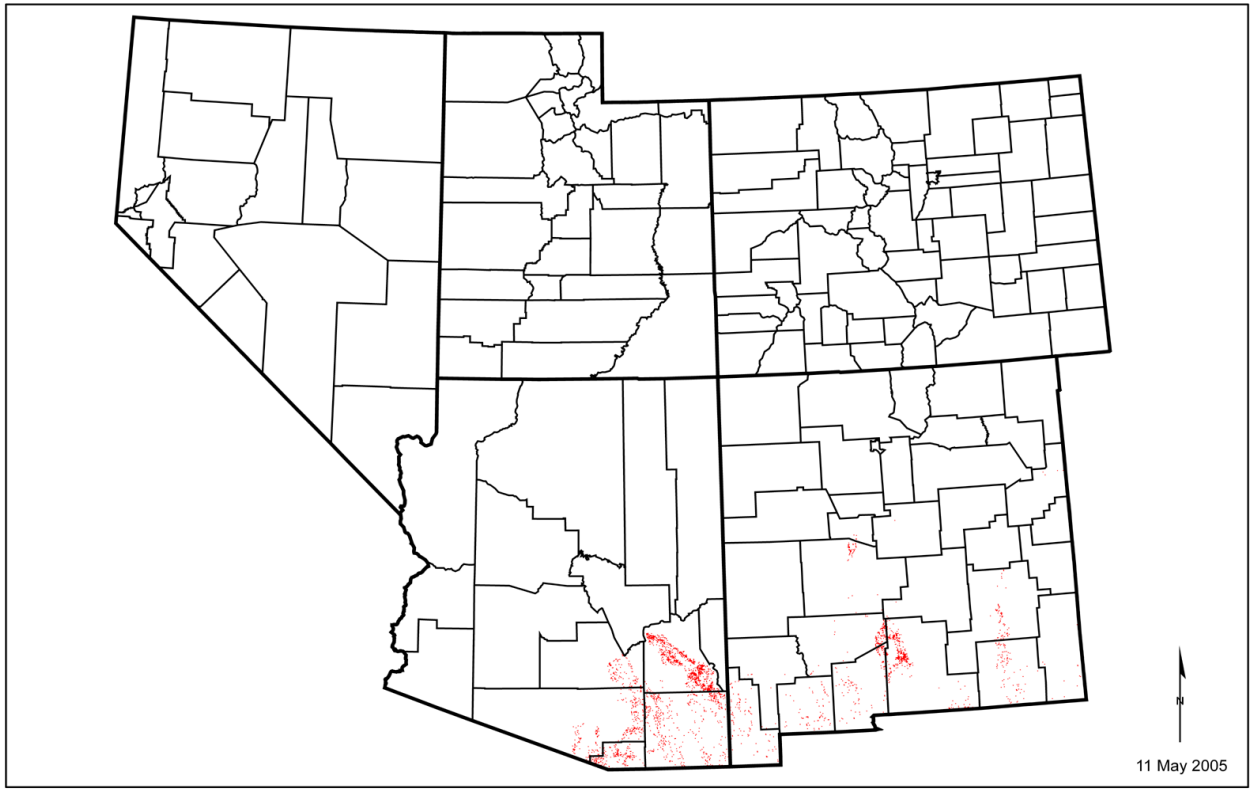
PhotoID : NM091100BM02_2.JPG

S116 Chihuahuan Mixed Salt Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S068 Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system includes the open shrublands of vegetated coppice dunes and sandsheets found in the Chihuahuan Desert. Usually dominated by Prosopis glandulosa but includes Atriplex canescens, Ephedra torreyana, Ephedra trifurca, Poliomintha incana, and Rhus microphylla coppice sand scrub with 10-30% total vegetation cover. Yucca elata, Gutierrezia sarothrae, and Sporobolus flexuosus are commonly present.

Range Dunes and sandsheets found in the Chihuahuan Desert.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM091200BM15_2.JPG

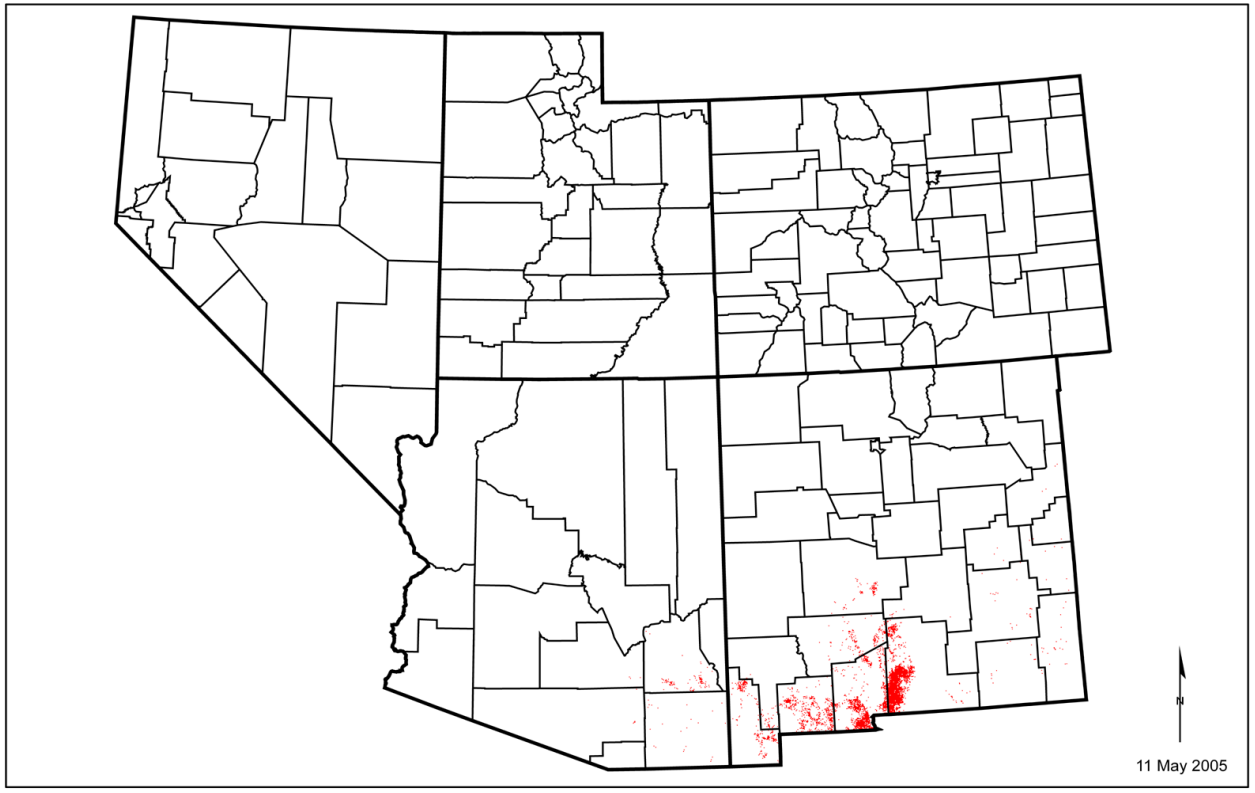
PhotoID : NM091200BM15_1.JPG

S068 Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S061 Chihuahuan Succulent Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is found in the Chihuahuan Desert on colluvial slopes, upper bajadas, sideslopes, ridges, canyons, hills and mesas. Sites are hot and dry. Gravel and rock are often abundant on the ground surface. The vegetation is characterized by the relatively high cover of succulent species such as Agave lechuguilla, Euphorbia antisyphilitica, Fouquieria splendens, Ferocactus spp., Opuntia engelmannii, Opuntia imbricata, Opuntia spinosior, Yucca baccata, and many others. Perennial grass cover is generally low. The abundance of succulents is diagnostic of this desert scrub system, but desert shrubs are usually present. This system does not include desert grasslands or shrub-steppe with a strong cacti component.

Range Chihuahuan Desert on colluvial slopes, upper bajadas, sideslopes and mesas.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ062901BM07_2.JPG

PhotoID : AZ063001BM04_1.JPG

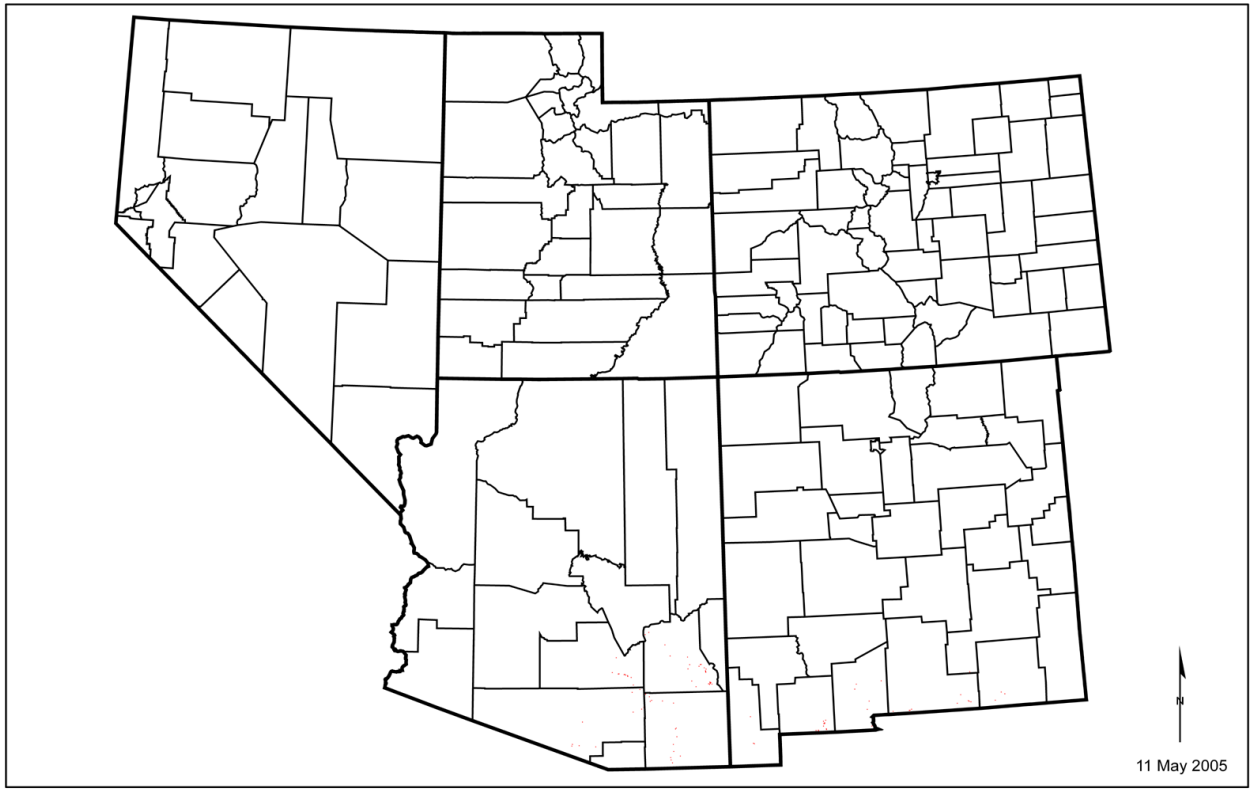
PhotoID : NM101801BM20_2.JPG

S061 Chihuahuan Succulent Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project

S117 Coahuilan Chaparral

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs in mountains across southeastern New Mexico (Guadalupe Mountains) and Trans-Pecos Texas (Chisos Mountains). It often dominants along the mid-elevation transition from the Chihuahuan Desert into mountains (1700-2500 m). It occurs on foothills, mountain slopes and canyons in drier habitats below the encinal and pine woodlands and is often associated with more xeric and coarse-textured substrates such as limestone, basalt or alluvium, especially in transition areas with more mesic woodlands. The moderate to dense shrub canopy includes many shrub oak species such as Quercus intricata, Quercus pringlei, Quercus invaginata, Quercus laceyi, Quercus grisea, Quercus emoryi, Quercus toumeyi, several widespread chaparral species such as Arctostaphylos pungens, Ceanothus greggii, Fallugia paradoxa, and Garrya wrightii, and species characteristic of this system such as Arbutus arizonica, Arbutus xalapensis (= Arbutus texana), Fraxinus greggii, Fendlera rigida (= Fendlera linearis), Garrya ovata, Purshia mexicana (= ssp. mexicana), Rhus virens var. choriophylla (= Rhus choriophylla), and endemics Salvia lycioides (= Salvia ramosissima), Salvia roemeriana, and Salvia regla. Most chaparral species are fire-adapted, resprouting vigorously after burning or producing fire-resistant seeds. Stands occurring within montane woodlands are seral and a result of recent fires.

Range Mountains across southeastern New Mexico and Trans-Pecos Texas. It often dominants along the mid-elevation transition from the Chihuahuan Desert into mountains (1700-2500 m).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM060203JP11_1.JPG

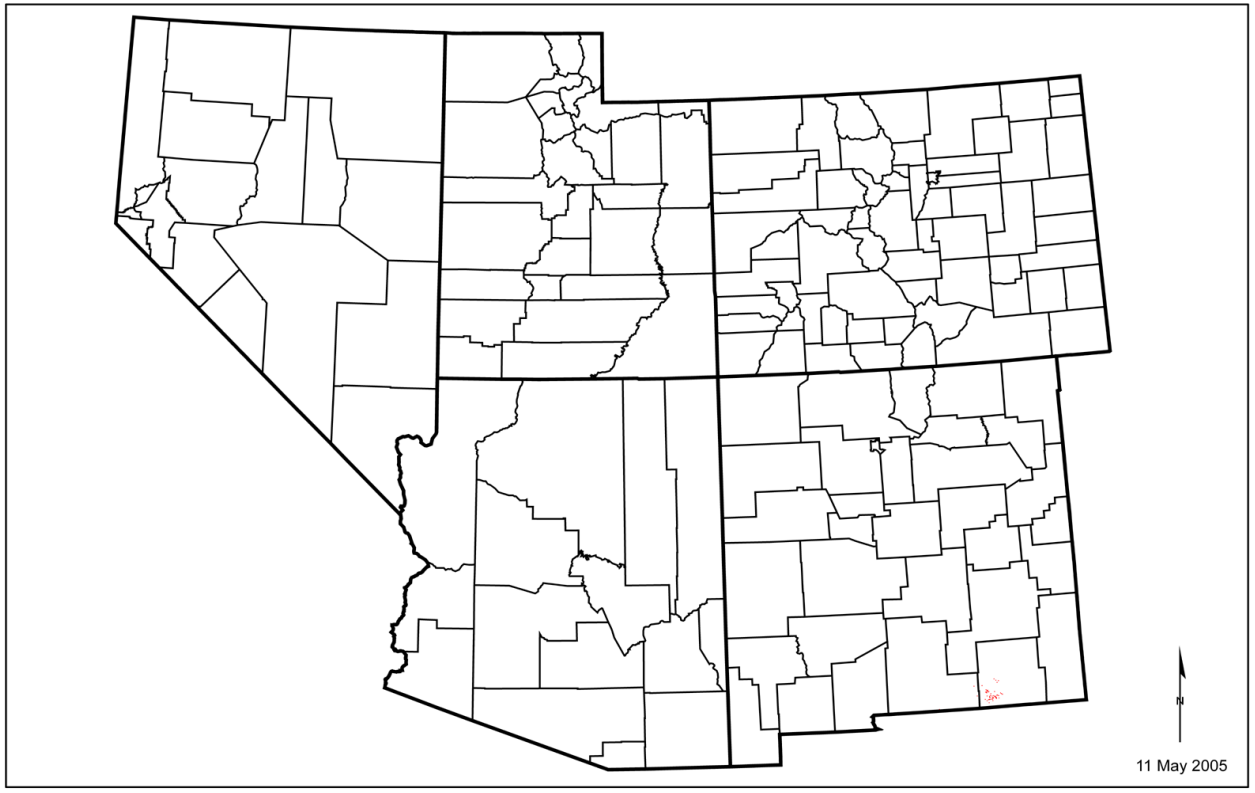
PhotoID : NM072403CK01_2.JPG

S117 Coahuilan Chaparral

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S059 Colorado Plateau Blackbrush-Mormon-tea Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs in the Colorado Plateau on benchlands, colluvial slopes, pediments or bajadas. Elevation ranges from 560-1650 m. Substrates are shallow, typically calcareous, non-saline and gravelly or sandy soils over sandstone or limestone bedrock, caliche or limestone alluvium. It also occurs in deeper soils on sandy plains where it may have invaded desert grasslands. The vegetation is characterized by extensive open shrublands dominated by Coleogyne ramosissima often with Ephedra viridis, Ephedra torreyana, or Grayia spinosa. Sandy portions may include Artemisia filifolia as codominant. The herbaceous layer is sparse and composed of graminoids such as Achnatherum hymenoides, Pleuraphis jamesii, or Sporobolus cryptandrus.

Range Occurs in the Colorado Plateau on benchlands, colluvial slopes, pediments or bajadas. Elevation ranges from 560-1600 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT091802MD27_1.JPG

PhotoID : UT100302MD12_1.JPG

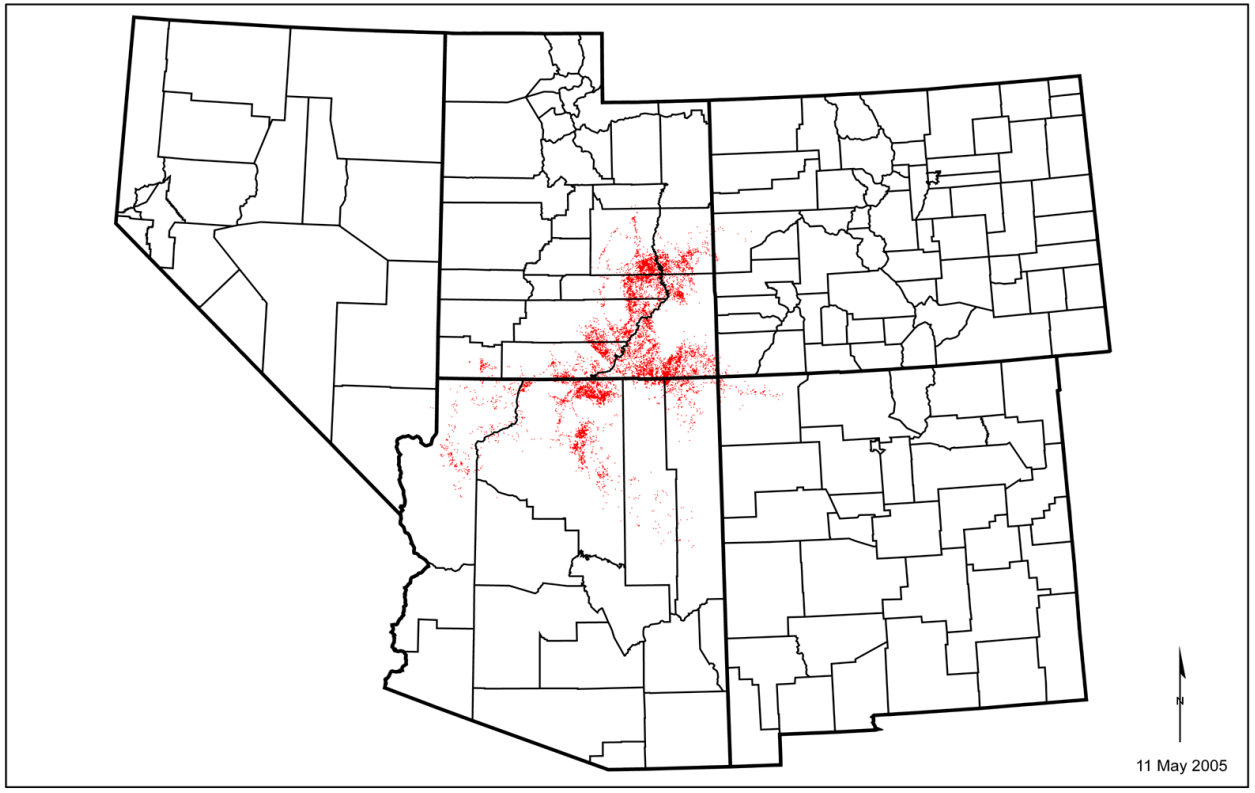
PhotoID : UT091402MD07_2.JPG

S059 Colorado Plateau Blackbrush-Mormon-tea Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project

S056 Colorado Plateau Mixed Low Sagebrush Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs in the Colorado Plateau, Tavaputs Plateau and Uinta Basin in canyons, gravelly draws, hilltops, and dry flats at elevations generally below 1800 m. Soils are often rocky, shallow, and alkaline. This type extends across northern New Mexico into the southern Great Plains on limestone hills. It includes open shrublands and steppe dominated by Artemisia nova or Artemisia bigelovii sometimes with Artemisia tridentata ssp. wyomingensis codominant. Semi-arid grasses such as Achnatherum hymenoides, Aristida purpurea, Bouteloua gracilis, Hesperostipa comata, Pleuraphis jamesii, or Poa fendleriana are often present and may form a graminoid layer with over 25% cover.

Range Occurs in the Colorado Plateau, Tavaputs Plateau and Uinta Basin in canyons, gravelly draws, hilltops, and dry flats at elevations generally below 1800 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT062403JK15_1.JPG

PhotoID : UT062403MD11_1.JPG

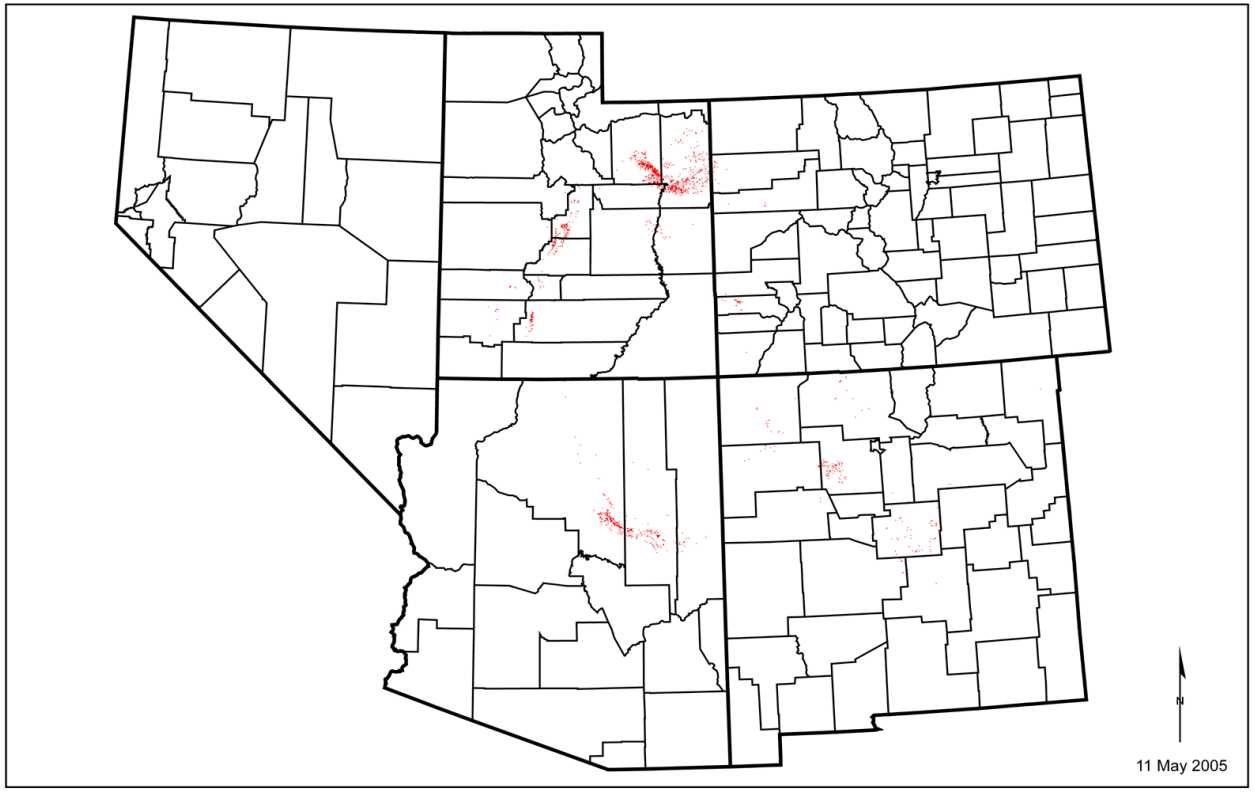
PhotoID : UT062403JK08_2.JPG

S056 Colorado Plateau Mixed Low Sagebrush Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S052 Colorado Plateau Pinyon-Juniper Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary This ecological system is characteristic of the rocky mesatops and slopes on the Colorado Plateau and western slope of Colorado, but these stunted tree shrublands may extend further upslope along the low-elevation margins of taller pinyon-juniper woodlands. Sites are drier than Colorado Plateau Pinyon-Juniper Woodland (CES304.767). Substrates are shallow/rocky and shaley soils at lower elevations (1200-2000 m). Sparse examples of the system grade into Colorado Plateau Mixed Bedrock Canyon and Tableland (CES304.765). The vegetation is dominated by dwarfed (usually <3 m tall) Pinus edulis and/or Juniperus osteosperma trees forming extensive tall shrublands in the region along low-elevation margins of pinyon-juniper woodlands. Other shrubs, if present, may include Artemisia nova, Artemisia tridentata ssp. wyomingensis, Chrysothamnus viscidiflorus, or Coleogyne ramosissima. Herbaceous layers are sparse to moderately dense and typically composed of xeric graminoids.

Range Rocky mesa tops and slopes on the Colorado Plateau.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT062300GM02_1.JPG

PhotoID : UT092802MD04_1.JPG

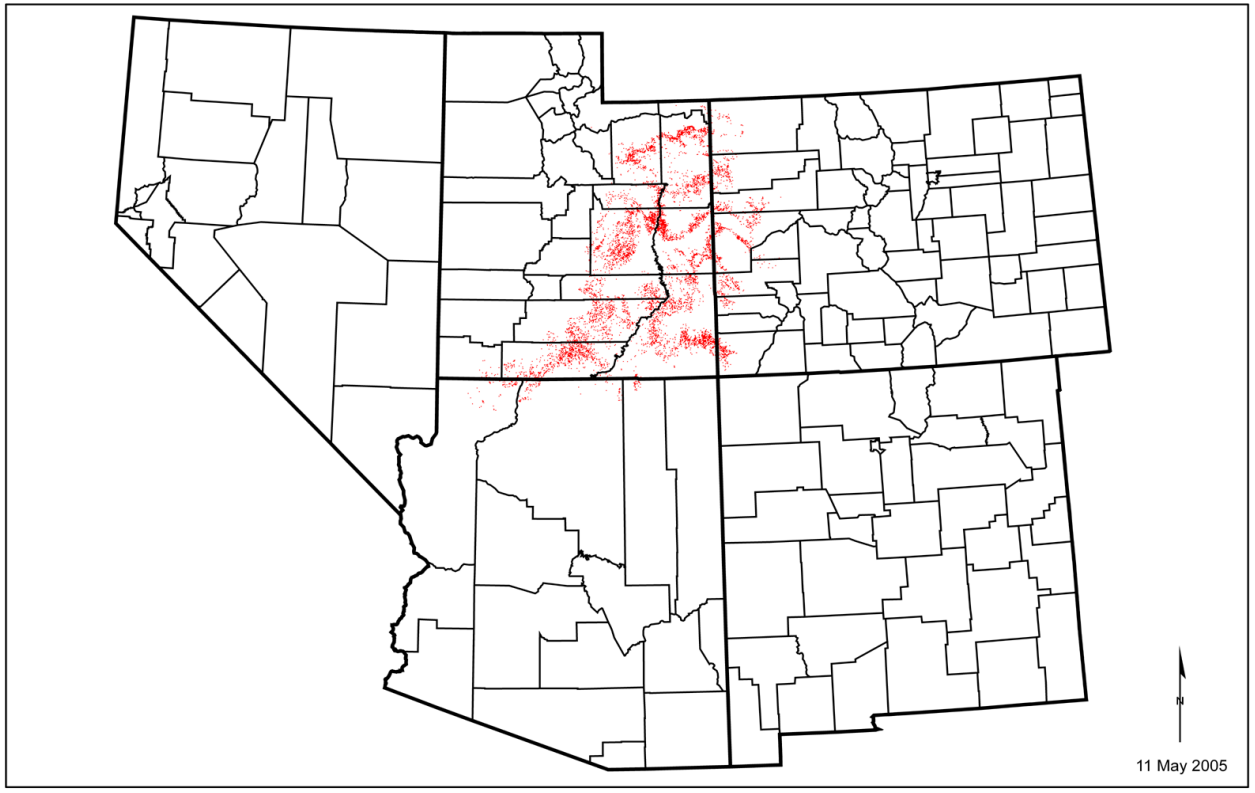
PhotoID : UT052103MD33_1.JPG

S052 Colorado Plateau Pinyon-Juniper Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S053 Great Basin Semi-Desert Chaparral

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This system includes chaparral on sideslopes transitioning from low-elevation desert landscapes up into pinyon-juniper woodlands of the western and central Great Basin. There are limited occurrences extending as far west as the inner Coast Ranges in central California. These are typically fairly open-canopy shrublands with open spaces either bare or supporting patchy grasses and forbs. Characteristic species may include Arctostaphylos patula, Arctostaphylos pungens, Ceanothus greggii, Ceanothus velutinus, Cercocarpus montanus var. glaber, Cercocarpus intricatus, Eriogonum fasciculatum, Garrya flavescens, Quercus turbinella, Purshia stansburiana, and Rhus trilobata. Cercocarpus ledifolius is generally absent. Typical fire regime in these systems varies with the amount of organic accumulation.

Range Western and central Great Basin.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV072603JS17.JPG

PhotoID : NV121002JS18.JPG

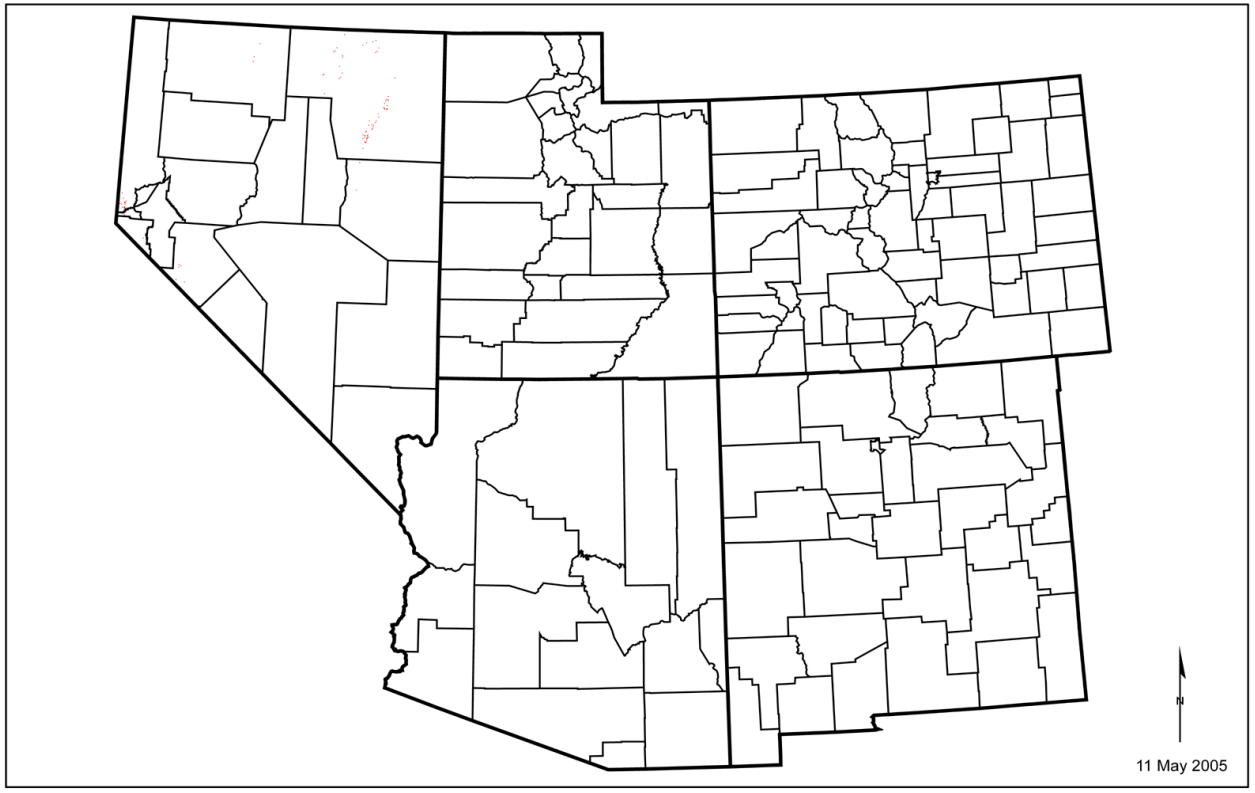
PhotoID : NV072403DE15.JPG

S053 Great Basin Semi-Desert Chaparral

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S055 Great Basin Xeric Mixed Sagebrush Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs in the Great Basin on dry flats and plains, alluvial fans, rolling hills, rocky hillslopes, saddles and ridges at elevations between 1000 and 2600 m. Sites are dry, often exposed to desiccating winds, with typically shallow, rocky, non-saline soils. Shrublands are dominated by Artemisia nova (mid and low elevations), Artemisia arbuscula (higher elevation) and may be codominated by Artemisia tridentata ssp. wyomingensis or Chrysothamnus viscidiflorus. Other shrubs that may be present include Atriplex confertifolia, Ephedra spp., Ericameria spp., Grayia spinosa, Lycium shockleyi, Picrothamnus desertorum, Sarcobatus vermiculatus, and Tetradymia spp. The herbaceous layer is likely sparse and composed of perennial bunch grasses such as Achnatherum hymenoides, Achnatherum speciosum, Achnatherum thurberianum, Elymus elymoides, or Poa secunda.

Range Occurs in the Great Basin on dry flats and plains, alluvial fans, rolling hills, rocky hill slopes, saddles and ridges at elevations between 1000-2600 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061202JD11_1.JPG

PhotoID : UT100802JD15_1.JPG

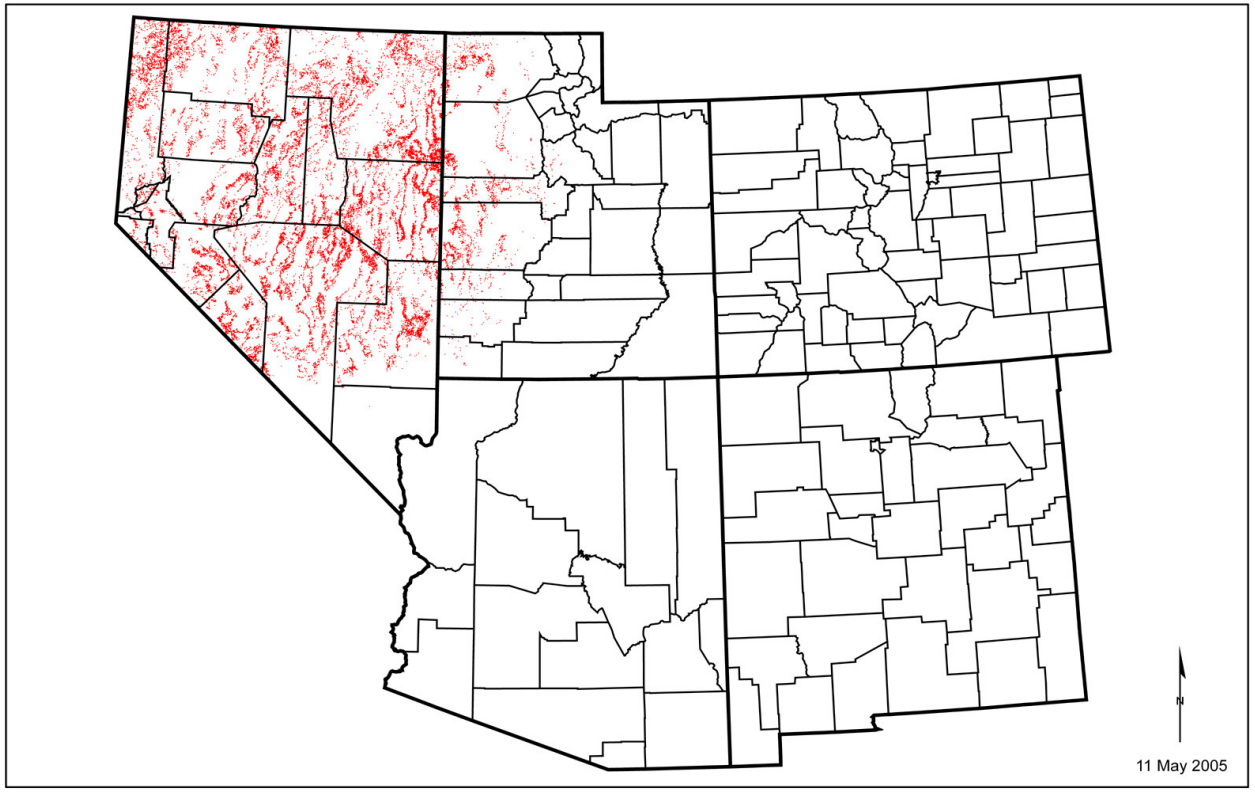
PhotoID : UT101702MD23_2.JPG

S055 Great Basin Xeric Mixed Sagebrush Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV,UT

Distribution Map



S054 Inter-Mountain Basins Big Sagebrush Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary This ecological system occurs throughout much of the western U.S., typically in broad basins between mountain ranges, plains and foothills between 1500 and 2300 m elevation. Soils are typically deep, well-drained and non-saline. These shrublands are dominated by Artemisia tridentata ssp. tridentata and/or Artemisia tridentata ssp. wyomingensis. Scattered Juniperus spp., Sarcobatus vermiculatus, and Atriplex spp. may be present in some stands. Ericameria nauseosa, Chrysothamnus viscidiflorus, Purshia tridentata, or Symphoricarpos oreophilus may codominate disturbed stands. Perennial herbaceous components typically contribute less than 25% vegetative cover. Common graminoid species include Achnatherum hymenoides, Bouteloua gracilis, Elymus lanceolatus, Festuca idahoensis, Hesperostipa comata, Leymus cinereus, Pleuraphis jamesii, Pascopyrum smithii, Poa secunda, or Pseudoroegneria spicata.

Range Occurs throughout much of the western U.S., typically in broad basins between mountain ranges, plains and foothills between 1500-2300 m elevation.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070501LL05_1.JPG

PhotoID : UT043003JD17_1.JPG

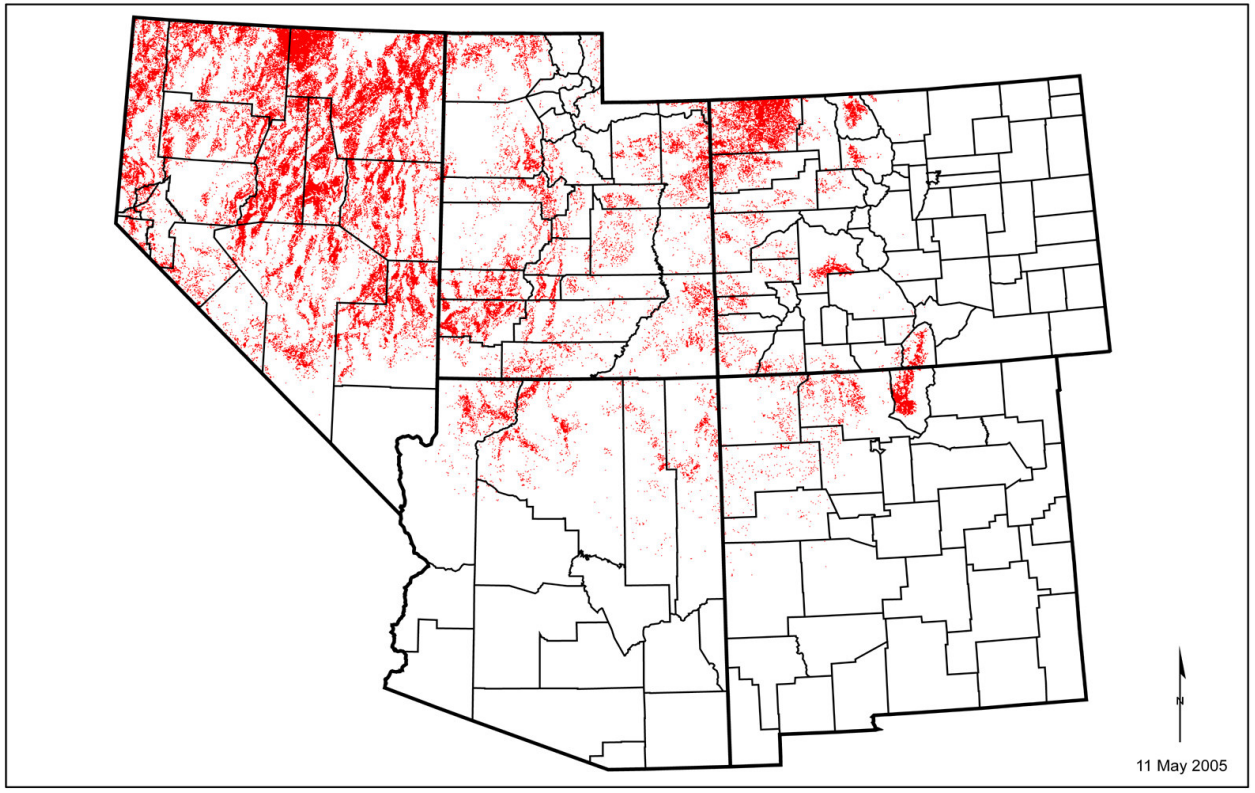
PhotoID : UT091202JD02_1.JPG

S054 Inter-Mountain Basins Big Sagebrush Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S045 Inter-Mountain Basins Mat Saltbush Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary

This ecological system occurs on gentle slopes and rolling plains in the northern Colorado Plateau and Uinta Basin on Mancos Shale and arid, wind-swept basins and plains across parts of Wyoming. Substrates are shallow, typically saline, alkaline, fine-textured soils developed from shale or alluvium and may be associated with shale badlands. Infiltration rate is typically low. These landscapes that typically support dwarf-shrublands composed of relatively pure stands of Atriplex spp. such as Atriplex corrugata or Atriplex gardneri. Other dominant or codominant dwarf-shrubs may include Artemisia longifolia, Artemisia pedatifida, or Picrothamnus desertorum, sometimes with a mix of other low shrubs such as Krascheninnikovia lanata or Tetradymia spinosa. Atriplex confertifolia or Atriplex canescens may be present, but do not codominate. The herbaceous layer is typically sparse. Scattered perennial forbs occur, such as Xylorhiza glabriuscula and Sphaeralcea grossulariifolia, and the perennial grasses Achnatherum hymenoides, Bouteloua gracilis, Elymus elymoides, Elymus lanceolatus ssp. lanceolatus, Pascopyrum smithii, or Sporobolus airoides may dominate the herbaceous layer. In less saline areas, there may be inclusions grasslands dominated by Hesperostipa comata, Leymus salinus, Pascopyrum smithii, or Pseudoroegneria spicata. In Wyoming and possibly elsewhere, inclusions of non-saline, gravelly barrens or rock outcrops dominated by cushion plants such as Arenaria hookeri and Phlox hoodii without dwarf-shrubs may be present. Annuals are seasonally present and may include Eriogonum inflatum, Plantago tweedyi, and the introduced annual grass Bromus tectorum.

