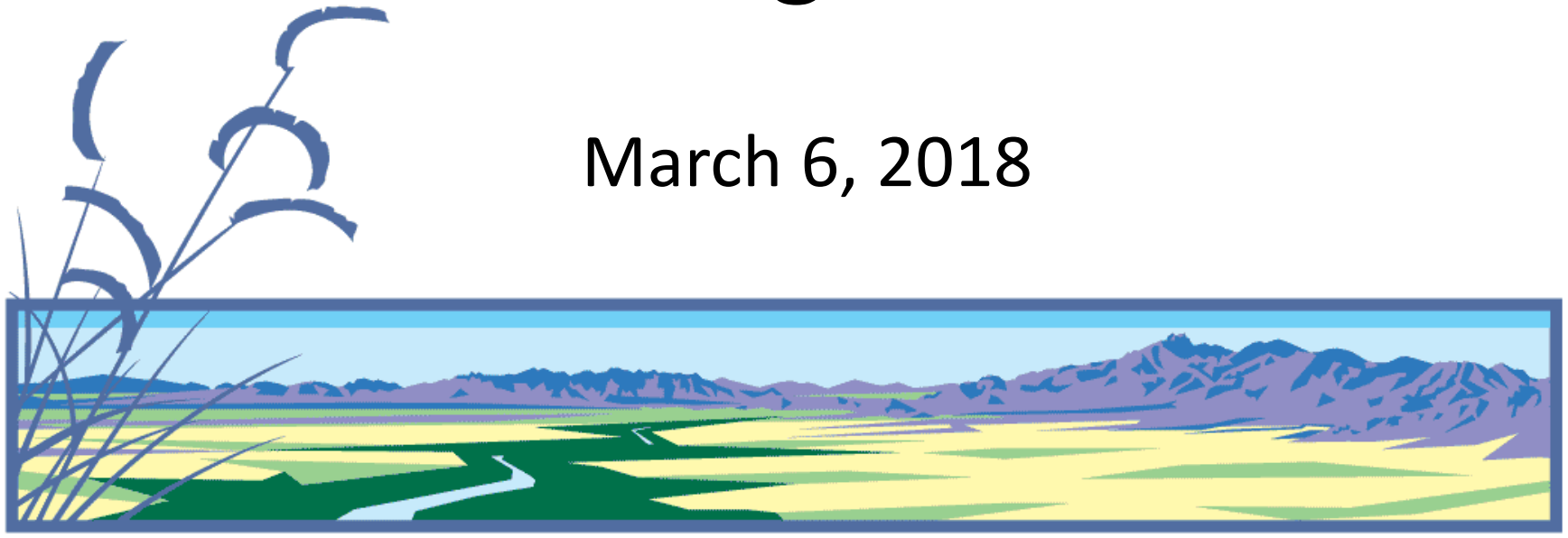
Second Annual State of the Health of the Cienega Watershed

March 6, 2018



Larry Fisher – UA/CWP, **Tom Meixner** – UA/CWP, **Adriana Zuniga-Teran** – UA, **Shela McFarlin** – CWP, **Kelly Mott LaCroix** – UA/CWP, **Tahnee Robertson** - SW Decision Resources/CWP, **Frank Postillion** – CWP/Pima County Reg. Flood Control District

Overview

- Introduction
- Objective
- Methodology
- Results
  - Climate
  - Water
  - Ecological
  - Socio-cultural
- Conclusion
- Next Steps

Cienega Watershed

- Includes five of the rarest habitat types in the American Southwest:
  - Cienegas (marshlands)
  - Cottonwood-willow riparian forests
  - Sacaton grasslands
  - Mesquite bosques
  - Semi-desert grasslands

- Cienega Creek – one of the few remaining perennial streams in Arizona, providing critical habitat for wildlife (threatened & endangered species).
- Historically important ranching operations, important cultural/archeological resources.
- Attractive visitor destination, for its scenic landscapes, natural beauty, and cultural heritage.
- Water source for Tucson Metropolitan Area (groundwater).

Management challenges

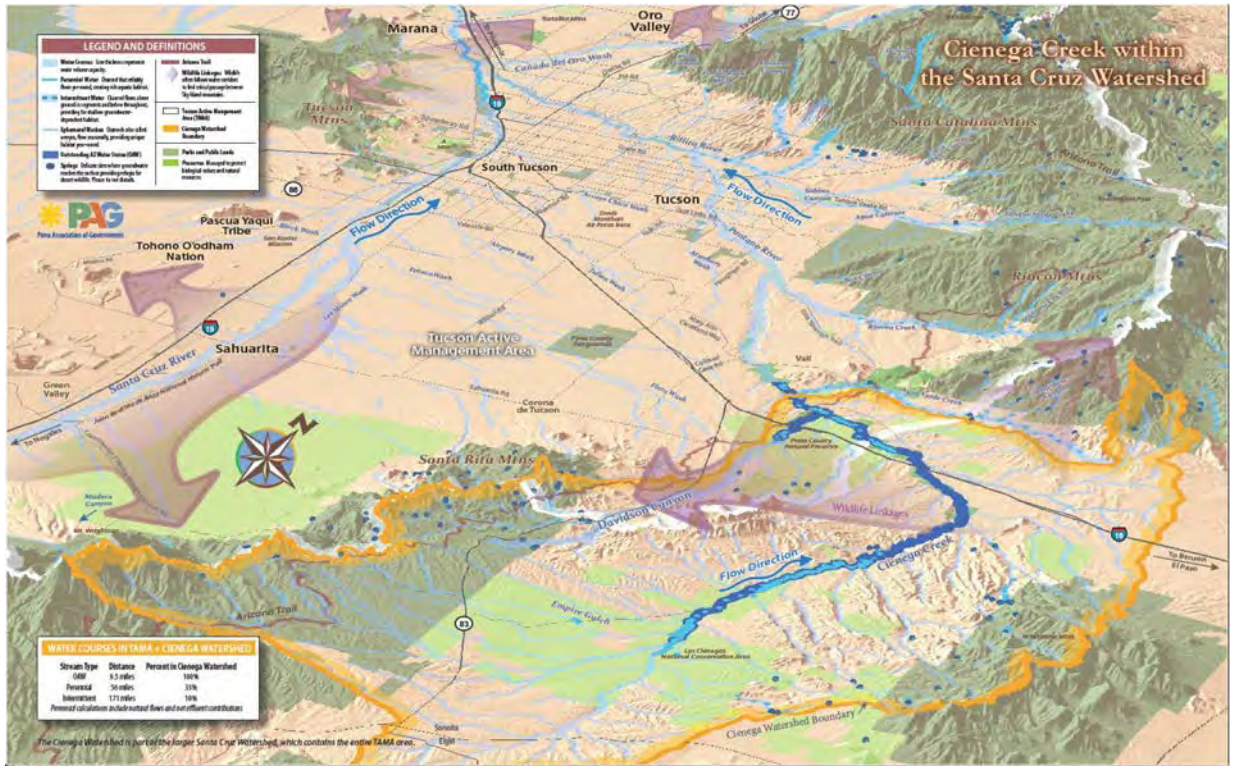
- Dewatering of Cienega Creek and wetlands through development, mining, and climate change
- Threatened/endangered species
- Spread of invasive species
- Restoration of critical habitat
- Connectivity to larger landscapes
- Loss of cultural heritage sites
- Declining federal budgets

Collaboration & adaptive management

- Broad-based partnership effort to protect a landscape threatened by fragmentation and development – includes federal, state, and county agencies, NGOs, ranchers, researchers.
- Has become a national example of effective stakeholder engagement and adaptive management
- Management approach includes strong emphasis on:
  - Shared goals, measurable objectives
  - Relevant, reliable scientific information
  - Mechanisms for incorporating new information into decision making
  - Shared learning to improve both process and management actions

Objectives

- Monitor the state of the Cienega Watershed through a common set of overarching indicators
- To provide a regular mechanism for evaluating watershed health
- Communicate this assessment to program partners and the community at large
- Guide the implementation and adaptation of CWP program priorities and actions to meet changing conditions.



