

Rapid Ecoregional Assessment for the Sonoran Desert Ecoregion: Data Review and Integration

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Arizona Solar Regional Mitigation Strategies Workshop
Phoenix, AZ
April 3, 2014

Sonoran Desert Rapid Ecoregional Assessment

What Is a Rapid Ecoregional Assessment (or REA)?

REAs are ecoregion-scale assessments of resources designed to characterize:

- The status and trends of natural resources
- Their potential to change at a landscape scale in response to change agents (development, fire, invasives, and climate change)
- Potential priority areas for conservation, restoration, and development

REAs are an important first step in the BLM's landscape approach

- Provide findings that can be used by management to inform RMPs, SRMSs, adaptive management strategies, and other initiatives

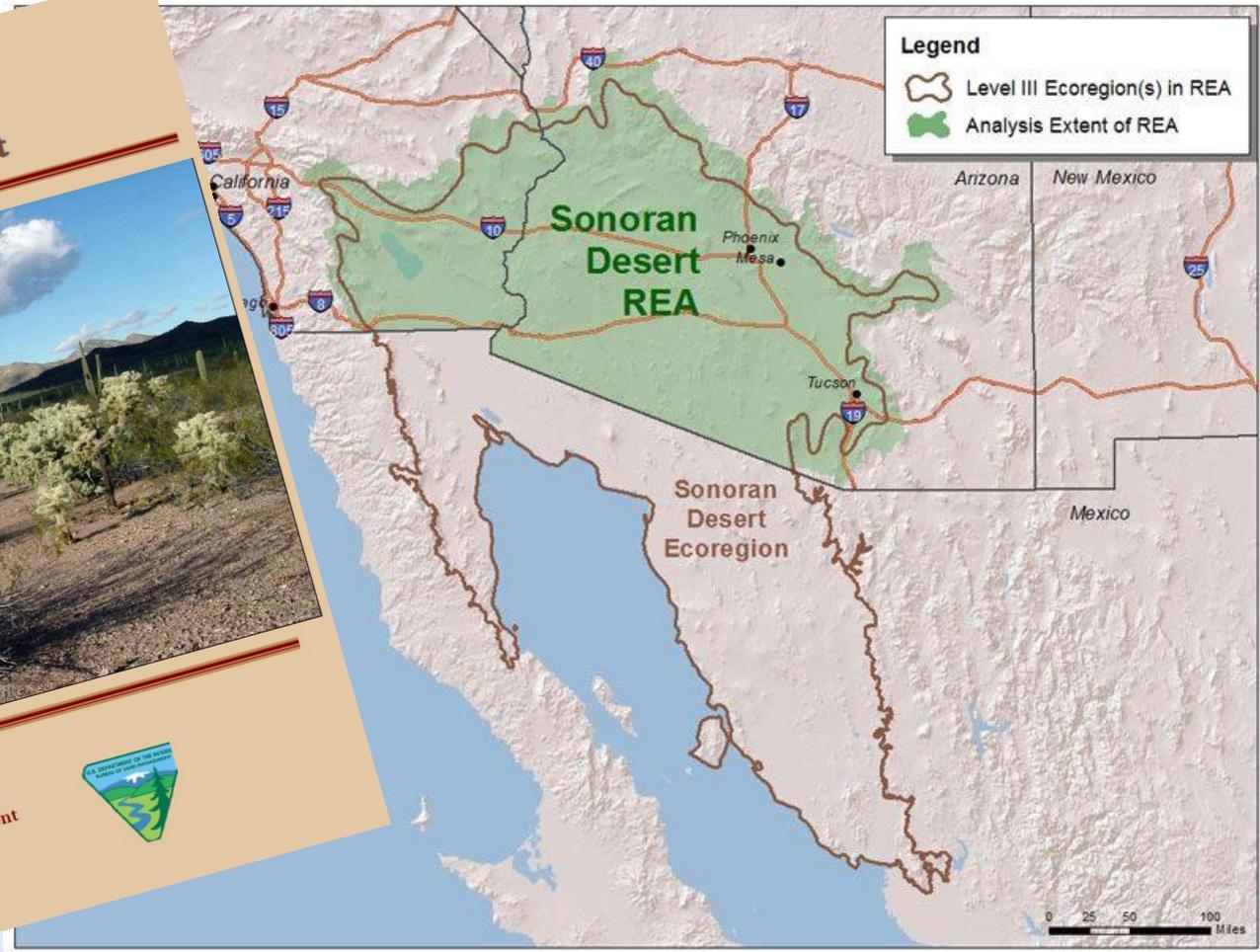
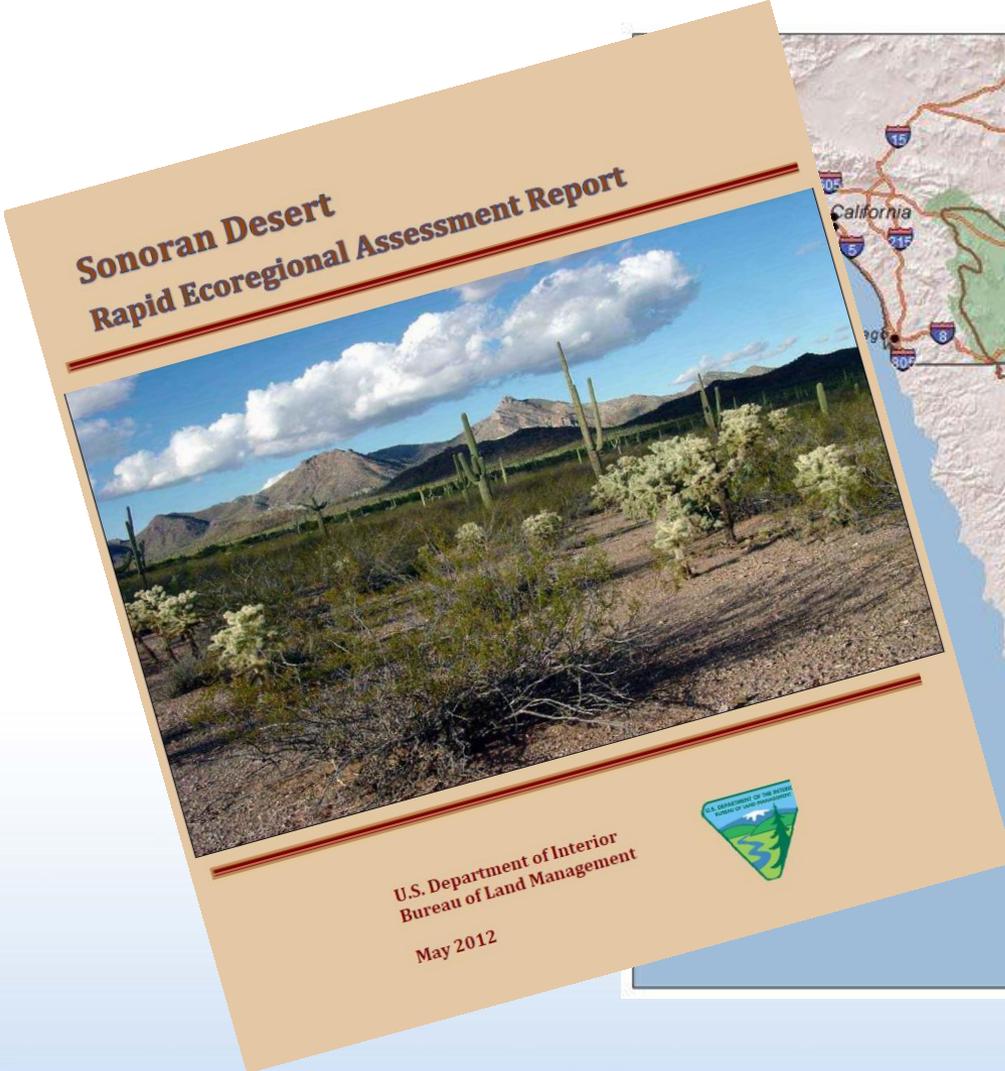
REAs are “rapid”