Range

Occurs on gentle slopes and rolling plains in the northern Colorado Plateau and Uinta Basin on Mancos Shale and arid, wind-swept basins and plains across parts of Wyoming.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071401LL01_1.JPG

PhotoID : UT071401LL01_2.JPG

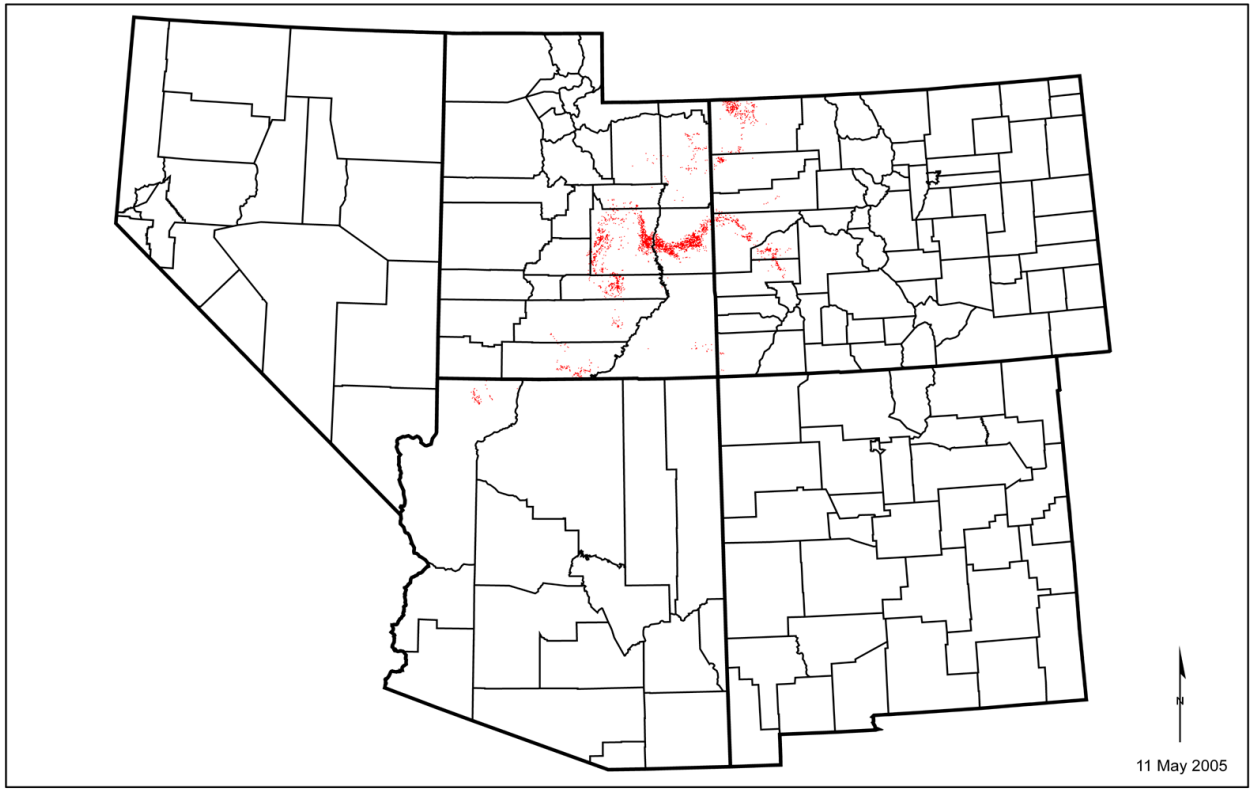
PhotoID : UT061103JK28_1.JPG

S045 Inter-Mountain Basins Mat Saltbush Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S065 Inter-Mountain Basins Mixed Salt Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This extensive ecological system includes open-canopied shrublands of typically saline basins, alluvial slopes and plains across the Intermountain western U.S. This type also extends in limited distribution into the southern Great Plains. Substrates are often saline and calcareous, medium- to fine-textured, alkaline soils, but include some coarser-textured soils. The vegetation is characterized by a typically open to moderately dense shrubland composed of one or more Atriplex species such as Atriplex confertifolia, Atriplex canescens, Atriplex polycarpa, or Atriplex spinifera. Other shrubs present to codominate may include Artemisia tridentata ssp. wyomingensis, Chrysothamnus viscidiflorus, Ericameria nauseosa, Ephedra nevadensis, Grayia spinosa, Krascheninnikovia lanata, Lycium spp., Picrothamnus desertorum, or Tetradymia spp. Sarcobatus vermiculatus is generally absent, but if present does not codominate. The herbaceous layer varies from sparse to moderately dense and is dominated by perennial graminoids such as Achnatherum hymenoides, Bouteloua gracilis, Elymus lanceolatus ssp. lanceolatus, Pascopyrum smithii, Pleuraphis jamesii, Pleuraphis rigida, Poa secunda, or Sporobolus airoides. Various forbs are also present.

Range Intermountain western U.S., extending in limited distribution into the southern Great Plains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061202JD03_1.JPG

PhotoID : UT061202JD16_2.JPG

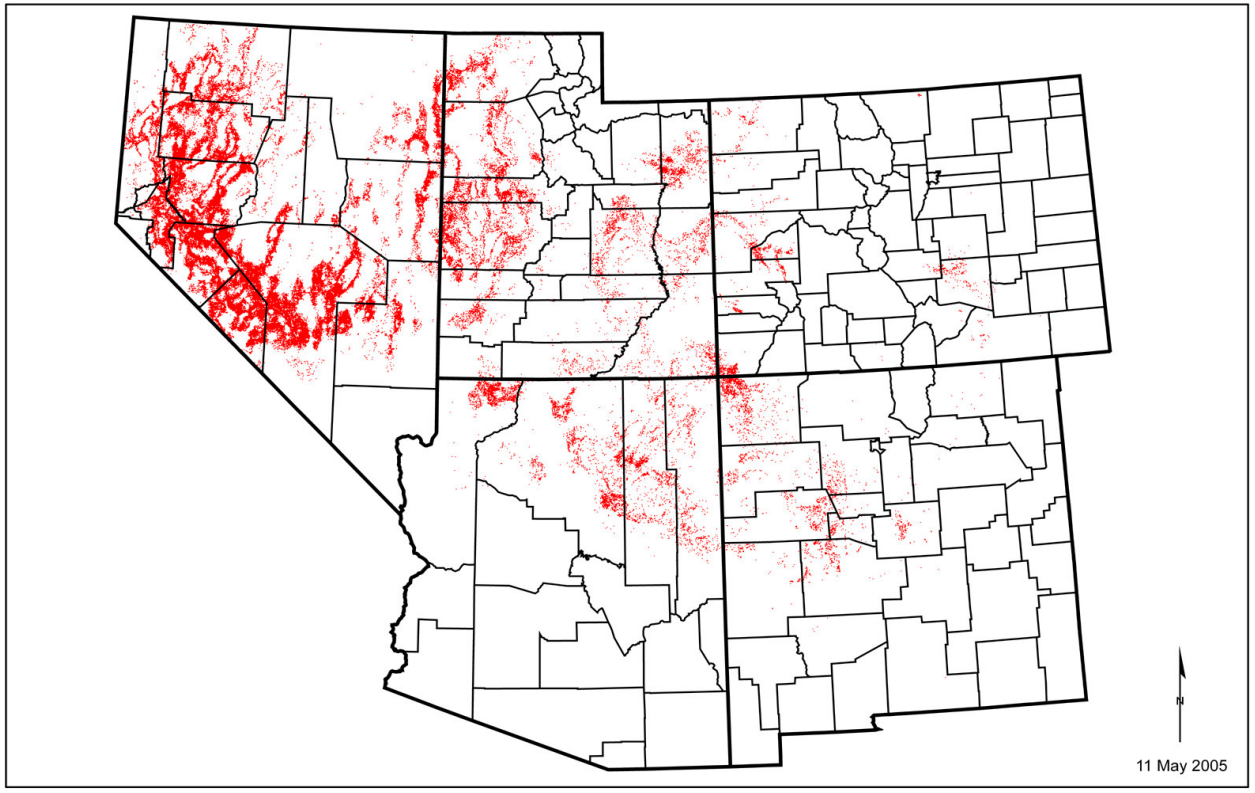
PhotoID : UT061302JD22_2.JPG

S065 Inter-Mountain Basins Mixed Salt Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S050 Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs in hills and mountain ranges of the Intermountain basins from the eastern foothills of the Sierra Nevada northeast to the foothills of the Big Horn Mountains. It typically occurs from 600 m to over 2650 m in elevation on rocky outcrops or escarpments and forms small- to large-patch stands in forested areas. Most stands occur as shrublands on ridges and steep rimrock slopes, but it may occur as a small tree in steppe areas. This system includes both woodlands and shrublands dominated by Cercocarpus ledifolius. Artemisia tridentata ssp. vaseyana, Purshia tridentata, with species of Arctostaphylos, Ribes, or Symphoricarpos are often present. Scattered junipers or pines may also occur. Cercocarpus ledifolius is a slow-growing, drought-tolerant species that generally does not resprout after burning and needs the protection from fire that rocky sites provide.

Range Occurs in hills and mountain ranges of the Intermountain basins from the eastern foothills of the Sierra Nevada northeast to the foothills of the Big Horn Mountains.

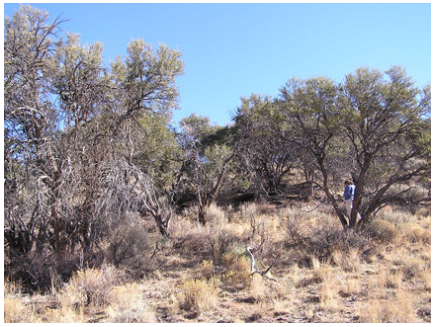
Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV101503MD08_1.jpg

PhotoID : UT060502GM10_1.JPG



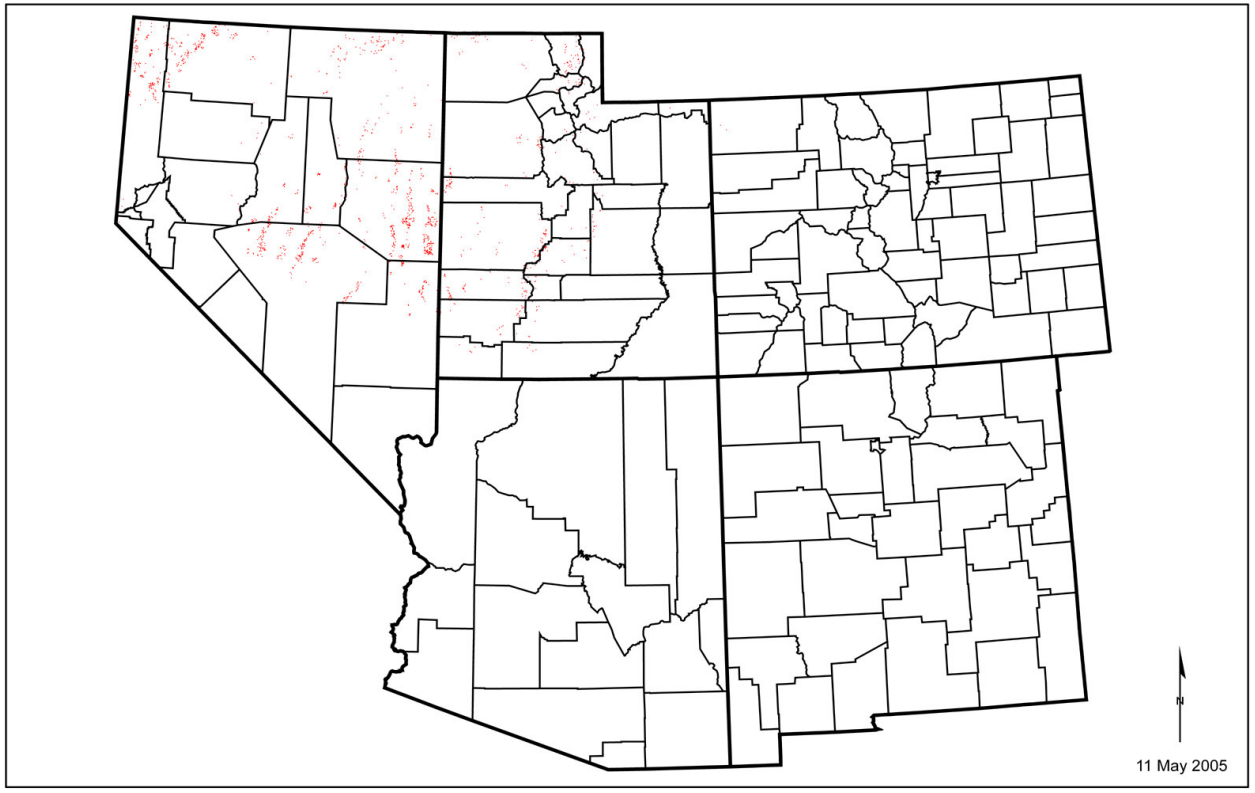
PhotoID : NV101403JK13_1.jpg

S050 Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S057 Mogollon Chaparral

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary This ecological system occurs across central Arizona (Mogollon Rim), western New Mexico and southern Utah and Nevada. It often dominants along the mid-elevation transition from the Mojave, Sonoran, and northern Chihuahuan deserts into mountains (1000-2200 m). It occurs on foothills, mountain slopes and canyons in drier habitats below the encinal and Pinus ponderosa woodlands. Stands are often associated with more xeric and coarse-textured substrates such as limestone, basalt or alluvium, especially in transition areas with more mesic woodlands. The moderate to dense shrub canopy includes species such as Quercus turbinella, Quercus toumeyi, Cercocarpus montanus, Canotia holacantha, Ceanothus greggii, Forestiera pubescens (= Forestiera neomexicana), Garrya wrightii, Juniperus deppeana, Purshia stansburiana, Rhus ovata, Rhus trilobata, and Arctostaphylos pungens and Arctostaphylos pringlei at higher elevations. Most chaparral species are fire-adapted, resprouting vigorously after burning or producing fire-resistant seeds. Stands occurring within montane woodlands are seral and a result of recent fires.

Range Occurs across central Arizona (Mogollon Rim), western New Mexico and southern Utah. It often dominants along the mid-elevation transition from the Mojave, Sonoran, and northern Chihuahuan deserts into mountains (1000-2200 m).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061401BM16_2.JPG

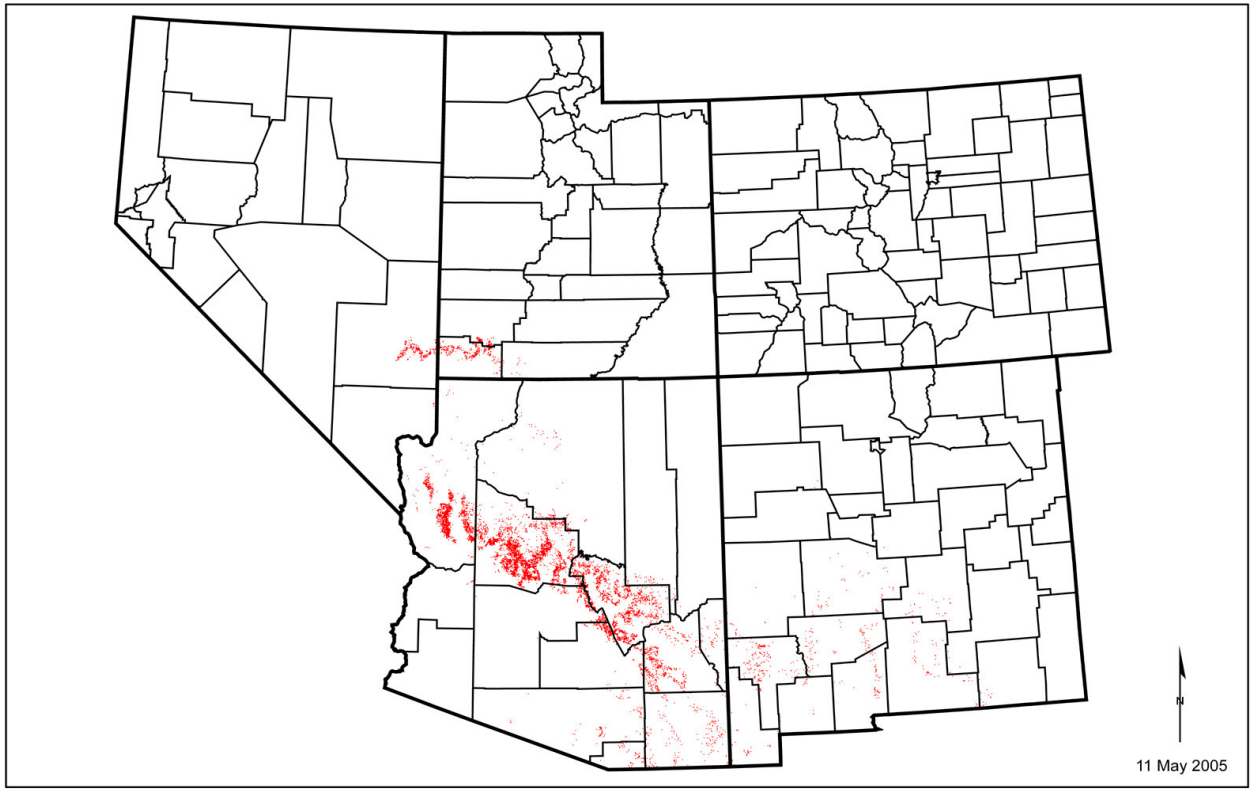
PhotoID : AZ061201BM08_1.JPG

S057 Mogollon Chaparral

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S060 Mojave Mid-Elevation Mixed Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system represents the extensive desert scrub in the transition zone above Larrea tridentata - Ambrosia dumosa desert scrub and below the lower montane woodlands (700-1800 m elevations) that occurs in the eastern and central Mojave Desert. It is also common on lower piedmont slopes in the transition zone into the southern Great Basin. The vegetation in this ecological systems is quite variable. Codominants and diagnostic species include Coleogyne ramosissima, Eriogonum fasciculatum, Ephedra nevadensis, Grayia spinosa, Menodora spinescens, Nolina spp., Opuntia acanthocarpa, Salazaria mexicana, Viguiera parishii, Yucca brevifolia, or Yucca schidigera. Desert grasses, including Achnatherum hymenoides, Achnatherum speciosum, Muhlenbergia porteri, Pleuraphis jamesii, Pleuraphis rigida, or Poa secunda, may form an herbaceous layer. Scattered Juniperus osteosperma or desert scrub species may also be present.

Range Eastern and central Mojave Desert and on lower piedmont slopes in the transition zone into the southern Great Basin.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV051103JS05.JPG

PhotoID : NV041503JS08.JPG

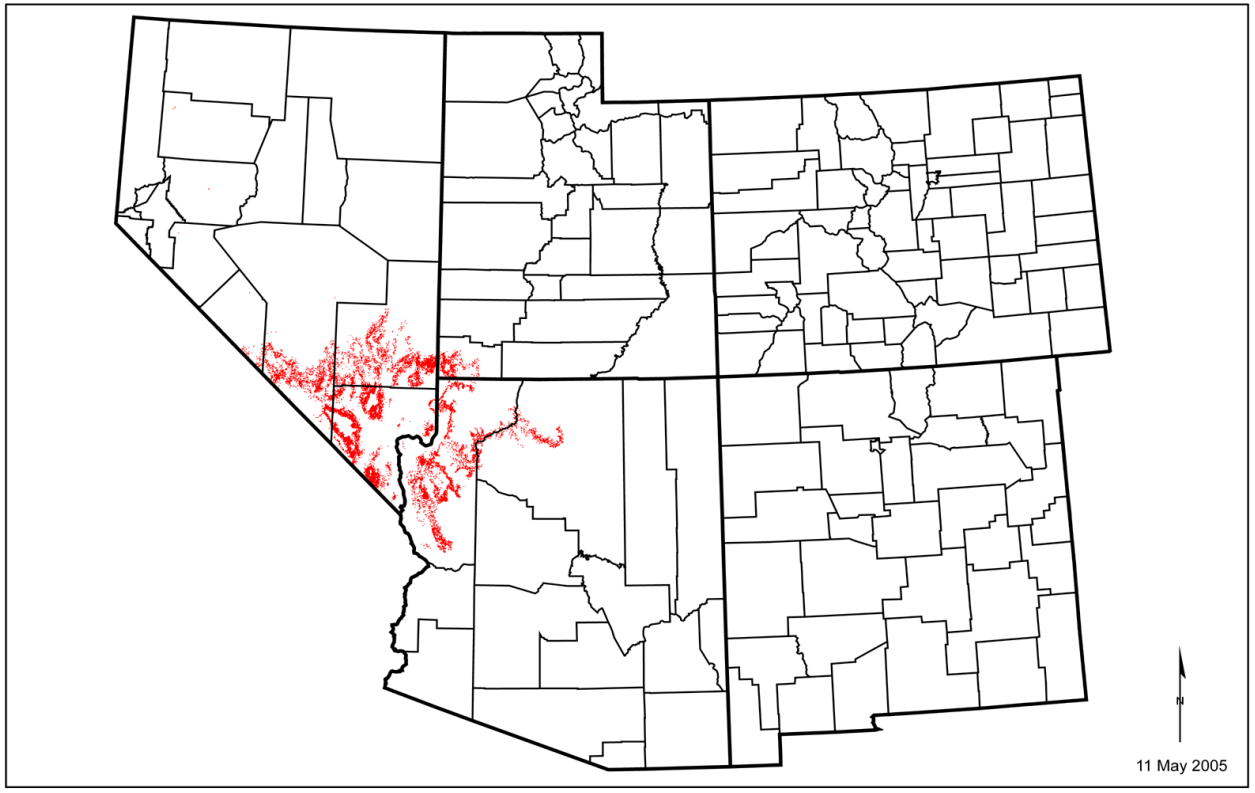
PhotoID : NV050203SS32.jpg

S060 Mojave Mid-Elevation Mixed Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NV,UT

Distribution Map



S043 Rocky Mountain Alpine Dwarf-Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary

This widespread ecological system occurs above upper timberline throughout the Rocky Mountain cordillera, including alpine areas of ranges in Utah and Nevada, and north into Canada. Elevations are above 3360 m in the Colorado Rockies but drop to less than 2250 m in southeastern British Columbia. This system occurs in areas of level or concave glacial topography, with late-lying snow and subirrigation from surrounding slopes. Soils have become relatively stabilized in these sites, are moist but well-drained, strongly acid, and often with substantial peat layers. Vegetation in these areas is controlled by snow retention, wind desiccation, permafrost, and a short growing season. This ecological system is characterized by a semi-continuous layer of ericaceous dwarf-shrubs or dwarf willows which form a heath type ground cover less than 0.5 m in height. Dense tuffs of graminoids and scattered forbs occur. Dryas octopetala or Dryas integrifolia communities are included here, although they occur on more windswept and drier sites than the heath communities. Within these communities Cassiope mertensiana, Dryas integrifolia, Dryas octopetala, Salix arctica, Salix reticulata, or Phyllodoce empetriformis can be dominant shrubs. Vaccinium spp., Ledum glandulosum, Phyllodoce glanduliflora, and Kalmia microphylla may also be shrub associates. The herbaceous layer is a mixture of forbs and graminoids, especially sedges, including, Erigeron spp., Luetkea pectinata, Antennaria lanata, Oreostemma alpigenum (= Aster alpigenus), Pedicularis spp., Castilleja spp., Deschampsia caespitosa, Caltha leptosepala, Erythronium spp., Juncus parryi, Luzula piperi, Carex spectabilis, Carex nigricans, and Polygonum bistortoides. Fell-fields often intermingle with the alpine dwarf-shrubland.

Range

This system occurs above upper timberline throughout the Rocky Mountain cordillera, including alpine areas of ranges in Utah and Nevada, and north into Canada. Elevations are above 3360 m in the Colorado Rockies but drop to less than 2250 m in southeastern British Columbia.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071603JK12_1.JPG

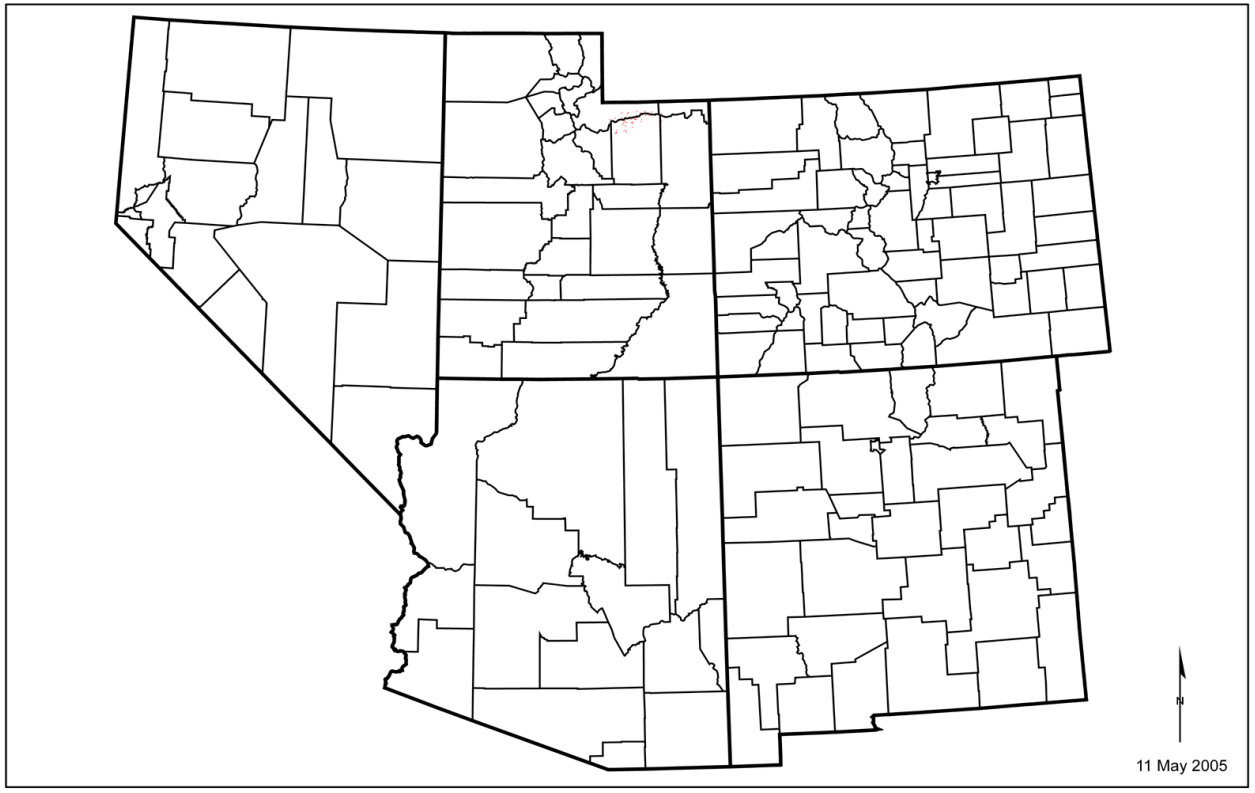
PhotoID : UT071603JK12_2.JPG

S043 Rocky Mountain Alpine Dwarf-Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S046 Rocky Mountain Gambel Oak-Mixed Montane Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system occurs in the mountains, plateaus and foothills in the southern Rocky Mountains and Colorado Plateau including the Uinta and Wasatch ranges and the Mogollon Rim. These shrublands are most commonly found along dry foothills, lower mountain slopes, and at the edge of the western Great Plains from approximately 2000 to 2900 m in elevation, and are often situated above pinyon-juniper woodlands. Substrates are variable and include soil types ranging from calcareous, heavy, fine-grained loams to sandy loams, gravelly loams, clay loams, deep alluvial sand, or coarse gravel. The vegetation is typically dominated by Quercus gambelii alone or codominant with Amelanchier alnifolia, Amelanchier utahensis, Artemisia tridentata, Cercocarpus montanus, Prunus virginiana, Purshia stansburiana, Purshia tridentata, Robinia neomexicana, Symphoricarpos oreophilus, or Symphoricarpos rotundifolius. There may be inclusions of other mesic montane shrublands with Quercus gambelii absent or as a relatively minor component. This ecological system intergrades with the lower montane-foothills shrubland system and shares many of the same site characteristics. Density and cover of Quercus gambelii and Amelanchier spp. often increase after fire.

Range

Occurs in the mountains, plateaus and foothills in the southern Rocky Mountains and Colorado Plateau including the Uinta and Wasatch ranges and the Mogollon Rim.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT060402GM05_1.JPG

PhotoID : UT061003MD04_1.JPG

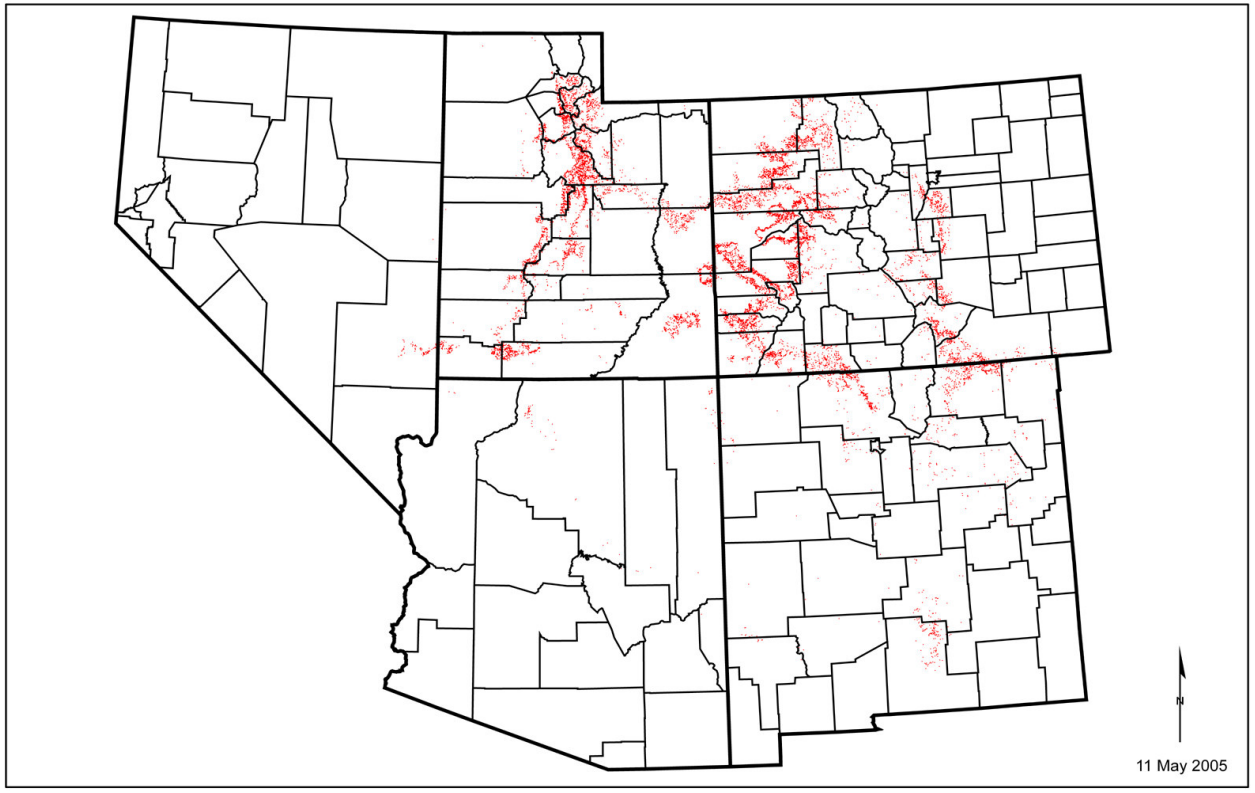
PhotoID : UT071300GM01_2.JPG

S046 Rocky Mountain Gambel Oak-Mixed Montane Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S047 Rocky Mountain Lower Montane-Foothill Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system is found in the foothills, canyon slopes and lower mountains of the Rocky Mountains and on outcrops and canyon slopes in the western Great Plains. It ranges from southern New Mexico extending north into Wyoming, and west into the Intermountain region. These shrublands occur between 1500-2900 m elevations and are usually associated with exposed sites, rocky substrates, and dry conditions, which limit tree growth. It is common where Quercus gambelii is absent such as the northern Colorado Front Range and in drier foothills and prairie hills. This system is generally drier than Rocky Mountain Gambel Oak-Mixed Montane Shrubland (CES306.818), but may include mesic montane shrublands where Quercus gambelii does not occur. Scattered trees or inclusions of grassland patches or steppe may be present, but the vegetation is typically dominated by a variety of shrubs including Amelanchier utahensis, Cercocarpus montanus, Purshia tridentata, Rhus trilobata, Ribes cereum, Symphoricarpos oreophilus, or Yucca glauca. In northeastern Wyoming and north into adjacent Montana, Cercocarpus ledifolius, usually with Artemisia tridentata, is the common dominant shrub. Grasses are represented as species of Muhlenbergia, Bouteloua, Hesperostipa, and Pseudoroegneria spicata. Fires play an important role in this system as the dominant shrubs usually have a severe die-back, although some plants will stump sprout. Cercocarpus montanus requires a disturbance such as fire to reproduce, either by seed sprout or root crown sprouting. Fire suppression may have allowed an invasion of trees into some of these shrublands, but in many cases sites are too xeric for tree growth.

Range

Found in the foothills, canyon slopes and lower mountains of the Rocky Mountains and on outcrops and canyon slopes in the western Great Plains. It ranges from southern New Mexico extending north into Wyoming, and west into the Intermountain region.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070203JK31_1.JPG

PhotoID : UT062603JK36_1.JPG

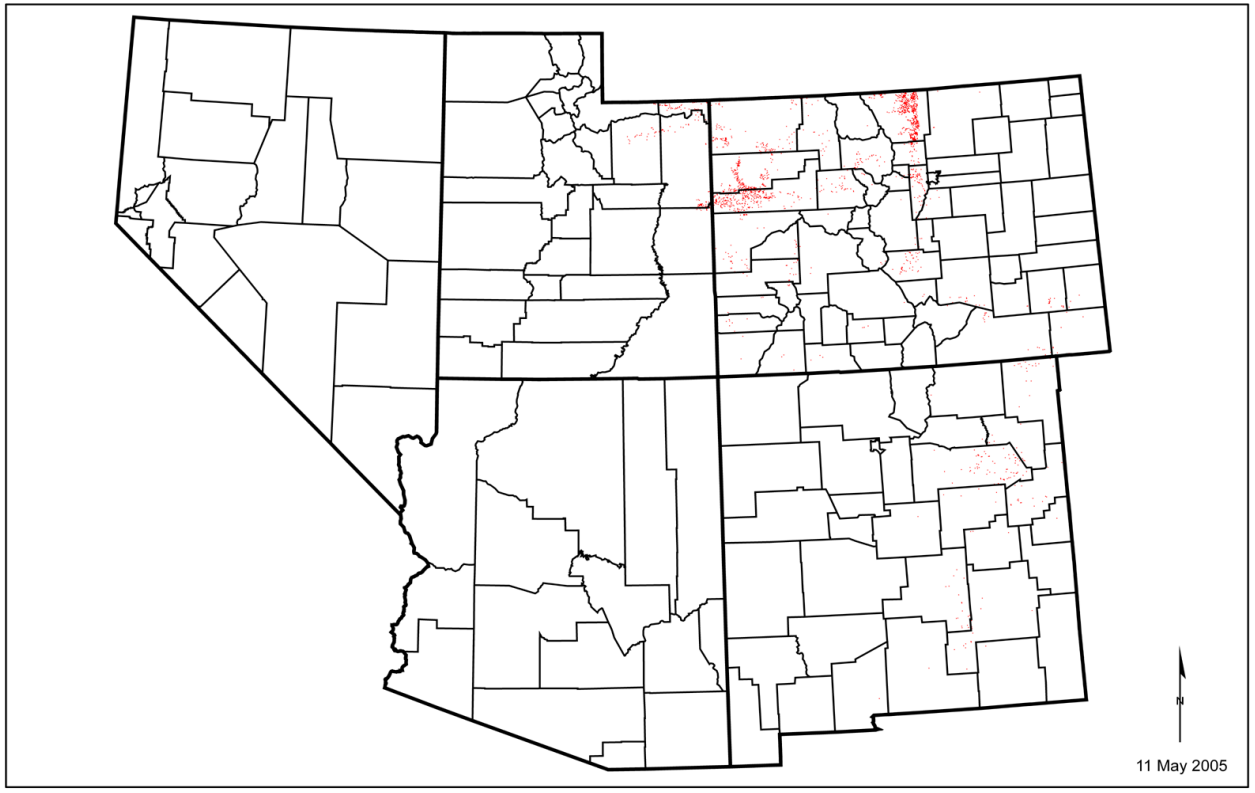
PhotoID : NM092401BM08_2.JPG

S047 Rocky Mountain Lower Montane-Foothill Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S069 Sonora-Mojave Creosotebush-White Bursage Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary This ecological system forms the vegetation matrix in broad valleys, lower bajadas, plains and low hills in the Mojave and lower Sonoran deserts. This desert scrub is characterized by a sparse to moderately dense layer (2-50% cover) of xeromorphic microphyllous and broad-leaved shrubs. Larrea tridentata and Ambrosia dumosa are typically dominants, but many different shrubs, dwarf-shrubs, and cacti may codominate or form typically sparse understories. Associated species may include Atriplex canescens, Atriplex hymenelytra, Encelia farinosa, Ephedra nevadensis, Fouquieria splendens, Lycium andersonii, and Opuntia basilaris. The herbaceous layer is typically sparse, but may be seasonally abundant with ephemerals. Herbaceous species such as Chamaesyce spp., Eriogonum inflatum, Dasyochloa pulchella, Aristida spp., Cryptantha spp., Nama spp., and Phacelia spp. are common.

Range Broad valleys, lower bajadas, plains and low hills in the Mojave and lower Sonoran deserts.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV042903JS06.JPG

PhotoID : NV042903JS08.JPG

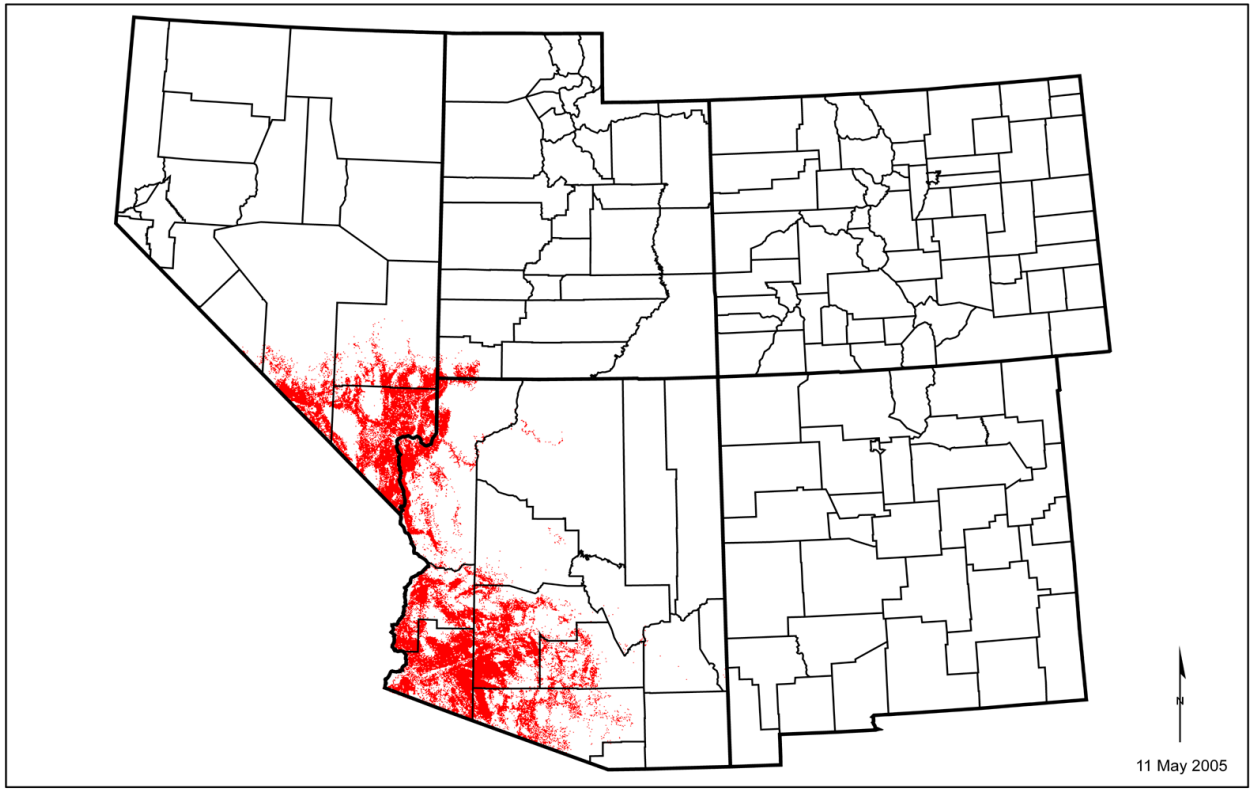
PhotoID : NV042503JS16.JPG

S069 Sonora-Mojave Creosotebush-White Bursage Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV,UT

Distribution Map



S070 Sonora-Mojave Mixed Salt Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This system includes extensive open-canopied shrublands of typically saline basins in the Mojave and Sonoran deserts. Stands often occur around playas. Substrates are generally fine-textured, saline soils. Vegetation is typically composed of one or more Atriplex species such as Atriplex canescens or Atriplex polycarpa along with other species of Atriplex. Species of Allenrolfea, Salicornia, Suaeda, or other halophytic plants are often present to codominant. Graminoid species may include Sporobolus airoides or Distichlis spicata at varying densities.