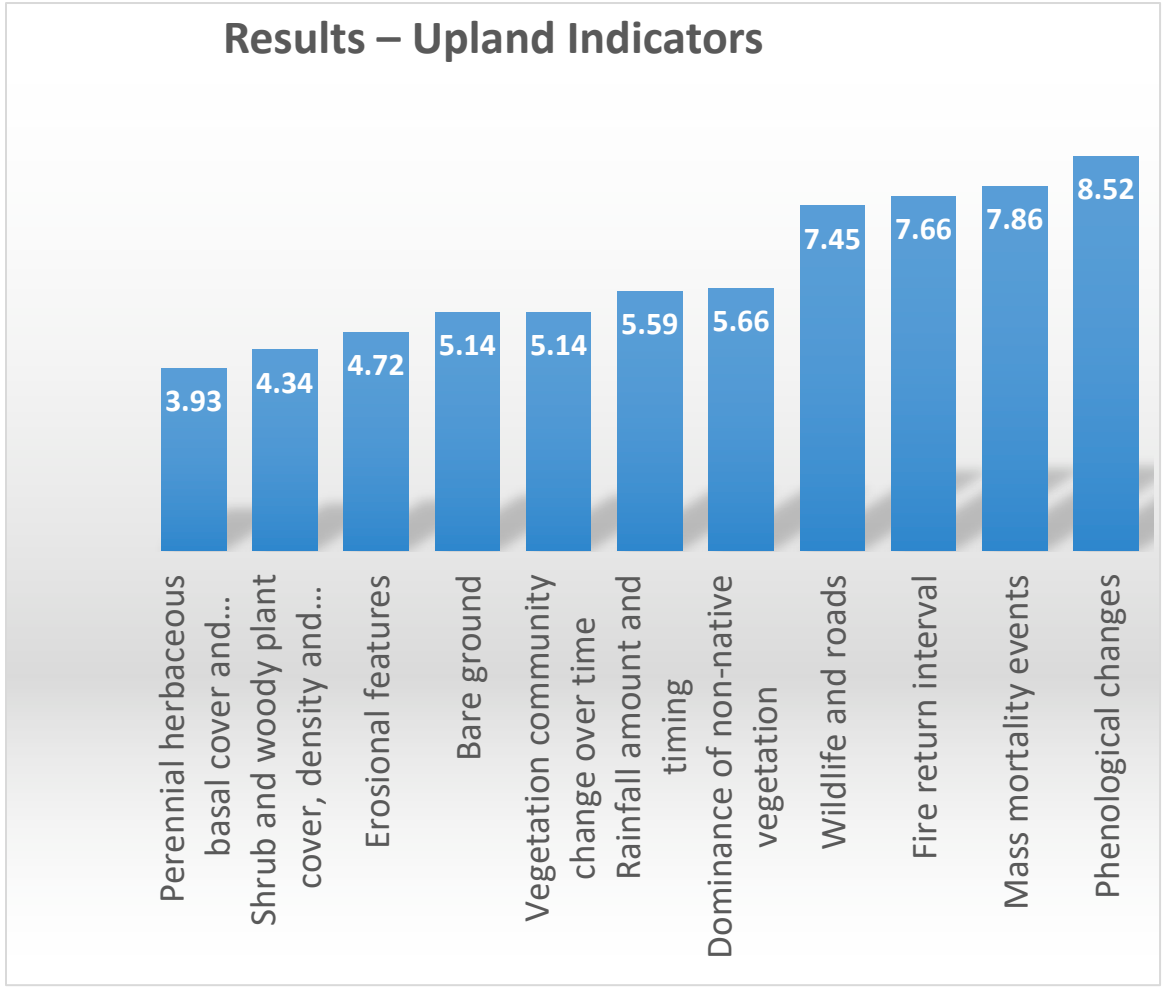
Source: Pima Association of Governments

Methods and approach

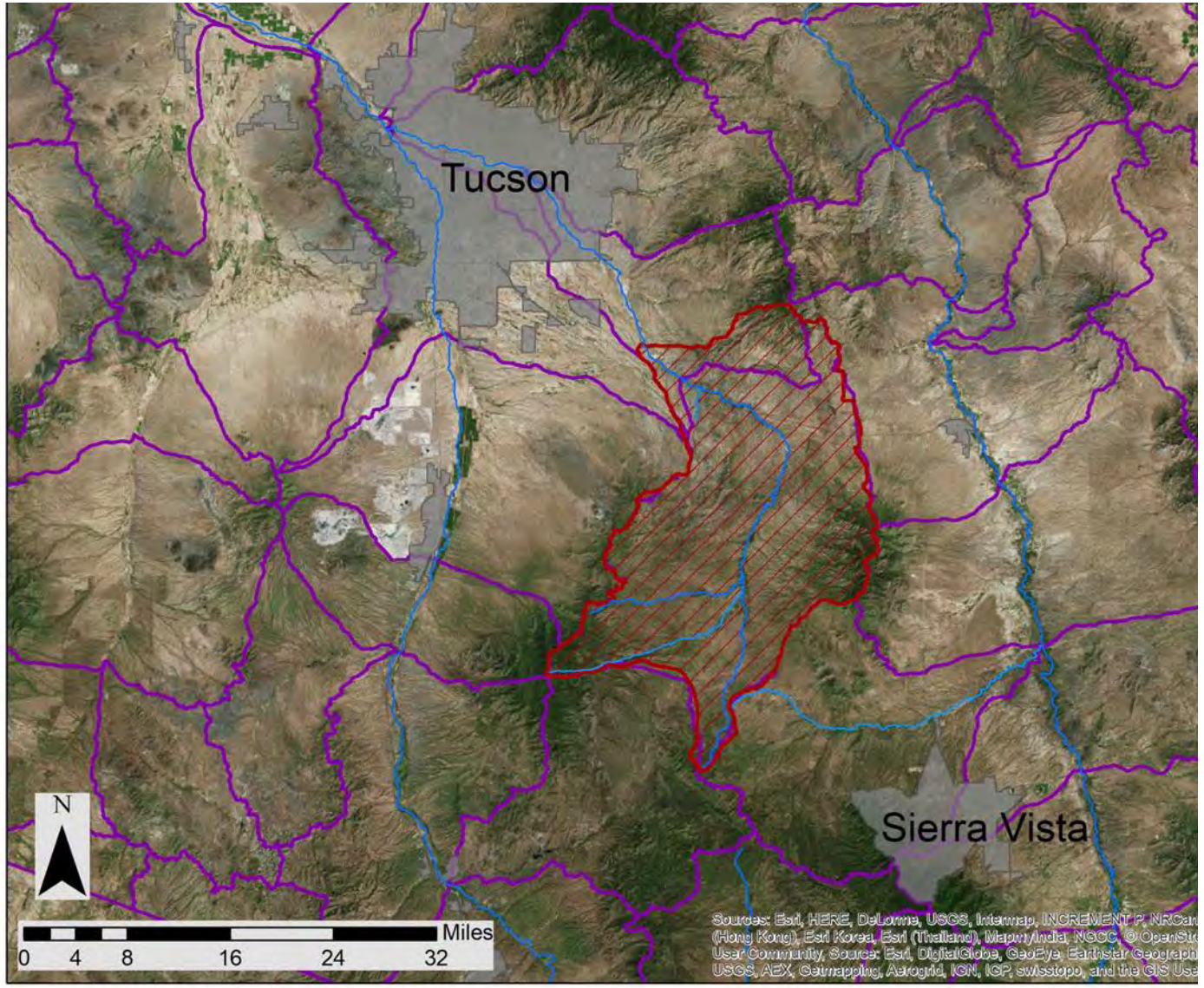
- Initial tasks
  - Develop criteria for evaluating indicators
  - Identify and prioritize indicators
  - Identify sources of data
  - Determine appropriate ways of presenting the results
- Workshops with CWP partners
- Periodic meetings of four working groups
  - Landscape
  - Riparian/water
  - Uplands
  - Social/cultural

Methods and approach (cont.)

- Electronic survey distributed to CWP partners (R = 40/84)
- Extensive contact with key partners to gather available data, determine how best to communicate the data, and ask where to find missing data, or identify suitable proxy data
- Periodic meetings to further refine data analysis and presentation



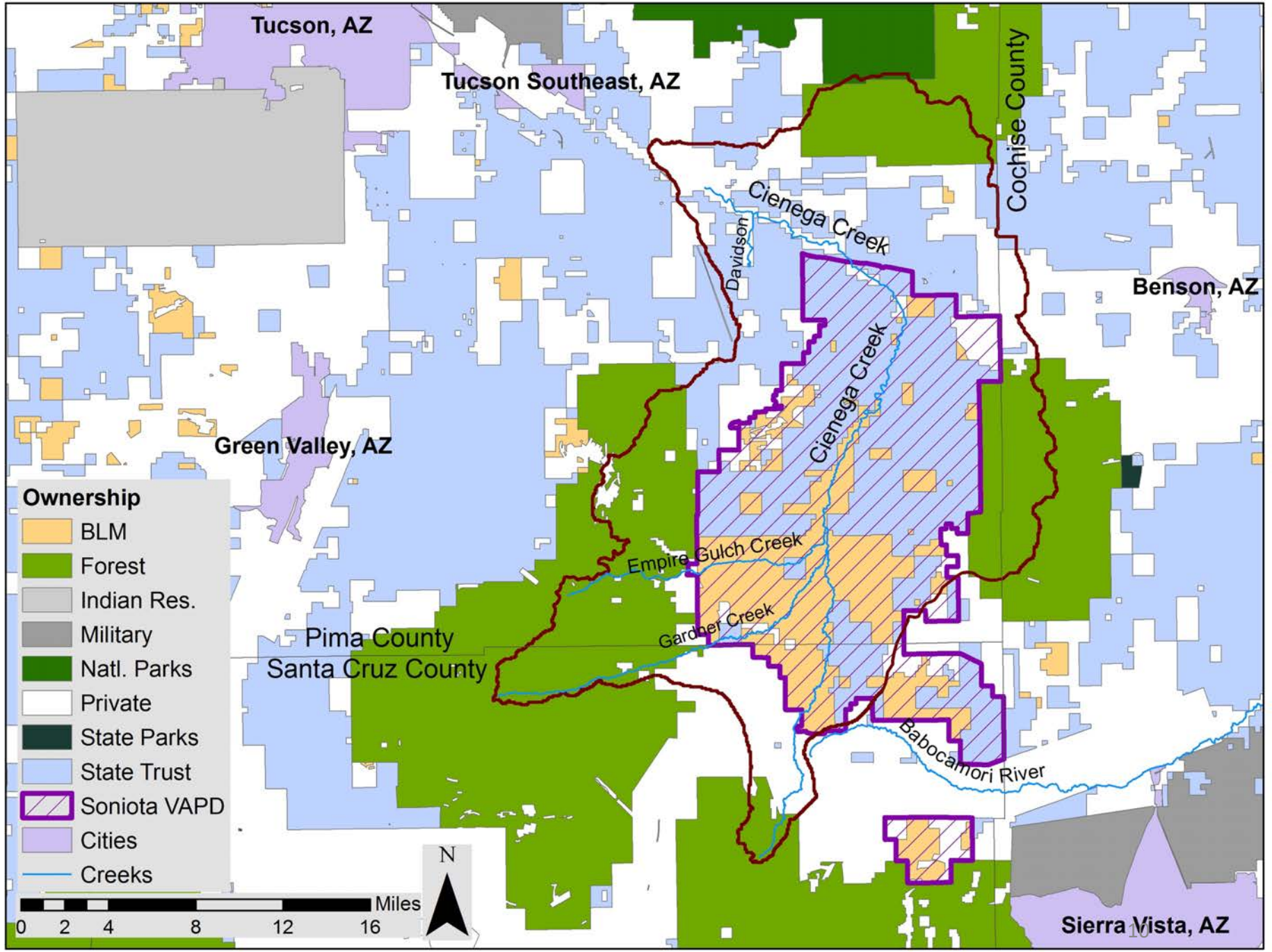
Cienega Watershed



Boundary:

- Shapefile provided by Brian Powell from Pima County.
- Partially corresponds with USGS – Hydrologic Unit Codes (HUC) 10.

Land Ownership



Source: AZGEO. Link: https://azgeo.az.gov/azgeo/
Mike List from Pima County provided shapefile for the Sonoita Valley Acquisition Planning District (Sonoita VAPD)

List of Indicators

Category	Indicator	No.	Description
Climate	Precipitation	1	Historic data on mean precipitation summer vs. winter
	Temperature	2	Historic data on mean temperature
	Drought	3	Standardized Index for drought over time
Water	**Groundwater levels**	4	Change of groundwater levels over time
		5	**Wetlands** – spatial location and extension of wetlands
	Surface water quantity	6	Wet-dry mapping (June –worst case)
		7	Gauges (Narrows and Pantano Dam)
		8	Monthly Flows/ base flows
	Water quality	9	TDS, dissolved oxygen (fish), PH
Ecological	Veg. volume/composition/cover	10	Land cover
	Wildlife	11	Pronghorn
		12	Fish
		13	Frogs
	Fire	14	Coverage
Socio-cultural	Economic vitality	15	Median household income, median home values, unemployment, residents below poverty level
	Land use land cover change	16	Land use and land cover change
	Number of wells	17	Number of wells installed within the watershed and buffer area of 10 mi
	Archaeological site conditions	18	Trend in site conditions, both human and natural-caused damage.
	Number of recreational permits	19	Number of recreational permits over time
	Stewardship engagement programs	20	Number of opportunities for active engagement