- Rely on existing spatial data
 - No new data collection involved
 - Some geoprocessing of existing datasets
- Repeatable methods

REAs are not decision documents

Sonoran Desert Rapid Ecoregional Assessment

- REA completed in May 2012; GIS data are available



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Three Components of REAs

Conservation Elements

- Soils (e.g., sensitive and erodible soils)
- Vegetation communities
- Wildlife
- Biodiversity
- Hydrology

“What we want to conserve”



Change Agents

- Climate change
- Human development
- Fire
- Invasive species

“What is causing change to these resources”



Management Questions

- Example: “where are sites of high biodiversity in the ecoregion?”
- How intact are terrestrial landscapes in the ecoregion?

“What land managers need to know”

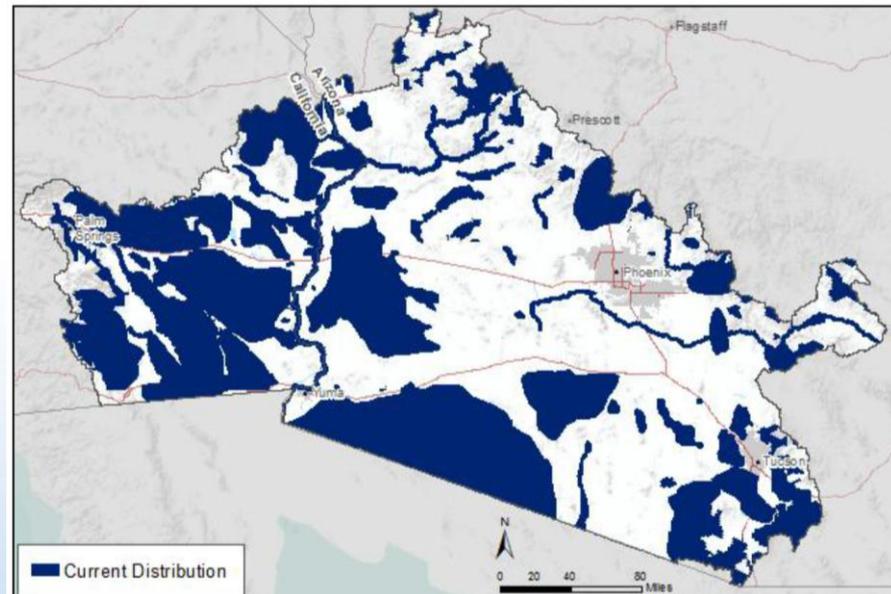


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Integration of REA Data in Arizona SRMS

- Characterize change agents and conservation elements throughout the ecoregion and in relation to the SEZs
 - Current status
 - Trends: examine anticipated future condition relative to current status
- Identify any potentially problematic trends that may be associated with solar development on the SEZs
- Identify potential offsite mitigation locations