Range Saline basins in the Mojave and Sonoran deserts.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV050903JS07.JPG

PhotoID : NV050903JS24.JPG

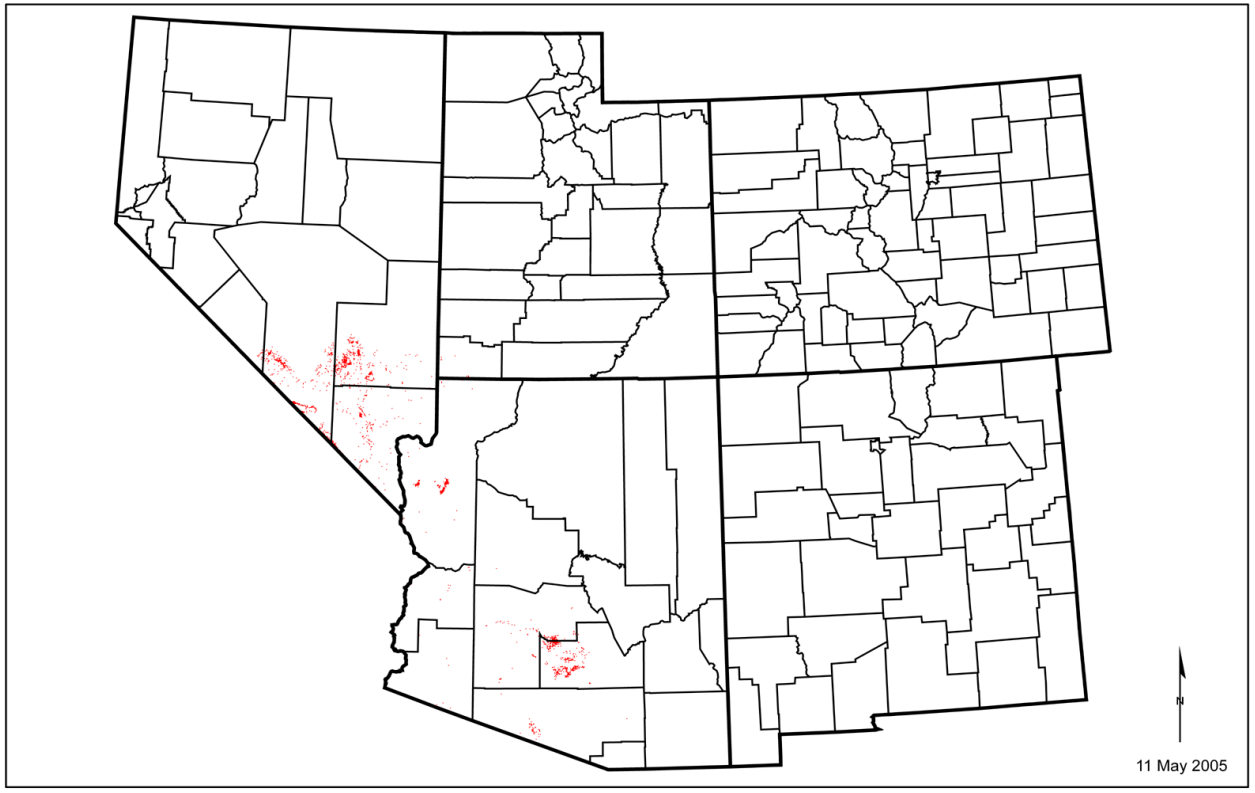
PhotoID : NV081103SS16.JPG

S070 Sonora-Mojave Mixed Salt Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S114 Sonora-Mojave Semi-Desert Chaparral

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is composed of evergreen shrublands on sideslopes transitioning from low-elevation desert landscapes up into woodlands of the western Mojave and Sonoran deserts. It extends from northeast Kern County, California, into Baja Norte. Associated species include Quercus john-tuckeri, Quercus cornelius-mulleri, Quercus berberidifolia, Arctostaphylos patula, Arctostaphylos pungens, Arctostaphylos glauca, Rhus ovata, Cercocarpus montanus var. glaber (= Cercocarpus betuloides), Ceanothus greggii, Garrya flavescens, Juniperus californica, and Nolina parryi.

Range Western Mojave and Sonoran deserts.

Field Photos

Additional Information

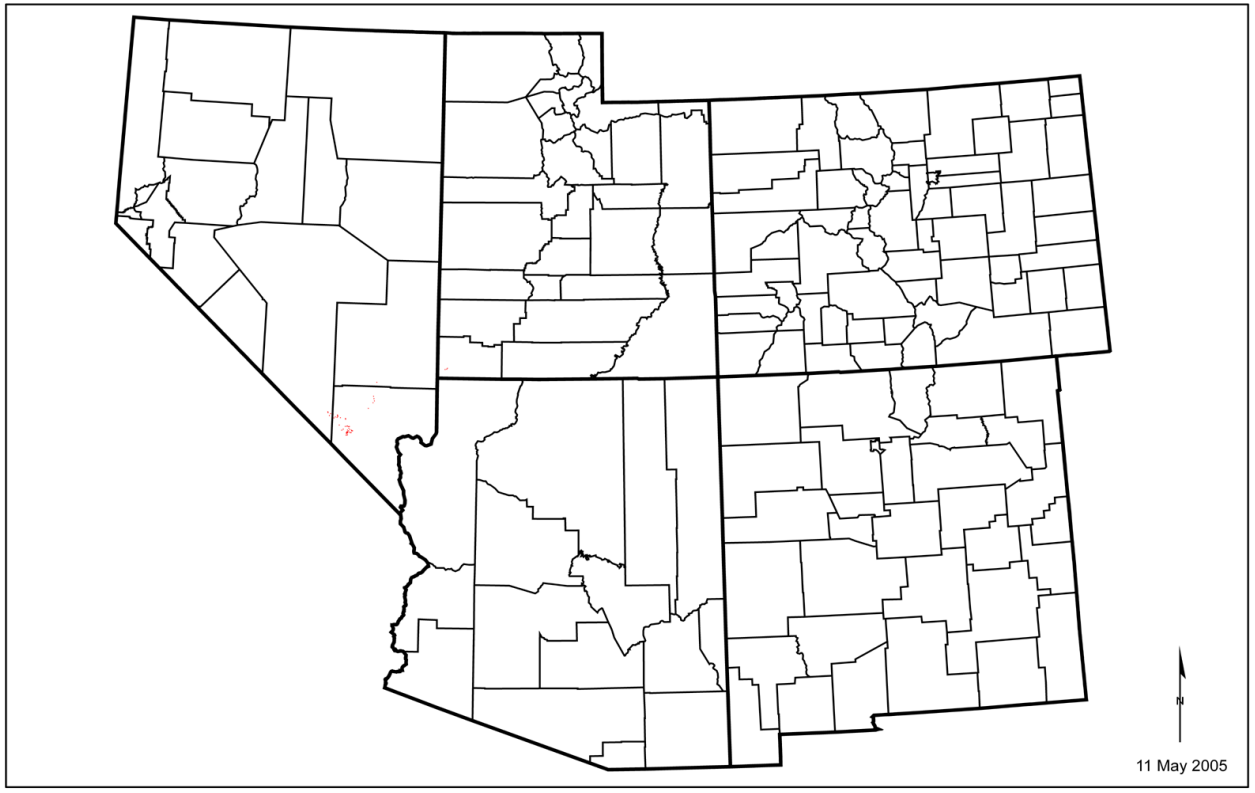
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S114 Sonora-Mojave Semi-Desert Chaparral

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV,UT

Distribution Map



S129 Sonoran Mid-Elevation Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary

This transitional desert scrub system occurs along the northern edge of the Sonoran Desert in an elevational band along the lower slopes of the Mogollon Rim/Central Highlands region between 750 and 1300 m. Stands occur in the Bradshaw, Hualapai, and Superstition mountains, among other desert ranges, and are found above Sonoran Paloverde-Mixed Cacti Desert Scrub (CES302.761) and below Mogollon Chaparral (CES302.741). Sites range from a narrow strip on steep slopes to very broad areas such as the Verde Valley. Climate is too dry for chaparral species to be abundant, and freezing temperatures during winter are too frequent and prolonged for many of the frost-sensitive species that are characteristic of Sonoran Paloverde-Mixed Cacti Desert Scrub (CES302.761), such as Carnegia gigantea, Parkinsonia microphylla, Prosopis spp., Olneya tesota, Ferocactus sp., and Opuntia bigelovii. Substrates are generally rocky soils derived from parent materials such as limestone, granitic rocks or rhyolite. The vegetation is typically composed of an open shrub layer of Larrea tridentata, Ericameria linearifolia, or Eriogonum fasciculatum with taller shrub such as Canotia holacantha (limestone or granite) or Simmondsia chinensis (rhyolite). The herbaceous layer is generally sparse.

Range

Occurs along the northern edge of the Sonoran Desert in an elevational band along the lower slopes of the Mogollon Rim/Central Highlands region between 750-1300 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ05290205047A_1.jpg

PhotoID : AZ05290205047A_2.jpg

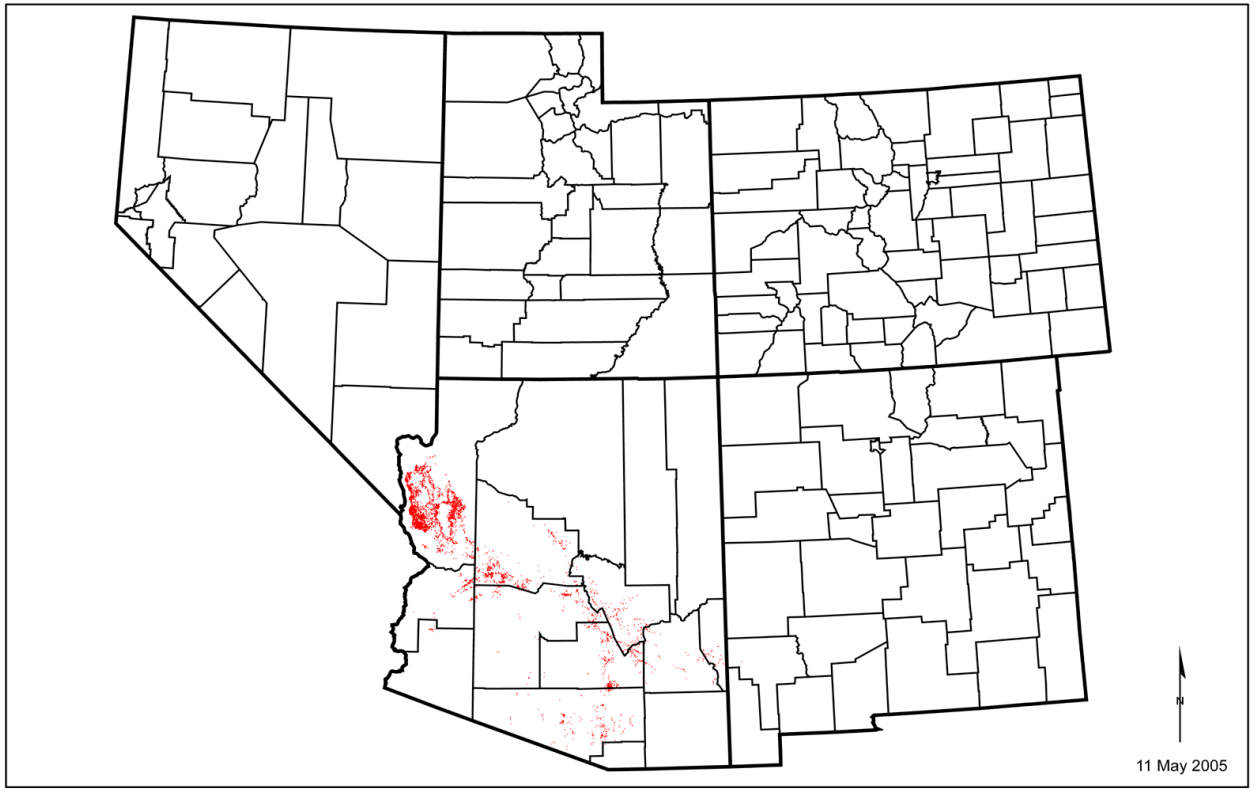
PhotoID : AZ05240205004_2.jpg

S129 Sonoran Mid-Elevation Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S063 Sonoran Paloverde-Mixed Cacti Desert Scrub

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Matrix

Concept Summary This ecological system occurs on hillsides, mesas and upper bajadas in southern Arizona and extreme southeastern California. The vegetation is characterized by a diagnostic sparse, emergent tree layer of Carnegia gigantea (3-16 m tall) and/or a sparse to moderately dense canopy codominated by xeromorphic deciduous and evergreen tall shrubs Parkinsonia microphylla and Larrea tridentata with Prosopis sp., Olneya tesota, and Fouquieria splendens less prominent. Other common shrubs and dwarf-shrubs include Acacia greggii, Ambrosia deltoidea, Ambrosia dumosa (in drier sites), Calliandra eriophylla, Jatropha cardiophylla, Krameria erecta, Lycium spp., Menodora scabra, Simmondsia chinensis, and many cacti including Ferocactus spp., Echinocereus spp., and Opuntia spp. (both cholla and prickly pear). The sparse herbaceous layer is composed of perennial grasses and forbs with annuals seasonally present and occasionally abundant. On slopes, plants are often distributed in patches around rock outcrops where suitable habitat is present.

Range Southern Arizona and extreme southeastern California.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ062901BM08_2.JPG

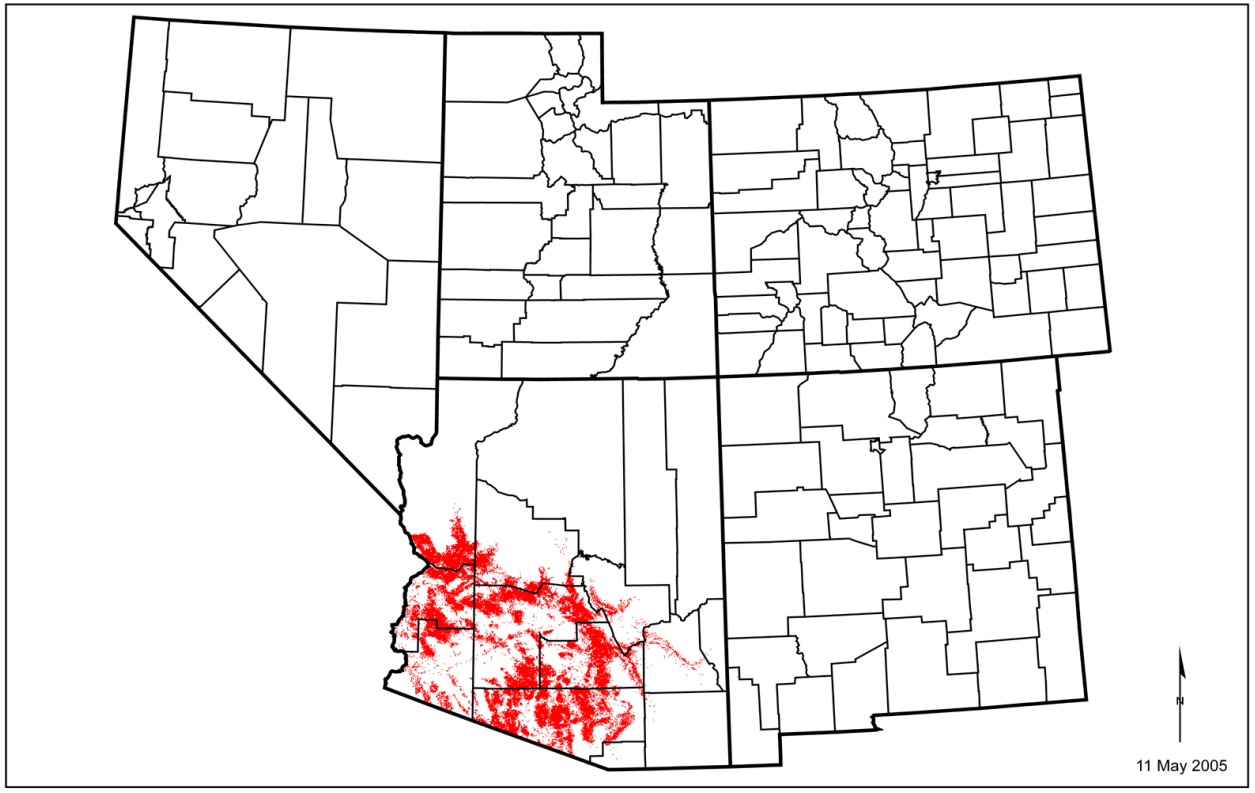
PhotoID : AZ063001BM15_2.JPG

S063 Sonoran Paloverde-Mixed Cacti Desert Scrub

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



S136 Southern Colorado Plateau Sand Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary

This large-patch ecological system is found on the south-central Colorado Plateau in northeastern Arizona extending into southern and central Utah. It occurs on windswept mesas, broad basins and plains at low to moderate elevations (1300-1800 m). Substrates are stabilized sandsheets or shallow to moderately deep sandy soils that may form small hummocks or small coppice dunes. This semi-arid, open shrubland is typically dominated by short shrubs (10-30 % cover) with a sparse graminoid layer. The woody layer is often a mixture of shrubs and dwarf-shrubs. Characteristic species include Ephedra cutleri, Ephedra torreyana, Ephedra viridis, and Artemisia filifolia. Coleogyne ramosissima is typically not present. Poliomintha incana, Parryella filifolia, Quercus havardii var. tuckeri, or Ericameria nauseosa may be present to dominant locally. Ephedra cutleri and Ephedra viridis often assume a distinctive matty growth form. Characteristic grasses include Achnatherum hymenoides, Bouteloua gracilis, Hesperostipa comata, and Pleuraphis jamesii. The general aspect of occurrences is an open low shrubland but may include small blowouts and dunes. Occasionally grasses may be moderately abundant locally and form a distinct layer. Disturbance may be important in maintaining the woody component. Eolian processes are evident, such as pediceled plants, occasional blowouts or small dunes, but the generally higher vegetative cover and less prominent geomorphic features distinguish this system from Inter-Mountain Basins Active and Stabilized Dune (CES304.775).

Range

This system occurs in sandy plains and mesas on the south-central Colorado Plateau in northeastern Arizona extending into southern and central Utah.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061203JK44_1.JPG

PhotoID : UT061203JK44_2.JPG

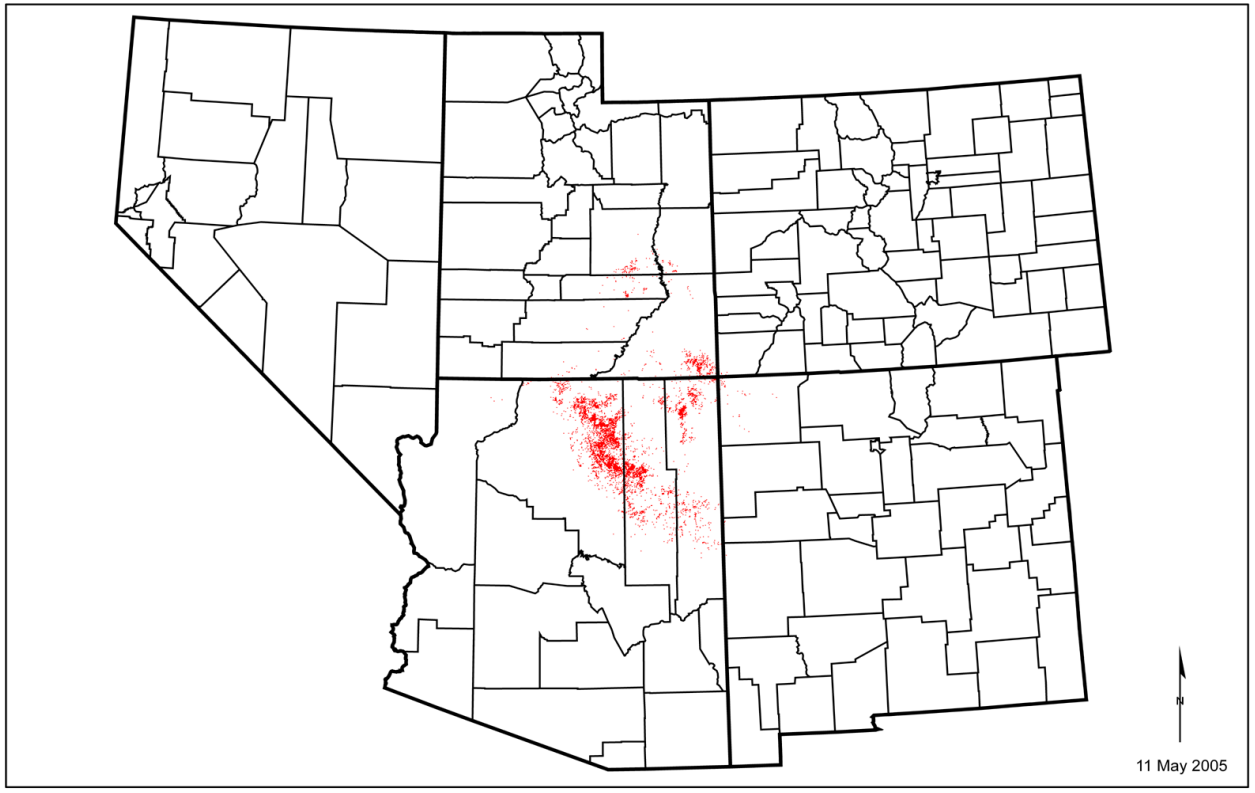
PhotoID : UT061203JK32_1.JPG

S136 Southern Colorado Plateau Sand Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S138 Western Great Plains Mesquite Woodland and Shrubland

Field Photos

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This system is found primarily in the southern portion of the Western Great Plains Division, primarily in Texas, Oklahoma and eastern New Mexico. This system is dominated by Prosopis glandulosa with shortgrass species in the understory. Ziziphus obtusifolia and Atriplex canescens can codominate in some examples as can Opuntia species in heavily grazed areas. Historically this system probably occurred as a natural component on more fertile soils and along drainages.

Range This system is primarily found in the southern portion of the Western Great Plains division, particularly in Texas, Oklahoma and eastern New Mexico.

Additional Information

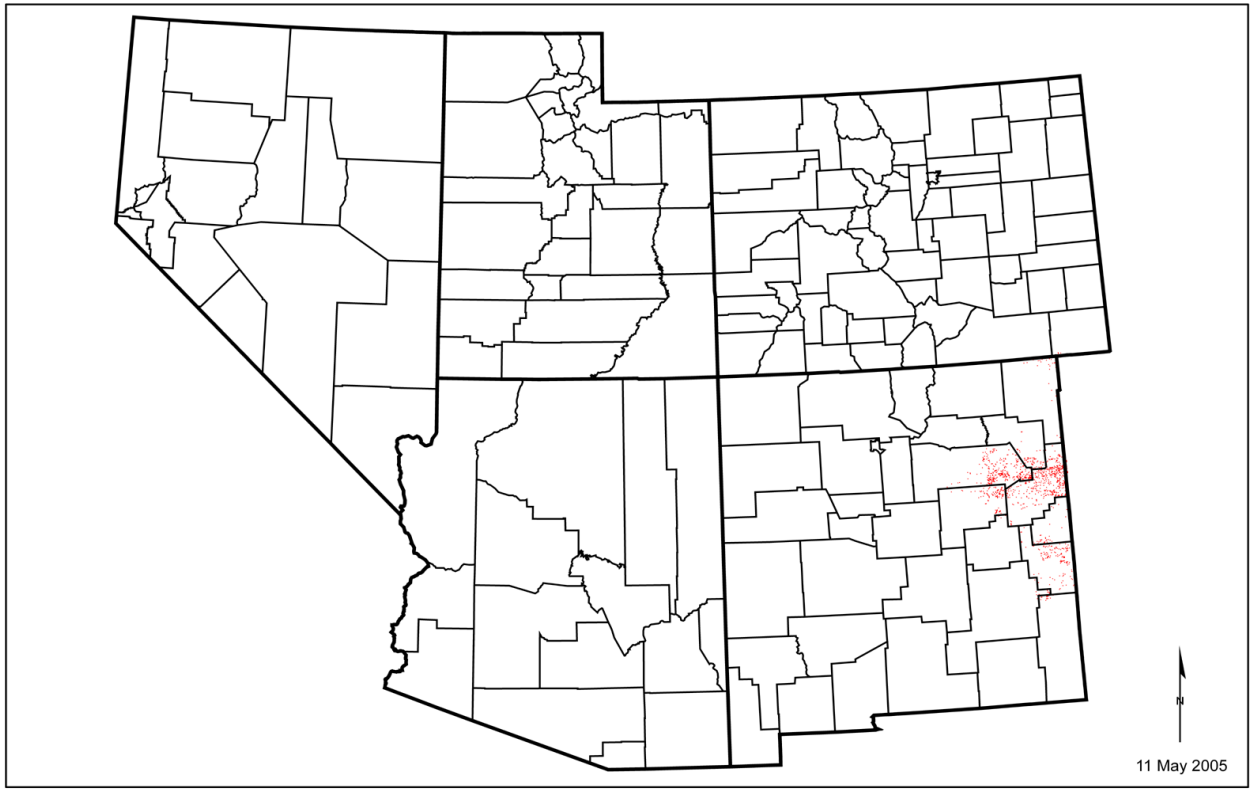
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S138 Western Great Plains Mesquite Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S048 Western Great Plains Sandhill Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary

This system is found mostly in south-central areas of the Western Great Plains Division ranging from the Nebraska Sandhill region south to central Texas, although some examples may reach as far north as the Badlands of South Dakota. The climate is semi-arid to arid for much of the region in which this system occurs. This system is found on somewhat excessively to excessively well-drained, deep sandy soils that are often associated with dune systems and ancient floodplains. In some areas, this system may actually occur as a result of overgrazing in Western Great Plains Tallgrass Prairie (CES303.673) or Western Great Plains Sand Prairie (CES303.670). This system is characterized by a sparse to moderately dense woody layer dominated by Artemisia filifolia. Associated species can vary with geography, amount and season of precipitation, disturbance and soil texture. Several graminoid species such as Andropogon hallii, Schizachyrium scoparium, Sporobolus cryptandrus, Calamovilfa gigantea, Hesperostipa comata, and Bouteloua spp. can be connected with this system. Other shrub species may also be present including Yucca glauca, Prosopis glandulosa, Rhus trilobata, and Prunus angustifolia. In the southern range of this system, Quercus havardii may also be present and represents one succession pathway that develops over time following a disturbance. Quercus havardii is able to resprout following a fire and thus may persist for long periods of time once established. Fire and grazing are the most important dynamic processes for this type, although drought stress can impact this system significantly in some areas. Overgrazing can lead to decreasing dominance of some of the grass species such as Andropogon hallii, Calamovilfa gigantea, and Schizachyrium scoparium.

Range

This system is found primarily within the south-central areas of the Western Great Plains Division ranging from the Nebraska Sandhills south into central Texas. However, examples of this system can be found as far north as the Badlands in South Dakota.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM060501BM15_1.JPG

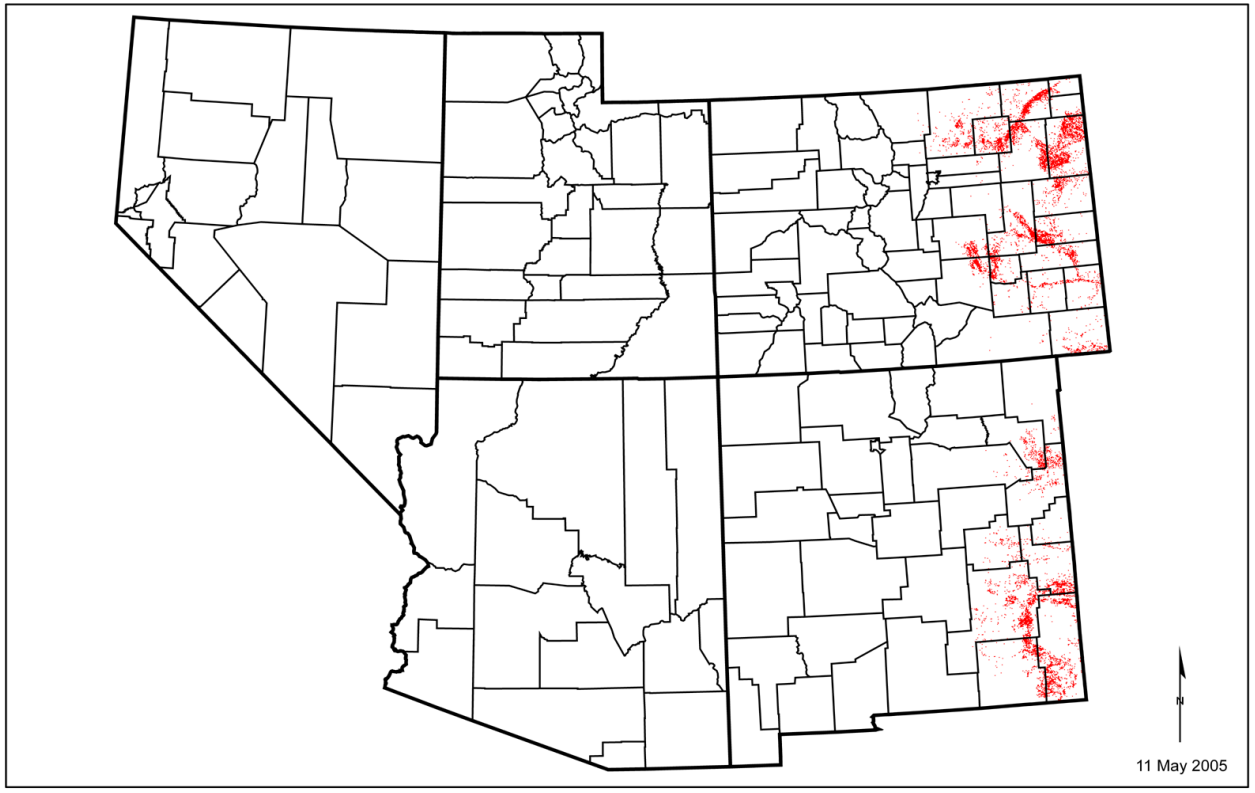
PhotoID : CO083001PW09_1.jpg

S048 Western Great Plains Sandhill Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S128 Wyoming Basins Low Sagebrush Shrubland

Approximate NLCD Land Cover Class Scrub/Scrub

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is composed of sagebrush dwarf-shrublands that occur in a variety of dry habitats throughout the basins of central and southern Wyoming. Artemisia tripartita ssp. rupicola-dominated dwarf-shrublands typically occur on wind-swept ridges and south and west aspect slopes above 2135 m in central and southeastern Wyoming. Substrates are shallow, fine-textured soils. Artemisia nova-dominated dwarf-shrublands occur on shallow, coarse-textured, calcareous substrates at lower elevations. Other shrubs and dwarf-shrubs present may include Purshia tridentata and other species of Artemisia. Common graminoids include Festuca idahoensis, Koeleria macrantha, Pseudoroegneria spicata, and Poa secunda. Many forbs also occur and may dominate the herbaceous vegetation.

Range Throughout the basins of central and southern Wyoming.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

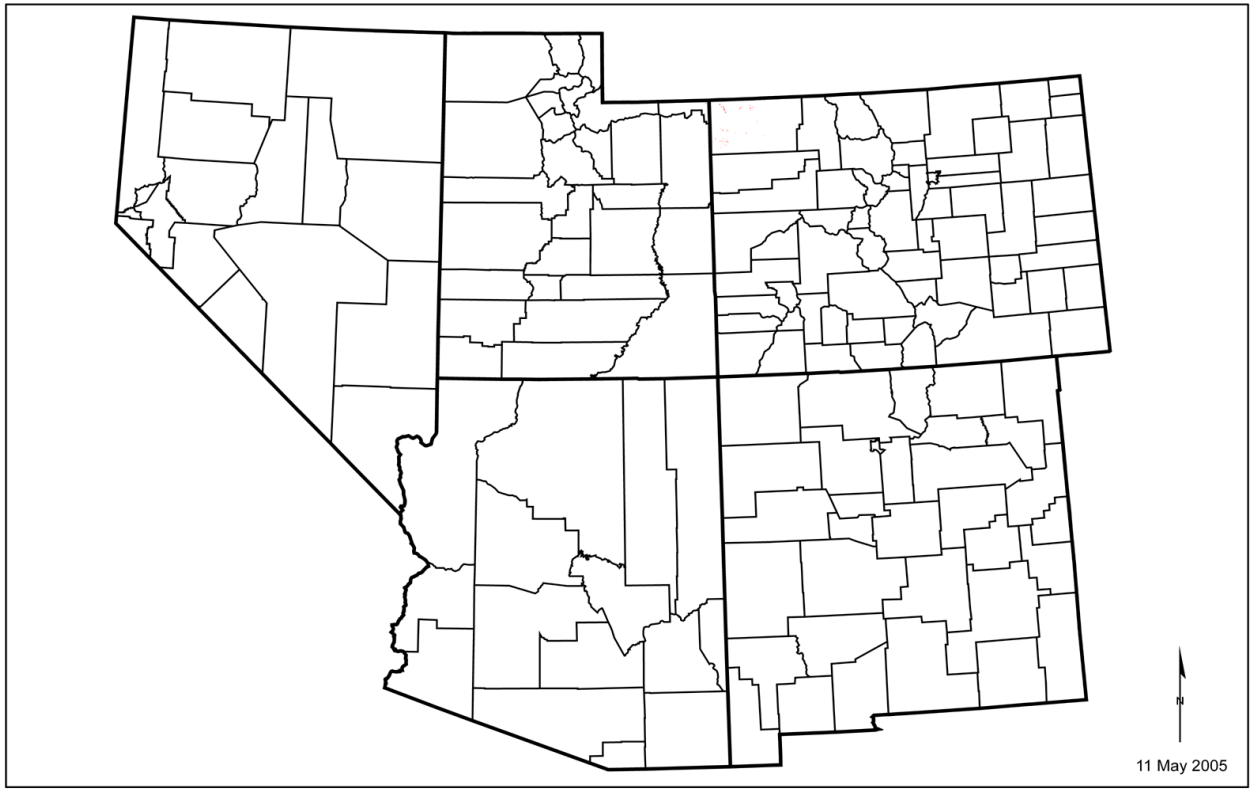
PhotoID : CO090802XY17_1.JPG

S128 Wyoming Basins Low Sagebrush Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S077 Apacherian-Chihuahuan Semi-Desert Grassland and Steppe

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system is a broadly defined desert grassland, mixed shrub-succulent or xeromorphic tree savanna that is typical of the Borderlands of Arizona, New Mexico and northern Mexico [Apacherian region] but extends west to the Sonoran Desert, north into the Mogollon Rim and throughout much of the Chihuahuan Desert. It is found on gently sloping bajadas that supported frequent fire throughout the Sky Islands and on mesas and steeper piedmont and foothill slopes in the Chihuahuan Desert. It is characterized by typically diverse perennial grasses. Common grass species include Bouteloua eriopoda, Bouteloua hirsuta, Bouteloua rothrockii, Bouteloua curtipendula, Bouteloua gracilis, Eragrostis intermedia, Muhlenbergia porteri, Muhlenbergia setifolia, Pleuraphis jamesii, Pleuraphis mutica, and Sporobolus airoides, succulent species of Agave, Dasylirion, and Yucca, and tall-shrub/short-tree species of Prosopis and various oaks (e.g., Quercus grisea, Quercus emoryi, Quercus arizonica). Many of the historical desert grassland and savanna areas have been converted, some to Chihuahuan Mesquite Upland Scrub (CES302.733) (Prosopis spp.-dominated), through intensive grazing and other land uses.

Range

Borderlands of Arizona, New Mexico and northern Mexico [Apacherian region], extending to the Sonoran Desert and throughout much of the Chihuahuan Desert.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061201BM16_1.JPG

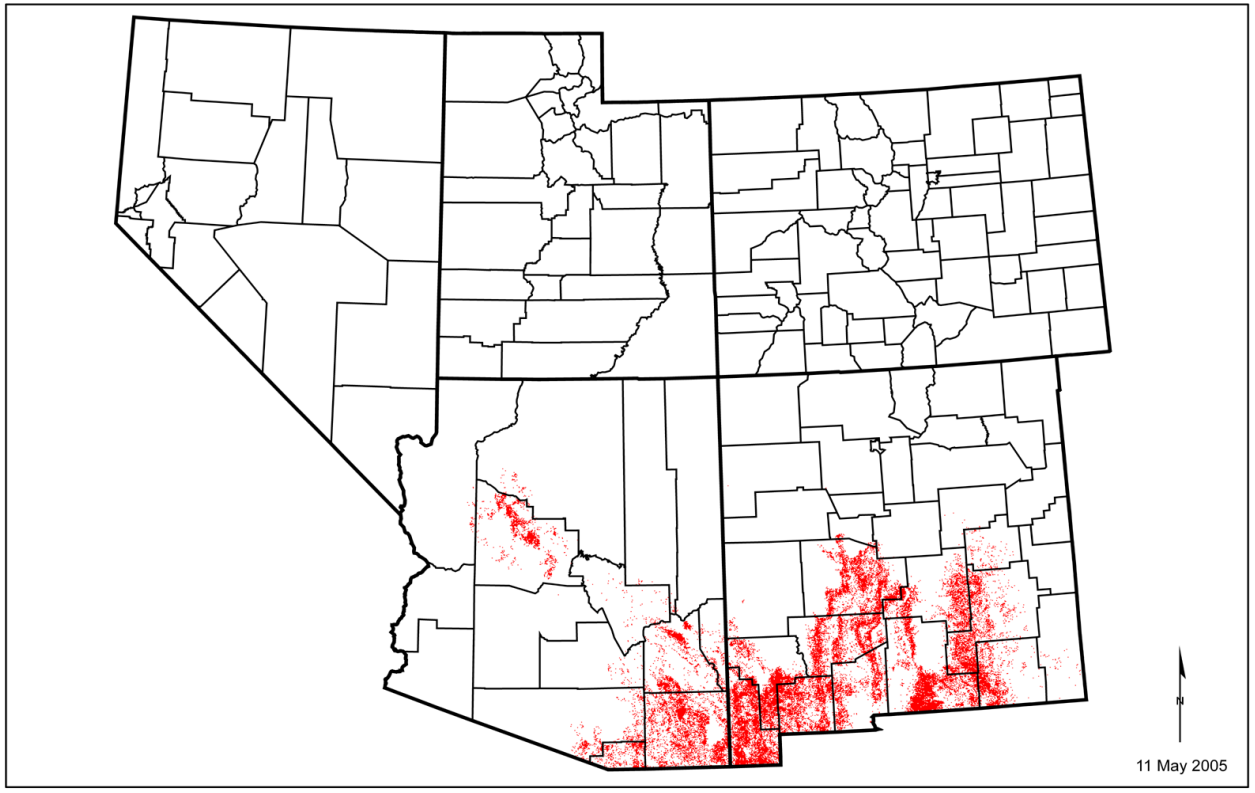
PhotoID : AZ061401BM22_1.JPG

S077 Apacherian-Chihuahuan Semi-Desert Grassland and Steppe

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S087 Central Mixedgrass Prairie

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Matrix

Concept Summary

This mixedgrass prairie system ranges from South Dakota to northern Texas and is bordered by the shortgrass prairie on the western edge and the tallgrass prairie to the east. The loessal regions in west-central Kansas and central Nebraska, the Red Hills region of south-central Kansas and northern Oklahoma are all located within this system. Because of its proximity to other ecoregions, this system contains elements from both shortgrass and tallgrass prairies, which combine to form the mixedgrass prairie ecological system throughout its range. The distribution, species richness and productivity of plant species within the mixedgrass ecological system is controlled primarily by environmental conditions, in particular soil moisture and topography. Grazing and fire are important dynamic processes in this system. The relative dominance of the various grass and forb species within different associations in the system also can strongly depend on the degree of natural or human disturbance. This system can contain grass species such as Bouteloua curtipendula, Schizachyrium scoparium, Andropogon gerardii, Hesperostipa comata, Sporobolus heterolepis, and Bouteloua gracilis, although the majority of the associations within the region are dominated by Pascopyrum smithii or Schizachyrium scoparium. Numerous forb and sedge species (Carex spp.) can also occur within the mixedgrass system in the Western Great Plains. Although forbs do not always significantly contribute to the canopy, they can be very important. Some dominant forb species include Ambrosia psilostachya, Echinacea angustifolia, and Lygodesmia juncea. Oak species such as Quercus macrocarpa can occur also in areas protected from fire due to topographic position. This can cause an almost oak savanna situation in certain areas, although fire suppression may allow for a more closed canopy and expansion of bur oak beyond those sheltered areas. In those situations, further information will be needed to determine if those larger areas with a more closed canopy of bur oak should be considered part of Western Great Plains Dry Bur Oak Forest and Woodland (CES303.667). Likewise, within the mixedgrass system, small seeps may occur, especially during the wettest years. Although these are not considered a separate system, the suppression of fire within the region has enabled the invasion of both exotics and some shrub species such as Juniperus virginiana and also allowed for the establishment of Pinus ponderosa in some northern areas.

Range

This system is found throughout the central and southern areas of the Western Great Plains ranging from southern South Dakota into northern Texas.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : CO102600AE02_1.jpg

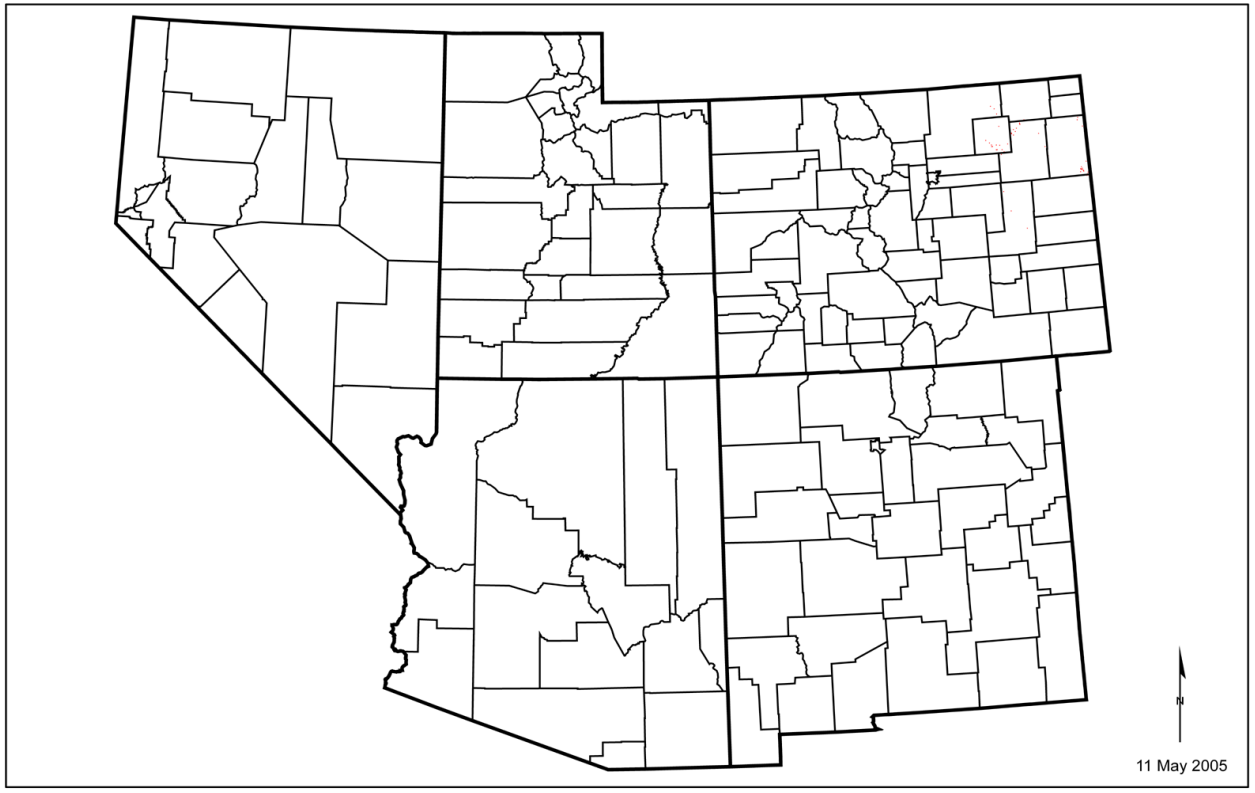
PhotoID : CO092600DB08_1.jpg

S087 Central Mixedgrass Prairie

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project

S080 Chihuahuan Gypsophilous Grassland and Steppe

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This ecological system is restricted to gypsum outcrops or sandy gypsiferous and/or often alkaline soils that occur in basins and slopes in the Chihuahuan Desert. Elevation range is from 1100-2000 m. These typically sparse grasslands, steppes or dwarf-shrublands are dominated by a variety of gypsophilous plants, many of which are endemic to these habitats. Characteristic species include Tiquilia hispidissima, Atriplex canescens, Calylophus hartwegii, Ephedra torreyana, Frankenia jamesii, Bouteloua breviseta, Mentzelia perennis, Nama carnosum, Calylophus hartwegii (= Oenothera hartwegii), Selinocarpus lanceolatus, Sporobolus nealleyi, Sporobolus airoides, and Sartwellia flaveriae. This system does not include the sparsely vegetated gypsum dunes that are included in North American Warm Desert Active and Stabilized Dune (CES302.744).