N=20

Acknowledgments

Adams, MaryAnn	Pima County Parks and Recreation
Behrend, Matthew	Arizona State Land Department
Bodner, Gita	The Nature Conservancy
Burroughs, Wendy	Pima County Natural Resources
Campbell. Carianne	Sky Island Alliance
Crimmns, Michael	University of Arizona
Driscoll, Zach	Bureau of Land Management
Frisvold, George	University of Arizona
Hall, David	CWP- Frog project
Hartfield, Kyle	Arizona Remote Sensing Center
Hicks, Holly	Arizona Fish and Wildlife Department
Klima, Karen	Arizona Fish and Wildlife Department
List, Mike	Pima County
Mehalic, Dave	US Forest Service
Mendoza, Francisco	Bureau of Land Management
Mier, Mead	Pima Association of Governments
Mott-LaCroix, Kelly	Water Resources Research Center
Murray, Dave	Bureau of Land Management
Norman, Lara	US Geological Survey
Postillion, Frank	Pima C. Regional Flood Control District
Powell, Brian	Pima County
Quintana, Dan	Bureau of Land Management
Rose, Courtney	Pima County
Ryan, Kim	Bureau of Land Management
Salywon, Andrew	Desert Botanical Garden
Scalero, David	Pima C. Regional Flood Control District
Schrager, Chris	Bureau of Land Management
Simms, Karen	Bureau of Land Management
Simms, Jeff	Bureau of Land Management
Smith, Amanda	University of Arizona
Tiller, Ron	Desert Botanical Garden
Van Leeuwen, Wim	Arizona Remote Sensing Center
Walker, Robert	Bureau of Land Management
Yaneva, Rositsa	UNI-¡Globes/Biosphere 2
Young, Bobbie	Empire Ranch Foundation

Climate

Category	Indicator	No.	Description
Climate	Precipitation	1	Historic data on mean precipitation summer vs. winter
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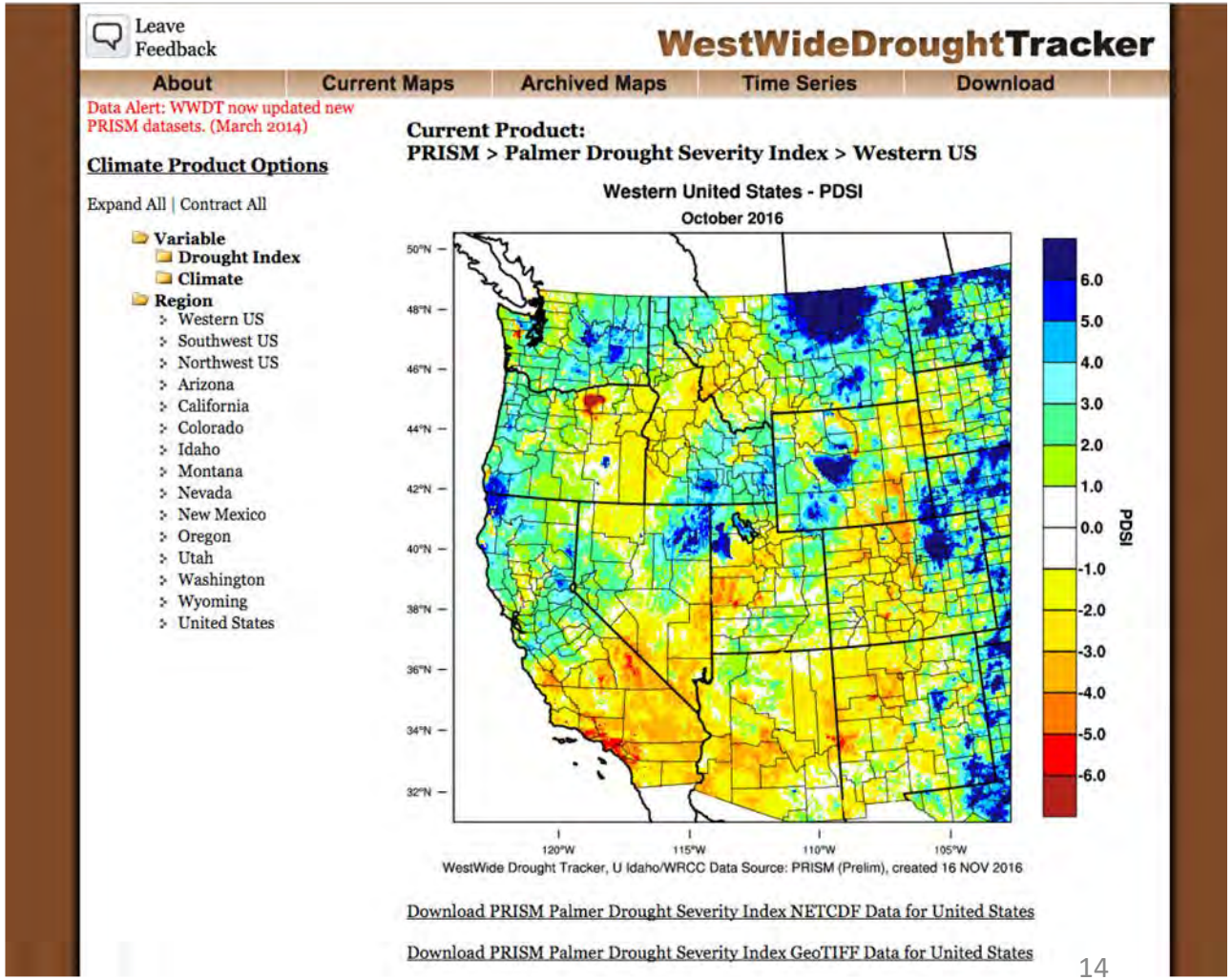
	Drought	3	Standardized Index for Drought over time

Climate

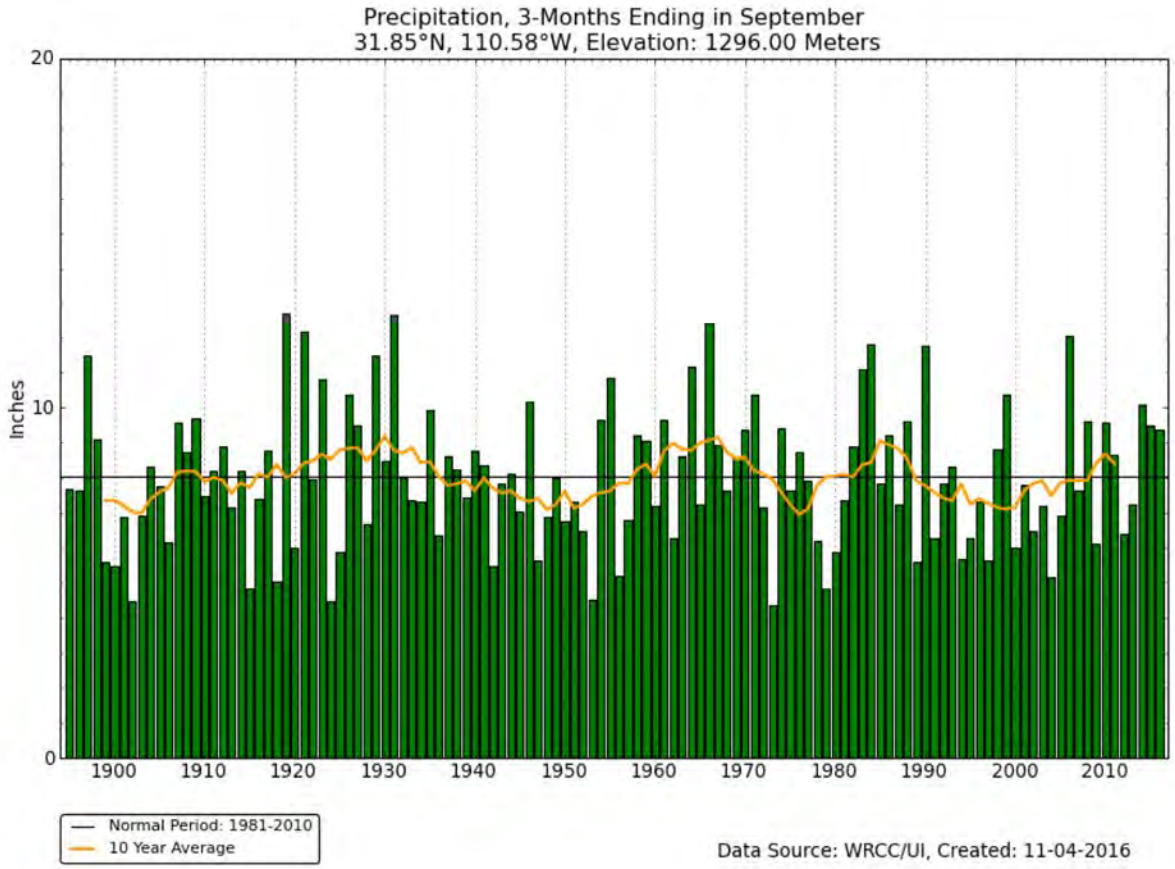
- **West Wide Drought Tracker** offers a pixel representation of climate data and drought indices at all time scales.
- Includes point data from rain gauges, which drives the creation of gridded climate data (interpolation/statistical estimate).
- Accounts for elevation.
- It is a defensible way to track climate.



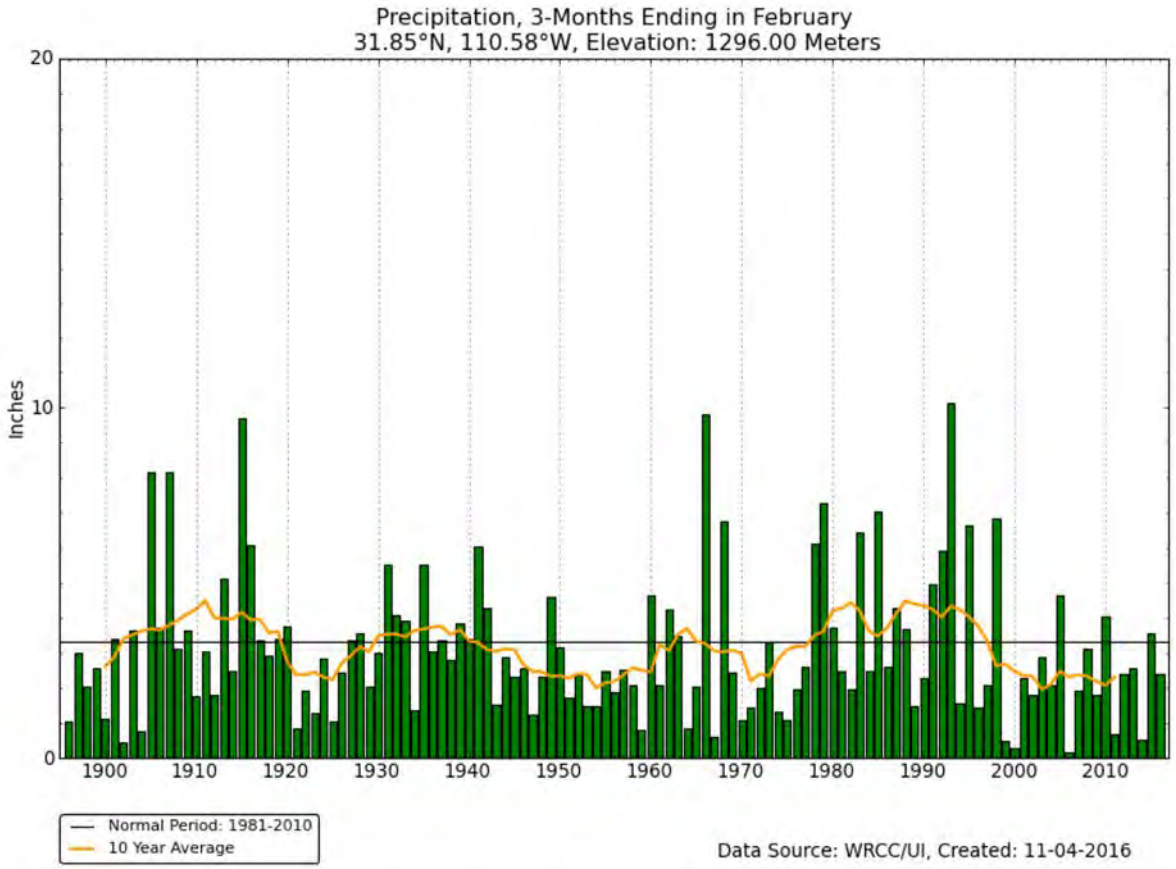
Source: http://www.wrcc.dri.edu/wwdt/ (click Time Series tab)
Advise from: Mike Crimmins