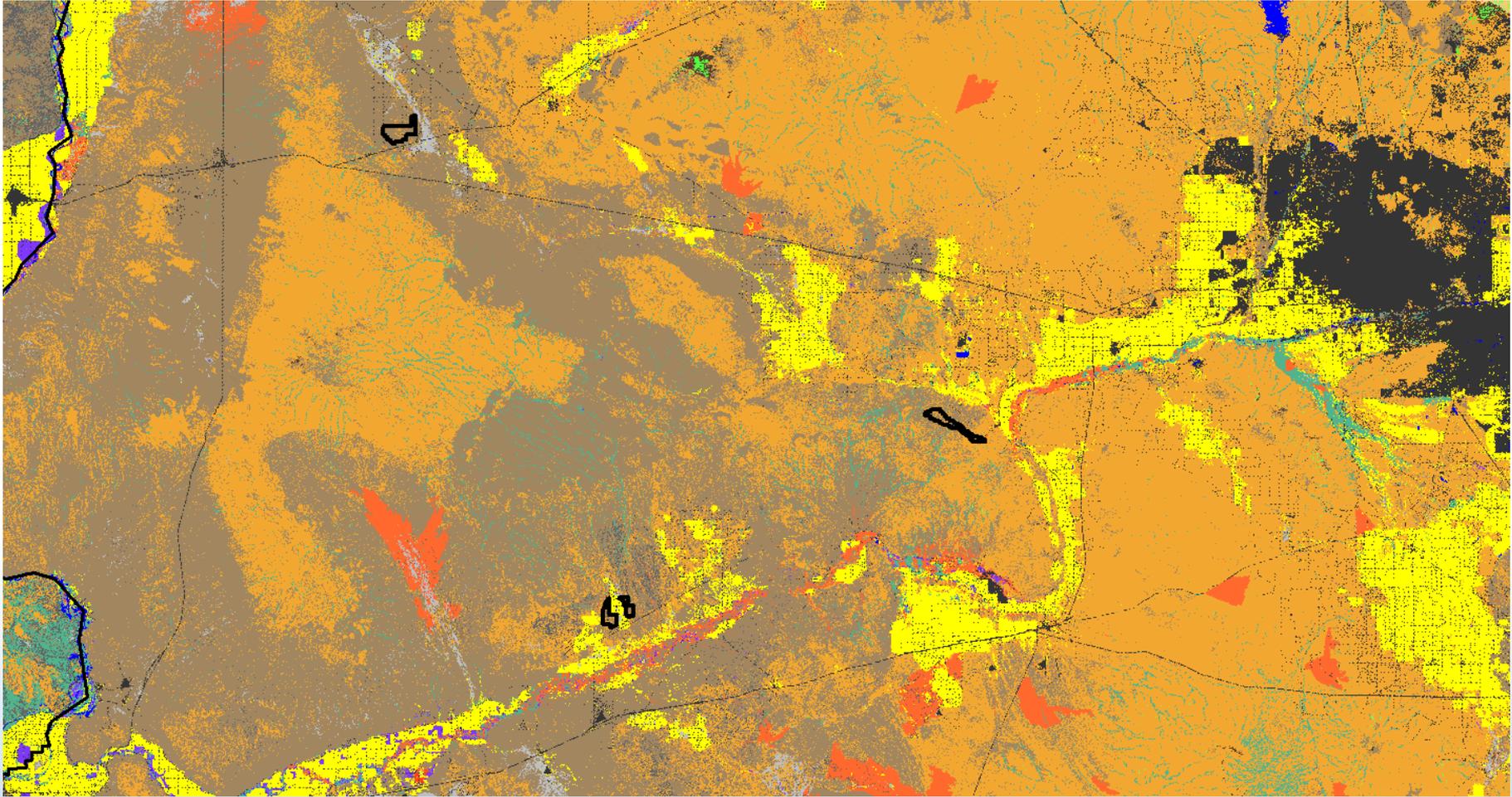
MQ: “What is the location/distribution of terrestrial biodiversity sites?”



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Vegetation Communities

LandFire Existing Vegetation Type (EVT)