Range Basins and slopes in the Chihuahuan Desert; elevation range from 1100-2000 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM072301BM09_1.JPG

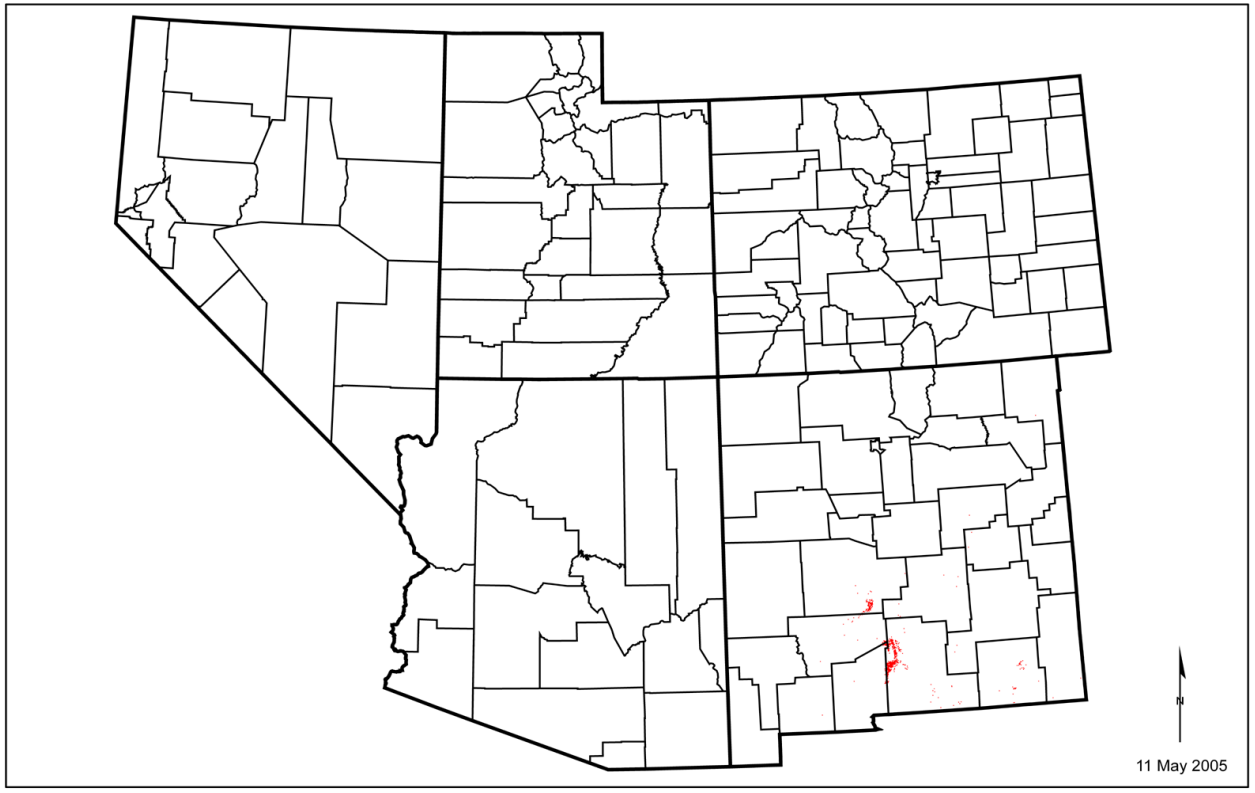
PhotoID : NM101901BM15_2.JPG

S080 Chihuahuan Gypsophilous Grassland and Steppe

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



S113 Chihuahuan Sandy Plains Semi-Desert Grassland

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs across the Chihuahuan Desert and extends into the southern Great Plains where soils have a high sand content. These dry grasslands or steppe are found on sandy plains and sandstone mesas. The graminoid layer is dominated or codominated by Achnatherum hymenoides, Bouteloua eriopoda, Bouteloua hirsuta, Hesperostipa neomexicana, Pleuraphis jamesii, Sporobolus cryptandrus, Sporobolus airoides, or Sporobolus flexuosus. Typically, there are found scattered desert shrubs and stem succulents such as Ephedra torreyana, Ephedra trifurca, Fallugia paradoxa, Prosopis glandulosa, Yucca elata, and Yucca torreyi that are characteristic of the Chihuahuan Desert.

Range Chihuahuan Desert extending into the southern Great Plains where soils have a high sand content.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM061403JP05_2.JPG

PhotoID : NM102101BM11_1.JPG

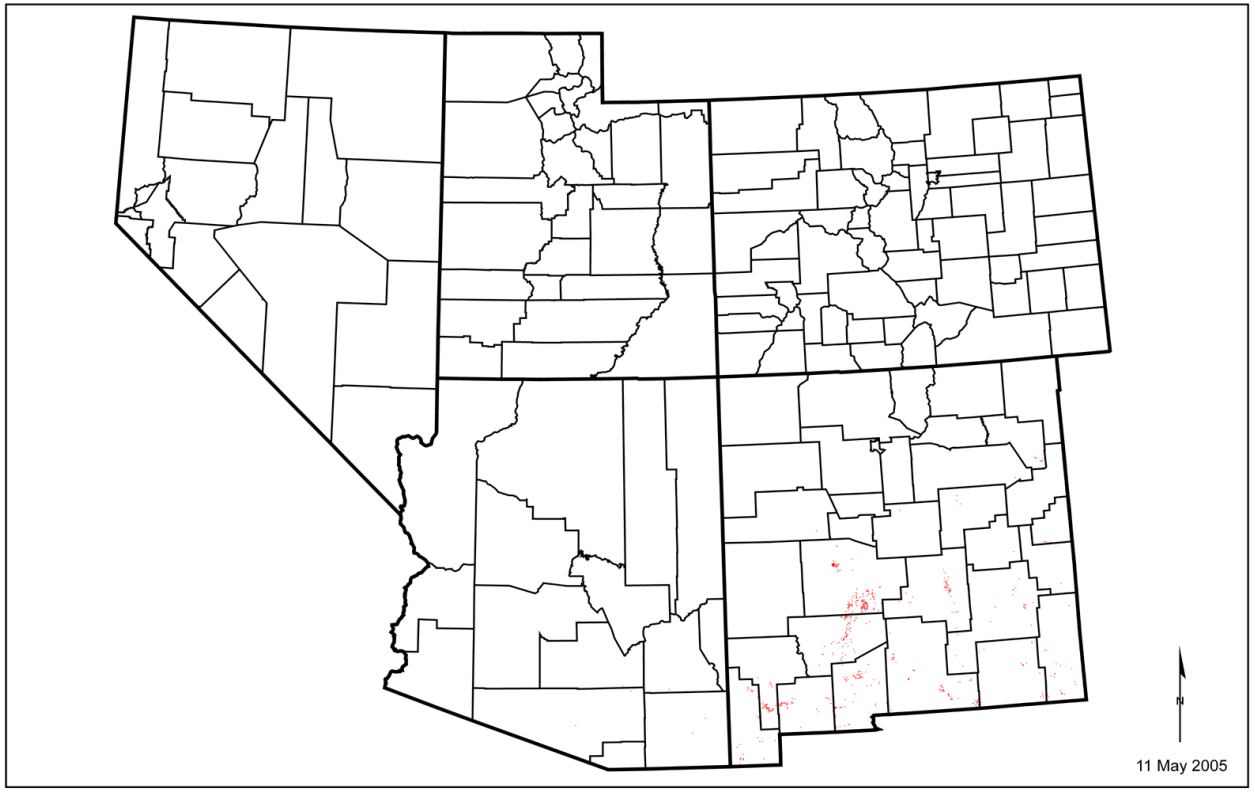
PhotoID : NM102101BM07_2.JPG

S113 Chihuahuan Sandy Plains Semi-Desert Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S109 Chihuahuan-Sonoran Desert Bottomland and Swale Grassland

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Small patch

Concept Summary This ecological system occurs throughout the northern Chihuahuan Desert and adjacent Sky Islands and Sonoran Desert, as well as limited areas of the southern Great Plains and Edwards Plateau in relatively small depressions on broad mesas, plains and valley bottoms that receive runoff from adjacent areas. Water generally infiltrates relatively quickly. These depressions have deep, fine-textured soils that are neutral to slightly saline/alkaline. Vegetation is typically dominated by Pleuraphis mutica (tobosa swales) or other mesic graminoids such as Pascopyrum smithii, Panicum obtusum, Sporobolus airoides, or Sporobolus wrightii. With tobosa swales, sand-adapted species such as Yucca elata may grow at the swale's edge in the deep sandy alluvium that is deposited there from upland slopes. Sporobolus airoides and Sporobolus wrightii are more common in alkaline soils.

Range Northern Chihuahuan Desert and adjacent Sky Islands and Sonoran Desert, as well as limited areas of the southern Great Plains and Edwards Plateau.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ062901BM02_2.JPG

PhotoID : AZ062901BM03_2.JPG

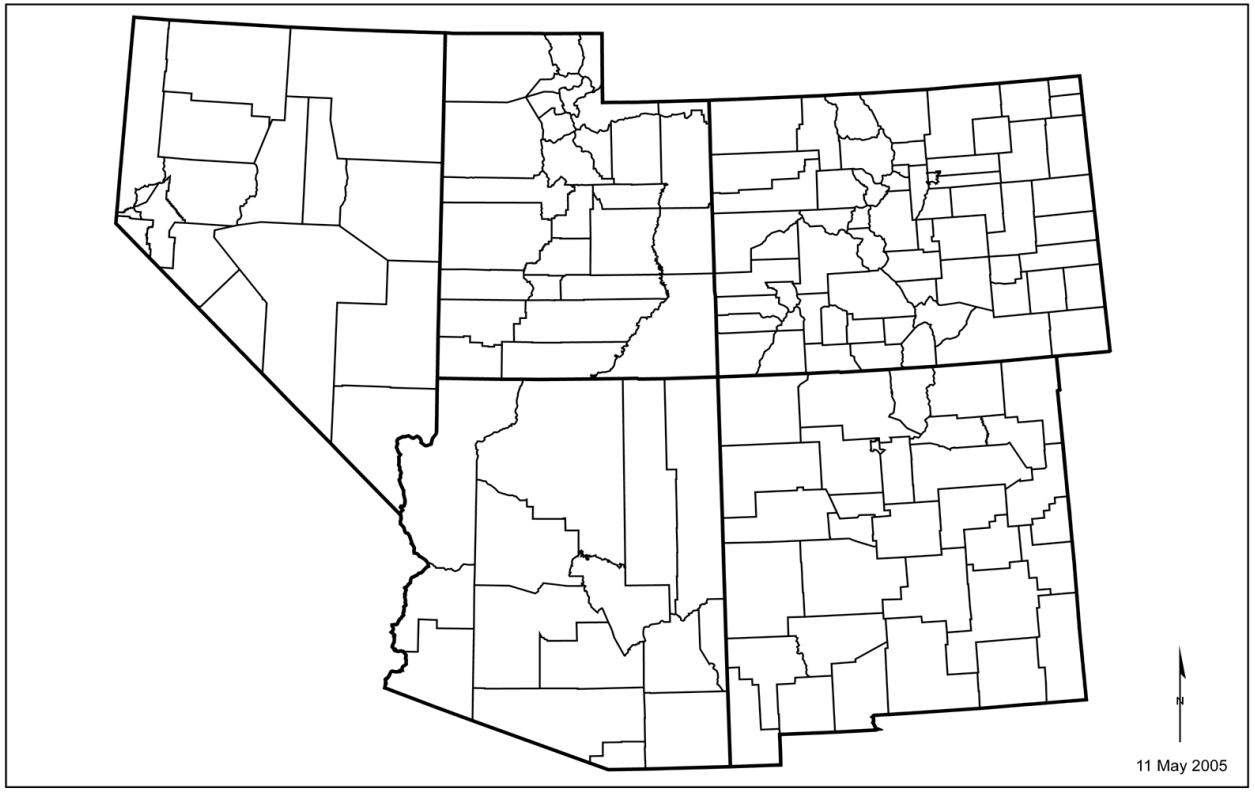
PhotoID : AZ062901BM03_1.JPG

S109 Chihuahuan-Sonoran Desert Bottomland and Swale Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S078 Inter-Mountain Basins Big Sagebrush Steppe

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

This widespread matrix-forming ecological system occurs throughout much of the Columbia Plateau and northern Great Basin and Wyoming and is found at slightly higher elevations farther south. Soils are typically deep and non-saline, often with a microphytic crust. This shrub-steppe is dominated by perennial grasses and forbs (>25% cover) with Artemisia tridentata ssp. tridentata, Artemisia tridentata ssp. xericensis, Artemisia tridentata ssp. wyomingensis, Artemisia tripartita ssp. tripartita, and/or Purshia tridentata dominating or codominating the open to moderately dense (10-40% cover) shrub layer. Atriplex confertifolia, Chrysothamnus viscidiflorus, Ericameria nauseosa, Tetradymia spp., or Artemisia frigida may be common especially in disturbed stands. Associated graminoids include Achnatherum hymenoides, Calamagrostis montanensis, Elymus lanceolatus ssp. lanceolatus, Festuca idahoensis, Festuca campestris, Koeleria macrantha, Poa secunda, and Pseudoroegneria spicata. Common forbs are Phlox hoodii, Arenaria spp., and Astragalus spp. Areas with deeper soils more commonly support Artemisia tridentata ssp. tridentata but have largely been converted for other land uses. The natural fire regime of this ecological system likely maintains a patchy distribution of shrubs, so the general aspect of the vegetation is a grassland. Shrubs may increase following heavy grazing and/or with fire suppression, particularly in moist portions of the northern Columbia Plateau where it forms a landscape mosaic pattern with shallow-soil scabland shrublands. Where fire frequency has allowed for shifts to a native grassland condition, maintained without significant shrub invasion over a 50- to 70-year interval, the area would be considered Columbia Basin Foothill and Canyon Dry Grassland (CES304.993).

Range

Occurs throughout much of the Columbia Plateau and northern Great Basin and Wyoming, and is found at slightly higher elevations further south.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT073100GM07_2.JPG

PhotoID : UT073100GM07_1.JPG

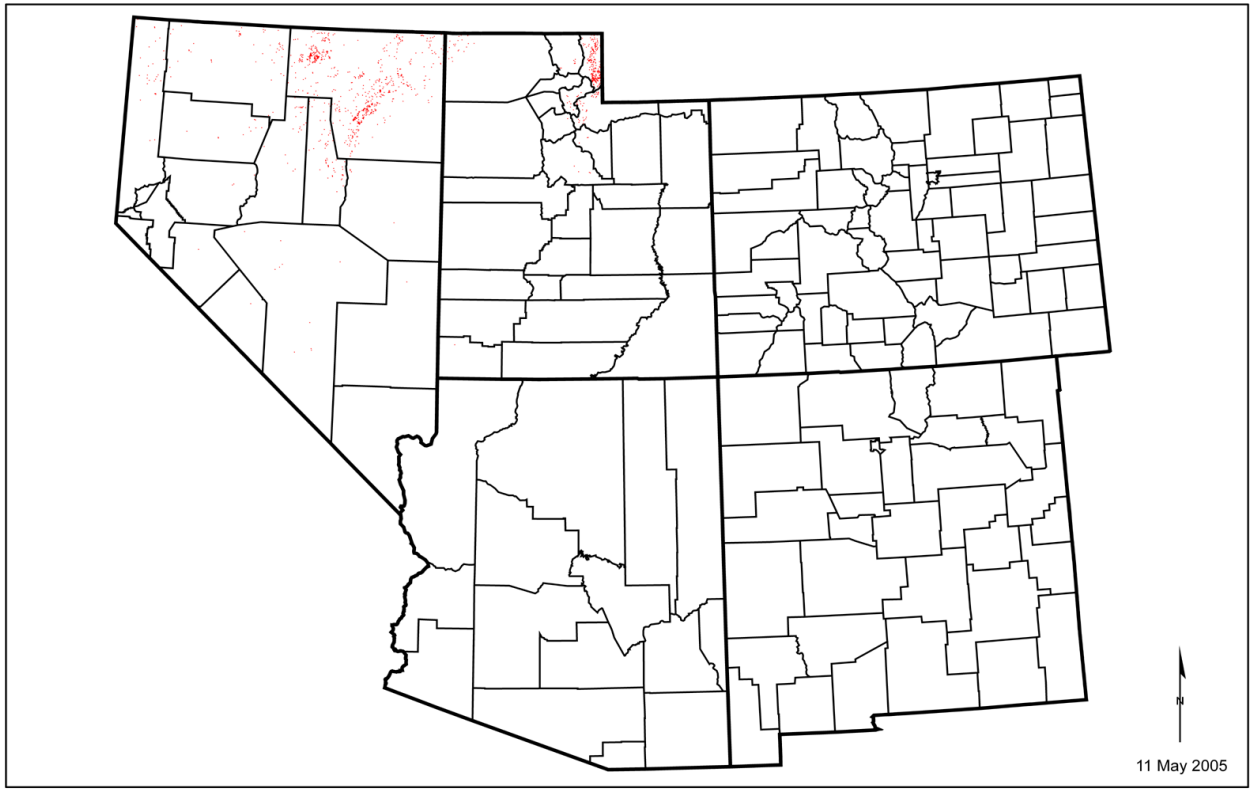
PhotoID : UT080100GM05_1.JPG

S078 Inter-Mountain Basins Big Sagebrush Steppe

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S075 Inter-Mountain Basins Juniper Savanna

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

This widespread ecological system occupies dry foothills and sandsheets of western Colorado, northwestern New Mexico, northern Arizona, Utah, west into the Great Basin of Nevada and southern Idaho. It is typically found at lower elevations ranging from 1500-2300 m. This system is generally found at lower elevations and more xeric sites than Great Basin Pinyon-Juniper Woodland (CES304.773) or Colorado Plateau Pinyon-Juniper Woodland (CES304.767). These occurrences are found on lower mountain slopes, hills, plateaus, basins and flats often where juniper is expanding into semi-desert grasslands and steppe. The vegetation is typically open savanna, although there may be inclusions of more dense juniper woodlands. This savanna is typically dominated by Juniperus osteosperma trees with high cover of perennial bunch grasses and forbs, with Bouteloua gracilis, Hesperostipa comata, and Pleuraphis jamesii being most common. In the southern Colorado Plateau, Juniperus monosperma or juniper hybrids may dominate the tree layer. Pinyon trees are typically not present because sites are outside the ecological or geographic range of Pinus edulis and Pinus monophylla.

Range

This juniper savanna occurs from northwestern New Mexico, northern Arizona, western Colorado, Utah, west into the Great Basin of Nevada and southern Idaho.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : CO080803JS02_1.JPG

PhotoID : CO080803JS02_2.JPG

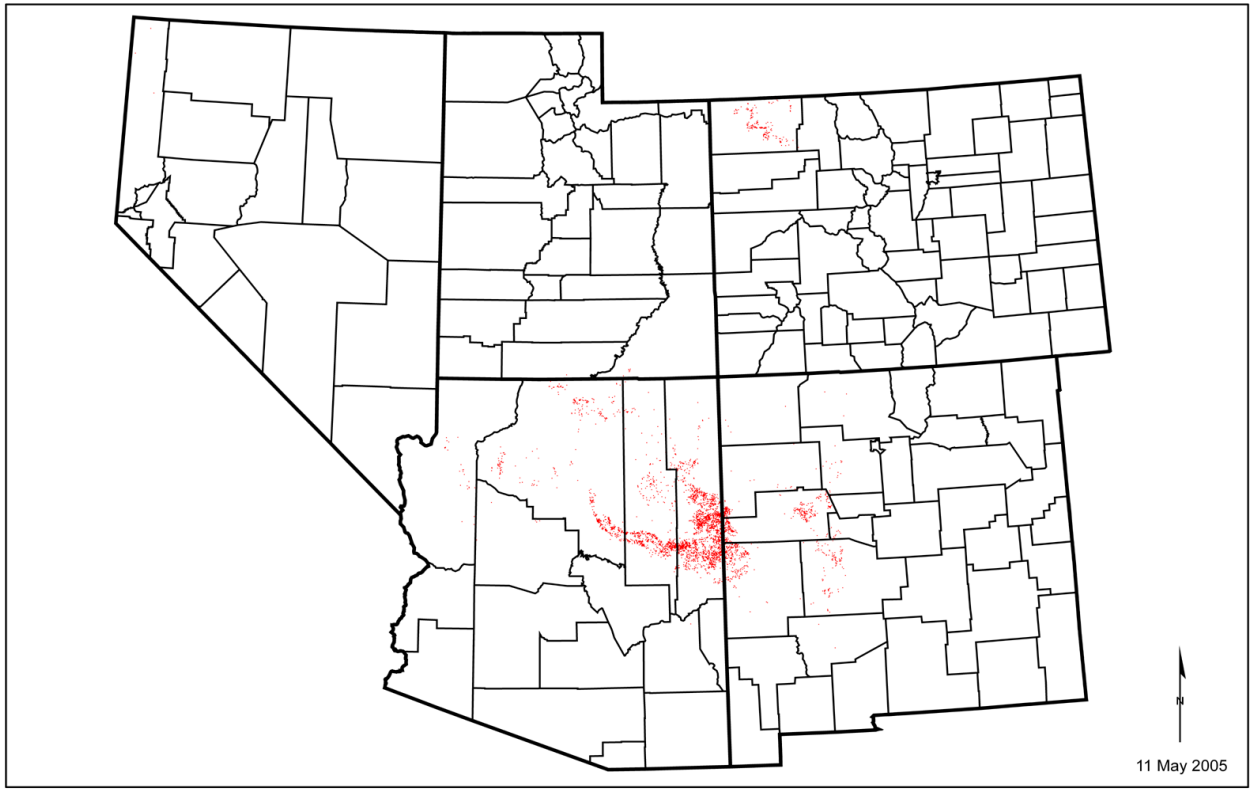
PhotoID : CO080603JS11_1.JPG

S075 Inter-Mountain Basins Juniper Savanna

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S071 Inter-Mountain Basins Montane Sagebrush Steppe

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Matrix

Concept Summary

This ecological system includes sagebrush communities occurring at montane and subalpine elevations across the western U.S. from 1000 m in eastern Oregon and Washington to over 3000 m in the southern Rockies. In British Columbia, it occurs between 450 and 1650 m in the southern Fraser Plateau and the Thompson and Okanagan basins. Climate is cool, semi-arid to subhumid. This system primarily occurs on deep-soiled to stony flats, ridges, nearly flat ridgetops, and mountain slopes. In general this system shows an affinity for mild topography, fine soils, and some source of subsurface moisture. It is composed primarily of Artemisia tridentata ssp. vaseyana (mountain sagebrush) and related taxa such as Artemisia tridentata ssp. spiciformis (= Artemisia spiciformis). Purshia tridentata may codominate or even dominate some stands. Other common shrubs include Symphoricarpos spp., Amelanchier spp., Ericameria nauseosa, Peraphyllum ramosissimum, Ribes cereum, and Chrysothamnus viscidiflorus. Most stands have an abundant perennial herbaceous layer (over 25% cover), but this system also includes Artemisia tridentata ssp. vaseyana shrublands. Common graminoids include Festuca arizonica, Festuca idahoensis, Hesperostipa comata, Poa fendleriana, Elymus trachycaulus, Bromus carinatus, Poa secunda, Leucopoa kingii, Deschampsia caespitosa, Calamagrostis rubescens, and Pseudoroegneria spicata. In many areas, frequent wildfires maintain an open herbaceous-rich steppe condition, although at most sites, shrub cover can be unusually high for a steppe system (>40%), with the moisture providing equally high grass and forb cover.

Range

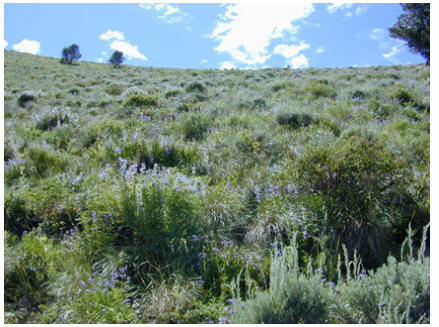
This system is found at montane and subalpine elevations across the western U.S. from 1000 m in eastern Oregon and Washington to over 3000 m in the southern Rockies. In British Columbia, it occurs in the southern Fraser Plateau and the Thompson and Okanagan basins.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071002MD01_1.JPG



PhotoID : UT070701GM16_1.JPG

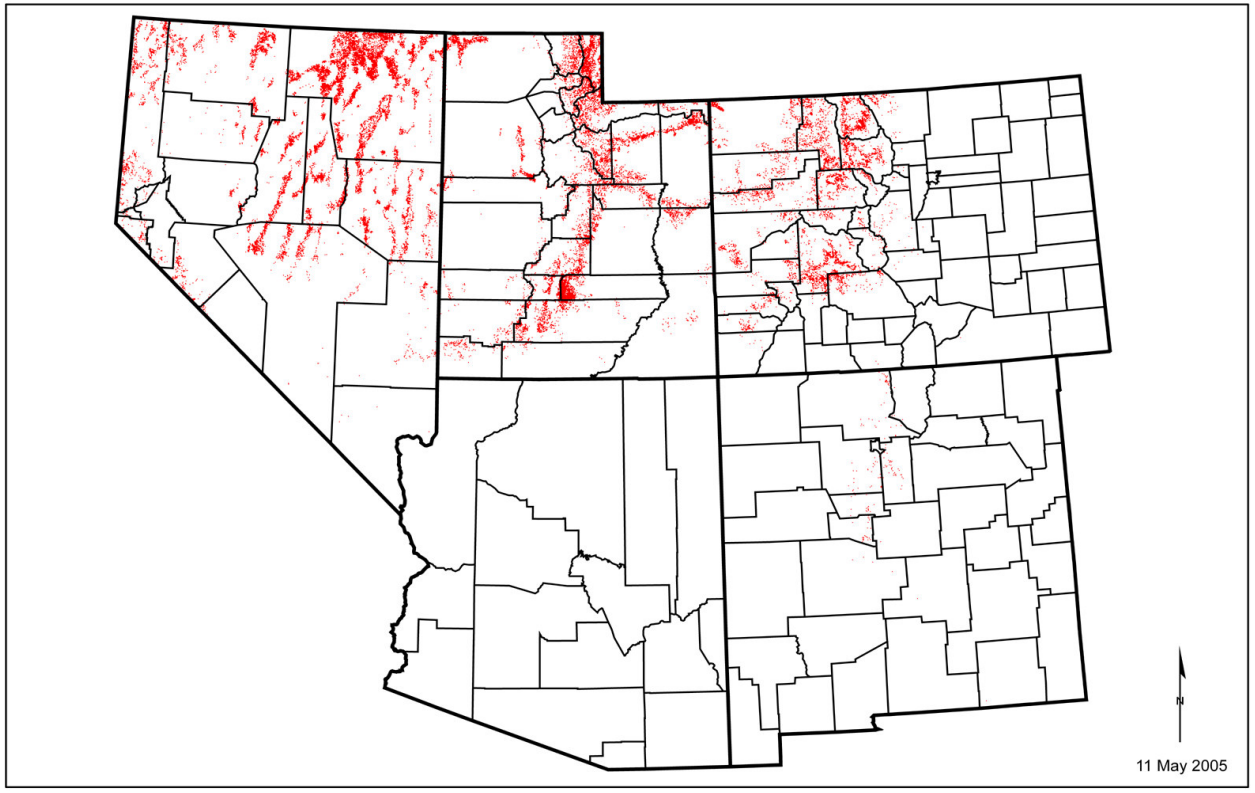
PhotoID : UT062603JK03_2.JPG

S071 Inter-Mountain Basins Montane Sagebrush Steppe

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S090 Inter-Mountain Basins Semi-Desert Grassland

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This widespread ecological system occurs throughout the intermountain western U.S. on dry plains and mesas, at approximately 1450 to 2320 m (4750-7610 feet) elevation. These grasslands occur in lowland and upland areas and may occupy swales, playas, mesatops, plateau parks, alluvial flats, and plains, but sites are typically xeric. Substrates are often well-drained sandy or loamy-textured soils derived from sedimentary parent materials but are quite variable and may include fine-textured soils derived from igneous and metamorphic rocks. When they occur near foothill grasslands they will be at lower elevations. The dominant perennial bunch grasses and shrubs within this system are all very drought-resistant plants. These grasslands are typically dominated or codominated by Achnatherum hymenoides, Aristida spp., Bouteloua gracilis, Hesperostipa comata, Muhlenbergia sp., or Pleuraphis jamesii and may include scattered shrubs and dwarf-shrubs of species of Artemisia, Atriplex, Coleogyne, Ephedra, Gutierrezia, or Krascheninnikovia lanata.

Range Occurs throughout the Intermountain western U.S. on dry plains and mesas, at approximately 1450 to 2320 m (4750-7610 feet) in elevation.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070601LL09_1.JPG

PhotoID : UT061401GM05_1.JPG

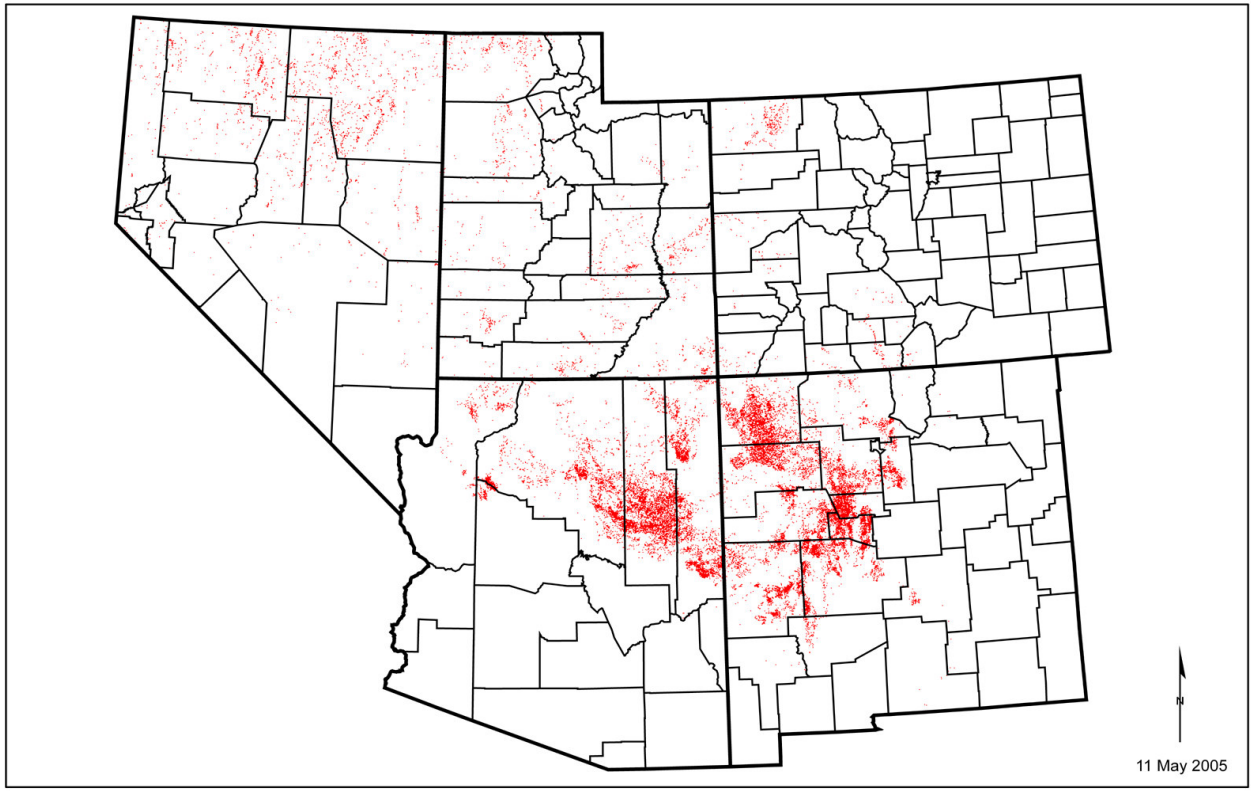
PhotoID : UT061401GM05_2.JPG

S090 Inter-Mountain Basins Semi-Desert Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S079 Inter-Mountain Basins Semi-Desert Shrub-Steppe

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs throughout the intermountain western U.S., typically at lower elevations on alluvial fans and flats with moderate to deep soils. This semi-arid shrub-steppe is typically dominated by graminoids (>25% cover) with an open shrub layer. Characteristic grasses include Achnatherum hymenoides, Bouteloua gracilis, Distichlis spicata, Hesperostipa comata, Pleuraphis jamesii, Poa secunda, and Sporobolus airoides. The woody layer is often a mixture of shrubs and dwarf-shrubs. Characteristic species include Atriplex canescens, Artemisia tridentata, Chrysothamnus greenei, Chrysothamnus viscidiflorus, Ephedra spp., Ericameria nauseosa, Gutierrezia sarothrae, and Krascheninnikovia lanata. Artemisia tridentata may be present but does not dominate. The general aspect of occurrences may be either open shrubland with patchy grasses or patchy open herbaceous layer. Disturbance may be important in maintaining the woody component. Microphytic crust is very important in some stands.

Range Occurs throughout the Intermountain western U.S., typically at lower elevations.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT080100GM17_1.JPG

PhotoID : UT100902JD24_1.JPG

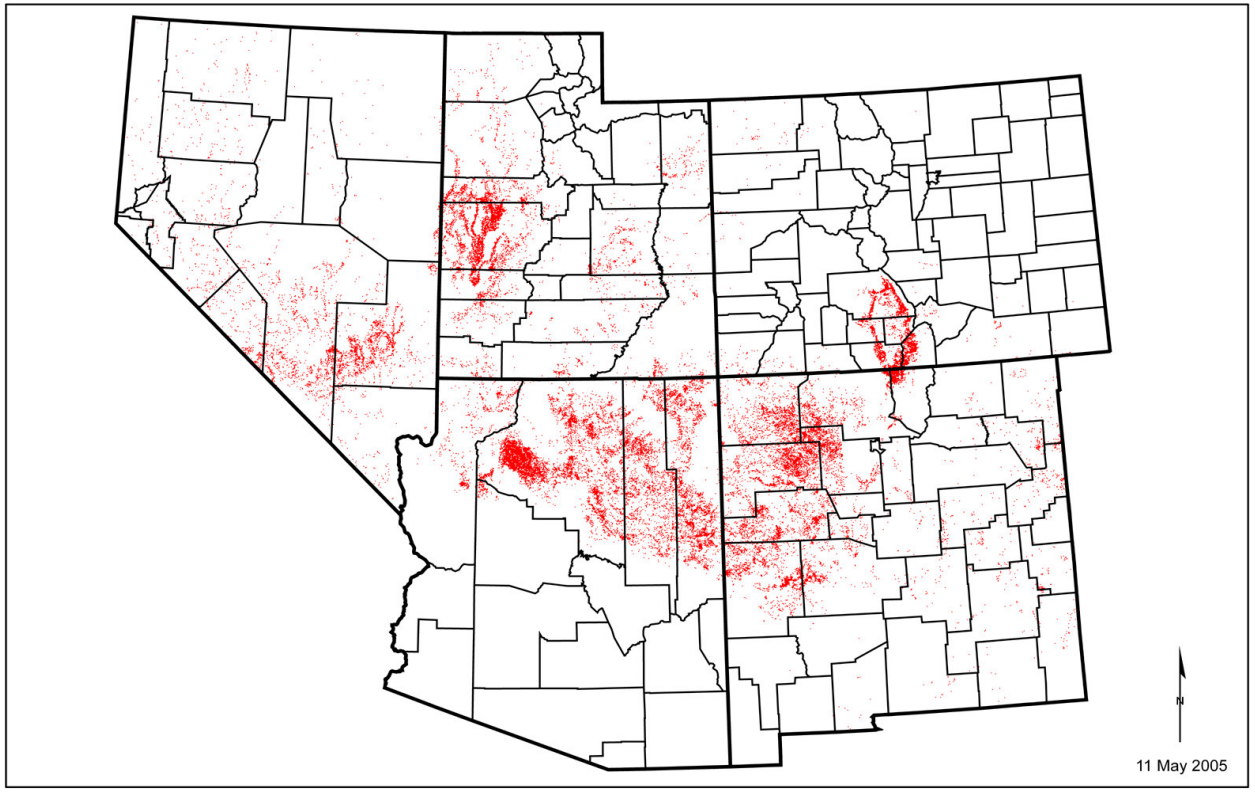
PhotoID : UT061402MD15_2.JPG

S079 Inter-Mountain Basins Semi-Desert Shrub-Steppe

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S115 Madrean Juniper Savanna

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This Madrean ecological system occurs in lower foothills and plains of southeastern Arizona, southern New Mexico extending into west Texas and Mexico. These savannas have widely spaced mature juniper trees and moderate to high cover of graminoids (>25% cover). The presence of Madrean Juniperus spp. such as Juniperus coahuilensis, Juniperus pinchotii, and/or Juniperus deppeana is diagnostic. Juniperus monosperma may be present in some stands, and Juniperus deppeana has a broader range than this Madrean system and extends north into southern stands of Southern Rocky Mountain Juniper Savanna and Woodland (CES306.834). Stands of Juniperus pinchotii may be short and resemble a shrubland. Graminoid species are a mix of those found in Western Great Plains Shortgrass Prairie (CES303.672) and Chihuahuan Piedmont Semi-Desert Grassland (CES302.735), with Bouteloua gracilis and Pleuraphis jamesii being most common. In addition, these areas include succulents such as species of Yucca, Opuntia, and Agave. Juniper savanna expansion into grasslands has been documented in the last century.

Range Southeastern Arizona, southern New Mexico extending into west Texas and Mexico.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM052803JP01_2.JPG

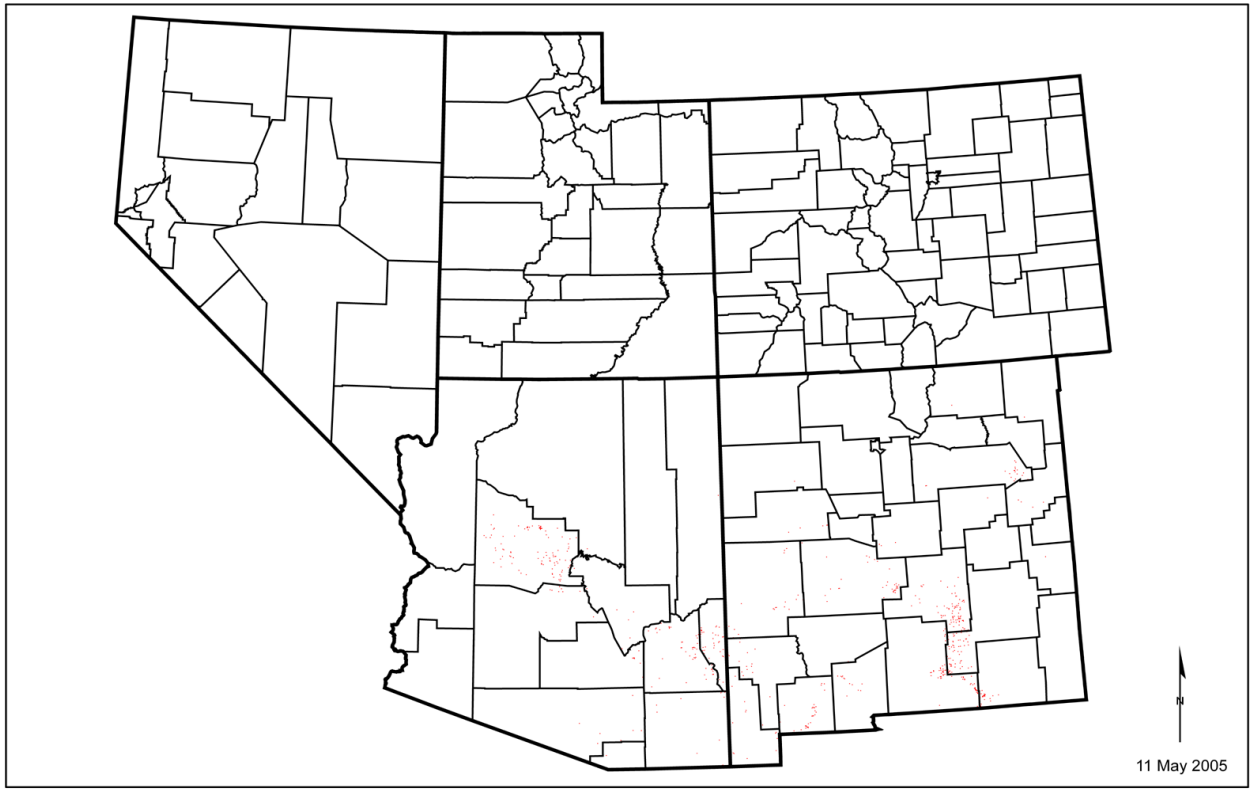
PhotoID : NM102302DC10_1.JPG

S115 Madrean Juniper Savanna

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S134 North Pacific Montane Grassland

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This system includes open dry meadows and grasslands on the west side of the Cascades Mountains and northern Sierra Nevada. They occur in montane elevations up to 3500 m (10,600 feet). Soils tend to be deeper and more well-drained than the surrounding forest soils. Soils can resemble prairie soils in that the A-horizon is dark brown, relatively high in organic matter, slightly acid, and usually well-drained. Dominant species include Elymus spp., Festuca idahoensis, and Nassella cernua. These large-patch grasslands are intermixed with matrix stands of red fir, lodgepole pine, and dry-mesic mixed conifer forests and woodlands.