Precipitation – summer vs. winter

Summer



Winter



Source: http://www.wrcc.dri.edu/wwdt/
Assistance from: Mike Crimmins

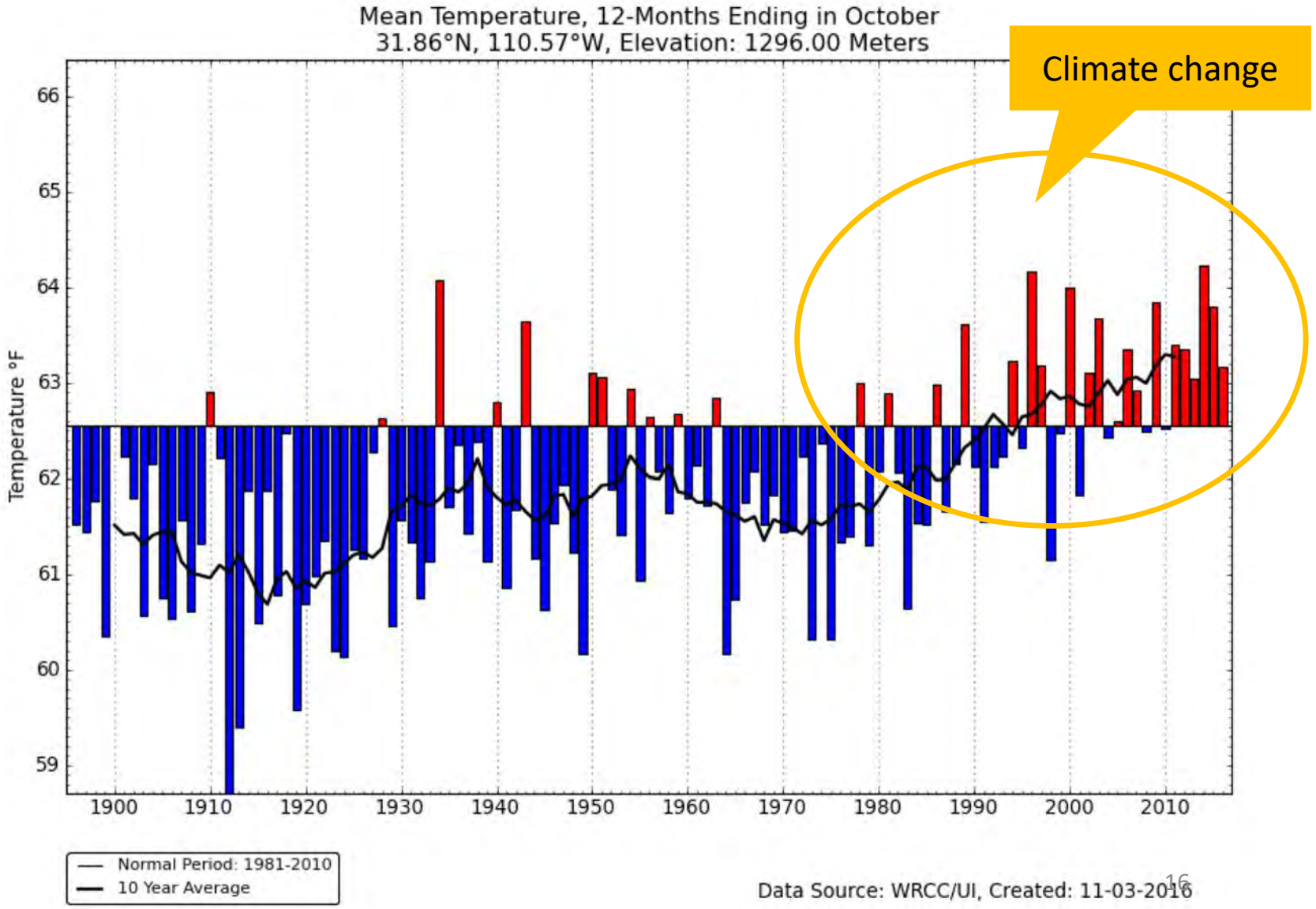
Temperature

Time Series

Variable Information

Latitude:	31.86356
Longitude:	-110.56932
Variable:	Temperature
Start Year:	1895
End Year:	2016
Month:	October
Span:	12-Month
Running Average (Years):	10

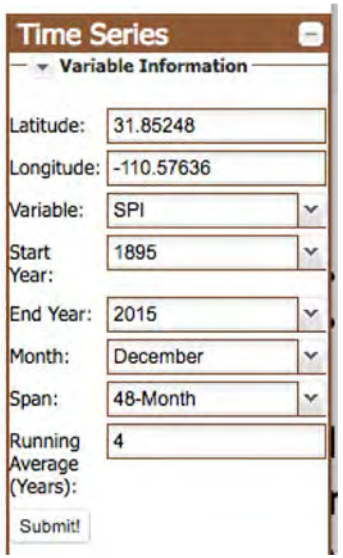
Submit!



Source: http://www.wrcc.dri.edu/wwdt/
Help from: Mike Crimmins

Drought

- SPI – Standardized Index for drought - the simplest index for drought.
- Standard deviation of observed precipitation for a given point.