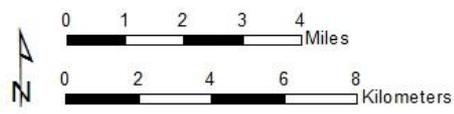
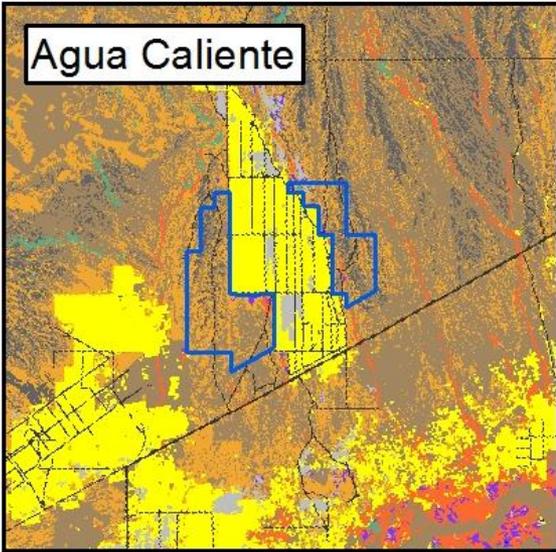
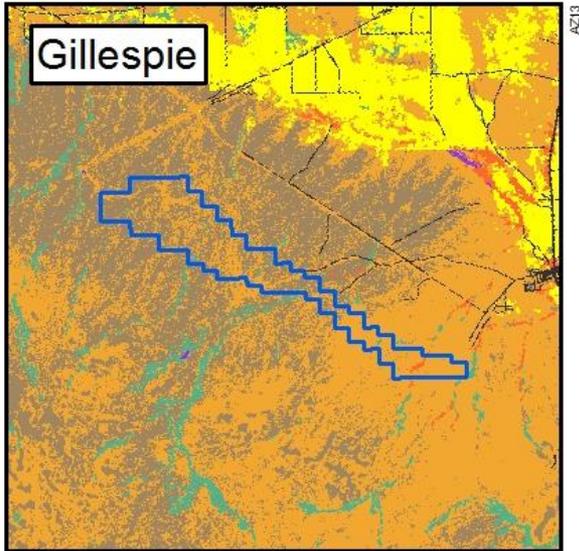
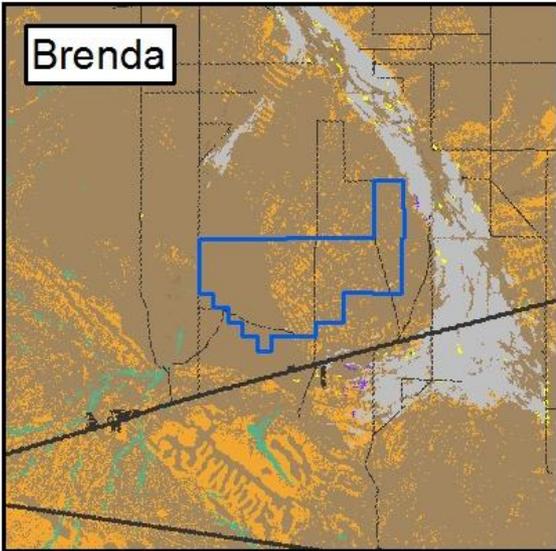


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Vegetation Communities

LandFire Existing
Vegetation Type (EVT)

Creosote white-Bursage
Paloverde-mixed cacti
desert scrub



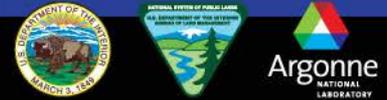
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Vegetation Communities

LandFire Existing Vegetation Type (EVT)

Summary of the 13 vegetation types found on the SEZs

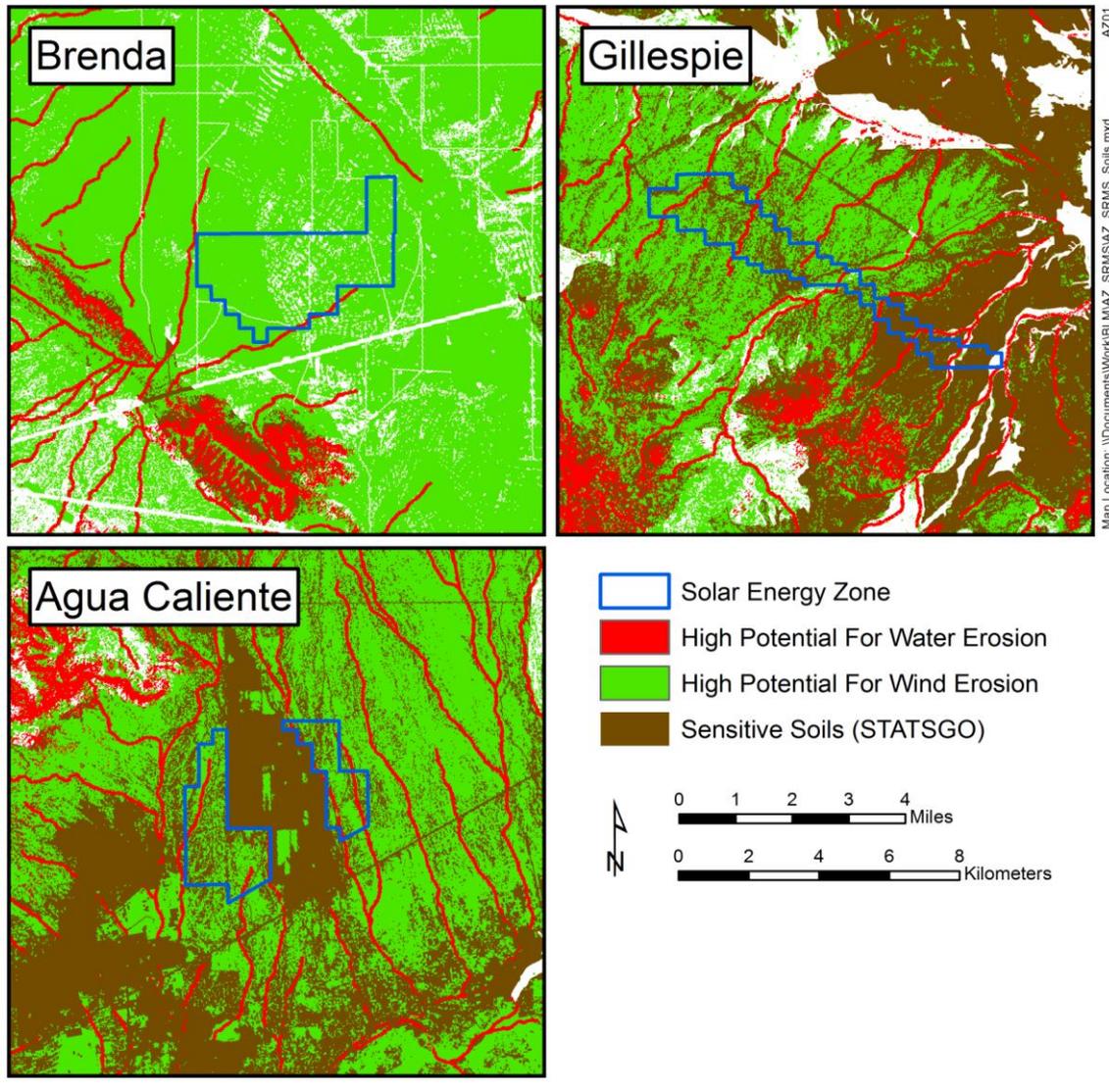
CLASS NAME	ECOREGION		AGUA CALIENTE		BRENDA		GILLESPIE	
	ACRES	PERCENT	ACRES	PERCENT	ACRES	PERCENT	ACRES	PERCENT
Apacherian-Chihuahuan Mesquite Upland Scrub	711,262	2.0%	1	0.0%	0	0.0%	0	0.0%
Barren	2,233,499	6.4%	10	0.4%	2	0.1%	0	0.0%
Developed-Roads	568,650	1.6%	107	4.2%	63	1.9%	0	0.0%
Developed-Upland Deciduous Forest	39,329	0.1%	0	0.0%	0	0.0%	0	0.0%
Developed-Upland Herbaceous	180,672	0.5%	5	0.2%	4	0.1%	0	0.0%
Developed-Upland Shrubland	204,585	0.6%	8	0.3%	2	0.1%	0	0.0%
Herbaceous Semi-dry	19,716	0.1%	3	0.1%	0	0.0%	0	0.0%
Herbaceous Semi-wet	14,795	0.0%	33	1.3%	0	0.0%	0	0.0%
Introduced Riparian Vegetation	62,848	0.2%	39	1.5%	0	0.0%	16	0.6%
North American Warm Desert Riparian Systems	2,153,546	6.2%	12	0.5%	0	0.0%	30	1.1%
North American Warm Desert Sparsely Vegetated Systems	1,105,702	3.2%	322	12.7%	0	0.0%	0	0.0%
Sonora-Mojave Creosotebush-White Bursage Desert Scrub	6,244,174	17.9%	1,085	42.7%	2,931	87.6%	1,176	44.9%
Sonoran Paloverde-Mixed Cacti Desert Scrub	12,738,953	36.5%	918	36.1%	342	10.2%	1,396	53.3%
TOTAL	26,277,733	75.3%	2,544	100%	3,345	100%	2,618	100%