Range West side of the Cascades Mountains and northern Sierra Nevada, in montane elevations up to 3500 m (10,600 feet).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV072603JS02.JPG

PhotoID : NV070403PJ16.JPG

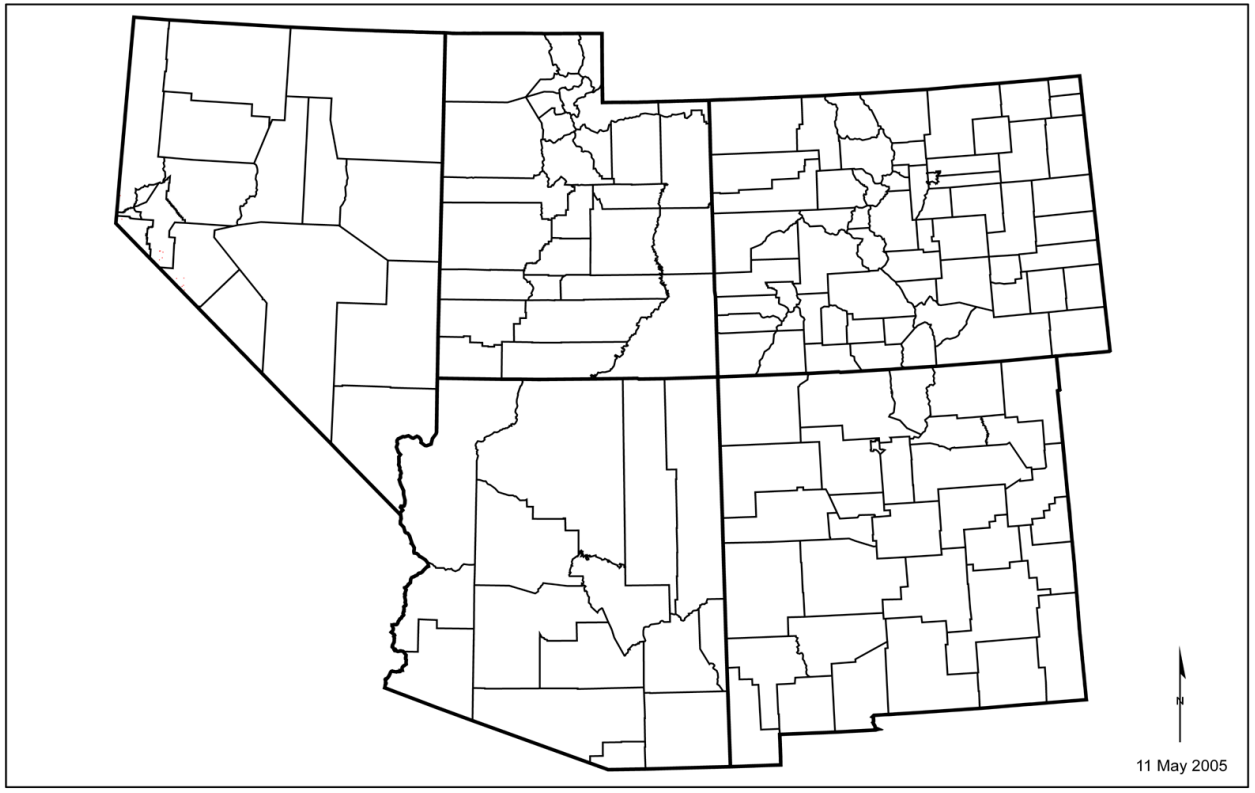
PhotoID : NV071003SS10.jpg

S134 North Pacific Montane Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



S081 Rocky Mountain Dry Tundra

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This widespread ecological system occurs above upper treeline throughout the Rocky Mountain cordillera, including alpine areas of ranges in Utah and Nevada, and isolated alpine sites in the northeastern Cascades. It is found on gentle to moderate slopes, flat ridges, valleys, and basins, where the soil has become relatively stabilized and the water supply is more or less constant. Vegetation in these areas is controlled by snow retention, wind desiccation, permafrost, and a short growing season. This system is characterized by a dense cover of low-growing, perennial graminoids and forbs. Rhizomatous, sod-forming sedges are the dominant graminoids, and prostrate and mat-forming plants with thick rootstocks or taproots characterize the forbs. Dominant species include Artemisia arctica, Carex elynoides, Carex siccata, Carex scirpoidea, Carex nardina, Carex rupestris, Deschampsia caespitosa, Festuca brachyphylla, Festuca idahoensis, Geum rossii, Kobresia myosuroides, Phlox pulvinata, and Trifolium dasyphyllum. Although alpine tundra dry meadow is the matrix of the alpine zone, it typically intermingles with alpine bedrock and scree, ice field, fell-field, alpine dwarf-shrubland, and alpine/subalpine wet meadow systems.

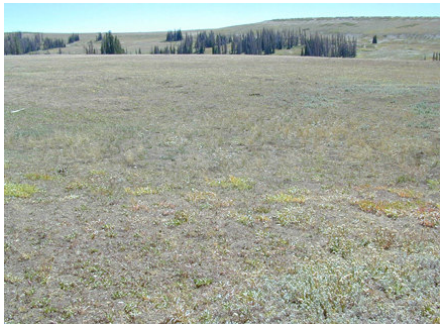
Range This system occurs above upper treeline throughout the North American Rocky Mountain cordillera, including alpine areas of ranges in Utah and Nevada, and isolated alpine sites in the northeastern Cascades.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070701GM22_1.JPG



PhotoID : UT081402JD19_1.JPG

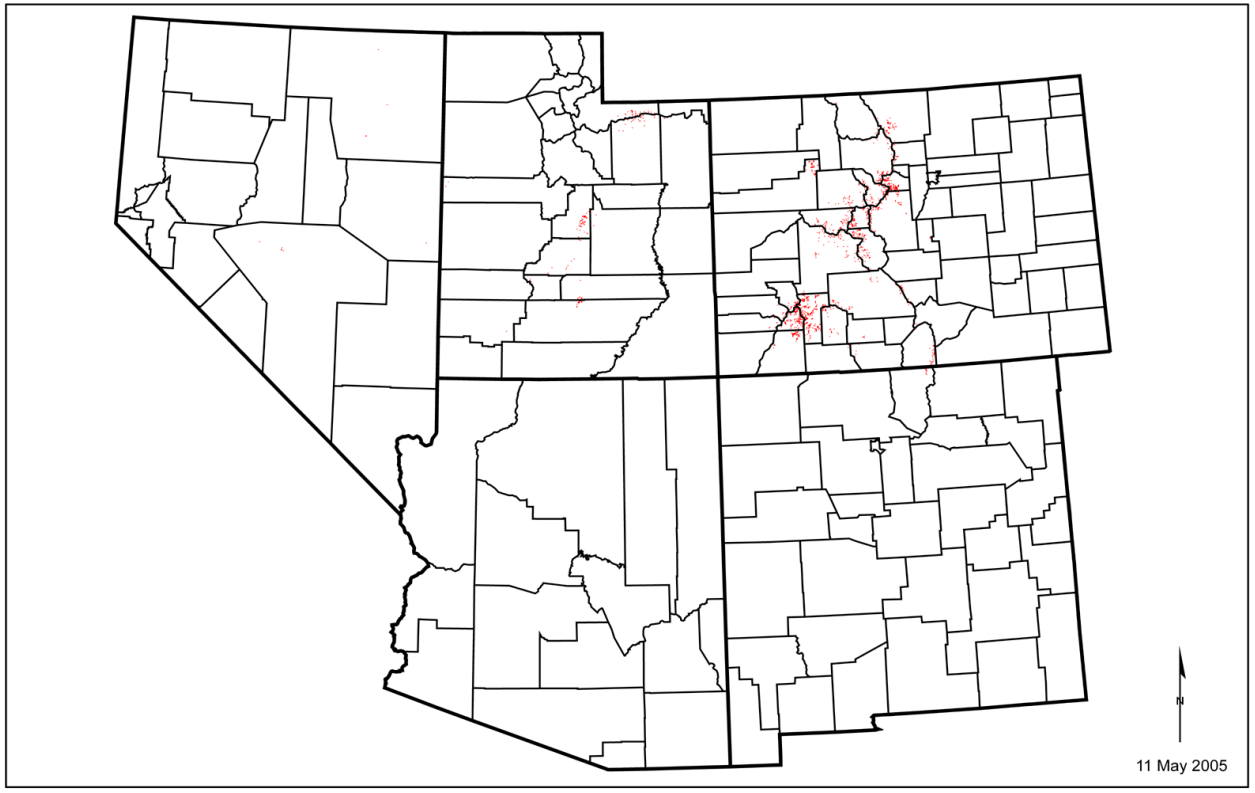
PhotoID : UT071002JD06_2.JPG

S081 Rocky Mountain Dry Tundra

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S083 Rocky Mountain Subalpine Mesic Meadow

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This Rocky Mountain ecological system is restricted to sites in the subalpine zone where finely textured soils, snow deposition, or wind-swept dry conditions limit tree establishment. It is found typically above 3000 m in elevation in the southern part of its range and above 1500 m in the northern part. These upland communities occur on gentle to moderate-gradient slopes. The soils are typically seasonally moist to saturated in the spring, but if so will dry out later in the growing season. These sites are not as wet as those found in Rocky Mountain Alpine-Montane Wet Meadow (CES306.812). Vegetation is typically forb-rich, with forbs contributing more to overall herbaceous cover than graminoids. Important taxa include Erigeron spp., Asteraceae spp., Mertensia spp., Penstemon spp., Campanula spp., Lupinus spp., Solidago spp., Ligusticum spp., Thalictrum occidentale, Valeriana sitchensis, Balsamorhiza sagittata, Wyethia spp., Deschampsia caespitosa, Koeleria macrantha, and Dasiphora fruticosa. Burrowing mammals can increase the forb diversity.

Range Rocky Mountains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071702JD02_1.JPG

PhotoID : UT071702JD15_1.JPG

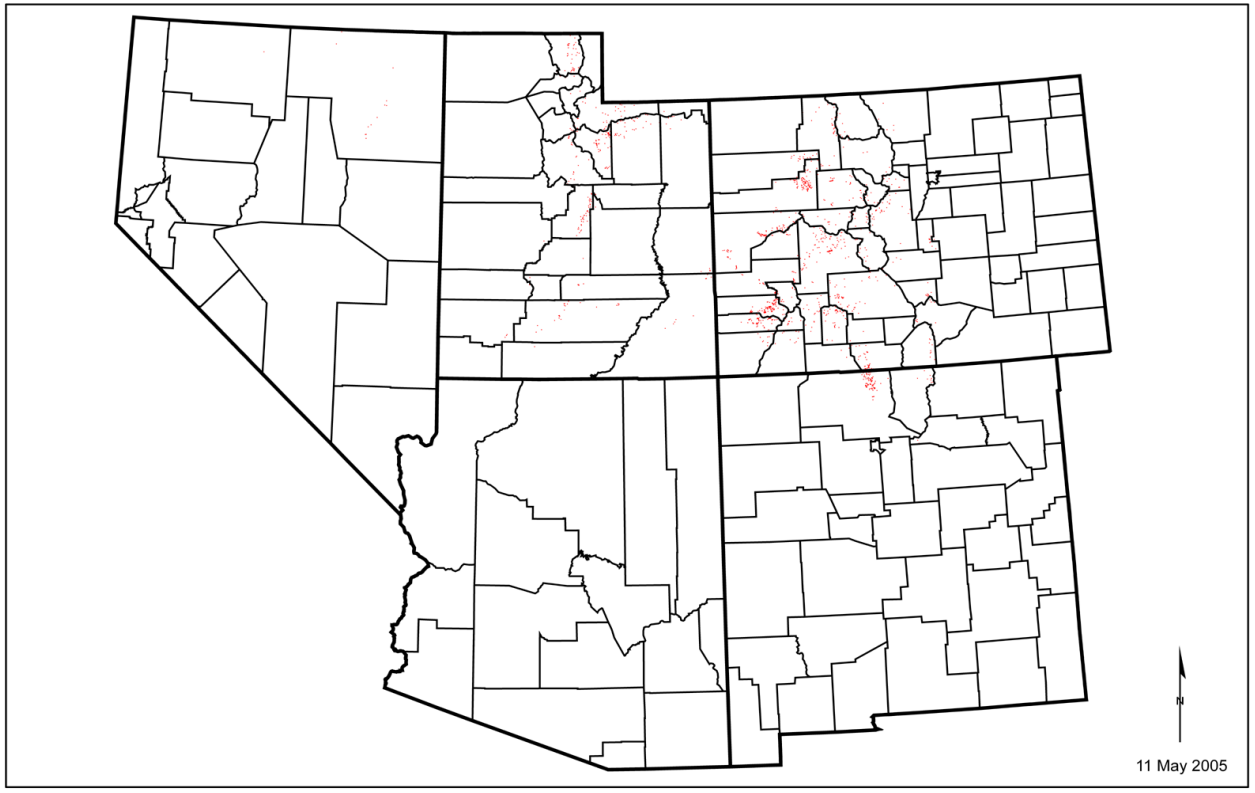
PhotoID : UT071503JK28_2.JPG

S083 Rocky Mountain Subalpine Mesic Meadow

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S074 Southern Rocky Mountain Juniper Woodland and Savanna

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

This ecological system occupies the lower and warmest elevations, growing from 1370 to 1830 m in a semi-arid climate, primarily along the east and south slopes of the southern Rockies and Arizona-New Mexico mountains. It is best represented just below the lower elevational range of ponderosa pine and often intermingles with grasslands and shrublands. This system is best described as a savanna that has widely spaced, mature (>150 years old) juniper trees and occasionally Pinus edulis. Juniperus monosperma and Juniperus scopulorum (at higher elevations) are the dominant tall shrubs or short trees. These savannas may have inclusions of more dense juniper woodlands and have expanded into adjacent grasslands during the last century. Graminoid species are similar to those found in Western Great Plains Shortgrass Prairie (CES303.672), with Bouteloua gracilis and Pleuraphis jamesii being most common. In addition, succulents such as species of Yucca and Opuntia are typically present.

Range

Occupies the lower and warmest elevations growing from 1370 to 1830 m in a semi-arid climate, primarily along the east and south slopes of the southern Rockies and Arizona-New Mexico mountains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061103JK16_1.JPG

PhotoID : UT061103JK16_2.JPG

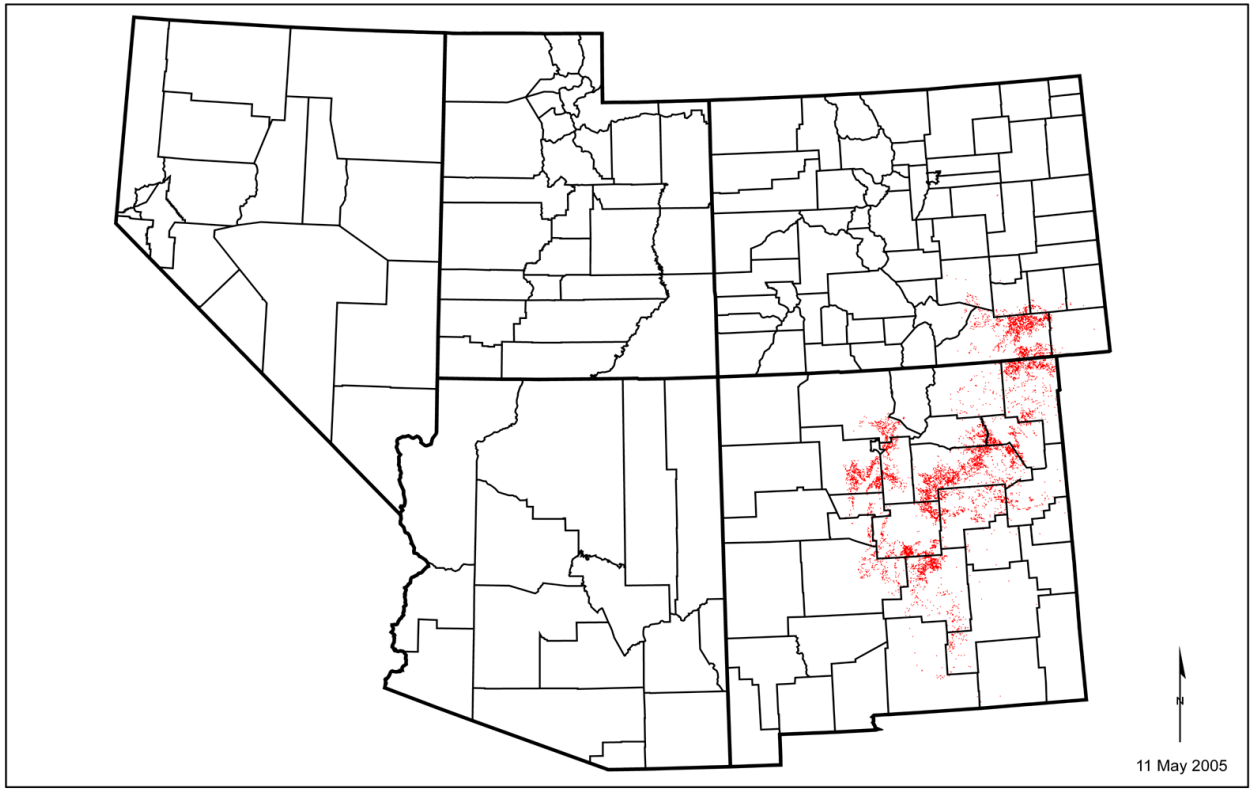
PhotoID : NM082900BM16_1.JPG

S074 Southern Rocky Mountain Juniper Woodland and Savanna

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S085 Southern Rocky Mountain Montane-Subalpine Grassland

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary This Rocky Mountain ecological system typically occurs between 2200 and 3000 m on flat to rolling plains and parks or on lower sideslopes that are dry, but it may extend up to 3350 m on warm aspects. Soils resemble prairie soils in that the A-horizon is dark brown, relatively high in organic matter, slightly acid, and usually well-drained. An occurrence usually consists of a mosaic of two or three plant associations with one of the following dominant bunch grasses: Danthonia intermedia, Danthonia parryi, Festuca idahoensis, Festuca arizonica, Festuca thurberi, Muhlenbergia filiculmis, or Pseudoroegneria spicata. The subdominants include Muhlenbergia montana, Bouteloua gracilis, and Poa secunda. These large-patch grasslands are intermixed with matrix stands of spruce-fir, lodgepole, ponderosa pine, and aspen forests. In limited circumstances (e.g., South Park in Colorado), they form the "matrix" of high-elevation plateaus.

Range Occurs between 2200-3000 m in the Colorado Rockies.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT061303MD17_1.JPG

PhotoID : NM091002DC09_2.JPG

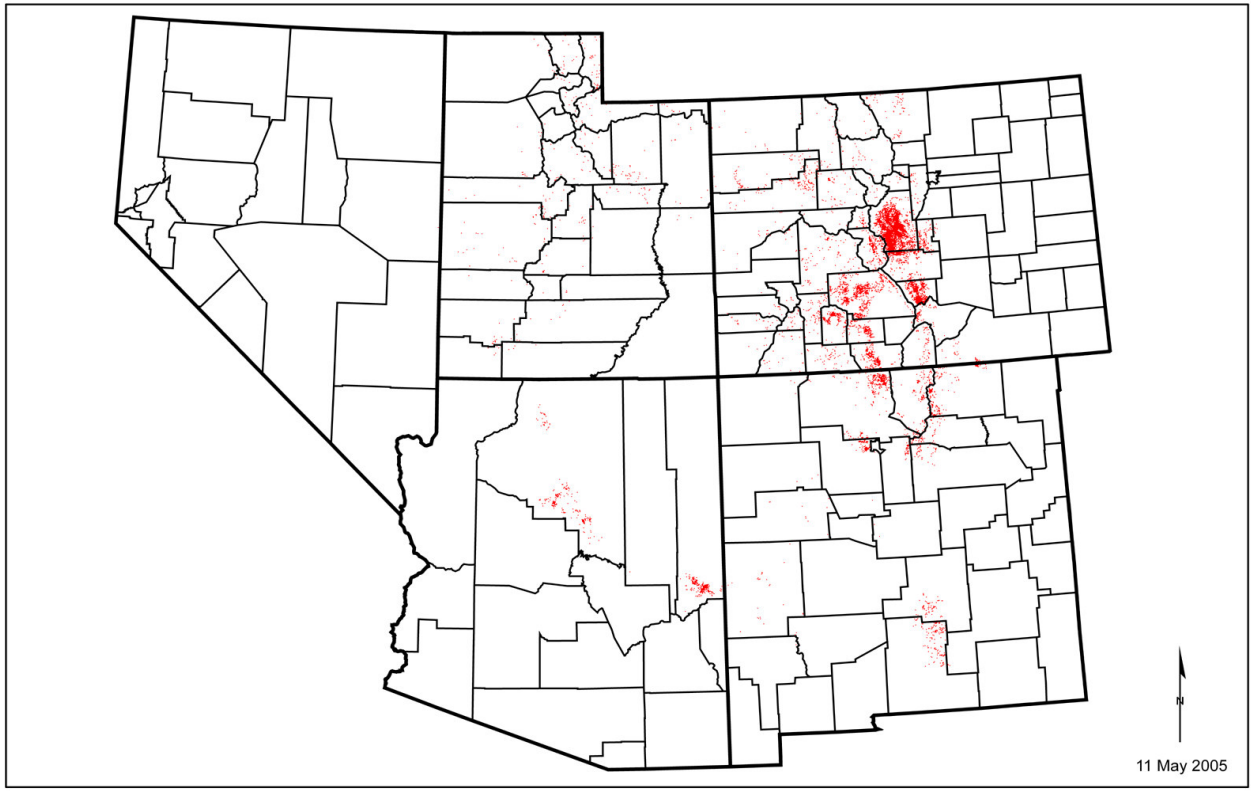
PhotoID : UT090602MD16_2.JPG

S085 Southern Rocky Mountain Montane-Subalpine Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S086 Western Great Plains Foothill and Piedmont Grassland

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

This system typically occurs between 1600-2200 m in elevation. It is best characterized as a mixed-grass to tallgrass prairie on mostly moderate to gentle slopes, usually at the base of foothill slopes, e.g., the hogbacks of the Rocky Mountain Front Range where it typically occurs as a relatively narrow elevational band between montane woodlands and shrublands and the shortgrass steppe, but extends east on the Front Range piedmont alongside the Chalk Bluffs along the Colorado-Wyoming border, out into the Great Plains on the Palmer Divide, and on piedmont slopes below mesas and foothills in northeastern New Mexico. A combination of increased precipitation from orographic rain, temperature, and soils limits this system to the lower elevation zone with approximately 40 cm of precipitation/year. It is maintained by frequent fire and associated with well-drained clay soils. Usually occurrences of this system have multiple plant associations that may be dominated by Andropogon gerardii, Schizachyrium scoparium, Muhlenbergia montana, Nassella viridula, Pascopyrum smithii, Sporobolus cryptandrus, Bouteloua gracilis, Hesperostipa comata, or Hesperostipa neomexicana. In Wyoming, typical grasses found in this system include Pseudoroegneria spicata, Festuca idahoensis, Hesperostipa comata, and species of Poa. Typical adjacent ecological systems include foothill shrublands, ponderosa pine savannas, juniper savannas, as well as shortgrass prairie.

Range

This mixed-grass prairie ecological system occurs in the narrow to broad transition band between the Rocky Mountains and the Shortgrass Steppe where increased soil moisture from orographic lifting and local topography favor tall and mid-height grasses. The band is restricted to the Rocky Mountain foothills and piedmont and adjacent plains, extending farther east on the Palmer Divide, north alongside the Chalk Bluffs near the Colorado-Wyoming border, and south on and below mesas and escarpments in southeastern Colorado, northeastern New Mexico, and the panhandles of Oklahoma and Texas.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM092501BM10_1.JPG

PhotoID : NM092501BM10_2.JPG

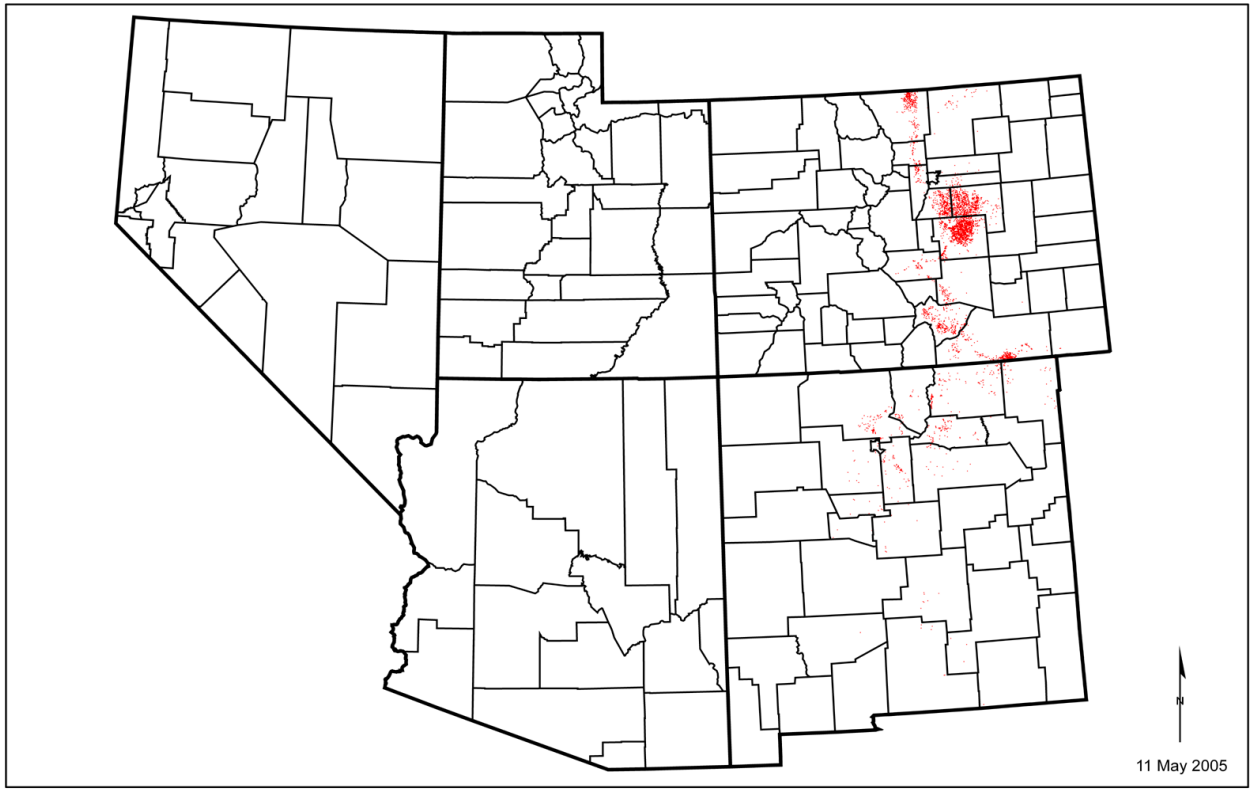
PhotoID : NM072902ES12_1.JPG

S086 Western Great Plains Foothill and Piedmont Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S089 Western Great Plains Sand Prairie

Field Photos

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

The sand prairies constitute a very unique system within the Western Great Plains. These sand prairies are often considered part of the tallgrass regions in the Western Great Plains, but can contain elements from both Western Great Plains Shortgrass Prairie (CES303.672) and Central Mixedgrass Prairie (CES303.659). The largest expanse of sand prairies (approximately 5 million ha) can be found in the Sandhills of north-central Nebraska and southwestern South Dakota. These areas are relatively intact. The primary use of this system has been grazing (not cultivation), and areas such as the Nebraska Sandhills can experience less degeneration than other prairie systems. Although greater than 90% of the Sandhills region is privately owned, the known fragility of the soils and the cautions used by ranchers to avoid poor grazing practices have allowed for fewer significant changes in the vegetation of the Sandhills compared to other grassland systems. The distribution, species richness and productivity of plant species within the sand prairie ecological system is controlled primarily by environmental conditions, in particular the temporal and spatial distribution of soil moisture and topography. Soils in the sand prairies can be relatively undeveloped and are highly permeable. Soil texture and drainage along with a species' rooting morphology, photosynthetic physiology, and mechanisms to avoid transpiration loss are highly important in determining the composition and distribution of communities/associations within the sand prairies. Another important aspect of soils in the sand prairies is their susceptibility to wind erosion. Blowouts and sand draws are some of the unique wind-driven disturbances in the sand prairies, particularly the Nebraska Sandhills, which can profoundly impact vegetation composition and succession within this system. Graminoid species dominate the sand prairies, although relative dominance can change due to impacts of wind disturbance. Andropogon hallii and Calamovilfa longifolia are the most common species, but other grass and forb species such as Hesperostipa comata, Carex inops ssp. heliophila, and Panicum virgatum may be present. Patches of Quercus havardii can also occur within this system in the southern Great Plains. Fire and grazing constitute the other major dynamic processes that can influence this system.

Range

This system is found throughout the Western Great Plains Division. The largest and most intact example of this system is found within the Sandhills region of Nebraska and South Dakota.

Additional Information

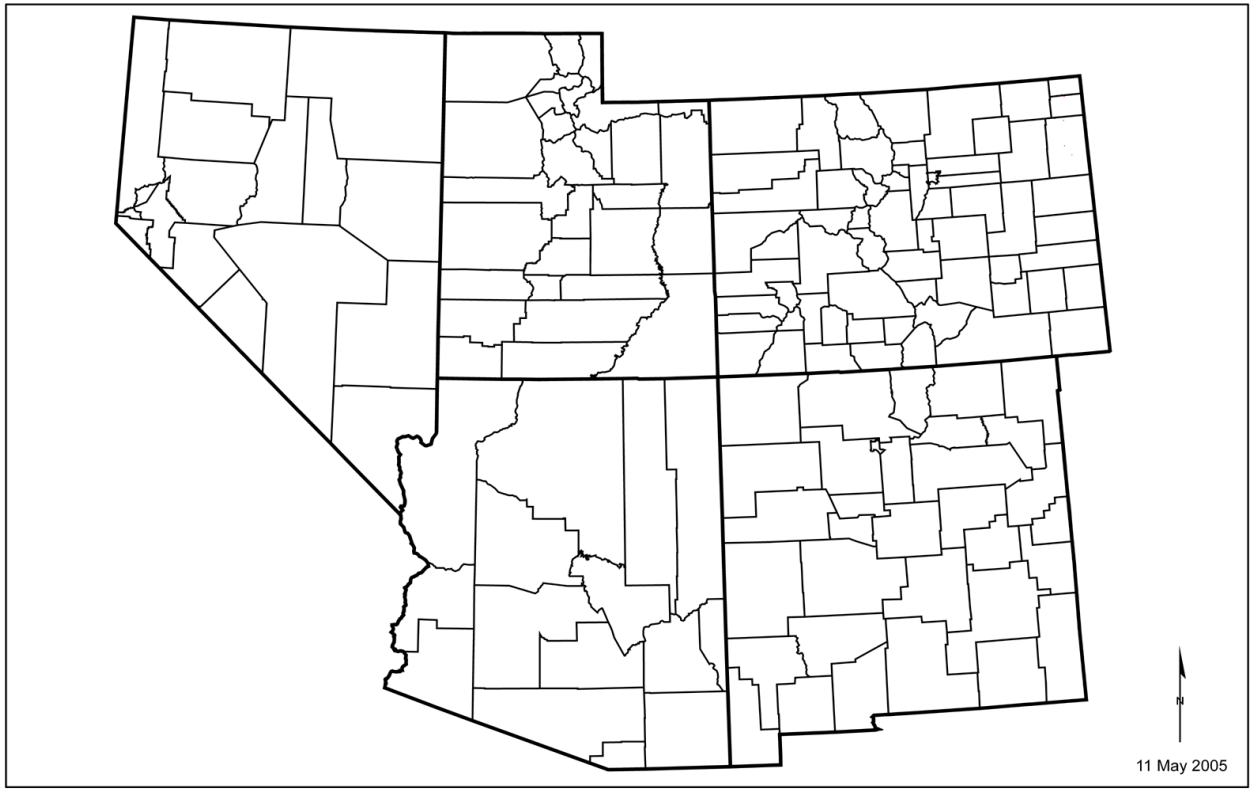
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S089 Western Great Plains Sand Prairie

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project - Land Cover Descriptions

S088 Western Great Plains Shortgrass Prairie

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Matrix

Concept Summary

This system is found primarily in the western half of the Western Great Plains Division in the rainshadow of the Rocky Mountains and ranges from the Nebraska Panhandle south into Texas and New Mexico, although grazing-impacted examples may reach as far north as southern Canada where it grades into Northwestern Great Plains Mixedgrass Prairie (CES303.674). This system occurs primarily on flat to rolling uplands with loamy, ustic soils ranging from sandy to clayey. In much of its range, this system forms the matrix system with Bouteloua gracilis dominating this system. Associated graminoids may include Aristida purpurea, Bouteloua curtipendula, Bouteloua hirsuta, Buchloe dactyloides, Hesperostipa comata, Koeleria macrantha (= Koeleria cristata), Pascopyrum smithii (= Agropyron smithii), Pleuraphis jamesii, Sporobolus airoides, and Sporobolus cryptandrus. Although mid-height grass species may be present, especially on more mesic land positions and soils, they are secondary in importance to the sod-forming short grasses. Sandy soils have higher cover of Hesperostipa comata, Sporobolus cryptandrus, and Yucca elata. Scattered shrub and dwarf-dwarf species such as Artemisia filifolia, Artemisia frigida, Artemisia tridentata, Atriplex canescens, Eriogonum effusum, Gutierrezia sarothrae, and Lycium pallida may also be present. Also, because this system spans a wide range, there can be some differences in the relative dominance of some species from north to south and from east to west. Large-scale processes such as climate, fire and grazing influence this system. High variation in amount and timing of annual precipitation impacts the relative cover of cool- and warm-season herbaceous species. In contrast to other prairie systems, fire is less important, especially in the western range of this system, because the often dry and xeric climate conditions can decrease the fuel load and thus the relative fire frequency within the system. However, historically, fires that did occur were often very expansive. Currently, fire suppression and more extensive grazing in the region have likely decreased the fire frequency even more, and it is unlikely that these processes could occur at a natural scale. A large part of the range for this system (especially in the east and near rivers) has been converted to agriculture. Areas of the central and western range have been impacted by the unsuccessful attempts to develop dryland cultivation during the Dust Bowl of the 1930s. The short grasses that dominate this system are extremely drought- and grazing-tolerant. These species evolved with drought and large herbivores and, because of their stature, are relatively resistant to overgrazing. This system in combination with the associated wetland systems represents one of the richest areas for mammals and birds. Endemic bird species to the shortgrass system may constitute one of the fastest declining bird populations.

Range

This system is found primarily in the western half of the Western Great Plains Division east of the Rocky Mountains and ranges from the Nebraska Panhandle south into the panhandles of Oklahoma and Texas and New Mexico, although some examples may reach as far north as southern Canada where it grades into ~Northwestern Great Plains Mixedgrass Prairie (CES303.674)$$.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM072401BM10_1.JPG

PhotoID : NM072401BM05_1.JPG

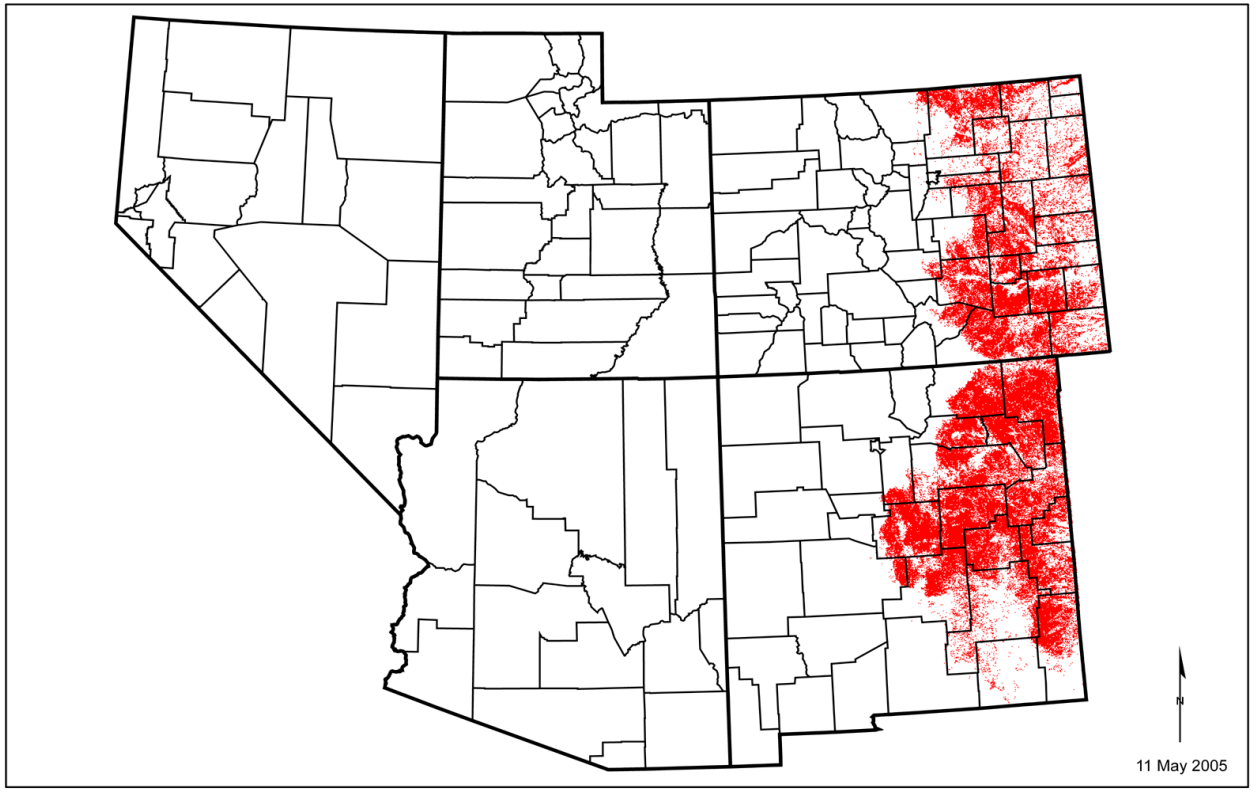
PhotoID : NM072401BM11_2.JPG

S088 Western Great Plains Shortgrass Prairie

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S132 Western Great Plains Tallgrass Prairie

Field Photos

Approximate NLCD Land Cover Class Grassland/Herbaceous

Spatial Scale / Pattern Large patch

Concept Summary

This system can be found throughout the Western Great Plains Division. It is found primarily in areas where soil characteristics allow for mesic conditions more typical of the Eastern Great Plains Division and thus are able to sustain tallgrass species. This system may be small patches interspersed within Northwestern Great Plains Mixedgrass Prairie (CES303.674) or Western Great Plains Shortgrass Prairie (CES303.672) and may also be associated with upland terraces above a floodplain system where these more mesic conditions persist. Soils are primarily loamy Mollisols that are moderately deep and rich. Those areas that contain more sandy soils should be considered part of Western Great Plains Sand Prairie (CES303.670). This system is dominated primarily by Andropogon gerardii and may also include Sorghastrum nutans, Schizachyrium scoparium, Pascopyrum smithii, Hesperostipa spartea, and Sporobolus heterolepis. Andropogon gerardii often dominates the lowland regions, although Pascopyrum smithii can be prolific if conditions are favorable. Forbs in varying density may also be present. The primary dynamics for this system include fire, climate and grazing. Fire suppression in these areas has allowed for the invasion of woody species such as Juniperus virginiana and Prunus spp. Grazing also has contributed to these changes and likewise led to a decrease of this system as overgrazing favors shortgrass and mixedgrass systems. Conversion to agriculture likewise has probably decreased the range of this system. Thus, this system likely only occurs in small patches and in scattered locations throughout the division. Large-patch occurrences are mostly isolated to slopes and swales of rolling uplands where either grazing or cultivation are more problematic.

Range

This system occurs throughout the Western Great Plains Division, however, grazing and conversion to agriculture have likely decreased its natural range.

Additional Information

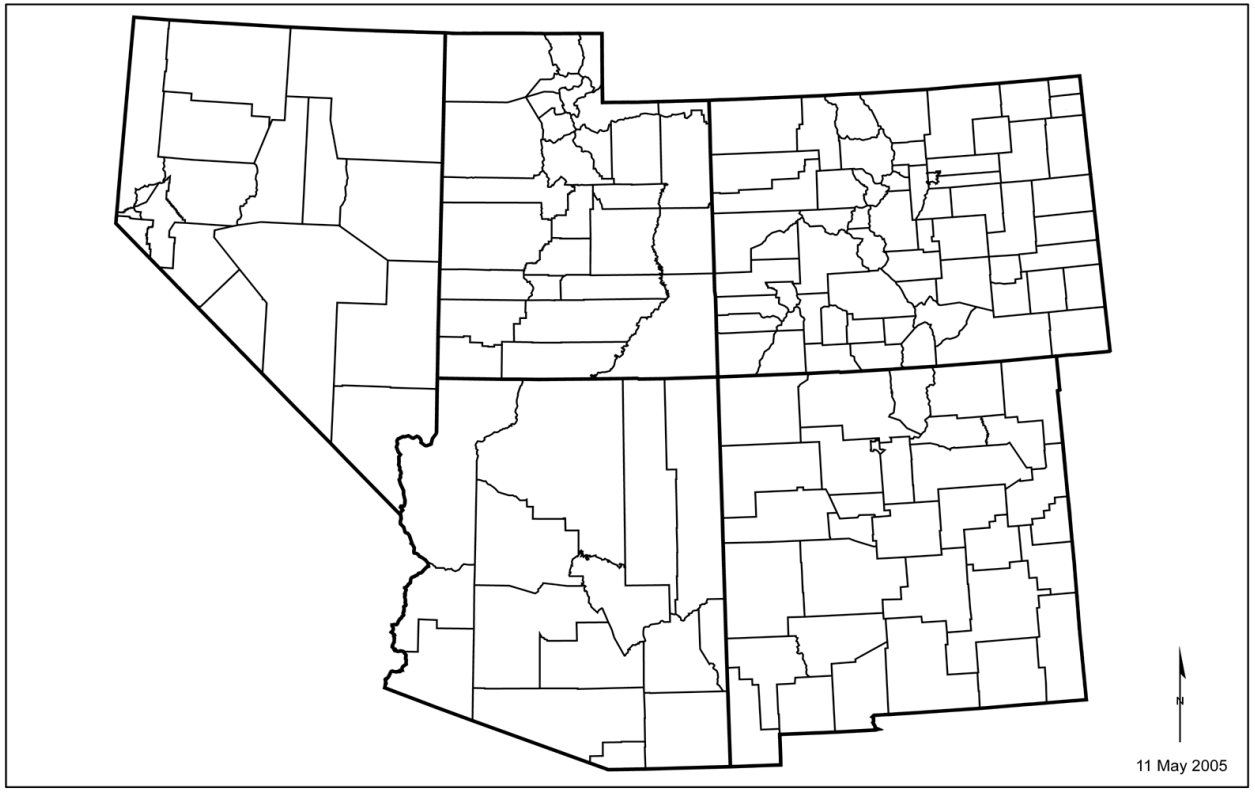
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S132 Western Great Plains Tallgrass Prairie

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S118 Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This system occurs in mountain ranges of the Great Basin and along the eastern slope of the Sierra Nevada within a broad elevation range from about 1220 m (4000 feet) to over 2135 m (7000 feet). This system often occurs as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. The variety of plant associations connected to this system reflects elevation, stream gradient, floodplain width, and flooding events. Dominant trees may include Abies concolor, Alnus incana, Betula occidentalis, Populus angustifolia, Populus balsamifera ssp. trichocarpa, Populus fremontii, Salix laevigata, Salix gooddingii, and Pseudotsuga menziesii. Dominant shrubs include Artemisia cana, Cornus sericea, Salix exigua, Salix lasiolepis, Salix lemmonii, or Salix lutea. Herbaceous layers are often dominated by species of Carex and Juncus, and perennial grasses and mesic forbs such Deschampsia caespitosa, Elymus trachycaulus, Glyceria striata, Iris missouriensis, Maianthemum stellatum, or Thalictrum fendleri. Introduced forage species such as Agrostis stolonifera, Poa pratensis, Phleum pratense, and the weedy annual Bromus tectorum are often present in disturbed stands. These are disturbance-driven systems that require flooding, scour and deposition for germination and maintenance. Livestock grazing is a major influence in altering structure, composition, and function of the community.