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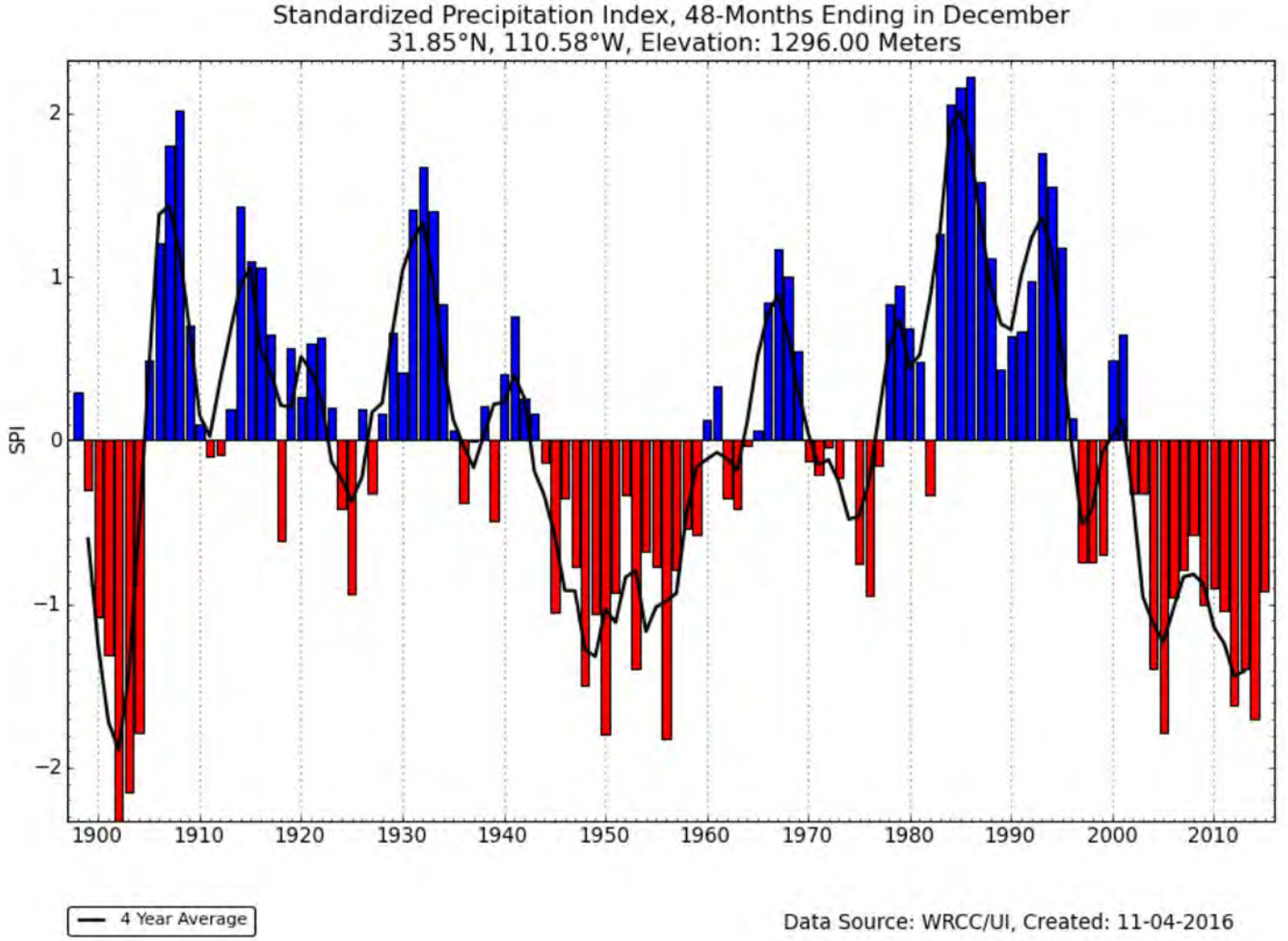
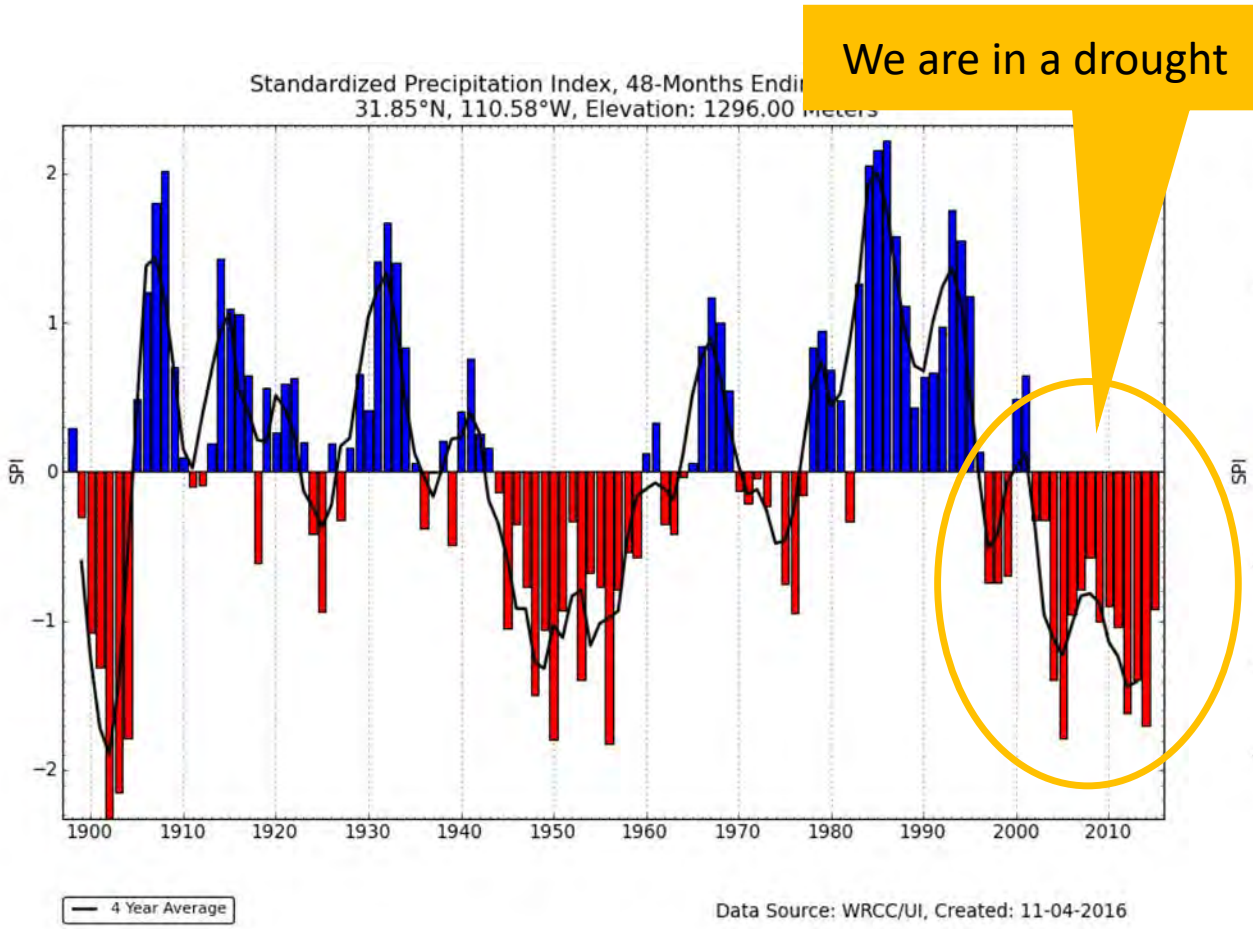
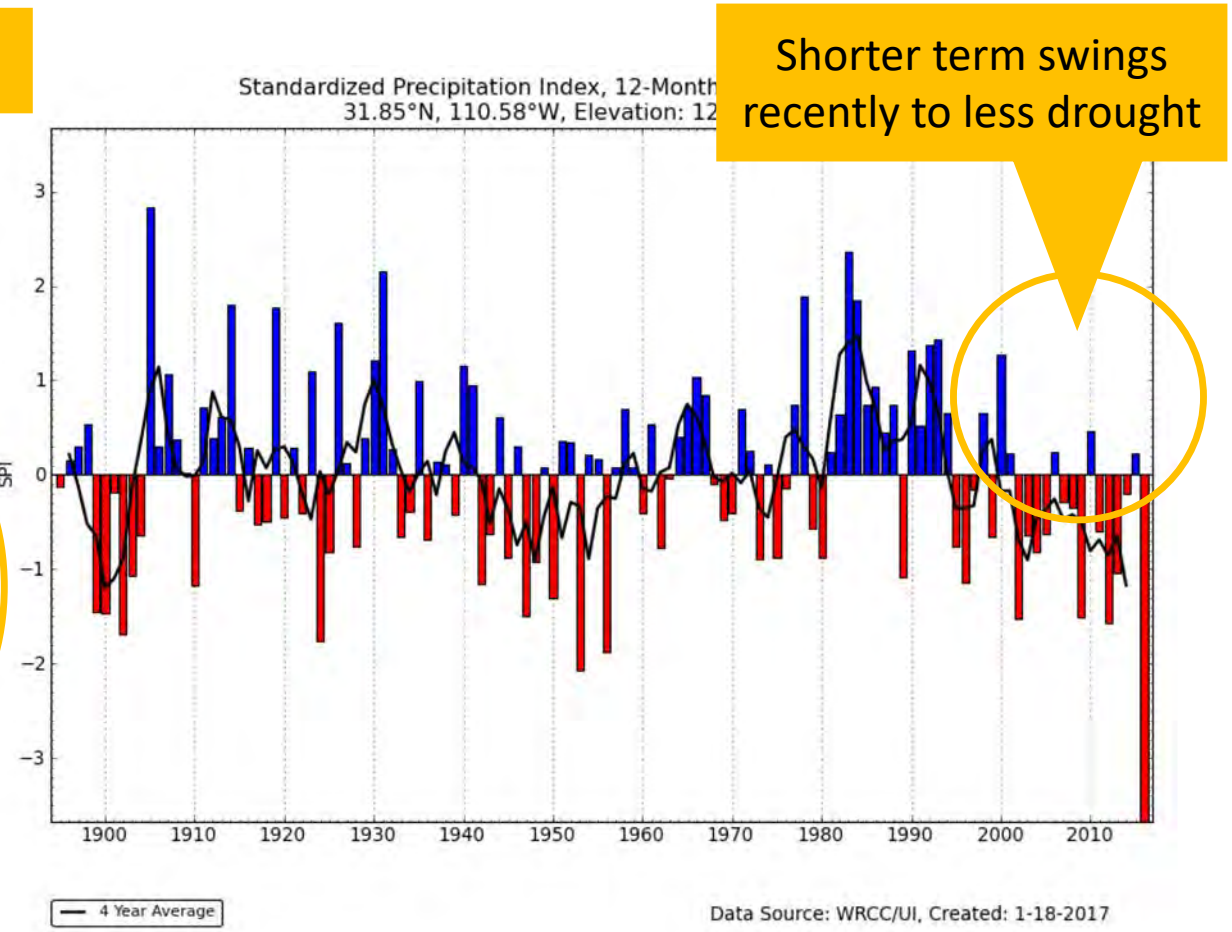


Drought



48 month SPI – 4 yr. average



12 month SPI – 4 yr. average

Source: http://www.wrcc.dri.edu/wwdt/
Help from: Dr. Mike Crimmins

Climate - General trends

- **Precipitation:** No clear trend. But over the last 20 years we see a decline in winter precipitation. This is significant because winter precipitation is crucial for and the state of the health of the watershed.

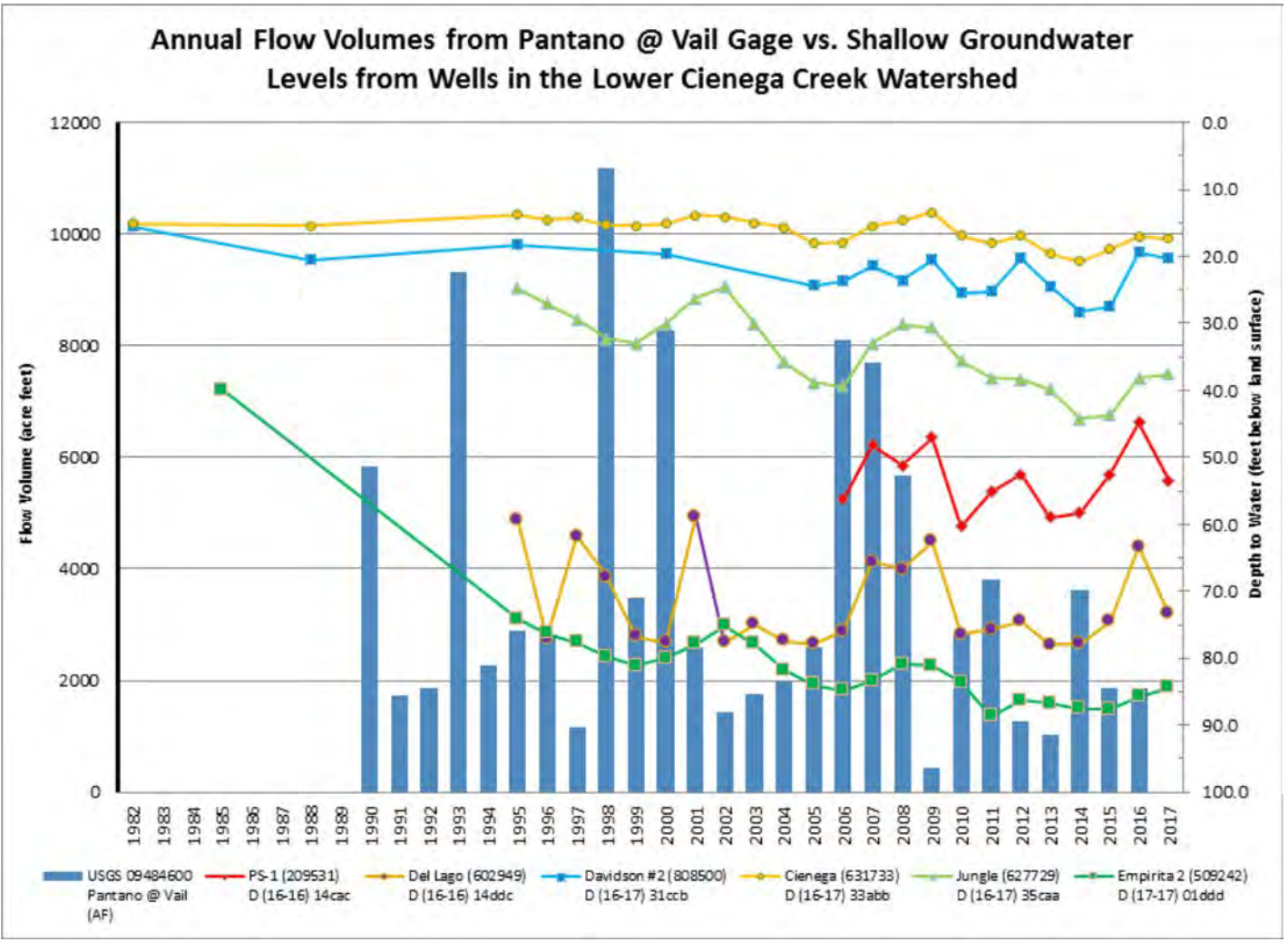
- **Temperature:** Dramatic increase in temperature, particularly since 1980