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Sensitive Soils

- Sensitive soils (STATSGO)
- High potential for water erosion
- High potential for wind erosion
- May assist in identifying BMPs to reduce impacts.

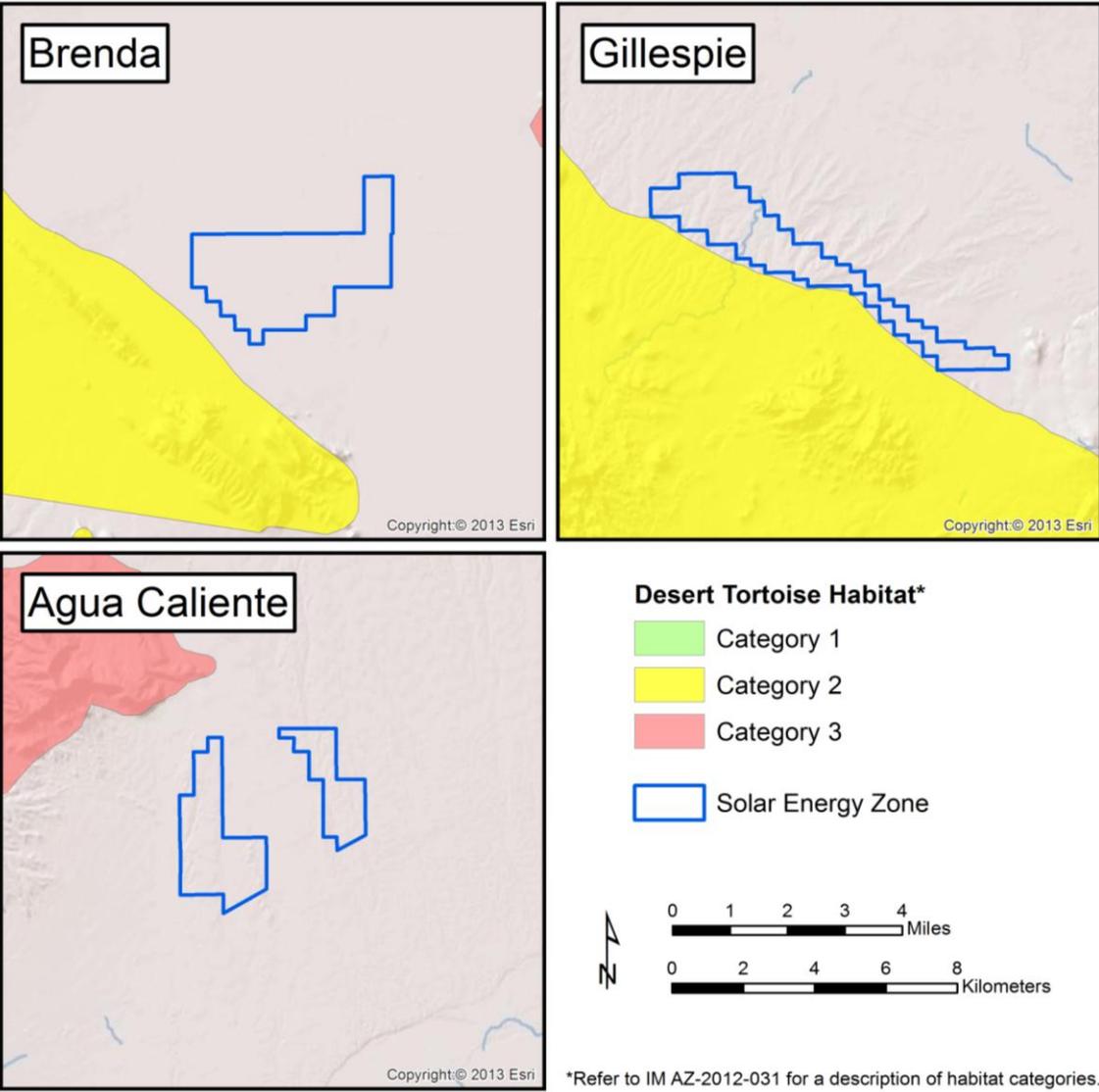


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Sonoran Desert Tortoise

- BLM-developed habitat categories as part of a range-wide planning effort (Spang et al. 1988).
- BLM policy for mitigating impacts to desert tortoise habitats ([IM AZ-2012-031](#)).
- **Category I** – Most important habitat; essential to the maintenance of viable populations.