Range

Occurs in mountain ranges of the Great Basin and along the eastern slope of the Sierra Nevada within a broad elevation range from about 1220 m (4000 feet) to over 2135 m (7000 feet).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT060502GM13_1.JPG

PhotoID : UT062102GM05_1.JPG

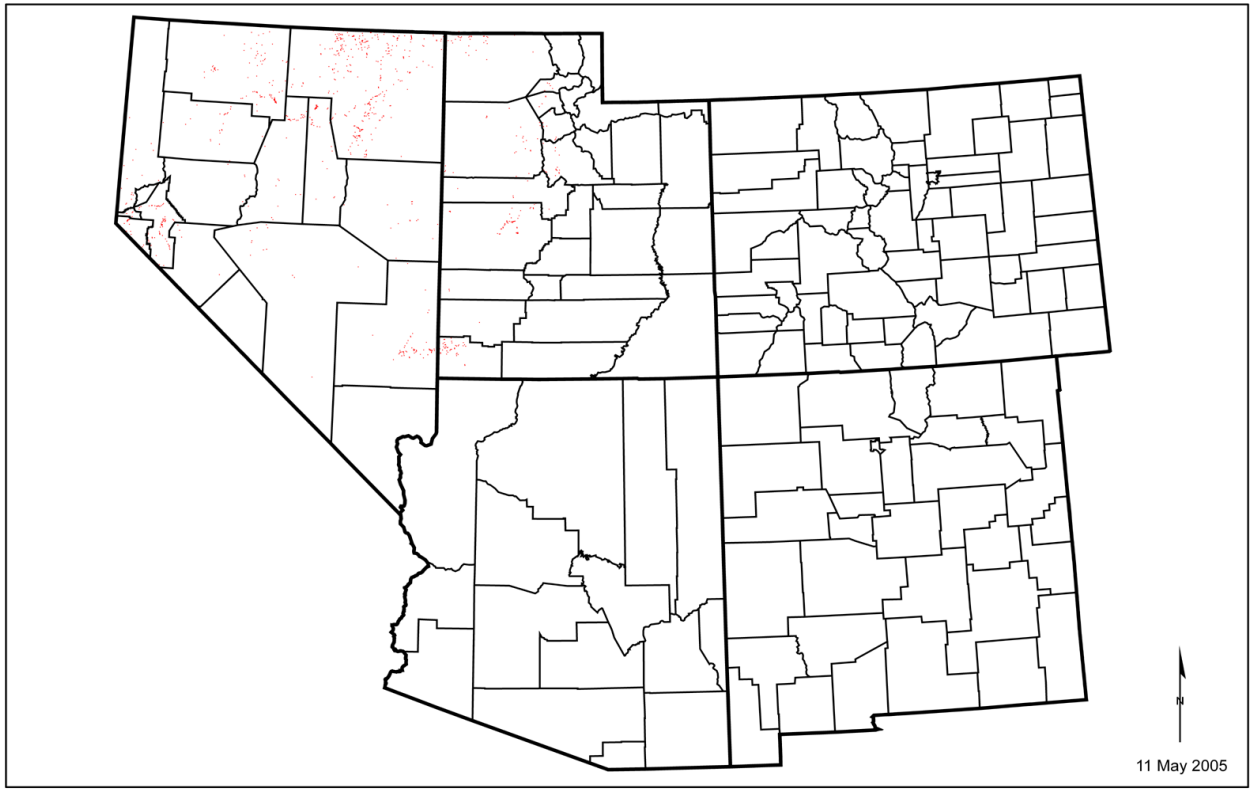
PhotoID : NV101403JK21_1.jpg

S118 Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV,UT

Distribution Map



S096 Inter-Mountain Basins Greasewood Flat

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Large patch

Concept Summary This ecological system occurs throughout much of the western U.S. in Intermountain basins and extends onto the western Great Plains. It typically occurs near drainages on stream terraces and flats or may form rings around more sparsely vegetated playas. Sites typically have saline soils, a shallow water table and flood intermittently, but remain dry for most growing seasons. The water table remains high enough to maintain vegetation, despite salt accumulations. This system usually occurs as a mosaic of multiple communities, with open to moderately dense shrublands dominated or codominated by Sarcobatus vermiculatus. Atriplex canescens, Atriplex confertifolia, or Krascheninnikovia lanata may be present to codominant. Occurrences are often surrounded by mixed salt desert scrub. The herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of Sporobolus airoides, Distichlis spicata (where water remains ponded the longest), or Eleocharis palustris herbaceous types.

Range Occurs throughout much of the western U.S. in Intermountain basins and extends onto the western Great Plains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT062503JK13_1.JPG

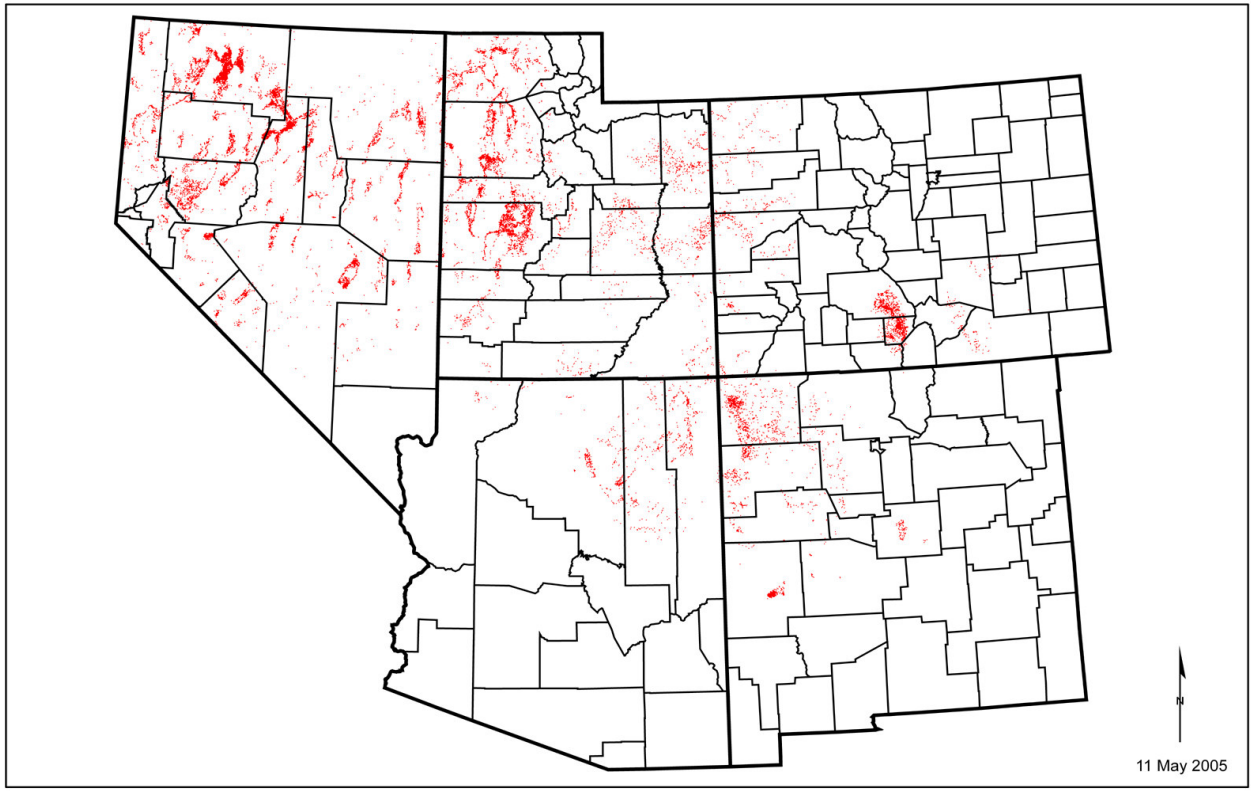
PhotoID : UT061302JD08_1.JPG

S096 Inter-Mountain Basins Greasewood Flat

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S094 North American Warm Desert Lower Montane Riparian Woodland and Shrubland

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary This ecological system occurs in mountain canyons and valleys of southern Arizona, New Mexico, and adjacent Mexico and consists of mid- to low-elevation (1100-1800 m) riparian corridors along perennial and seasonally intermittent streams. The vegetation is a mix of riparian woodlands and shrublands. Dominant trees include Populus angustifolia, Populus deltoides ssp. wislizeni, Populus fremontii, Platanus wrightii, Juglans major, Fraxinus velutina, and Sapindus saponaria. Shrub dominants include Salix exigua, Prunus spp., Alnus oblongifolia, and Baccharis salicifolia. Vegetation is dependent upon annual or periodic flooding and associated sediment scour and/or annual rise in the water table for growth and reproduction.

Range Southern Arizona and New Mexico, and adjacent Mexico.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM062100BM04_2.JPG

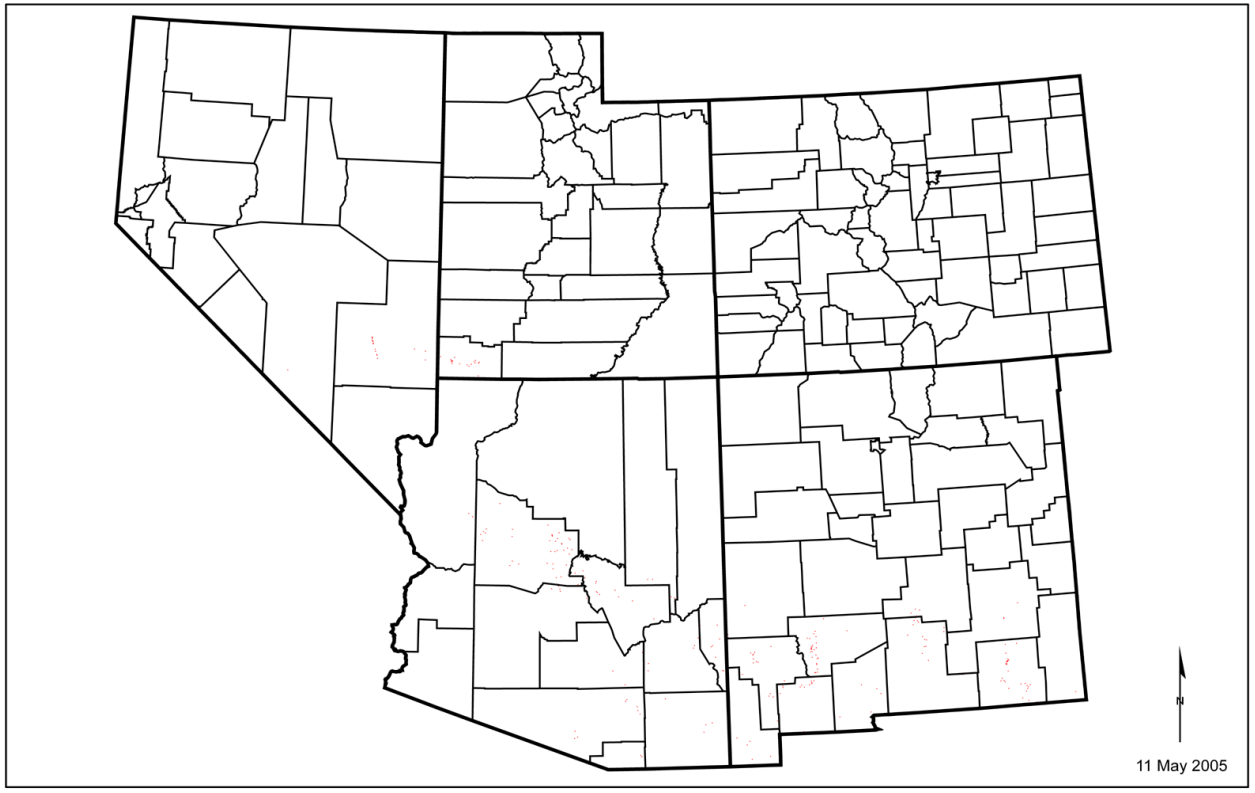
PhotoID : NM052303JP09_2.JPG

S094 North American Warm Desert Lower Montane Riparian Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S098 North American Warm Desert Riparian Mesquite Bosque

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary This ecological system consists of low-elevation (<1100 m) riparian corridors along intermittent streams in valleys of southern Arizona and New Mexico, and adjacent Mexico. Dominant trees include Prosopis glandulosa and Prosopis velutina. Shrub dominants include Baccharis salicifolia, Pluchea sericea, and Salix exigua. Vegetation, especially the mesquites, tap groundwater below the streambed when surface flows stop. Vegetation is dependent upon annual rise in the water table for growth and reproduction.

Range Along intermittent streams in valleys of southern Arizona and New Mexico, and adjacent Mexico.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061601BM21_1.JPG

PhotoID : AZ071402ES15_1.JPG

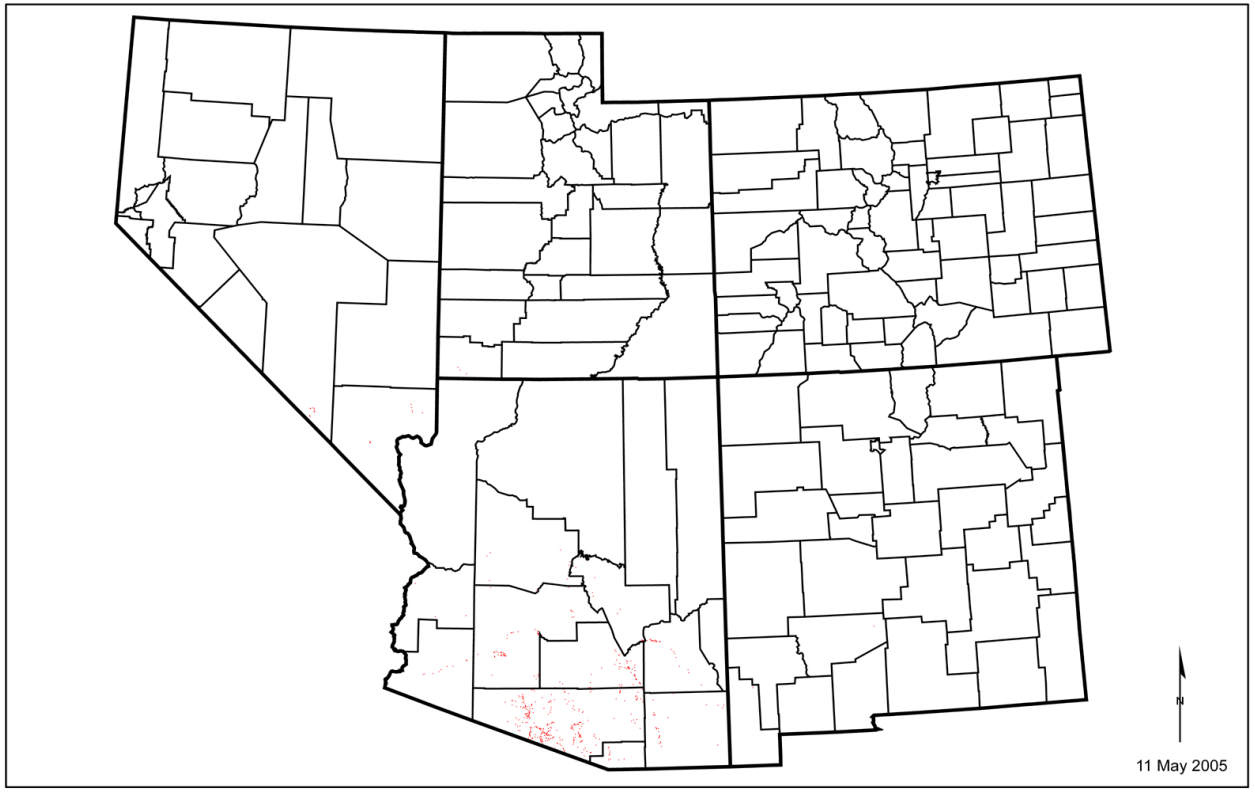
PhotoID : AZ071402ES15_2.JPG

S098 North American Warm Desert Riparian Mesquite Bosque

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S097 North American Warm Desert Riparian Woodland and Shrubland

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary This ecological system consists of low-elevation (<1200 m) riparian corridors along medium to large perennial streams throughout canyons and the desert valleys of the southwestern United States and adjacent Mexico. The vegetation is a mix of riparian woodlands and shrublands. Dominant trees include Acer negundo, Fraxinus velutina, Populus fremontii, Salix gooddingii, Salix lasiolepis, Celtis laevigata var. reticulata, and Juglans major. Shrub dominants include Salix geyeriana, Shepherdia argentea, and Salix exigua. Vegetation is dependent upon annual or periodic flooding and associated sediment scour and/or annual rise in the water table for growth and reproduction.

Range Throughout canyons and the desert valleys of the southwestern United States and adjacent Mexico.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM090502ES18_2.JPG

PhotoID : NM090902ES16_1.JPG

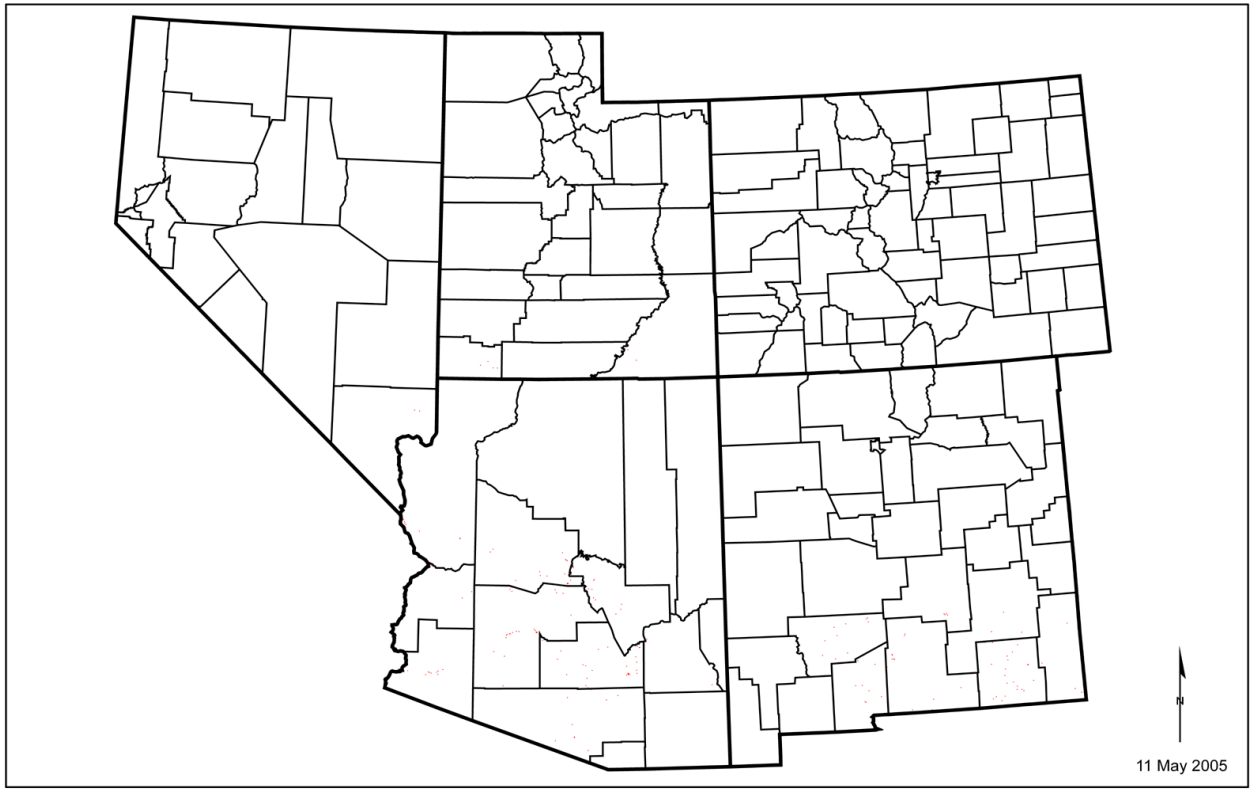
PhotoID : AZ062701BM19_2.JPG

S097 North American Warm Desert Riparian Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S020 North American Warm Desert Wash

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This ecological system is restricted to intermittently flooded washes or arroyos that dissect bajadas, mesas, plains and basin floors throughout the warm deserts of North America. Although often dry, the intermittent fluvial processes define this system, which are often associated with rapid sheet and gully flow. This system occurs as linear or braided strips within desert scrub- or desert grassland-dominated landscapes. The vegetation of desert washes is quite variable ranging from sparse and patchy to moderately dense and typically occurs along the banks, but may occur within the channel. The woody layer is typically intermittent to open and may be dominated by shrubs and small trees such as Acacia greggii, Brickellia laciniata, Baccharis sarothroides, Chilopsis linearis, Fallugia paradoxa, Hymenoclea salsola, Hymenoclea monogyra, Juglans microcarpa, Prosopis spp., Psorothamnus spinosus, Prunus fasciculata, Rhus microphylla, Salazaria mexicana, or Sarcobatus vermiculatus.

Range

Restricted to intermittently flooded washes or arroyos that dissect bajadas, mesas, plains and basin floors throughout the warm deserts of North America.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : AZ061701BM10_2.JPG

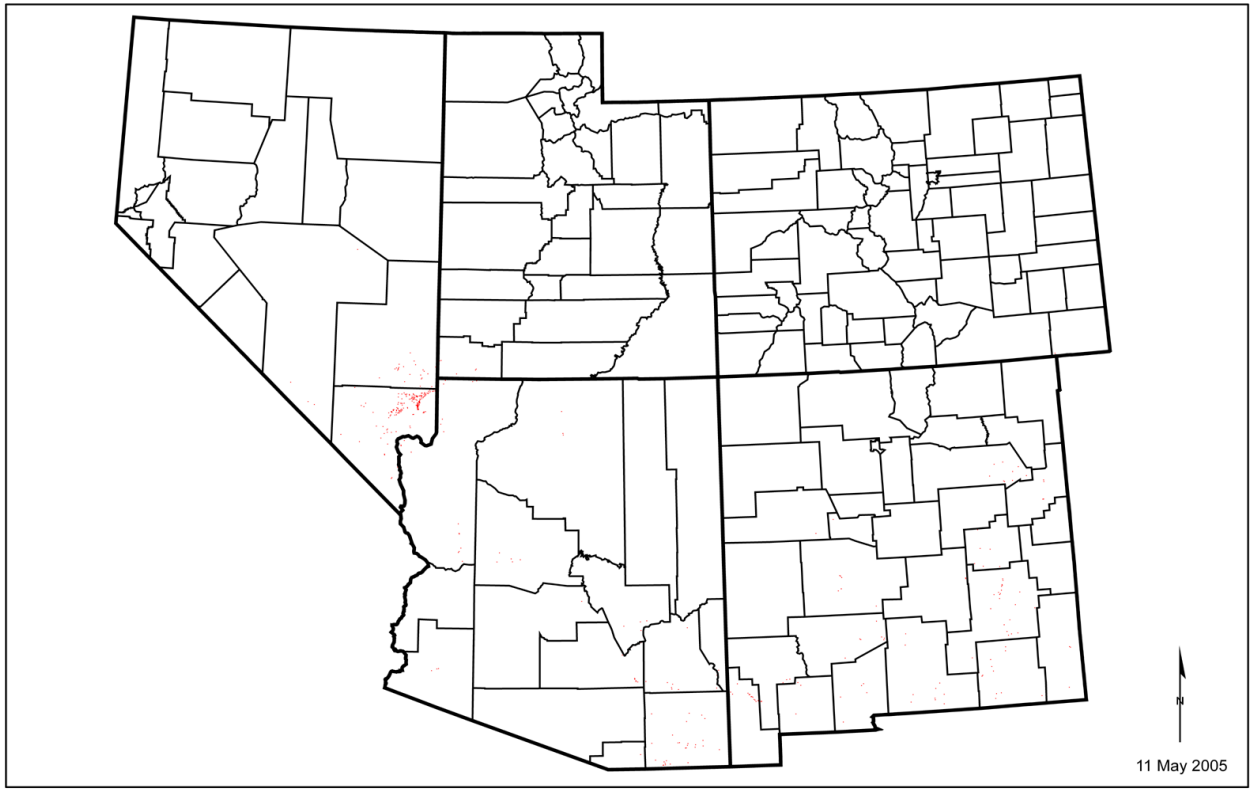
PhotoID : AZ061101BM14_1.JPG

S020 North American Warm Desert Wash

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S093 Rocky Mountain Lower Montane Riparian Woodland and Shrubland

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This system is found throughout the Rocky Mountain and Colorado Plateau regions within a broad elevation range from approximately 900 to 2800 m. This system often occurs as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. This system is dependent on a natural hydrologic regime, especially annual to episodic flooding. Occurrences are found within the flood zone of rivers, on islands, sand or cobble bars, and immediate streambanks. They can form large, wide occurrences on mid-channel islands in larger rivers or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains swales and irrigation ditches. Dominant trees may include Acer negundo, Populus angustifolia, Populus balsamifera, Populus deltoides, Populus fremontii, Pseudotsuga menziesii, Picea pungens, Salix amygdaloides, or Juniperus scopulorum. Dominant shrubs include Acer glabrum, Alnus incana, Betula occidentalis, Cornus sericea, Crataegus rivularis, Forestiera pubescens, Prunus virginiana, Rhus trilobata, Salix monticola, Salix drummondiana, Salix exigua, Salix irrorata, Salix lucida, Shepherdia argentea, or Symphoricarpos spp. Exotic trees of Elaeagnus angustifolia and Tamarix spp. are common in some stands. Generally, the upland vegetation surrounding this riparian system is different and ranges from grasslands to forests.

Range

Found throughout the Rocky Mountain and Colorado Plateau regions within a broad elevation range from approximately 900 to 2800 m.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : CO081602SS02_2.JPG

PhotoID : UT071301LL08_1.JPG

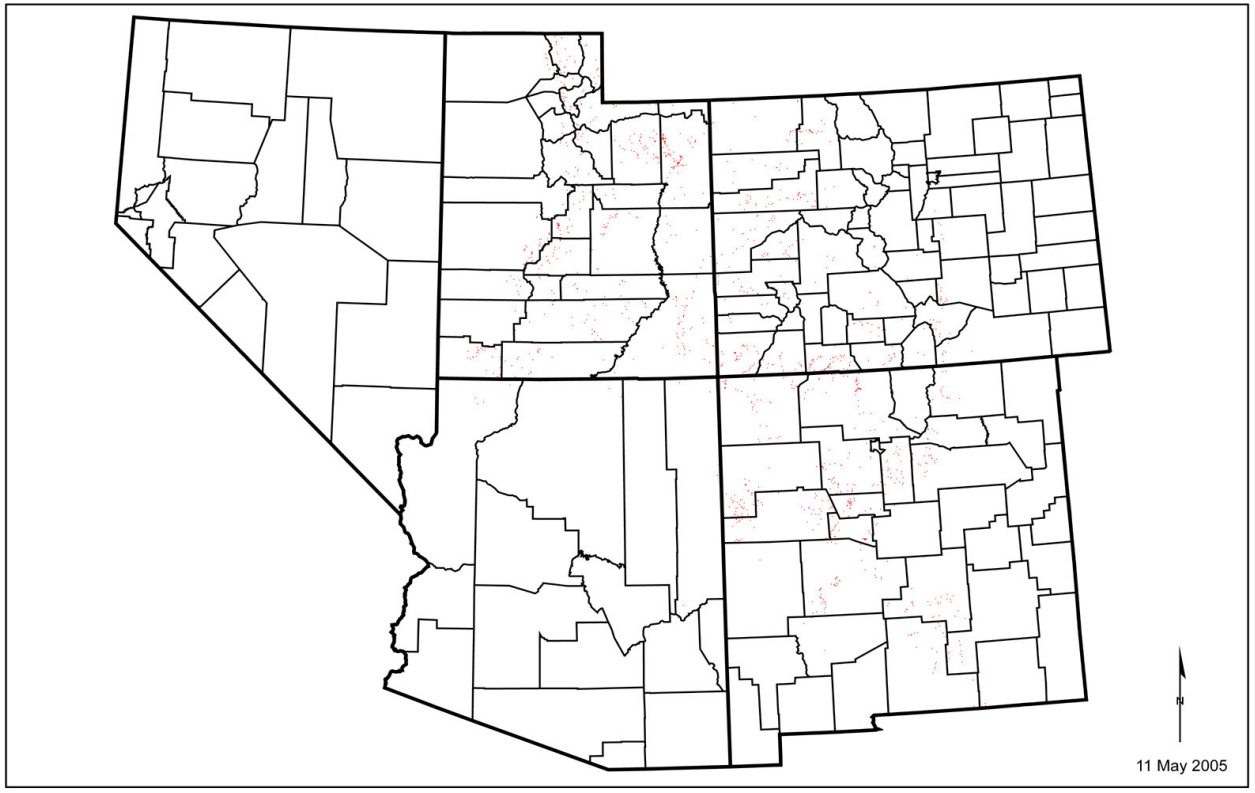
PhotoID : UT071301LL05_2.JPG

S093 Rocky Mountain Lower Montane Riparian Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,UT

Distribution Map



S091 Rocky Mountain Subalpine-Montane Riparian Shrubland

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This system is found throughout the Rocky Mountain cordillera from New Mexico north into Montana, and also occurs in mountainous areas of the Intermountain region and Colorado Plateau. These are montane to subalpine riparian shrublands occurring as narrow bands of shrubs lining streambanks and alluvial terraces in narrow to wide, low-gradient valley bottoms and floodplains with sinuous stream channels. Generally it is found at higher elevations, but can be found anywhere from 1700-3475 m. Occurrences can also be found around seeps, fens, and isolated springs on hillslopes away from valley bottoms. Many of the plant associations found within this system are associated with beaver activity. This system often occurs as a mosaic of multiple communities that are shrub- and herb-dominated and includes above-treeline, willow-dominated, snowmelt-fed basins that feed into streams. The dominant shrubs reflect the large elevational gradient and include Alnus incana, Betula nana, Betula occidentalis, Cornus sericea, Salix bebbiana, Salix boothii, Salix brachycarpa, Salix drummondiana, Salix eriocephala, Salix geyeriana, Salix monticola, Salix planifolia, and Salix wolfii. Generally the upland vegetation surrounding these riparian systems are of either conifer or aspen forests.

Range

Found throughout the Rocky Mountain cordillera from New Mexico north into Montana, and also occurs in mountainous areas of the Intermountain region and Colorado Plateau.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070903JK19_1.JPG

PhotoID : UT062902LL03_2.JPG

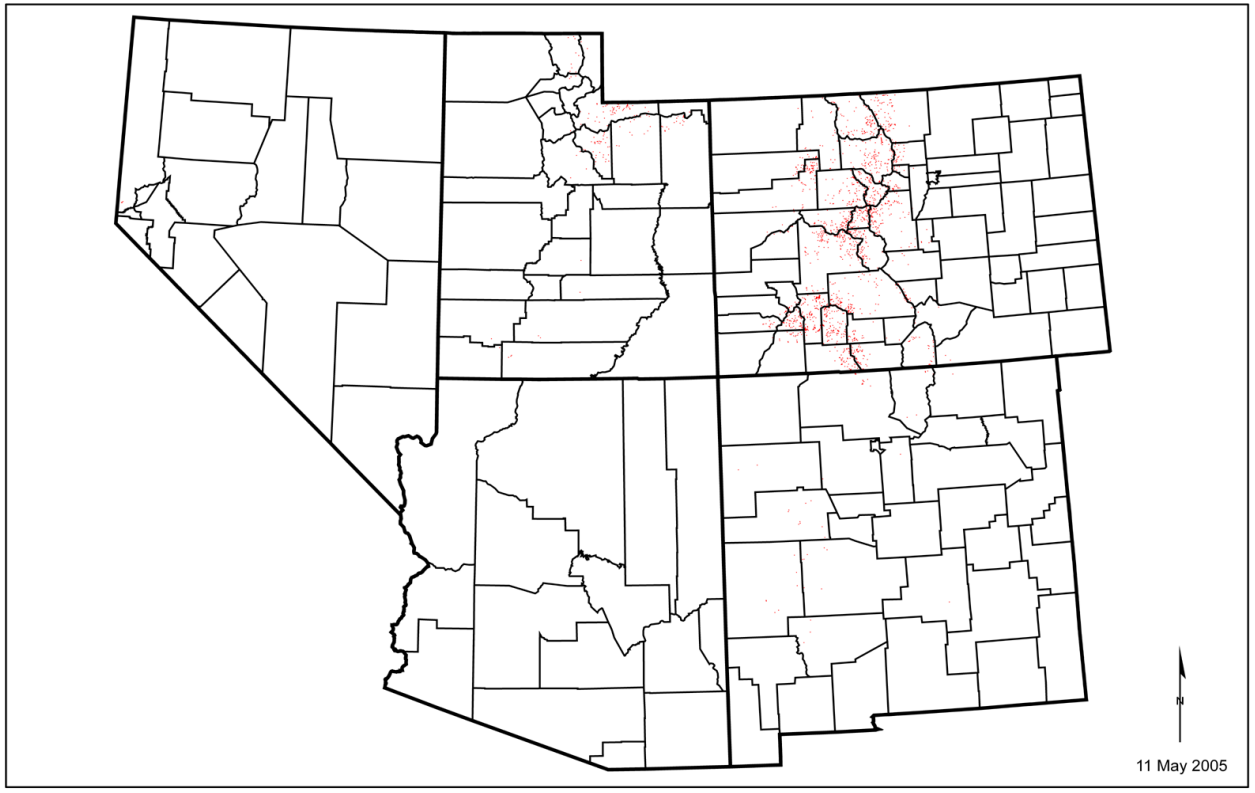
PhotoID : UT071102JD14_2.JPG

S091 Rocky Mountain Subalpine-Montane Riparian Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S092 Rocky Mountain Subalpine-Montane Riparian Woodland

Field Photos

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This riparian woodland system is comprised of seasonally flooded forests and woodlands found at montane to subalpine elevations of the Rocky Mountain cordillera, from southern New Mexico north into Montana, and west into the Intermountain region and the Colorado Plateau. It occurs throughout the interior of British Columbia and the eastern slopes of the Cascade Mountains. This system contains the conifer and aspen woodlands that line montane streams. These are communities tolerant of periodic flooding and high water tables. Snowmelt moisture in this system may create shallow water tables or seeps for a portion of the growing season. Stands typically occur at elevations between 1500 and 3300 m (4920-10,830 feet), farther north elevation ranges between 900 and 2000 m. This is confined to specific riparian environments occurring on floodplains or terraces of rivers and streams, in V-shaped, narrow valleys and canyons (where there is cold-air drainage). Less frequently, occurrences are found in moderate-wide valley bottoms on large floodplains along broad, meandering rivers, and on pond or lake margins. Dominant tree species vary across the latitudinal range, although it usually includes Abies lasiocarpa and/or Picea engelmannii; other important species include Pseudotsuga menziesii, Picea pungens, Picea engelmannii X glauca, Populus tremuloides, and Juniperus scopulorum. Other trees possibly present but not usually dominant include Alnus incana, Abies concolor, Abies grandis, Pinus contorta, Populus angustifolia, Populus balsamifera ssp. trichocarpa, and Juniperus osteosperma.

Range

This system is found at montane to subalpine elevations of the Rocky Mountain cordillera, from southern New Mexico north into Montana, and west into the Intermountain region and the Colorado Plateau.

Additional Information

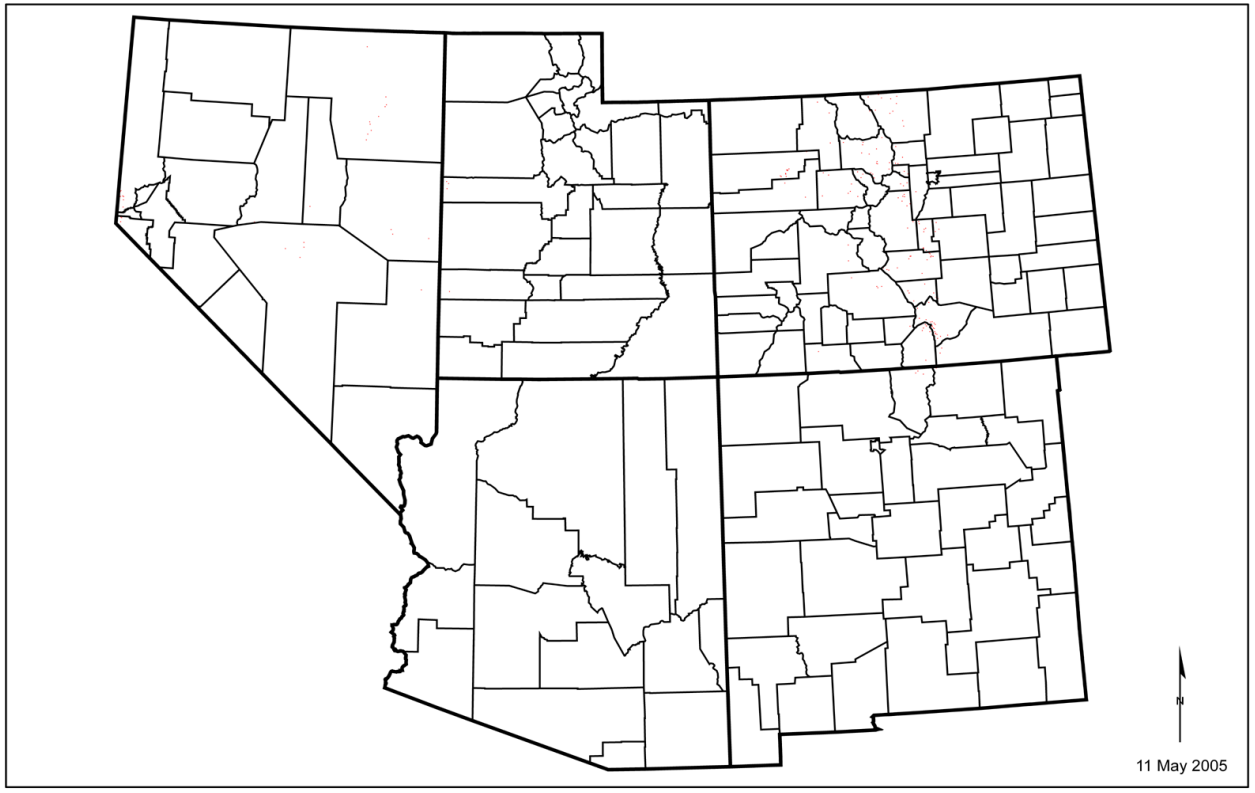
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

S092 Rocky Mountain Subalpine-Montane Riparian Woodland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

Southwest Regional GAP Analysis Project

S120 Western Great Plains Floodplain

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This system is found in the floodplains of medium and large rivers of the Western Great Plains. Alluvial soils and periodic, intermediate flooding (every 5-25 years) typify this system. Dominant communities within this system range from floodplain forests to wet meadows to gravel/sand flats; however, they are linked by underlying soils and the flooding regime. Dominant species include Populus deltoides and Salix spp. Grass cover underneath the trees is an important part of this system and is a mix of tallgrass species, including Panicum virgatum and Andropogon gerardii. Tamarix spp. and less desirable grasses and forbs can invade degraded areas within the floodplains, especially in the western portion of the province. These areas are often subjected to heavy grazing and/or agriculture and can be heavily degraded. Another factor is that groundwater depletion and lack of fire have created additional species changes. In most cases, the majority of the wet meadow and prairie communities may be extremely degraded or extirpated from the system.

SW ReGAP land cover mappers interpreted most of the riparian herbaceous areas in the Western Great Plains as this ecological system. Therefore, the SW ReGAP map may include herbaceous patches of a similar landcover type, S095 Western Great Plains Riparian Woodland and Shrubland, in this map class. The reverse may also be true, where woodland and shrubland patches of the Western Great Plains Floodplain system may be mapped as S095.

Range

This system is found along major river floodplains in the southern and central portions of the Western Great Plains division.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

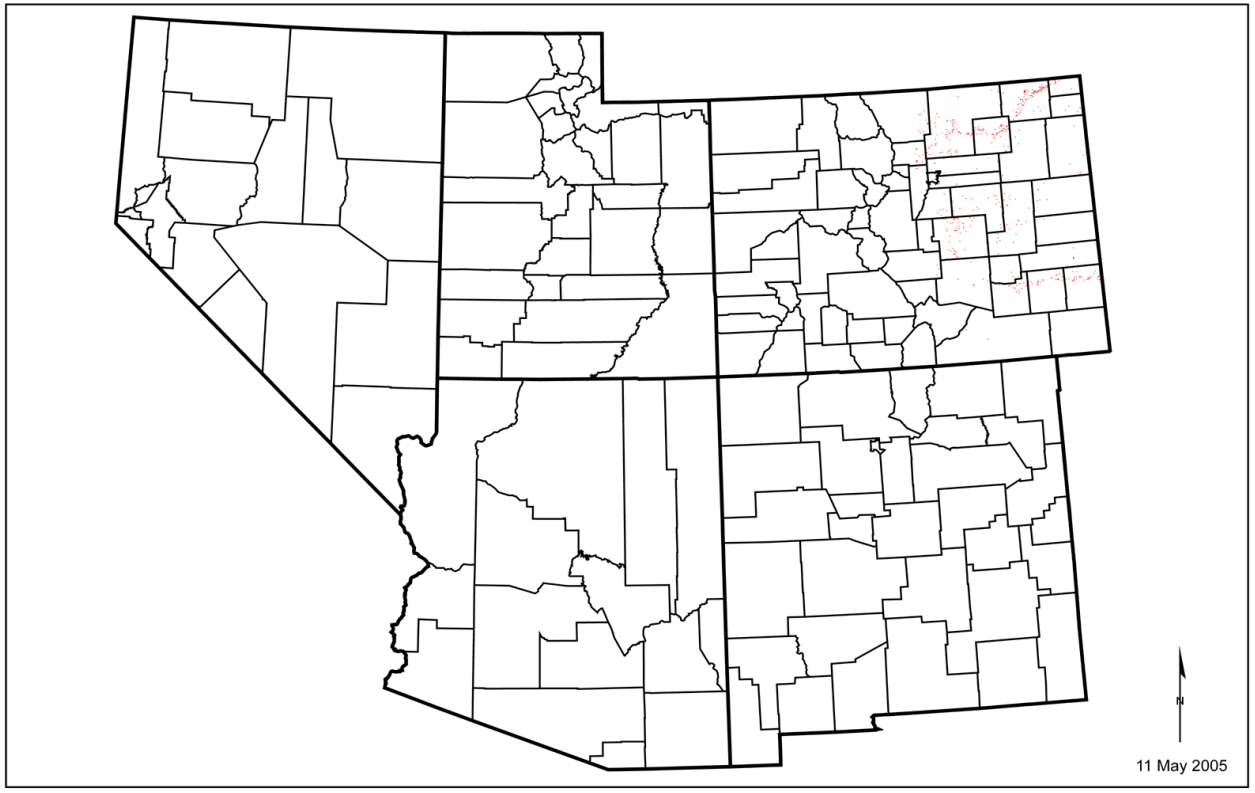
Field Photos

S120 Western Great Plains Floodplain

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S095 Western Great Plains Riparian Woodland and Shrubland

Approximate NLCD Land Cover Class Woody Wetland

Spatial Scale / Pattern Linear

Concept Summary

This system is found in the riparian areas of medium and small rivers and streams throughout the Western Great Plains. It is likely most common in the Shortgrass Prairie and Northern Great Plains Steppe but extends west and as far as the Rio Grande in New Mexico and into the Wyoming Basins in the north. It is found on alluvial soils in highly variable landscape settings, from deep cut ravines to wide, braided streambeds. Hydrologically, these sites tended to be more flashy with less developed floodplain than on larger rivers, and typically dried down completely for some portion of the year. Dominant vegetation shares much with generally drier portions of larger floodplain systems downstream, but overall abundance of vegetation is generally lower. Communities within this system range from riparian forests and shrublands to gravel/sand flats. Dominant species include Populus deltoides, Salix spp., Artemisia cana ssp. cana, Pascopyrum smithii, Sporobolus cryptandrus, and Schizachyrium scoparium. These areas are often subjected to heavy grazing and/or agriculture and can be heavily degraded. Tamarix spp. and less desirable grasses and forbs can invade degraded examples up through central Colorado. Another factor is that groundwater depletion and lack of fire have created additional species changes.