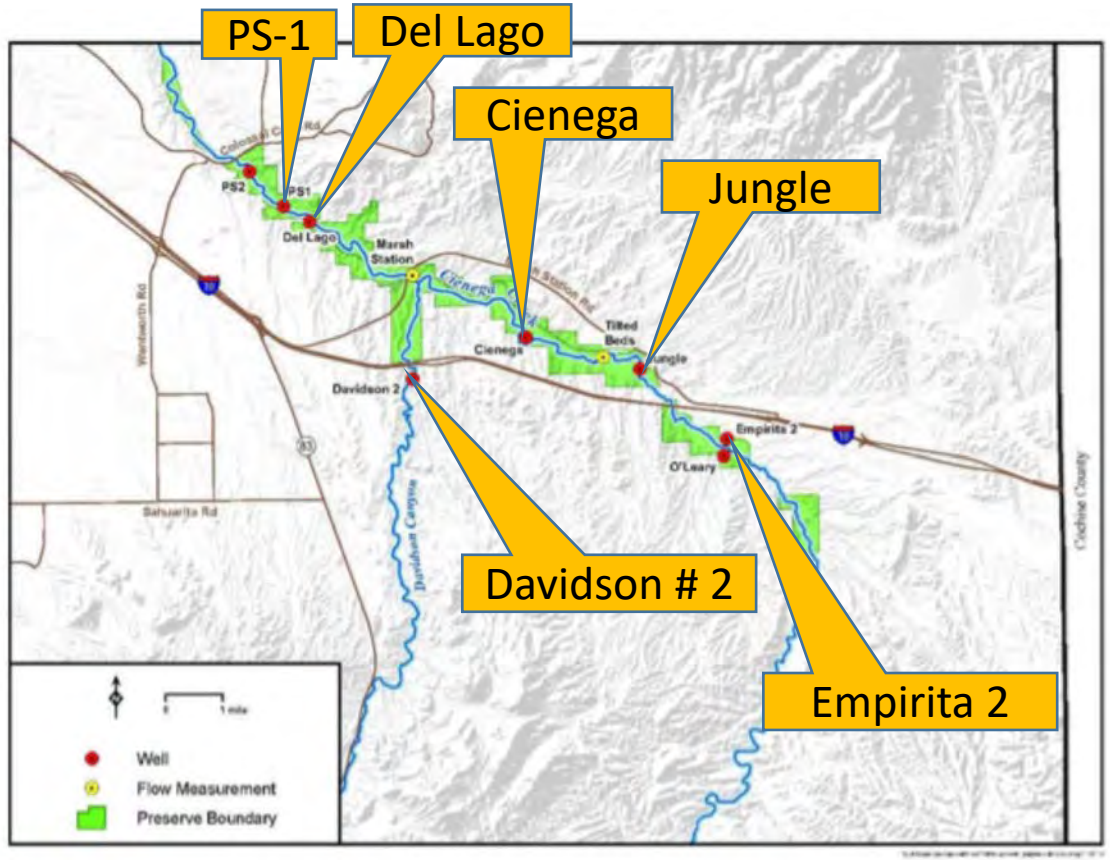
- **Drought:** There have been periods of droughts since the early 1900s. We are in a drought since the mid 1990s, experiencing shorter term swings toward less drought.

Water

Indicator	No.	Description
Groundwater levels	4	Change from previous year in Jan. and June (highest/lowest)
	5	Wetlands
Surface water quantity	6	Wet-dry mapping (June – worst case)
	7	Gauges (Narrows and Pantano Dam)
	8	Monthly flows / base flows (average ft3/sec)/total flow
Water quality	9	TDS, dissolved oxygen PH, (fish)

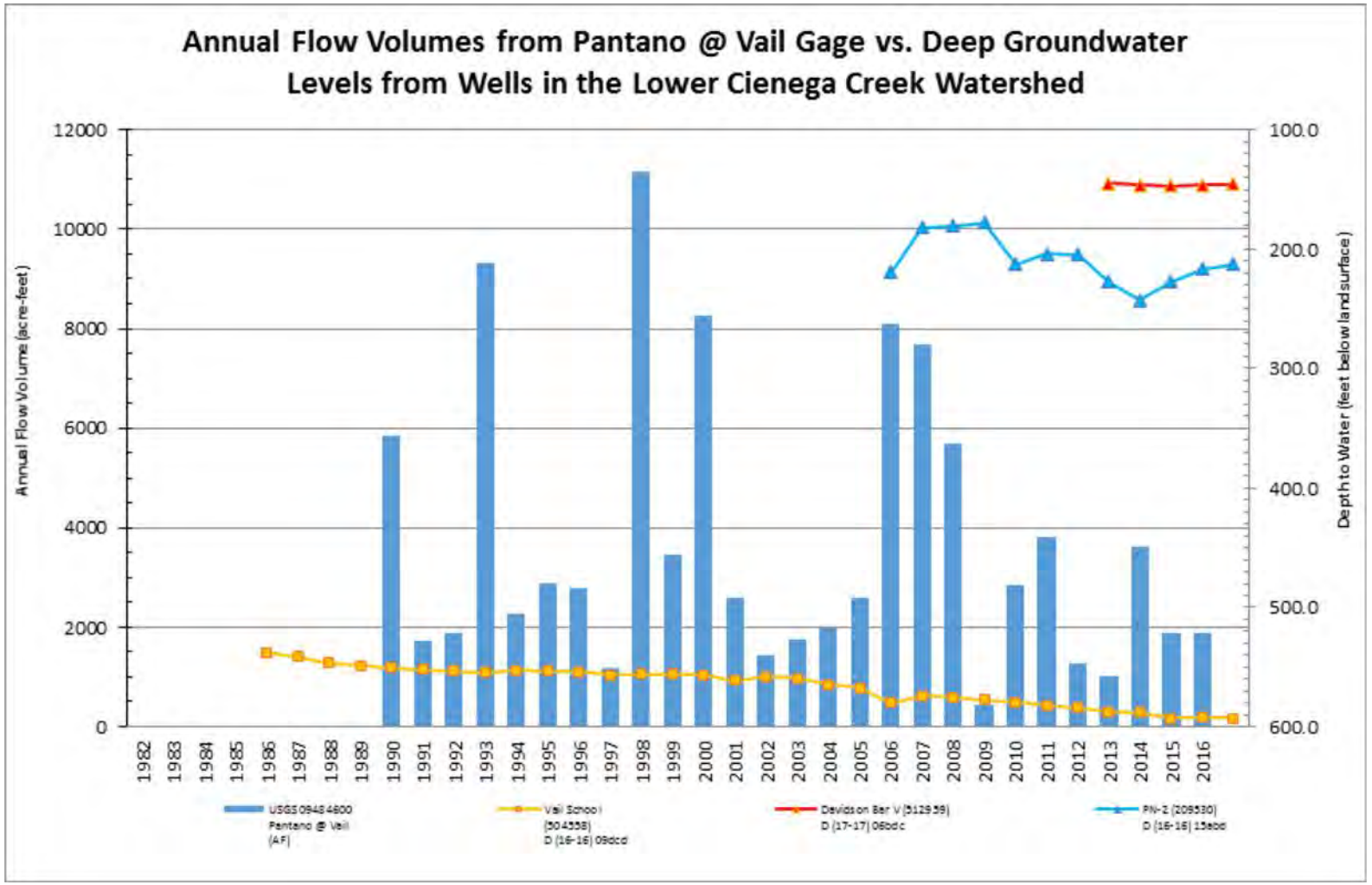
Groundwater levels – Preserve (shallow wells)

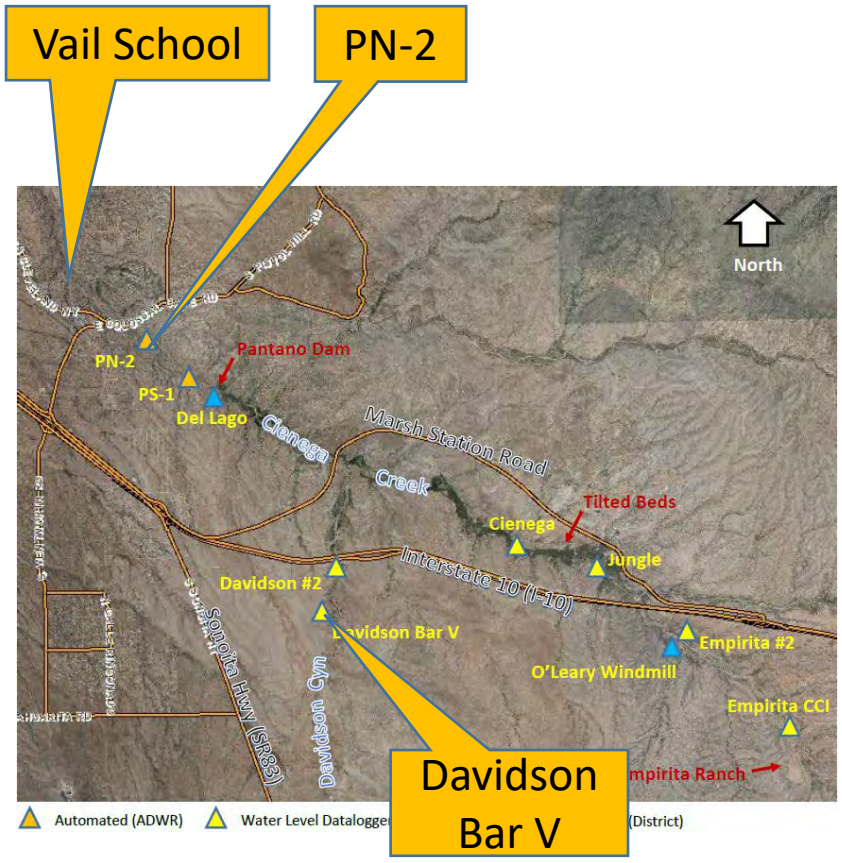




Source: Mead Mier - PAG and Frank Postillion - Pima County Regional Flood Control District

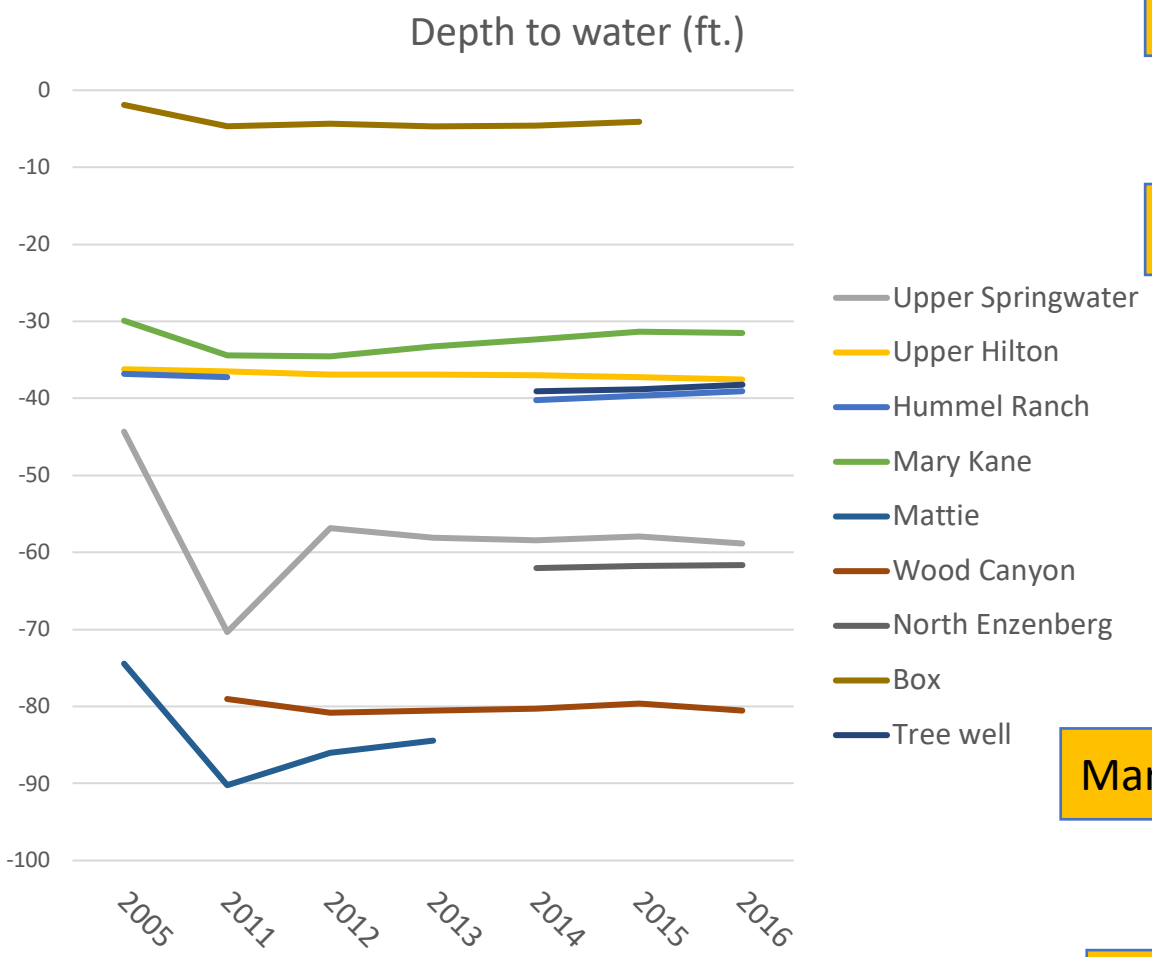
Groundwater levels – Preserve (deep wells)