- **Category II** – Habitat area may be essential to the maintenance of viable populations.
- **Category III** – Habitat not essential to the maintenance of viable populations; limit tortoise and habitat declines to the extent possible through mitigation.

Spang EF, Lamb GW, Rowley F, Radtkey WH, Olendorff RR, Dahlem EA and Slone S. 1988. Desert tortoise habitat management on the public lands: a rangewide plan. US Bureau of Land Management, Division of Wildlife and Fisheries: Washington, DC.

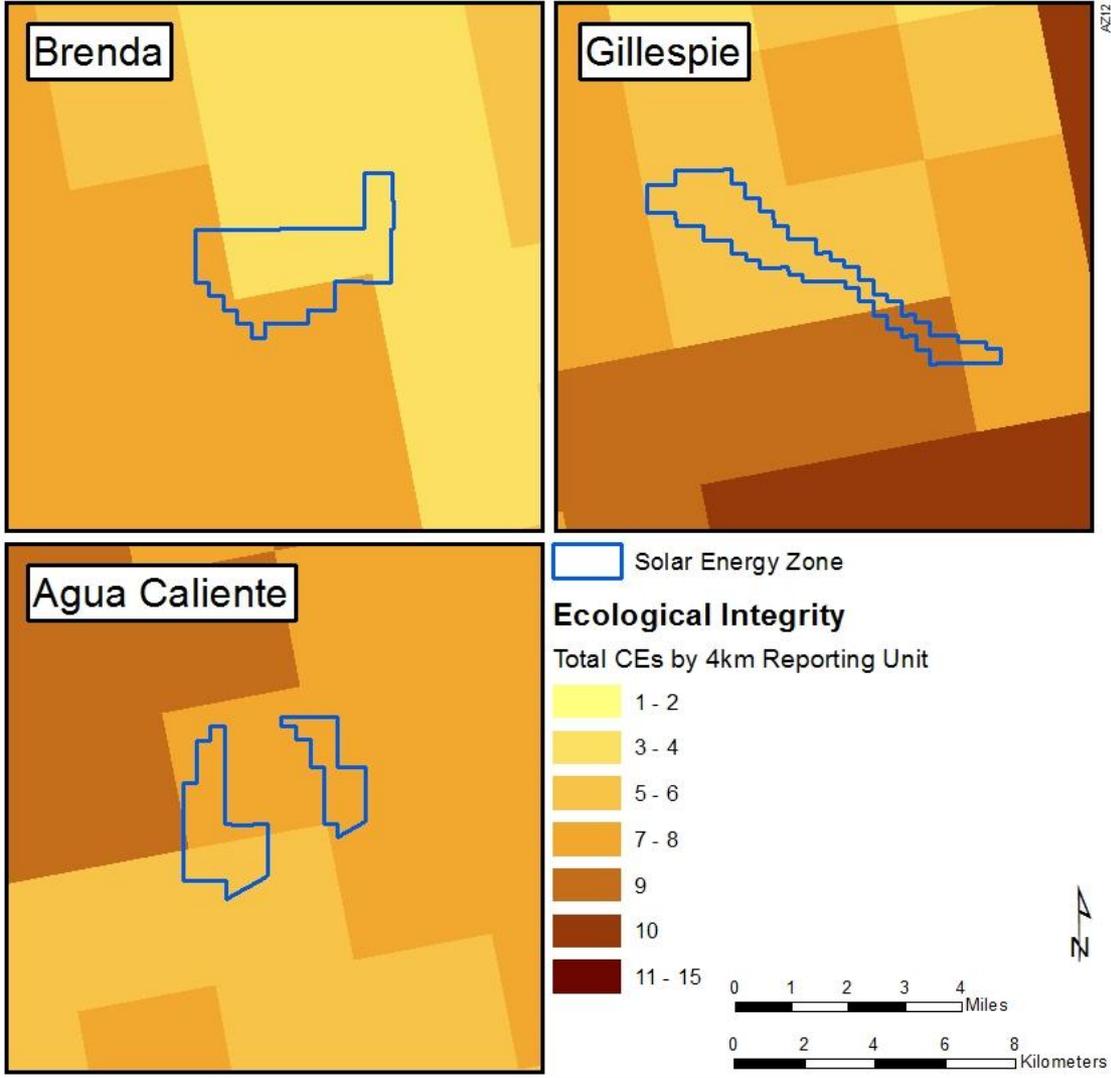
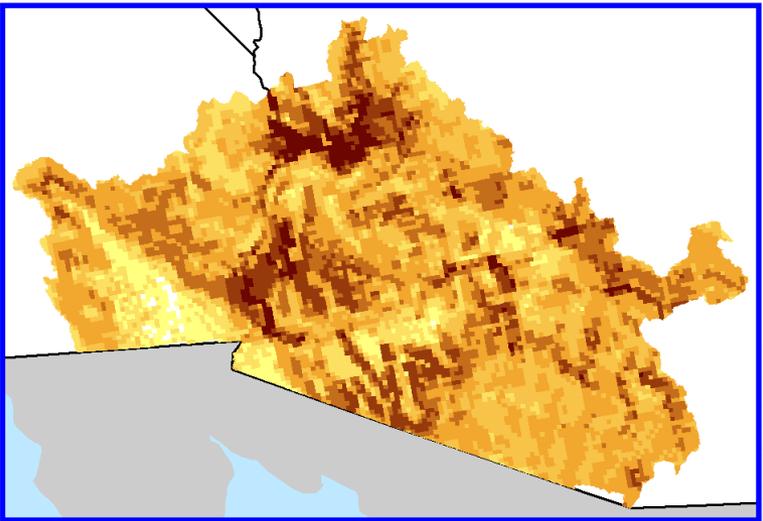