SW ReGAP land cover mappers interpreted most of the riparian woodland and shrubland areas in the Western Great Plains as this ecological system. Therefore, the SW ReGAP map may include woody patches of a similar landcover type, S120 Western Great Plains Floodplain, in this map class. The reverse may also be true, where herbaceous patches of the S095 Western Great Plains Riparian Woodland and Shrubland system may be mapped as S120.

Range

Riparian areas of medium and small rivers and streams throughout the Western Great Plains. It is likely most common in the Central Shortgrass Prairie and Northern Great Plains Steppe, but extends west into the Wyoming Basins.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM090703CK10_2.JPG

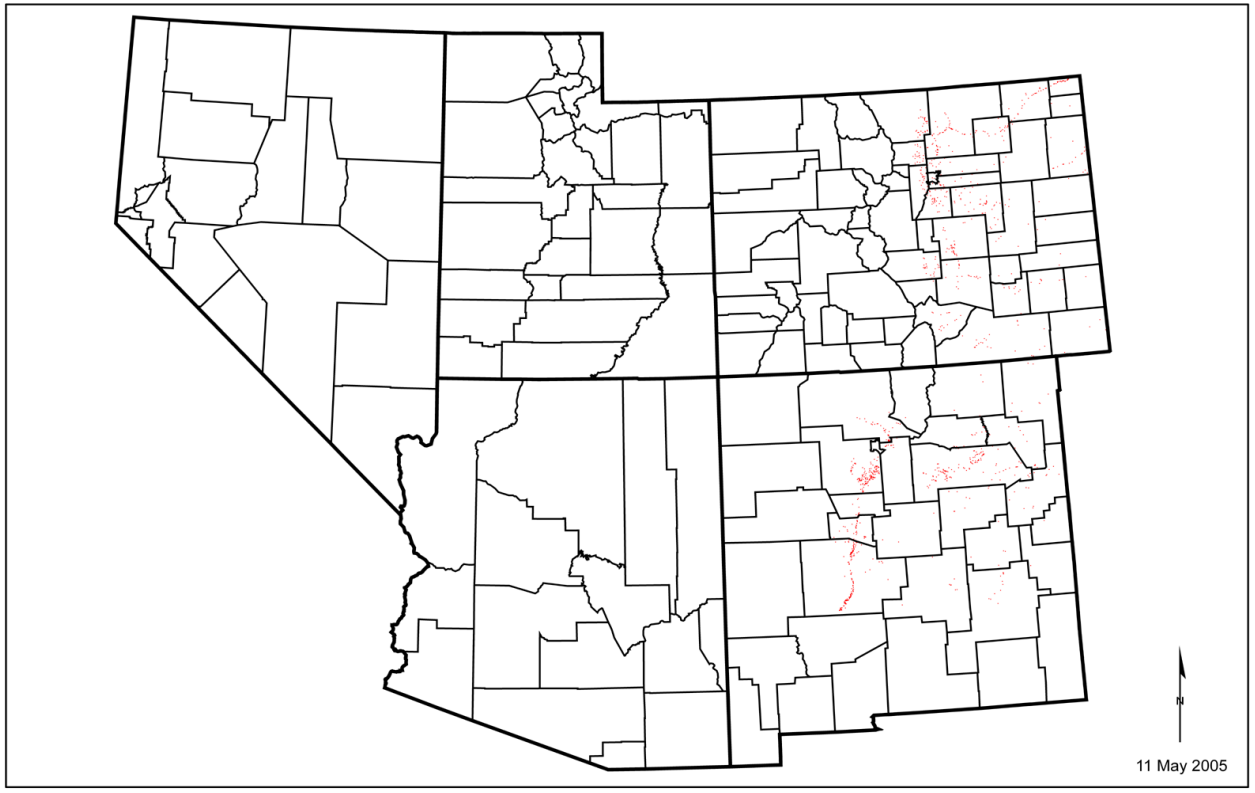
PhotoID : NM101901BM11_1.JPG

S095 Western Great Plains Riparian Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S105 Mediterranean California Subalpine-Montane Fen

Approximate NLCD Land Cover Class Emergent Herbaceous Wetland

Spatial Scale / Pattern Small patch

Concept Summary

This system is found in montane to subalpine elevations confined to specific environments defined by groundwater discharge, soil chemistry, and peat accumulation. This system includes extreme rich fens which are quite rare. Fens form at low points in the landscape or near slopes where groundwater intercepts the soil surface. Groundwater inflows maintain a fairly constant water level year-round, with water at or near the surface most of the time. Constant high water levels lead to accumulation of organic material. In addition to peat accumulation and perennially saturated soils, the extreme rich fens have distinct soil and water chemistry, with high levels of one or more minerals such as calcium and/or magnesium. They usually occur as a mosaic of several plant associations dominated by species of Carex, Betula, Kobresia, or Schoenoplectus. The surrounding landscape may be ringed with other wetland systems, e.g., riparian shrublands, or a variety of upland systems from grasslands to forests.

Range

These fens are found in montane to subalpine elevations of California mountains, in the Sierra Nevada, northwestern California coastal mountains, and possibly the Klamath - Siskiyou mountains.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV072303PJ18.jpg

PhotoID : NV082303DE12.jpg

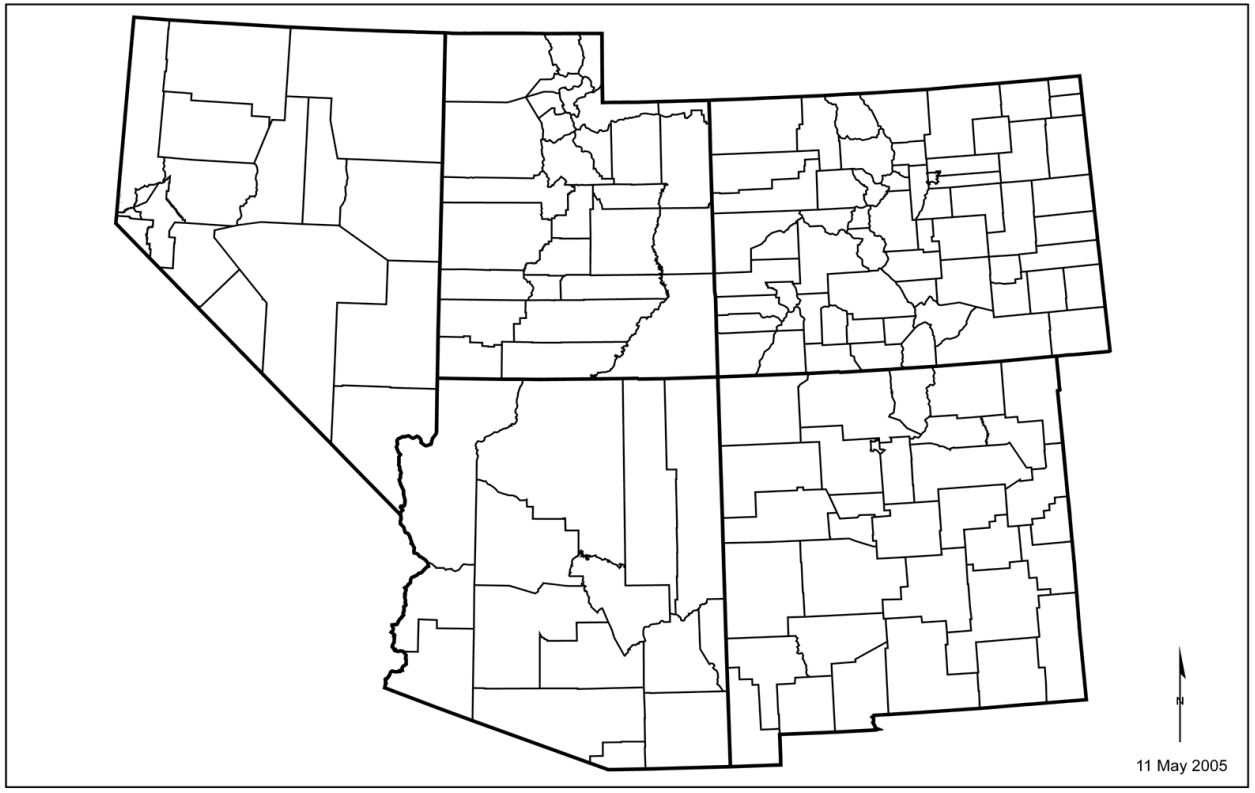
PhotoID : NV072503PJ07.jpg

S105 Mediterranean California Subalpine-Montane Fen

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S100 North American Arid West Emergent Marsh

Approximate NLCD Land Cover Class Emergent Herbaceous Wetland

Spatial Scale / Pattern Small patch

Concept Summary

This widespread ecological system occurs throughout much of the arid and semi-arid regions of western North America, typically surrounded by savanna, shrub steppe, steppe, or desert vegetation. Natural marshes may occur in depressions in the landscape (ponds, kettle ponds), as fringes around lakes, and along slow-flowing streams and rivers (such riparian marshes are also referred to as sloughs). Marshes are frequently or continually inundated, with water depths up to 2 m. Water levels may be stable, or may fluctuate 1 m or more over the course of the growing season. Water chemistry may include some alkaline or semi-alkaline situations, but the alkalinity is highly variable even within the same complex of wetlands. Marshes have distinctive soils that are typically mineral, but can also accumulate organic material. Soils have characteristics that result from long periods of anaerobic conditions in the soils (e.g., gleyed soils, high organic content, redoximorphic features). The vegetation is characterized by herbaceous plants that are adapted to saturated soil conditions. Common emergent and floating vegetation includes species of Scirpus and/or Schoenoplectus, Typha, Juncus, Potamogeton, Polygonum, Nuphar, and Phalaris. This system may also include areas of relatively deep water with floating-leaved plants (Lemna, Potamogeton, and Brasenia) and submergent and floating plants (Myriophyllum, Ceratophyllum, and Elodea).

Range

Occurs throughout much of the arid and semi-arid regions of western North America.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT070202JD04_1.JPG

PhotoID : UT071101LL10_1.JPG

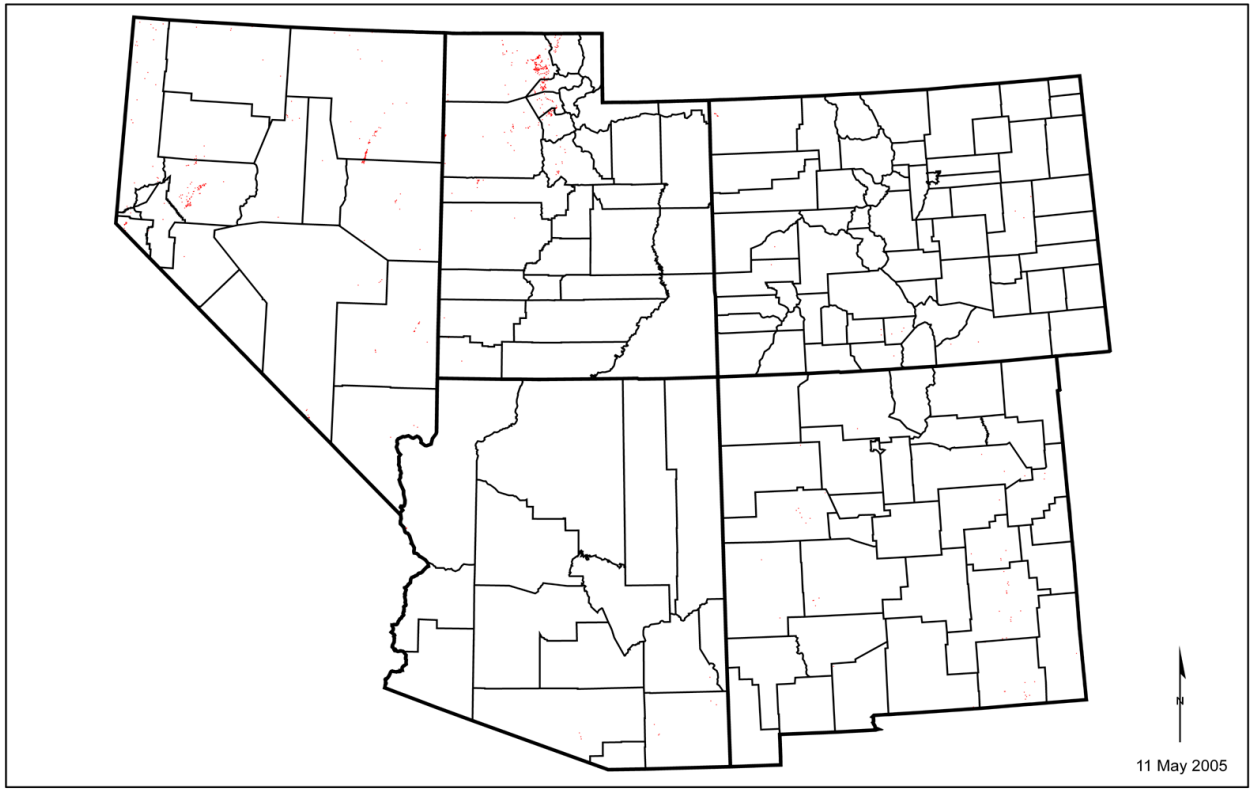
PhotoID : UT071101LL10_2.JPG

S100 North American Arid West Emergent Marsh

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S102 Rocky Mountain Alpine-Montane Wet Meadow

Approximate NLCD Land Cover Class Emergent Herbaceous Wetland

Spatial Scale / Pattern Small patch

Concept Summary

These are high-elevation communities found throughout the Rocky Mountains and Intermountain regions, dominated by herbaceous species found on wetter sites with very low-velocity surface and subsurface flows. They range in elevation from montane to alpine (1000-3600 m). These types occur as large meadows in montane or subalpine valleys, as narrow strips bordering ponds, lakes, and streams, and along toeslope seeps. They are typically found on flat areas or gentle slopes, but may also occur on sub-irrigated sites with slopes up to 10%. In alpine regions, sites typically are small depressions located below late-melting snow patches or on snowbeds. Soils of this system may be mineral or organic. In either case, soils show typical hydric soil characteristics, including high organic content and/or low chroma and redoximorphic features. This system often occurs as a mosaic of several plant associations, often dominated by graminoids, including Calamagrostis stricta, Caltha leptosepala, Cardamine cordifolia, Carex illota, Carex microptera, Carex nigricans, Carex scopulorum, Carex utriculata, Carex vernacula, Deschampsia caespitosa, Eleocharis quinqueflora, Juncus drummondii, Phippsia algida, Rorippa alpina, Senecio triangularis, Trifolium parryi, and Trollius laxus. Often alpine dwarf-shrublands, especially those dominated by Salix, are immediately adjacent to the wet meadows. Wet meadows are tightly associated with snowmelt and typically not subjected to high disturbance events such as flooding.

Range

Found throughout the Rocky Mountains and Intermountain regions, ranging in elevation from montane to alpine (1000-3600 m).

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT072800GM17_1.JPG

PhotoID : UT071703JK08_1.JPG

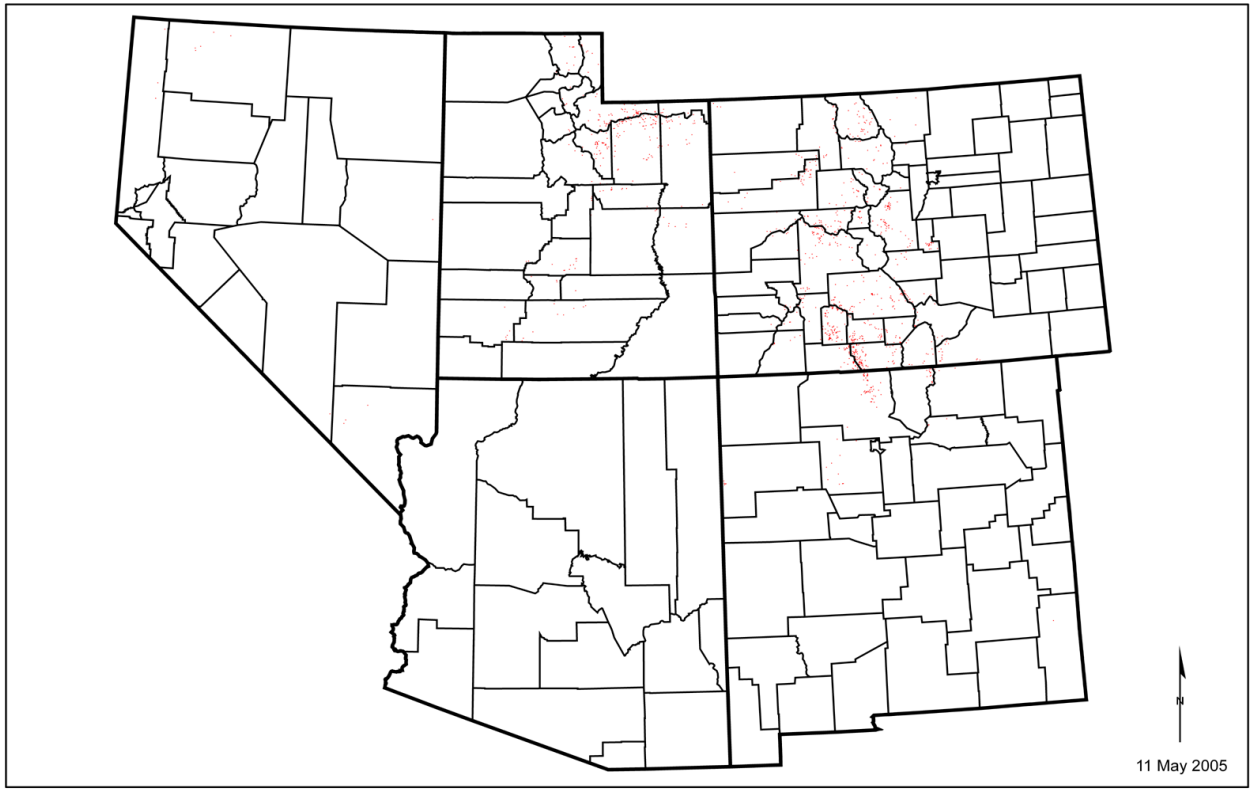
PhotoID : UT071703JK08_2.JPG

S102 Rocky Mountain Alpine-Montane Wet Meadow

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

S103 Temperate Pacific Subalpine-Montane Wet Meadow

Approximate NLCD Land Cover Class Emergent Herbaceous Wetland

Spatial Scale / Pattern Small patch

Concept Summary

Montane and subalpine wet meadows occur in open wet depressions, basins and flats among montane and subalpine forests from California's Transverse and Peninsular ranges north to the Alaskan coastal forests at varying elevations depending on latitude. Sites are usually seasonally wet, often drying by late summer, and many occur in a tension zone between perennial wetlands and uplands, where water tables fluctuate in response to long-term climatic cycles. They may have surface water for part of the year, but depths rarely exceed a few centimeters. Soils are mostly mineral and may show typical hydric soil characteristics, and shallow organic soils may occur as inclusions. This system often occurs as a mosaic of several plant associations with varying dominant herbaceous species that may include Camassia quamash, Carex bolanderi, Carex utriculata, Carex exsiccata, Dodecatheon jeffreyi, Glyceria striata (= Glyceria elata), Juncus nevadensis, Veratrum californicum, and Scirpus and/or Schoenoplectus spp. Trees occur peripherally or on elevated microsites and include Pinus contorta var. latifolia, Picea engelmannii, and Abies lasiocarpa. Common shrubs may include Salix geyeriana, Vaccinium uliginosum, Betula nana, and Vaccinium macrocarpon. Wet meadows are tightly associated with snowmelt and typically are not subjected to high disturbance events such as flooding.

Range

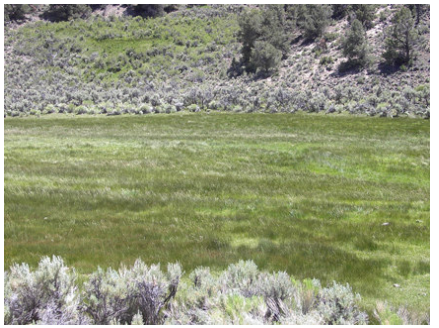
This system is found from California's Transverse and Peninsular ranges north to the Alaskan coastal forests at varying elevations depending on latitude.

Additional Information

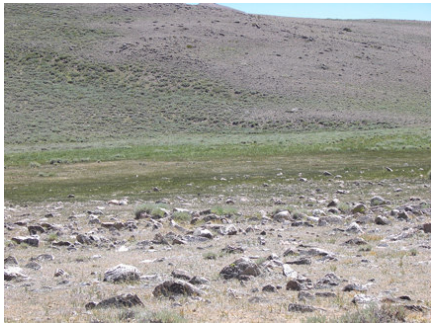
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NV071303SS13.jpg



PhotoID : NV070203PJ13.JPG



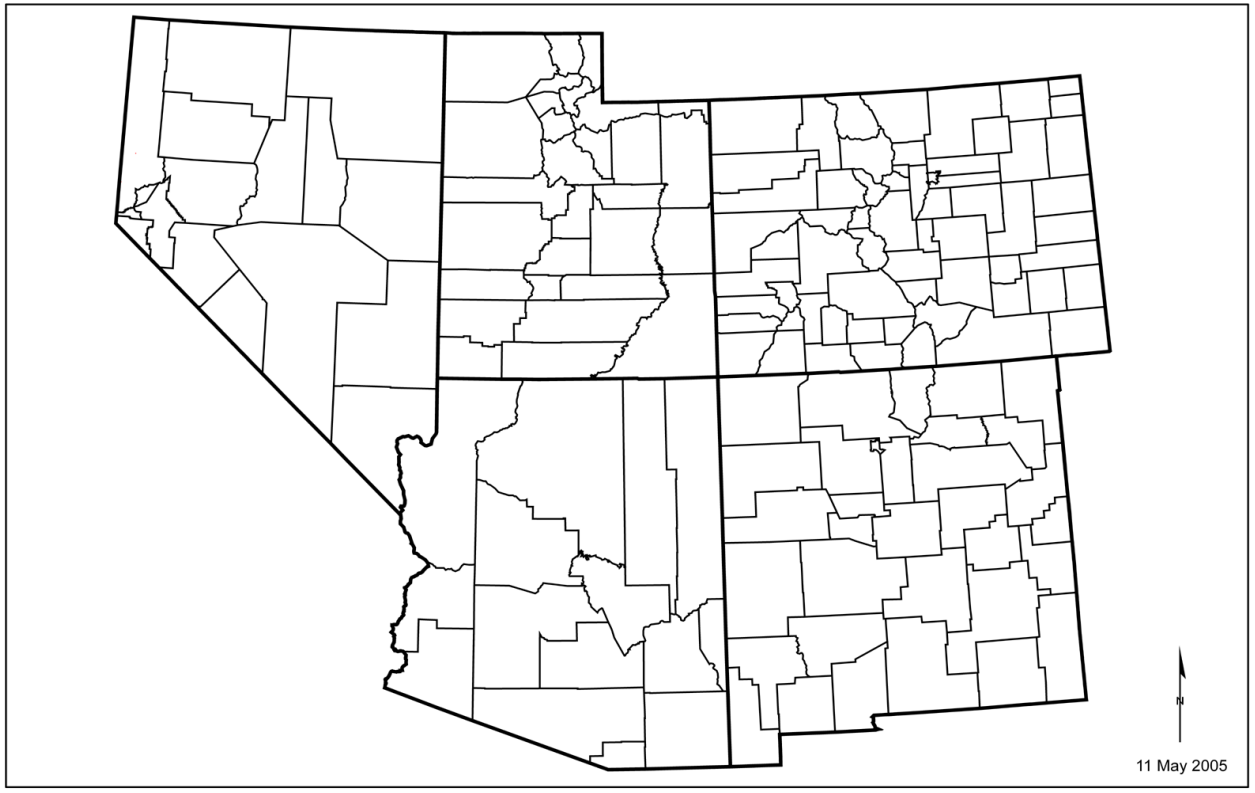
PhotoID : NV071403SS01.jpg

S103 Temperate Pacific Subalpine-Montane Wet Meadow

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NV

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

S108 Western Great Plains Saline Depression Wetland

Approximate NLCD Land Cover Class Emergent Herbaceous Wetland

Spatial Scale / Pattern Small patch

Concept Summary

This system is very similar to Northwestern Great Plains Open Freshwater Depression (CES303.675) and Western Great Plains Closed Depression Wetland (CES303.666). However, strongly saline soils cause both the shallow lakes and depressions and the surrounding areas to be more brackish. Salt encrustations can occur on the surface in some examples of this system, and the soils are severely affected and have poor structure. Species that typify this system are salt-tolerant and halophytic species such as Distichlis spicata, Sporobolus airoides, and Hordeum jubatum. During exceptionally wet years, an increase in precipitation can dilute the salt concentration in the soils of some of examples of this system which may allow for less salt-tolerant species to occur. Communities found within this system may also occur in floodplains (i.e., more open depressions), but probably should not be considered a separate system unless they transition to areas outside the immediate floodplain.

Range

This system can occur throughout the Western Great Plains, but is likely more prevalent in the south-central portions of the division.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM081201BM24_1.JPG

PhotoID : NM081201BM24_2.JPG

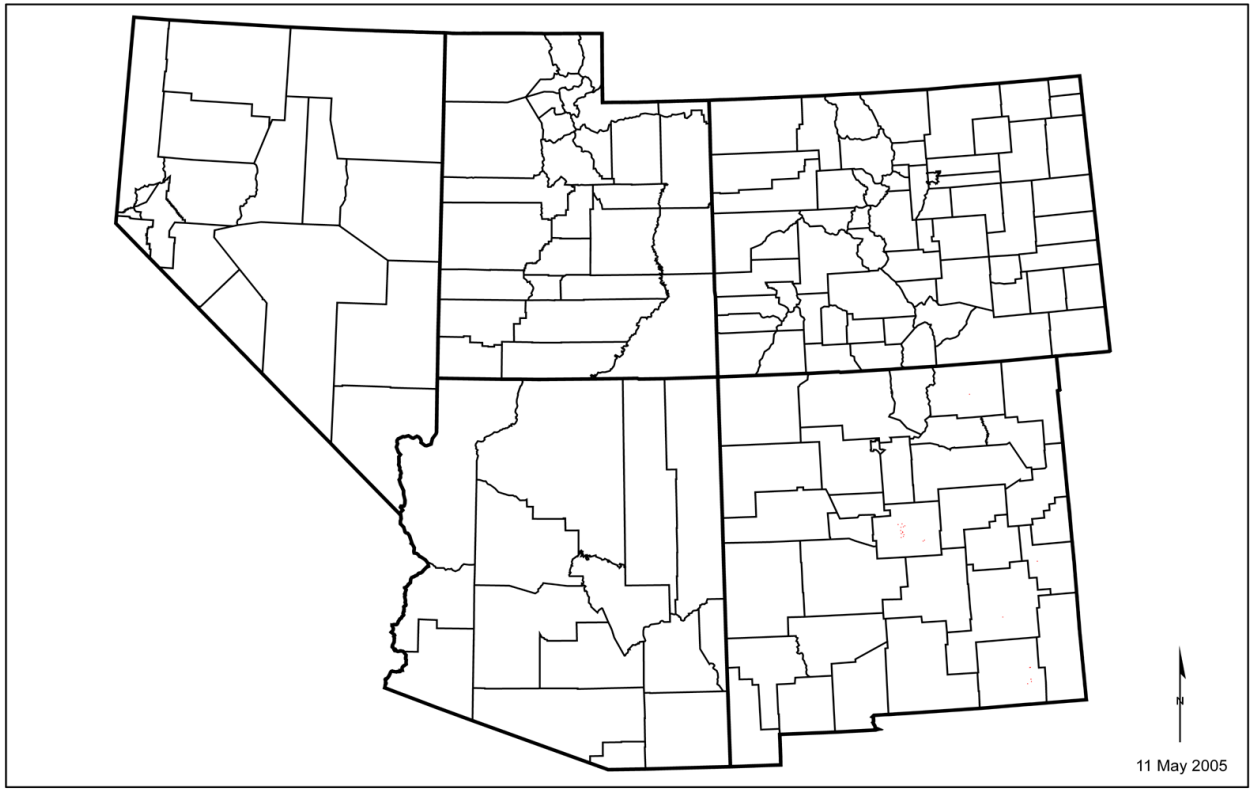
PhotoID : NM103100BM08_2.JPG

S108 Western Great Plains Saline Depression Wetland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: NM

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

D01 Disturbed, Non-specific

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that are barren or have relatively low vegetation cover that is associated with some form of generic human alteration or management regime. Typically associated with heavy amounts of grazing.

Range Was mapped by SWReGAP in CO and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT091402MD11_1.JPG

PhotoID : UT091402MD11_2.JPG

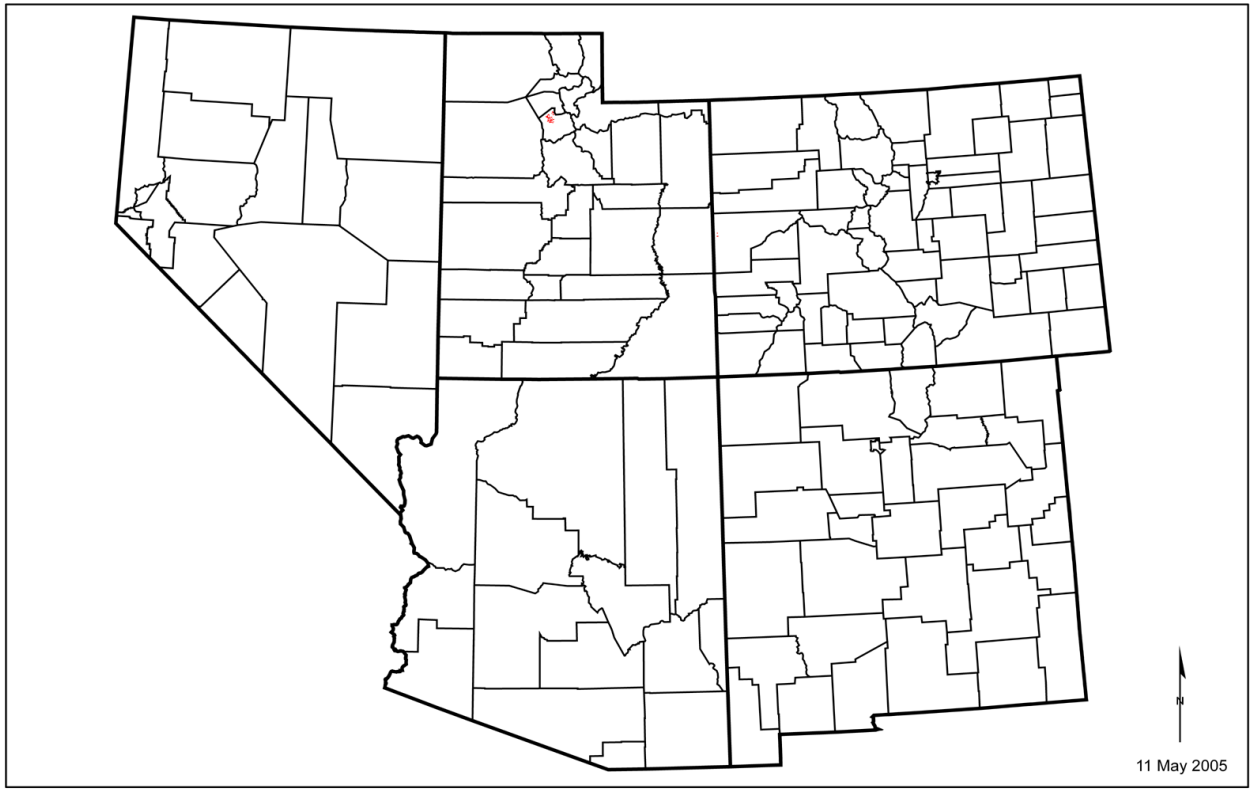
PhotoID : UT092502JD24_1.JPG

D01 Disturbed, Non-specific

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,UT

Distribution Map



D14 Disturbed, Oil well

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small patch

Concept Summary Areas with disturbed vegetation or are otherwise barren that are associated with dispersed oil well sites.

Range Was mapped by SWReGAP in CO and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

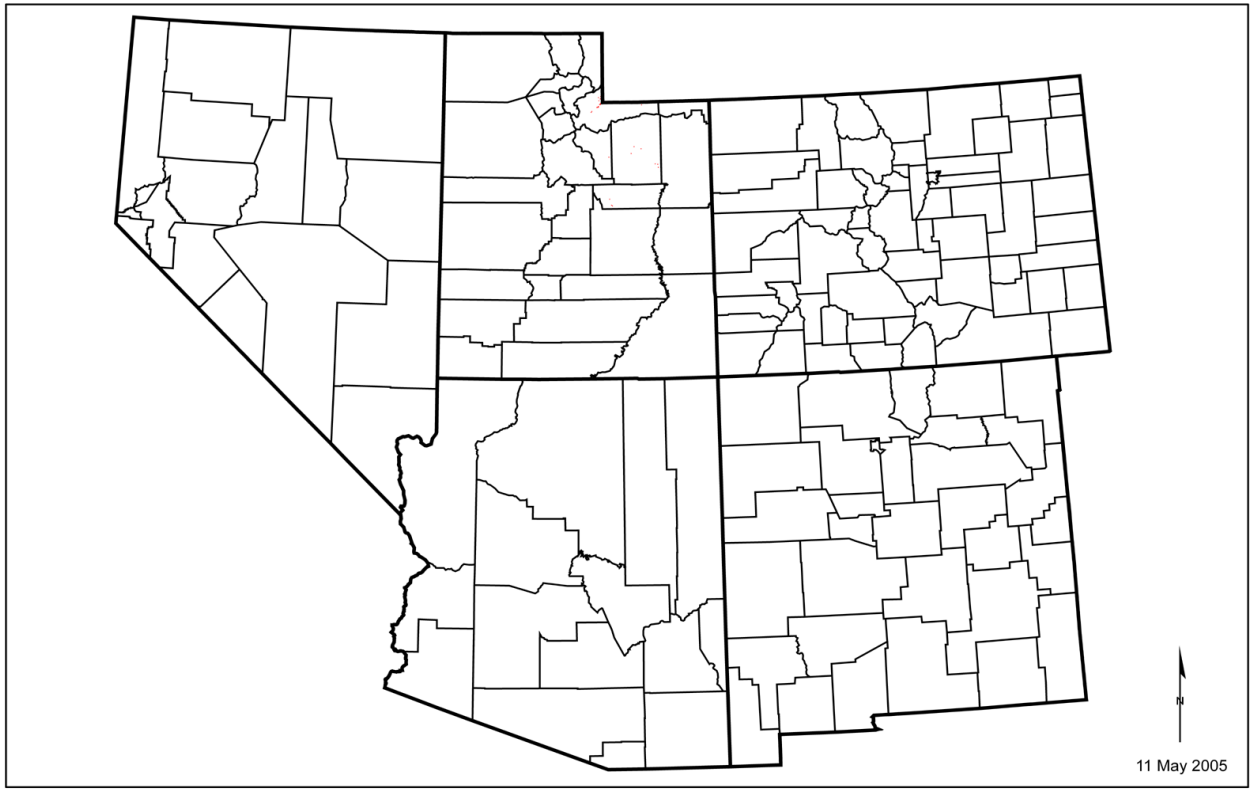
Field Photos

D14 Disturbed, Oil well

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

D09 Invasive Annual and Biennial Forbland

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that are dominated by introduced annual and/or biennial forb species such as: Halogeton glomeratum, Kochia scoparia, Salsola spp., .

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT101602JD21_1.JPG

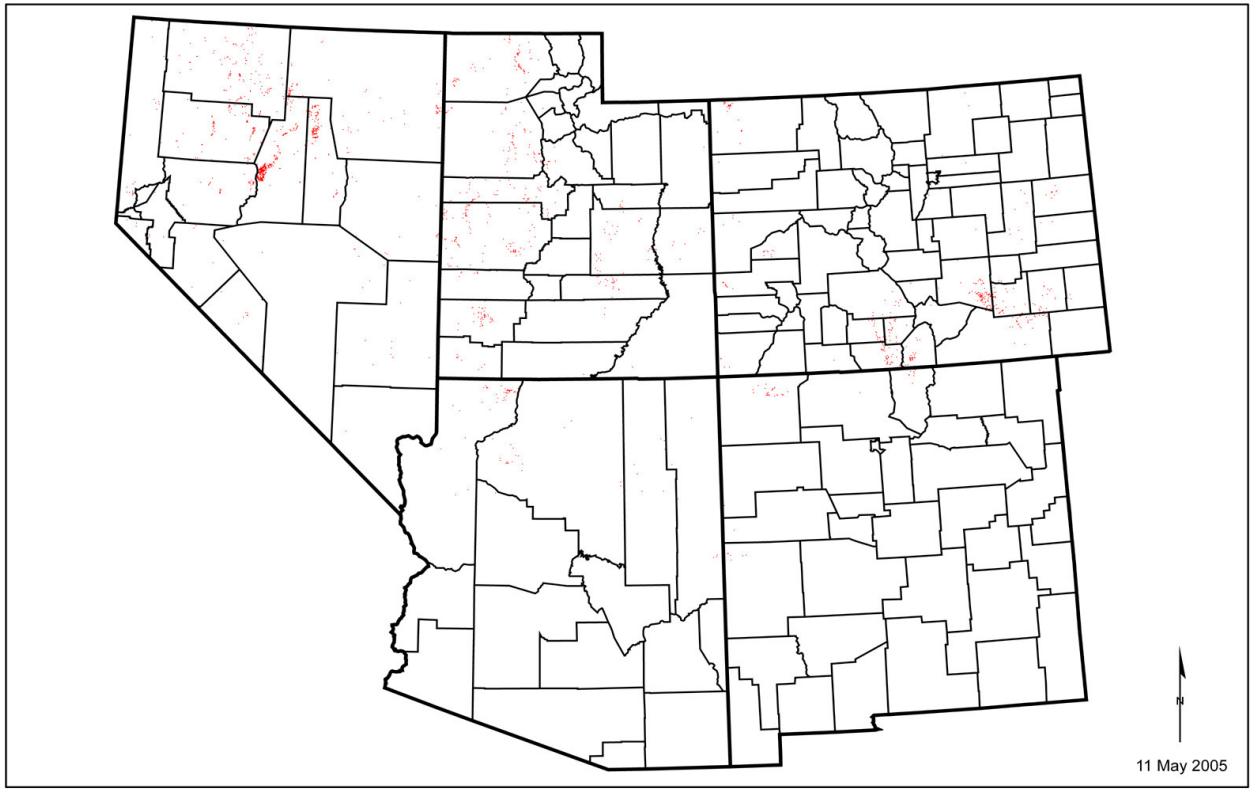
PhotoID : UT101602JD29_2.JPG

D09 Invasive Annual and Biennial Forbland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

D08 Invasive Annual Grassland

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that are dominated by introduced annual grass species such as: Avena spp., Bromus spp., Schismus spp.

Range Was mapped by SWReGAP in AZ, CO, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT053102JD07_1.JPG

PhotoID : UT101702MD05_1.JPG

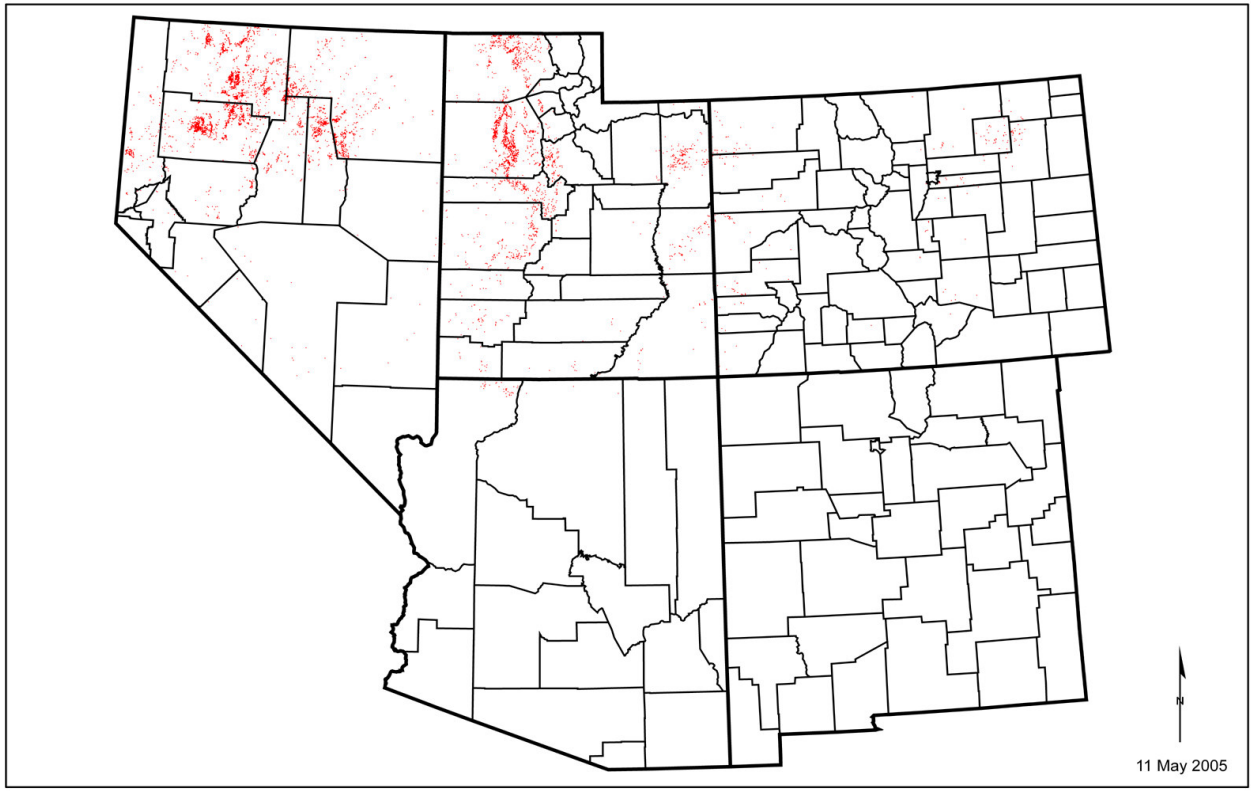
PhotoID : UT100802JD16_2.JPG

D08 Invasive Annual Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

D07 Invasive Perennial Forbland

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that are dominated by introduced perennial forb species such as: Circium arvense, C. vulgare, Centaurea spp., Euphorbia esula, Isatis tinctora, Lepidium sp., Melilotus albus, M. officinalis, and Onopordum acanthium.