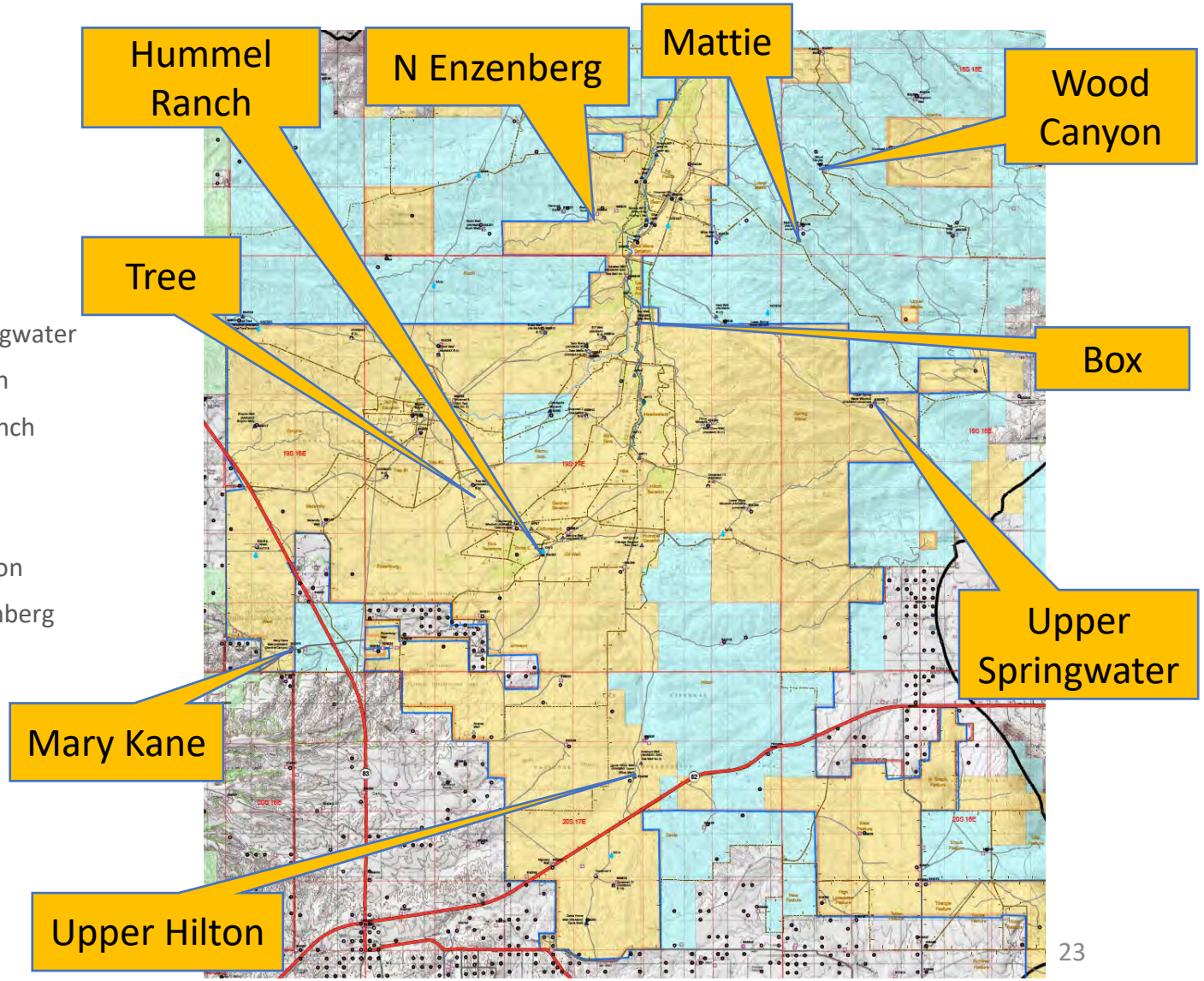




Source: Mead Mier - PAG and Frank Postillion - Pima County Regional Flood Control District

Groundwater levels – BLM (wells)