*Refer to IM AZ-2012-031 for a description of habitat categories.

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Ecological Integrity

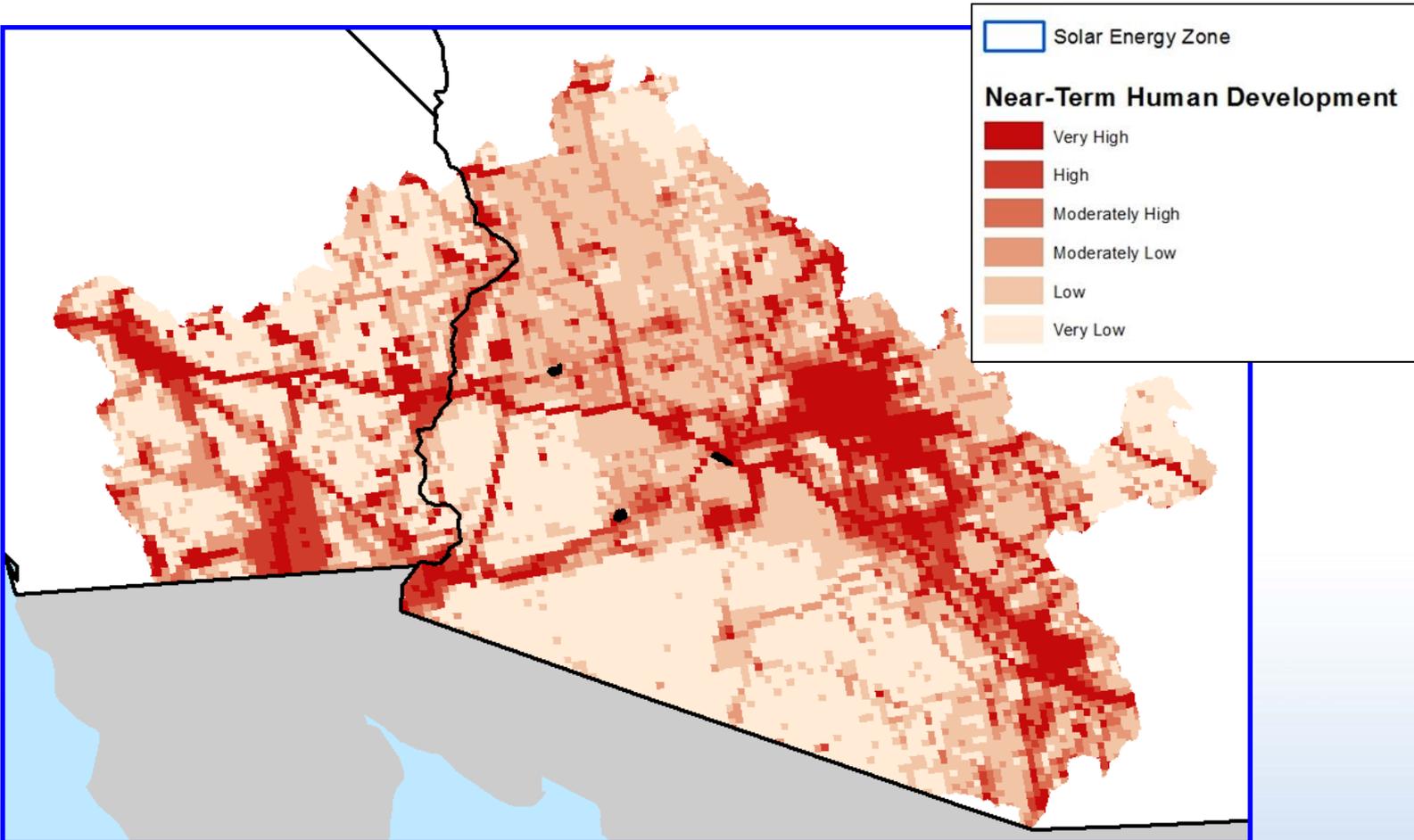
Total conservation elements summed by 4km reporting units