Range Was mapped by SWReGAP in CO.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT062003MD08_1.JPG

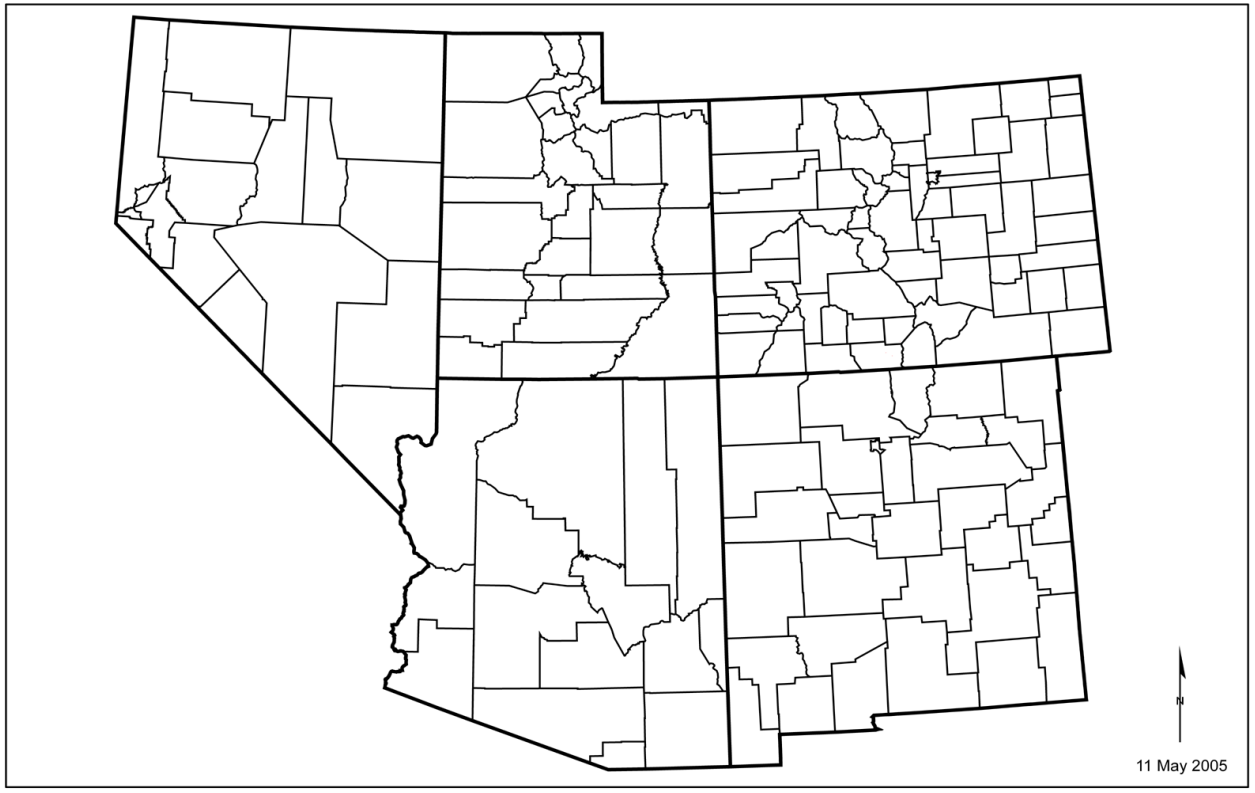
PhotoID : UT062003MD08_2.JPG

D07 Invasive Perennial Forbland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

D06 Invasive Perennial Grassland

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

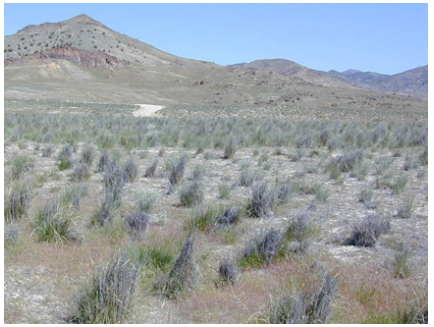
Concept Summary Areas that are dominated by introduced perennial grass species such as: Agropyron cristatum, Bromus inermis, Eragrostis lehmannianna, Pennisetum spp., Poa bulbosa, P. pratensis, Thinopyrum intermedium.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos



PhotoID : UT053102JD05_1.JPG

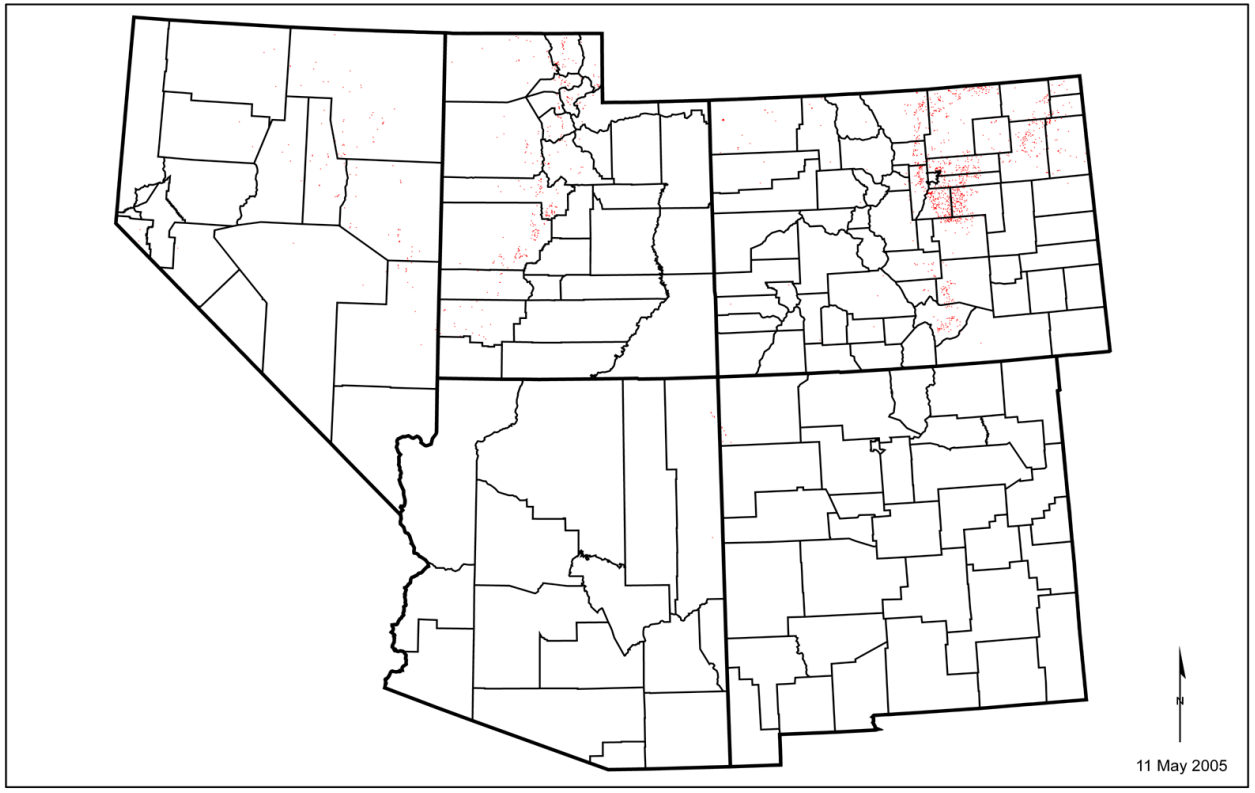
PhotoID : UT101802MD34_1.JPG

D06 Invasive Perennial Grassland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

D04 Invasive Southwest Riparian Woodland and Shrubland

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Linear

Concept Summary Areas that are dominated by introduced riparian woody species such as: Tamarix spp. and Elaeagnus angustifolius.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT071301LL18_1.JPG

PhotoID : UT051001LL19_1.JPG

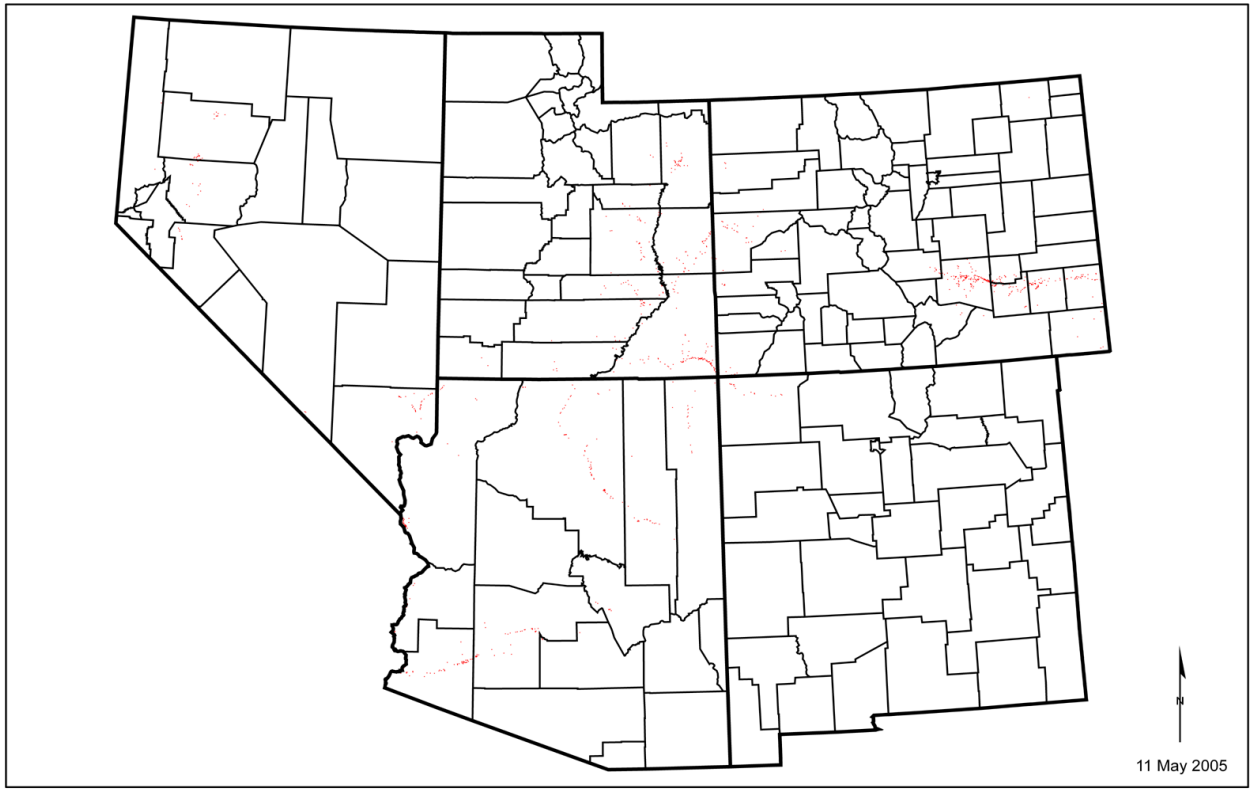
PhotoID : UT052303MD12_1.JPG

D04 Invasive Southwest Riparian Woodland and Shrubland

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

D02 Recently Burned

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that have burned in the recent past that are clearly evident in the imagery (images acquired between 1999-2001).

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT052302MD07_1.JPG

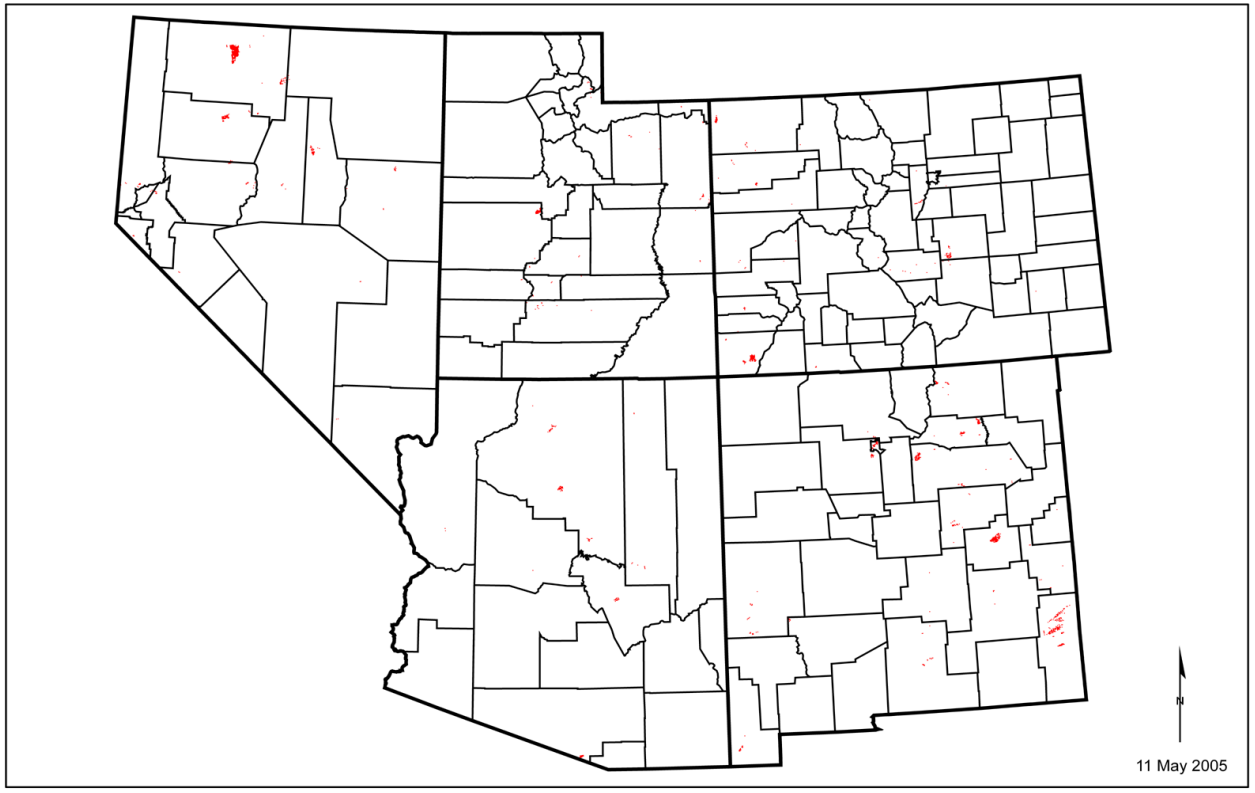
PhotoID : UT071003JK16_1.JPG

D02 Recently Burned

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

D11 Recently Chained Pinyon-Juniper Areas

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that have recently been chained to remove Pinyon-Juniper and are clearly evident in the imagery (images acquired between 1999-2001).

Range Was mapped by SWReGAP in CO, NM, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT100800GM02_1.JPG

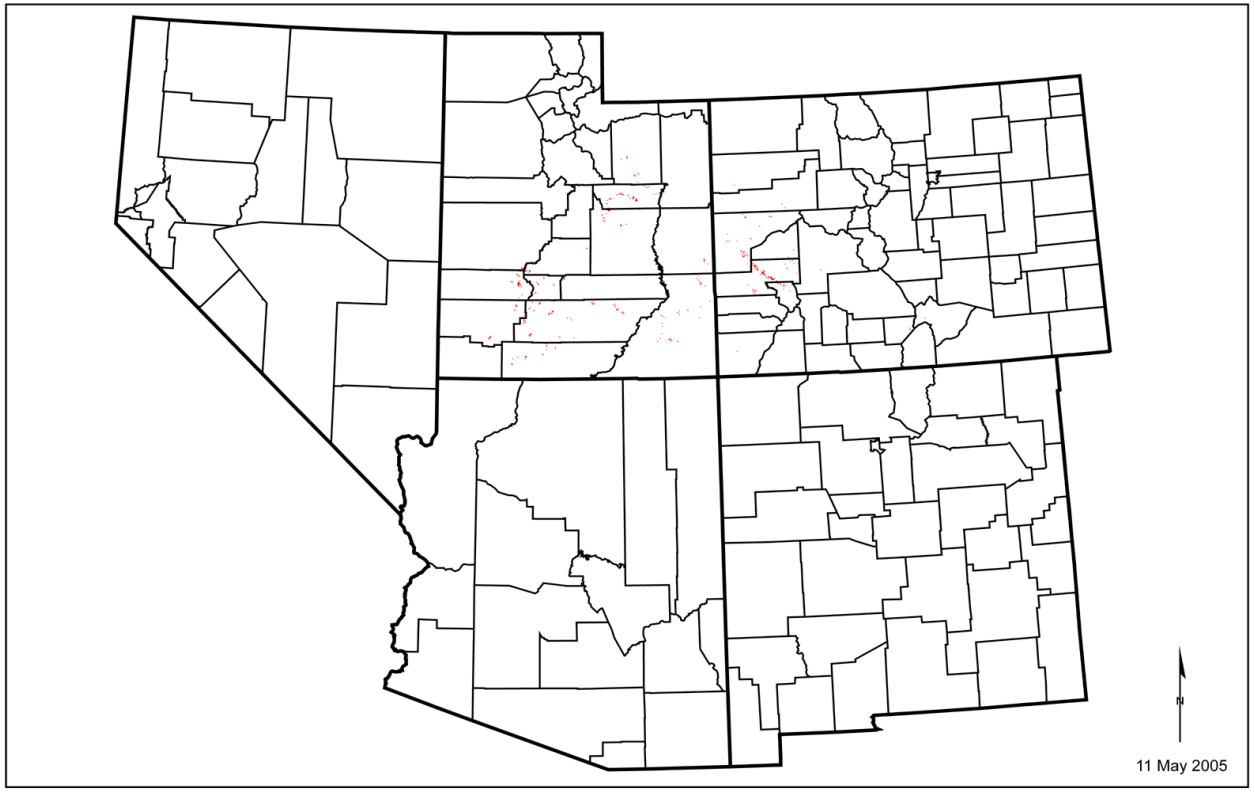
PhotoID : UT071201LL13_1.JPG

D11 Recently Chained Pinyon-Juniper Areas

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

D10 Recently Logged Areas

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas that have recently been clear-cut or thinned by 50% or more and are clearly evident in the imagery (images acquired between 1999-2001).

Range Was mapped by SWReGAP in CO, NM, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

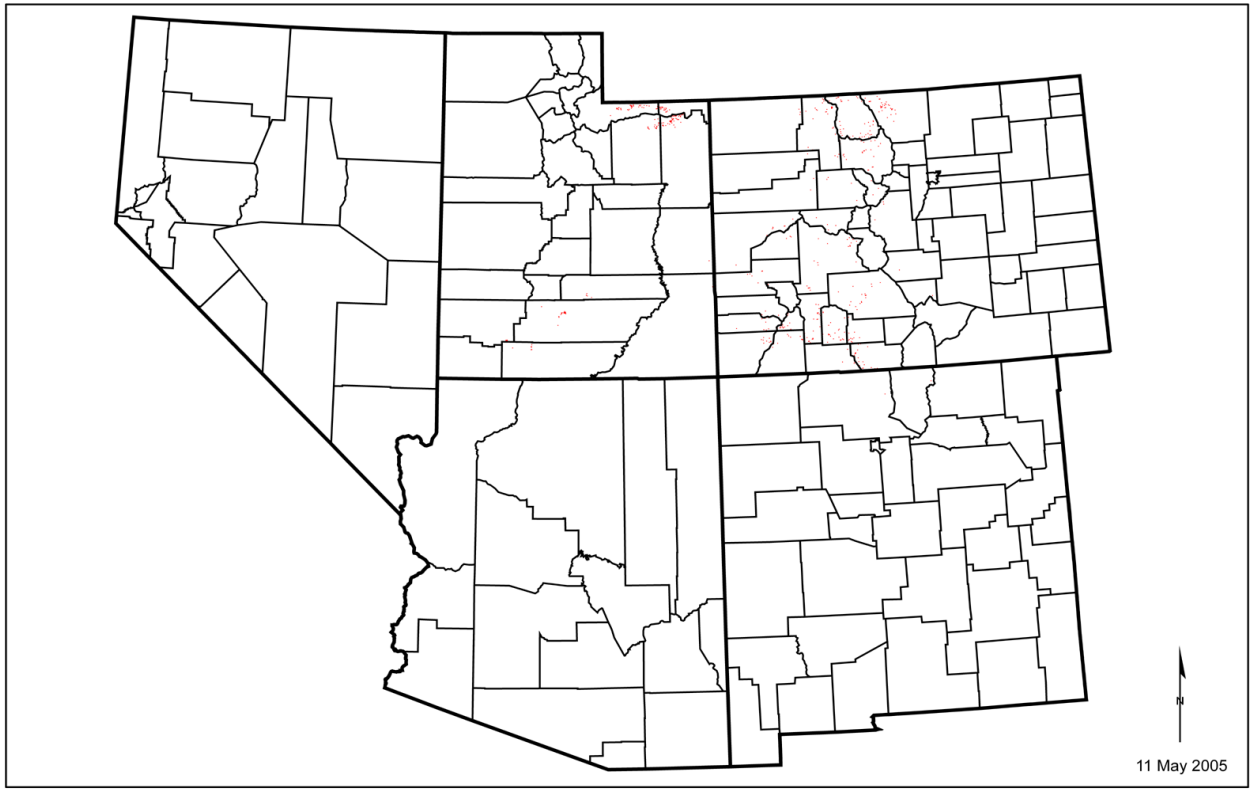
PhotoID : UT082500GM05_1.JPG

D10 Recently Logged Areas

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: CO,NM,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

D03 Recently Mined or Quarried

Approximate NLCD Land Cover Class Altered or Disturbed

Spatial Scale / Pattern Small patch

Concept Summary Areas where open pit mining or quarries are visible in the imagery (images acquired between 1999-2001), and are 2 hectares or greater in size.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

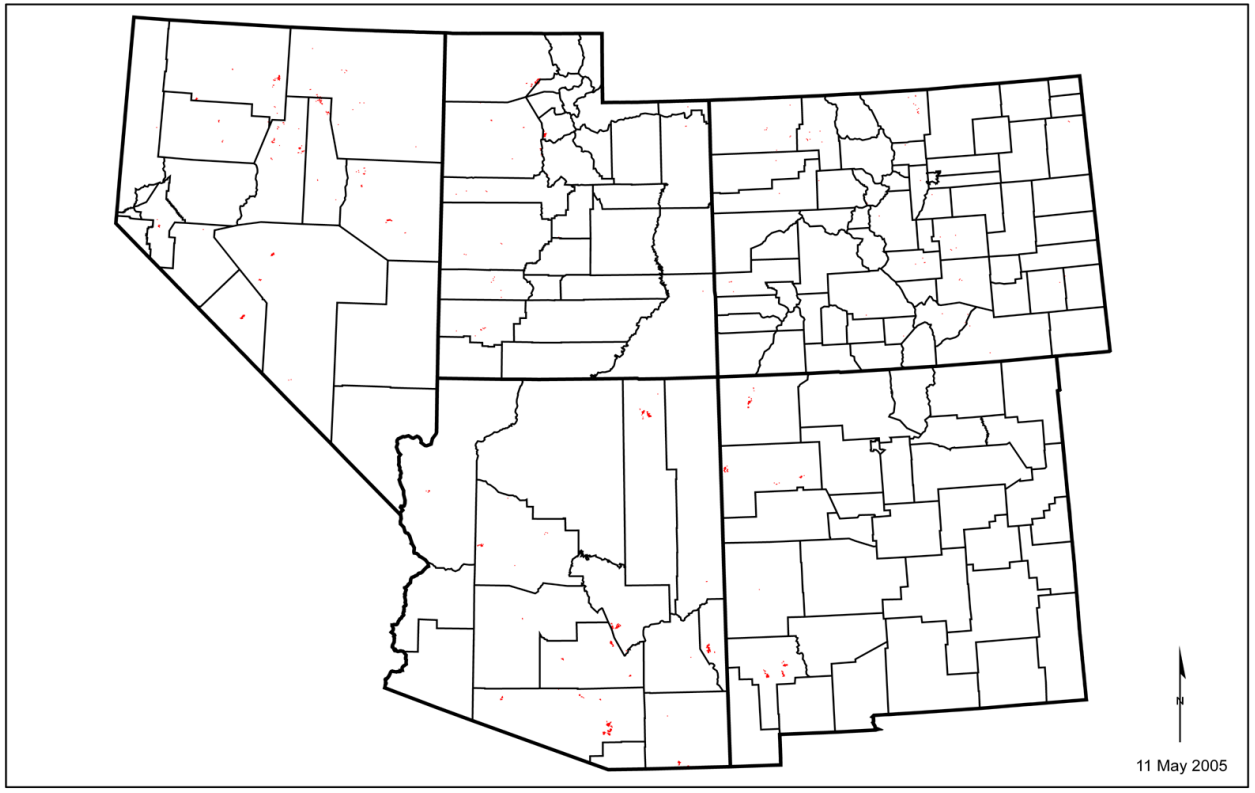
PhotoID : UT063000DM11_1.JPG

D03 Recently Mined or Quarried

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

N80 Agriculture

Approximate NLCD Land Cover Class Agriculture

Spatial Scale / Pattern Small or Large patch; Matrix

Concept Summary An aggregated landcover type that includes both Pasture/Hay (N81): areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle, where pasture/hay vegetation accounts for greater than 20 percent of total vegetation, and Cultivated Crops (N82): areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards, where crop vegetation accounts for greater than 20 percent of total vegetation. N82 also includes all land being actively tilled.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : UT062000GM07_1.JPG

PhotoID : UT070601LL24_1.JPG

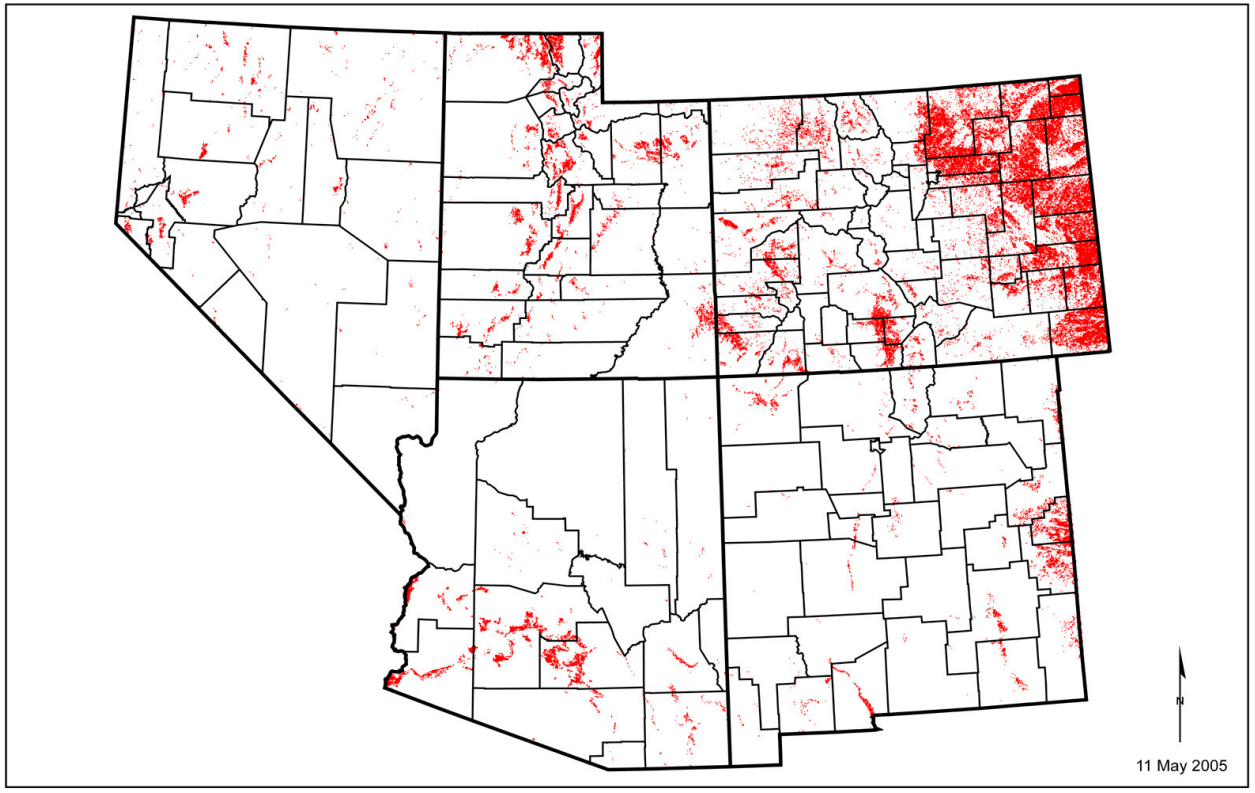
PhotoID : NM092102ES16_1.JPG

N80 Agriculture

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

N22 Developed, Medium - High Intensity

Approximate NLCD Land Cover Class Developed

Spatial Scale / Pattern Small or Large patch

Concept Summary Developed, Medium Intensity: Includes areas with a mixture of constructed materials and vegetation. Impervious surface accounts for 50-79 percent of the total cover. These areas most commonly include single-family housing units. Developed, High Intensity: Includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to 100 percent of the total cover.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

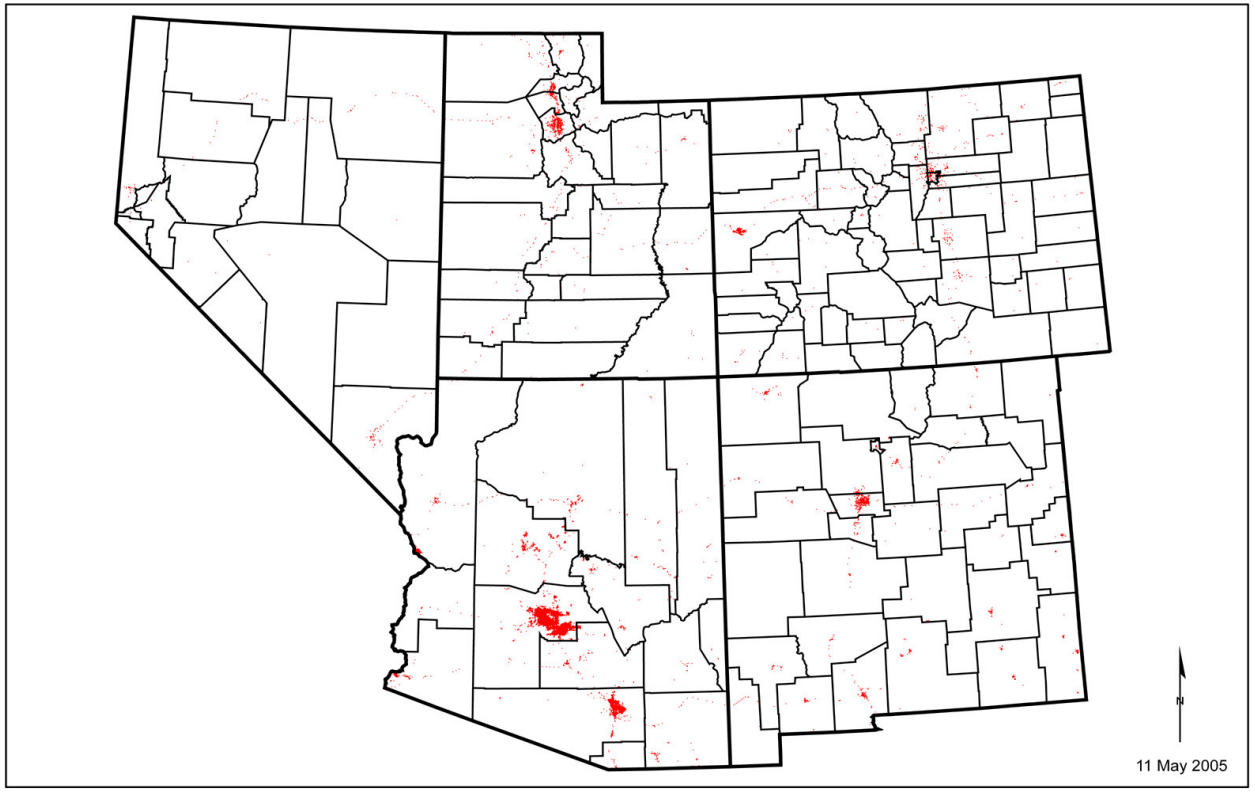
Field Photos

N22 Developed, Medium - High Intensity

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

N21 Developed, Open Space - Low Intensity

Approximate NLCD Land Cover Class Developed

Spatial Scale / Pattern Small or Large patch

Concept Summary Open Space: Includes areas with a mixture of some construction materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes. Developed, Low Intensity: Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Field Photos

Additional Information

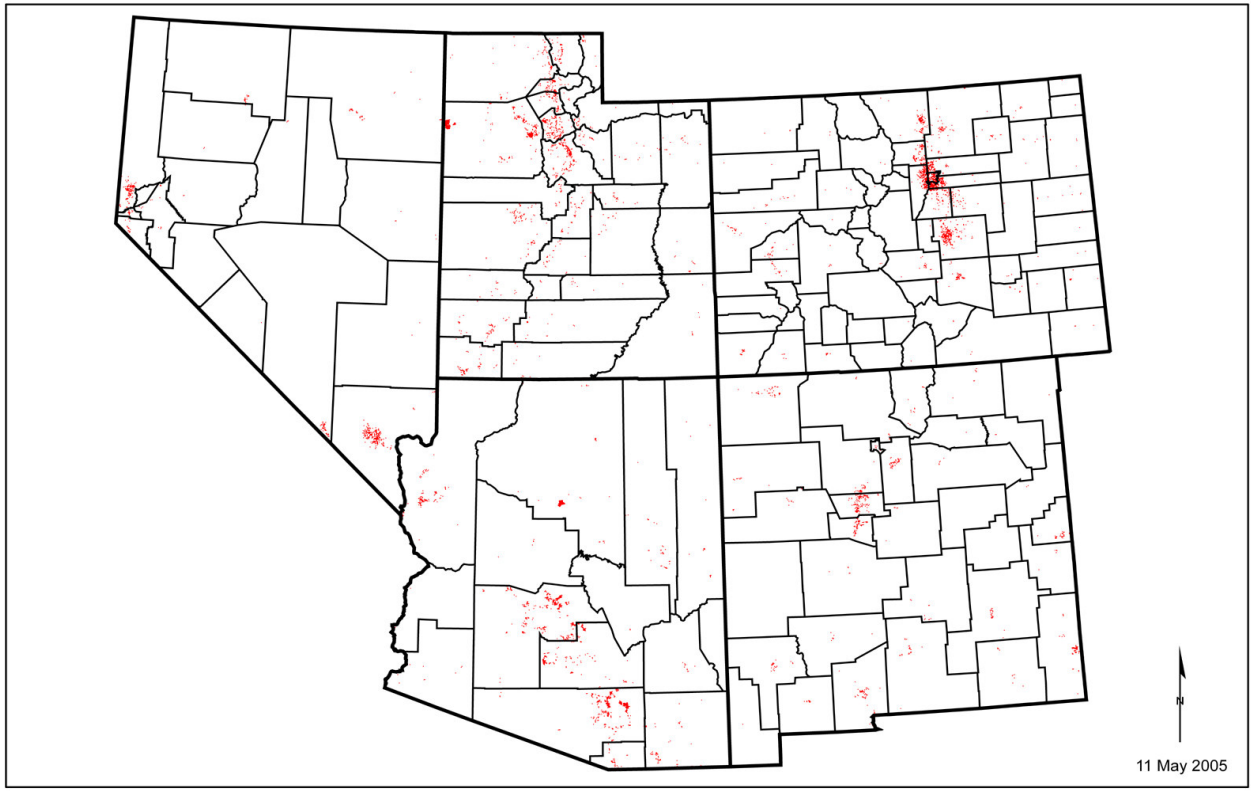
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

N21 Developed, Open Space - Low Intensity

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

N31 Barren Lands, Non-specific

Approximate NLCD Land Cover Class Barren Lands

Spatial Scale / Pattern Small or Large patch

Concept Summary (Rock/Sand/Clay)-Barren areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulation of earthen material. Generally, vegetation accounts for less than 15% of total cover.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Field Photos

PhotoID : NV062403JS05.jpg

PhotoID : NV062403JS04.jpg

Additional Information

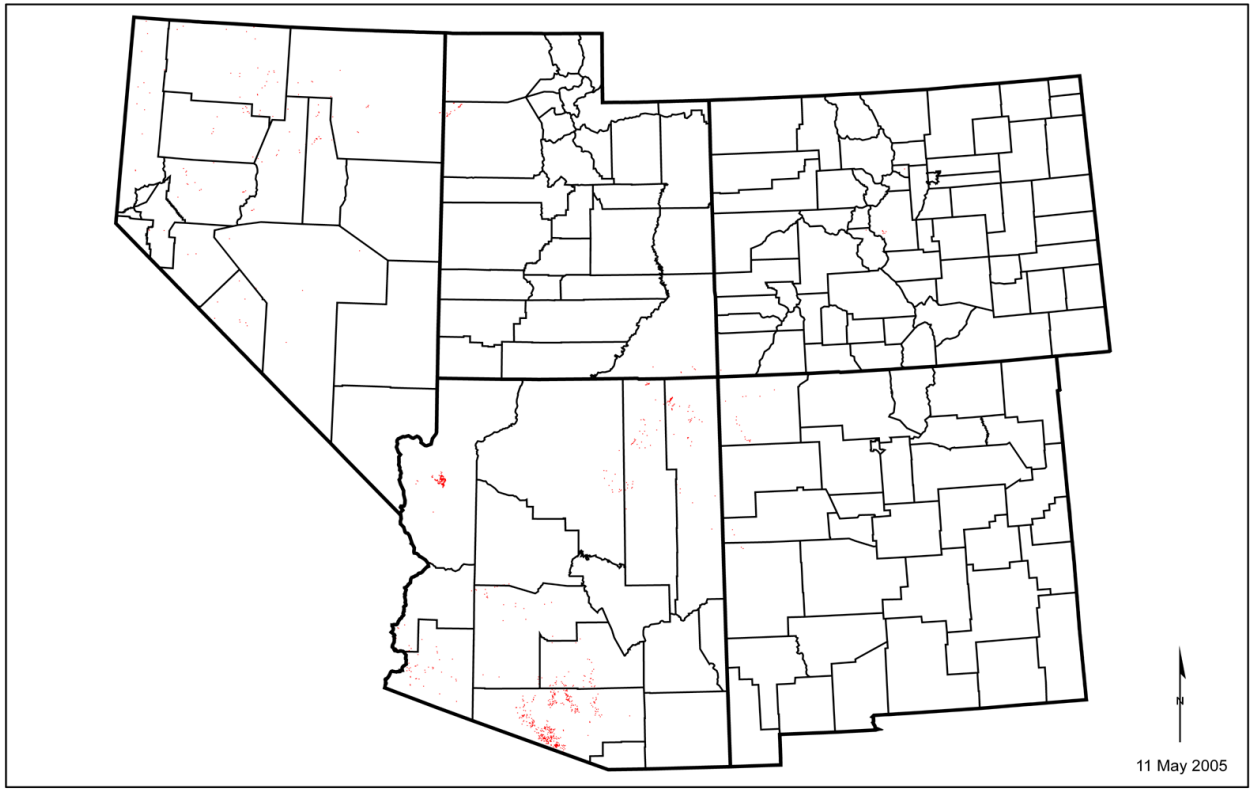
Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

N31 Barren Lands, Non-specific

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/

0 75 150 300 450 600 Kilometers

SCALE: 1:8,000,000

Southwest Regional GAP Analysis Project

N11 Open Water

Approximate NLCD Land Cover Class Open Water

Spatial Scale / Pattern Small or Large patch

Concept Summary Areas of open water, generally with less than 25% cover of vegetation or soil.

Range Was mapped by SWReGAP in AZ, CO, NM, NV, and UT.

Additional Information

Southwest ReGAP Analysis Project Land Cover Datasets:	http://earth.gis.usu.edu/swgap/
NatureServe Explorer (for Ecological System and Alliance information):	http://www.natureserve.org/explorer/
USDA Natural Resources Conservation Service Plants Database:	http://plants.usda.gov/

Field Photos

PhotoID : NM091002DC14_2.JPG

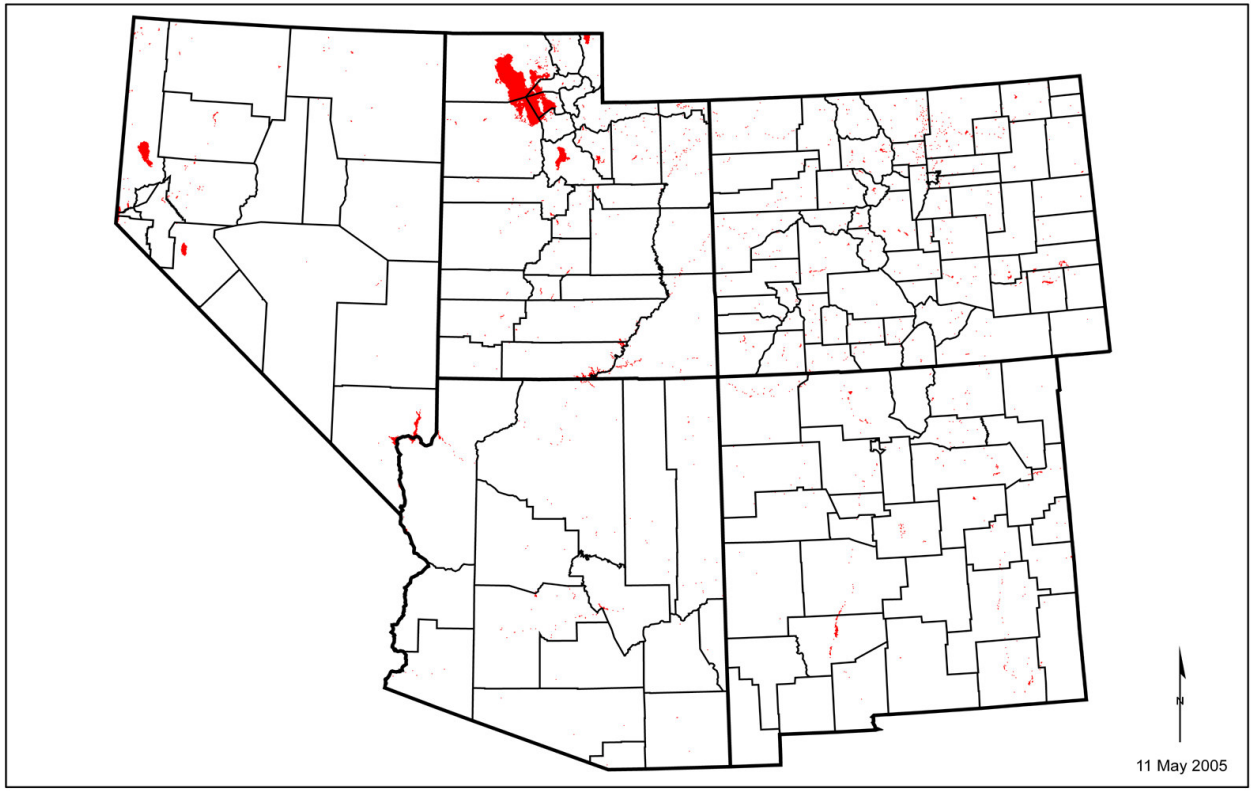
PhotoID : UT063000DM06_1.JPG

N11 Open Water

This distribution map represents the Ecological System as it was mapped by the Southwest ReGAP Analysis Project for the 5-state region. Ecological Systems that are rare or have very limited distributions may not be visible on this map. Refer to the list below to identify where this system was mapped.

States where System was mapped by SWReGAP: AZ,CO,NM,NV,UT

Distribution Map



SWReGAP data is projected to Albers Conical Equal Area with a longitude of Central Meridian at -96.
For illustration purposes this map is presented with a longitude of Central Meridian at -112.
This map depicts the distribution of a single land cover type that has been resampled to 1270m sq.

Disclaimer: The user assumes all responsibility related to the use of these data.
For additional information and related links see: http://earth.gis.usu.edu/swgap/