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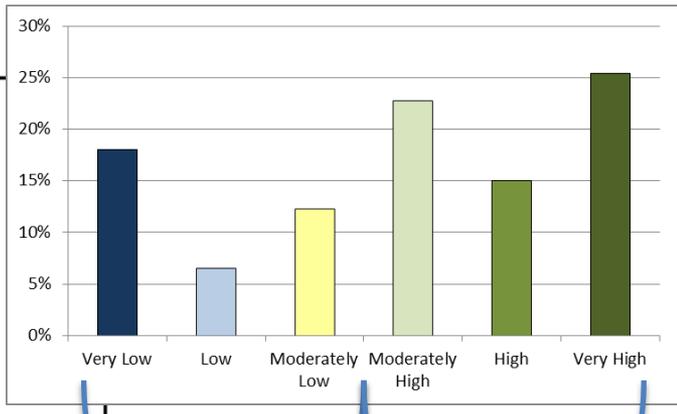
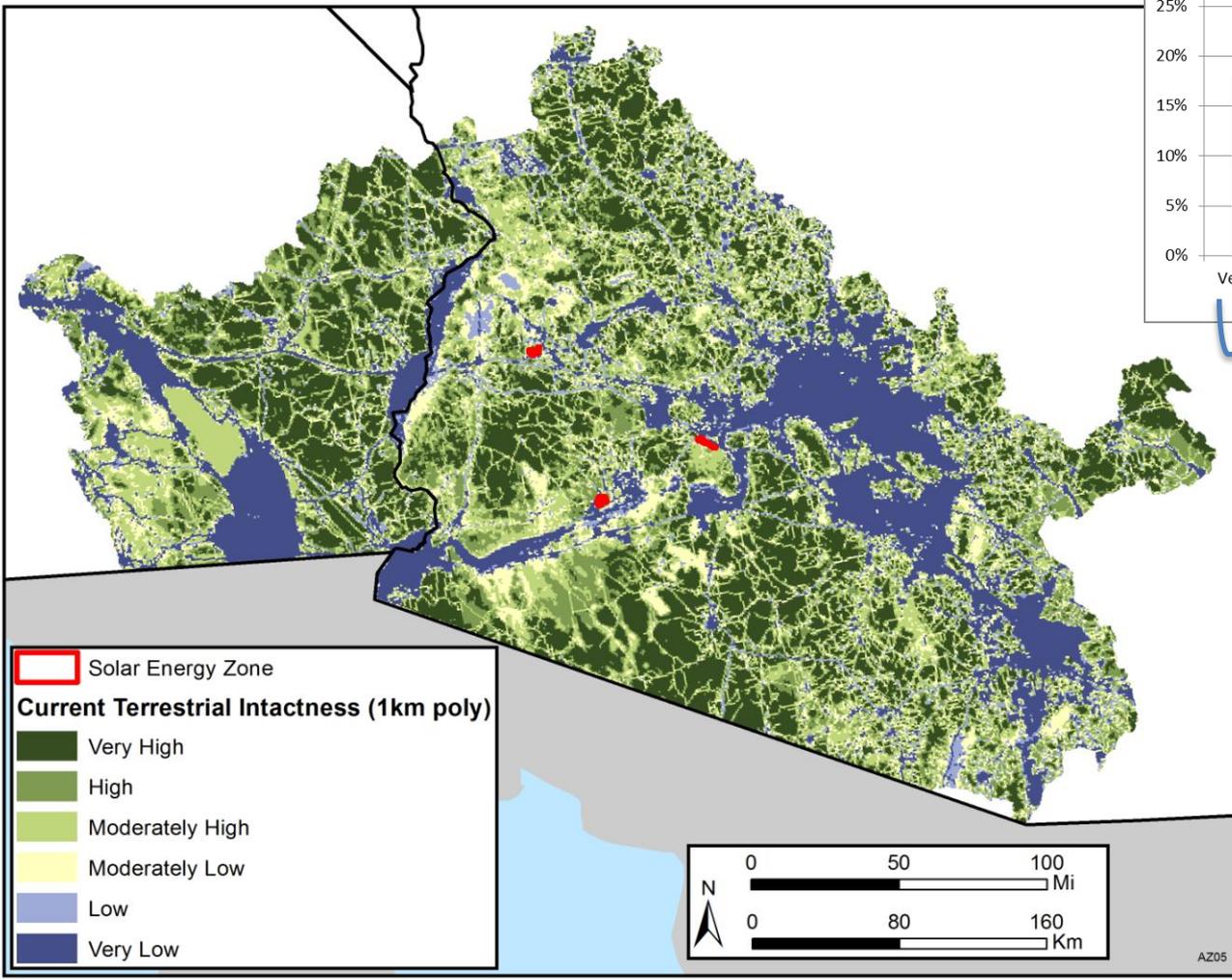
Human Development

Future near-term human development (2025)



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Current Terrestrial Intactness (1km)



37%
"low"

63%
"high"

Intactness is a quantifiable estimate of naturalness measured on a gradient of anthropogenic influence and based on available spatial data.

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Current Terrestrial Intactness

Brenda:
32% "low"
68% "high"

Gillespie:
33% "low"
67% "high"

Agua Caliente:
90% "low"
10% "high"