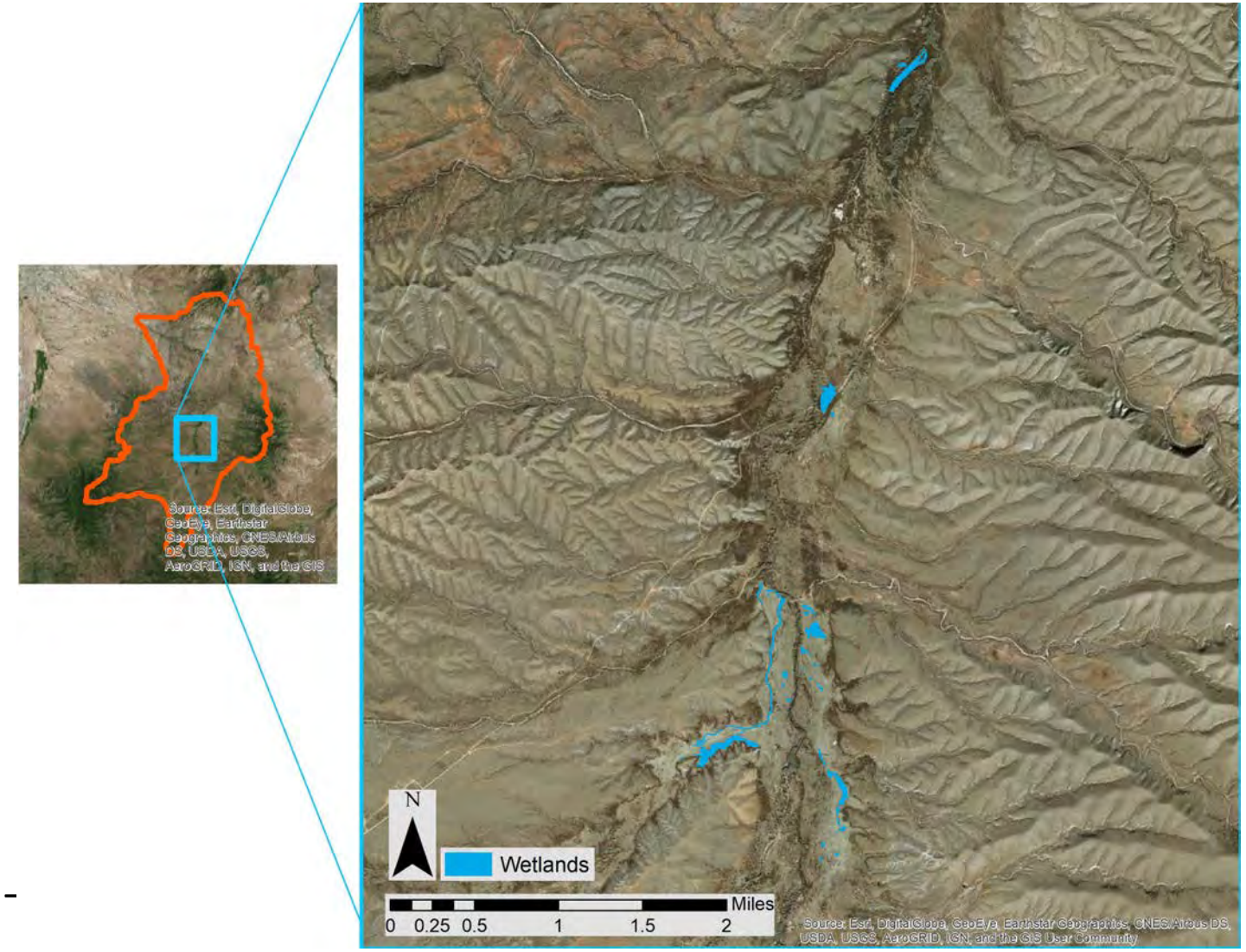




Source: Dave Murray, BLM

Wetlands

Spatial location and extent of wetlands from 2017

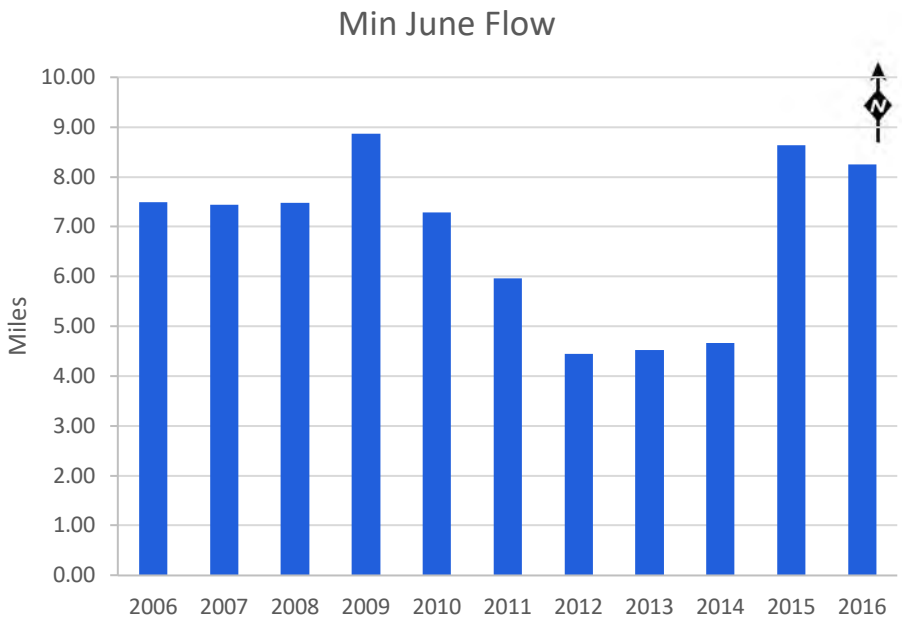


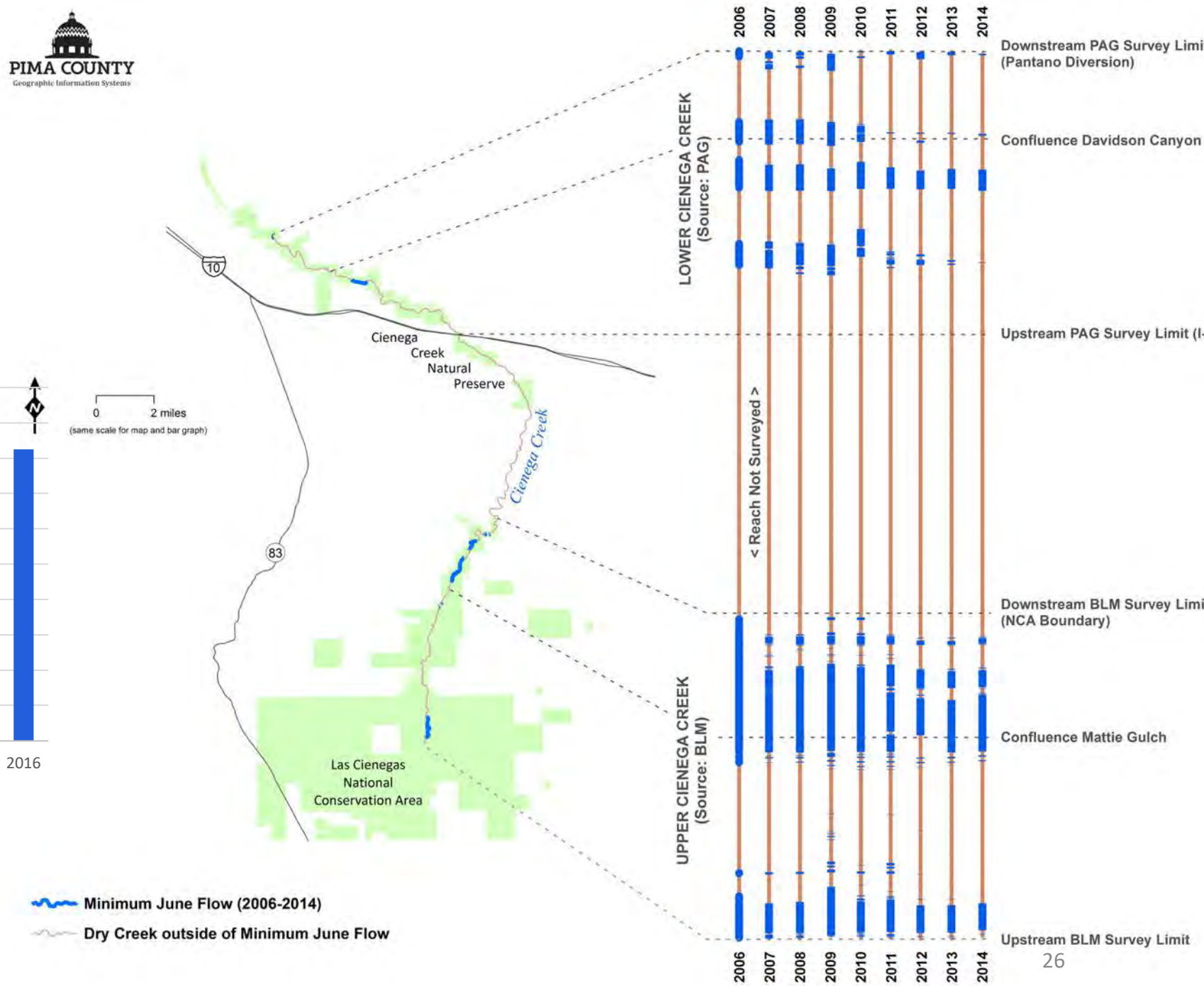
Source: Andrew Salywon and Ron Tiller - Desert Botanical Garden

Wetlands

Source: Andrew Salywon and Ron Tiller – Desert Botanical Garden

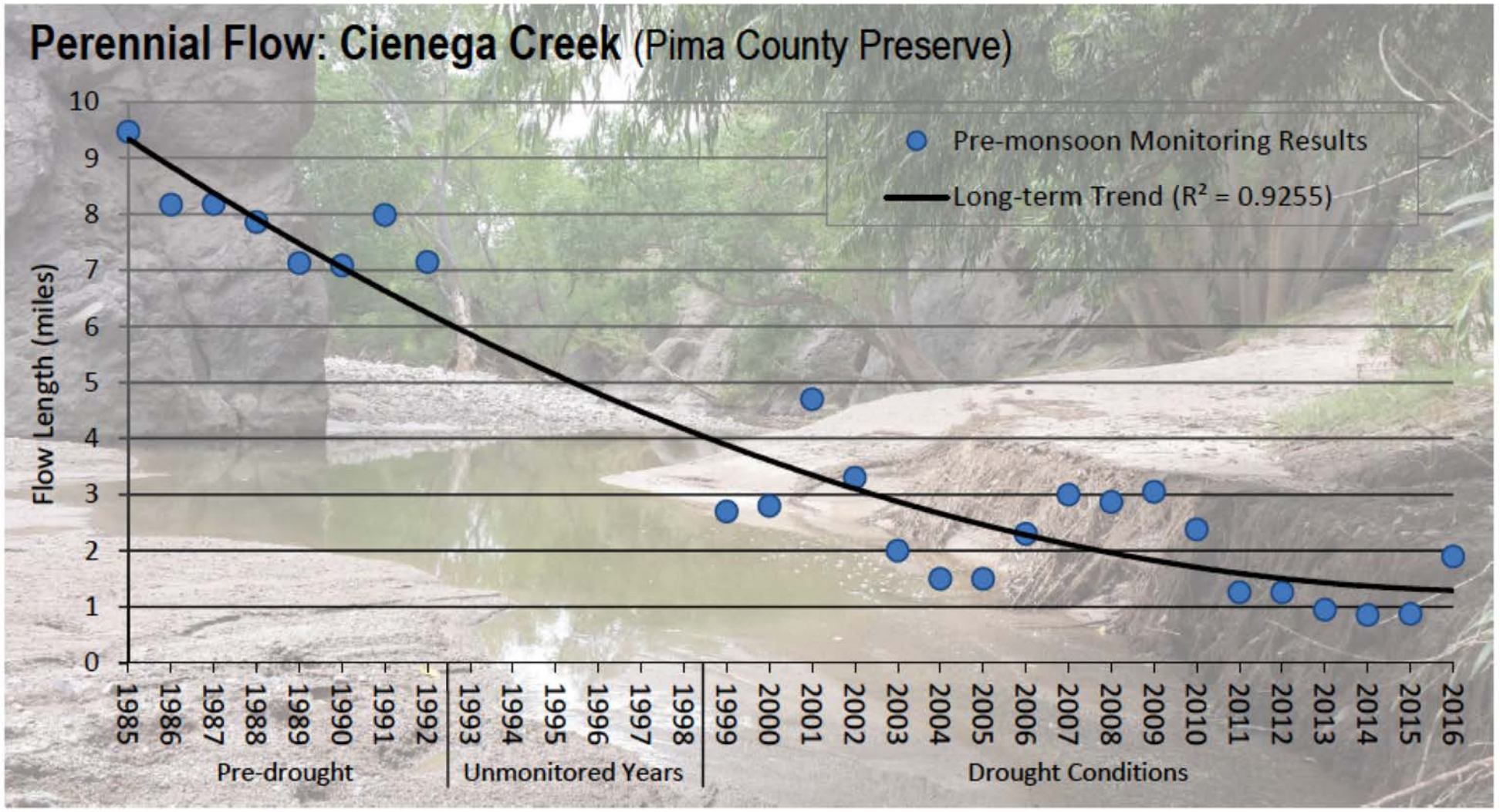
Wet-Dry





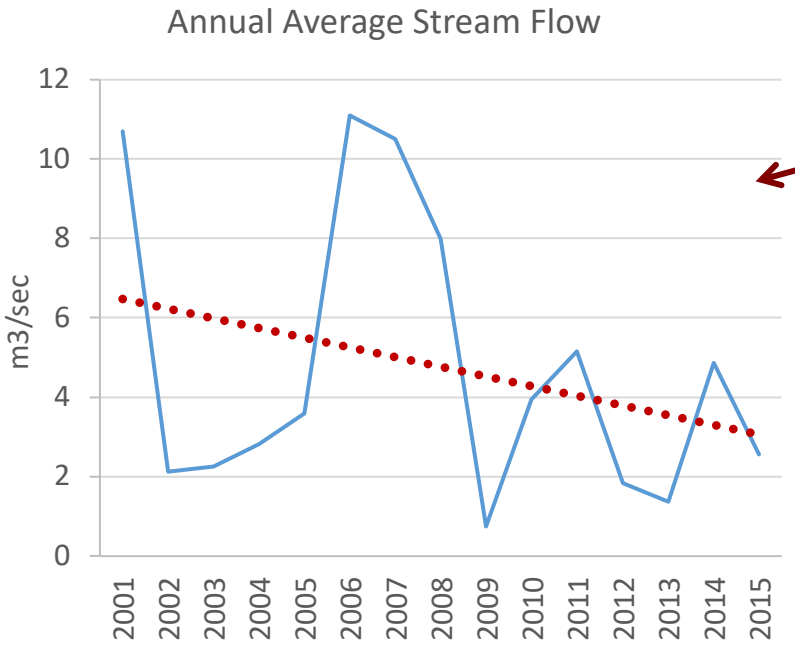
Source: Mike List, Pima County – based on data from PAG and BLM

Wet-Dry

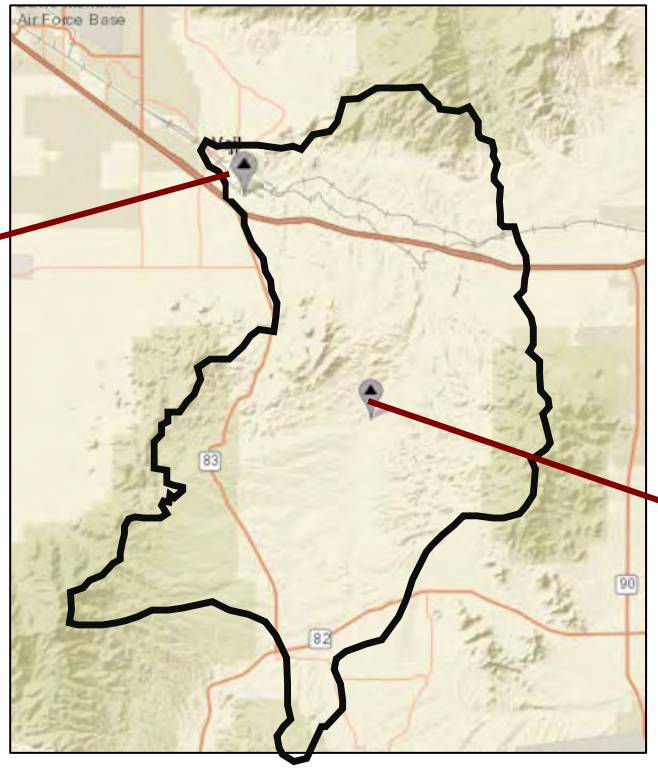


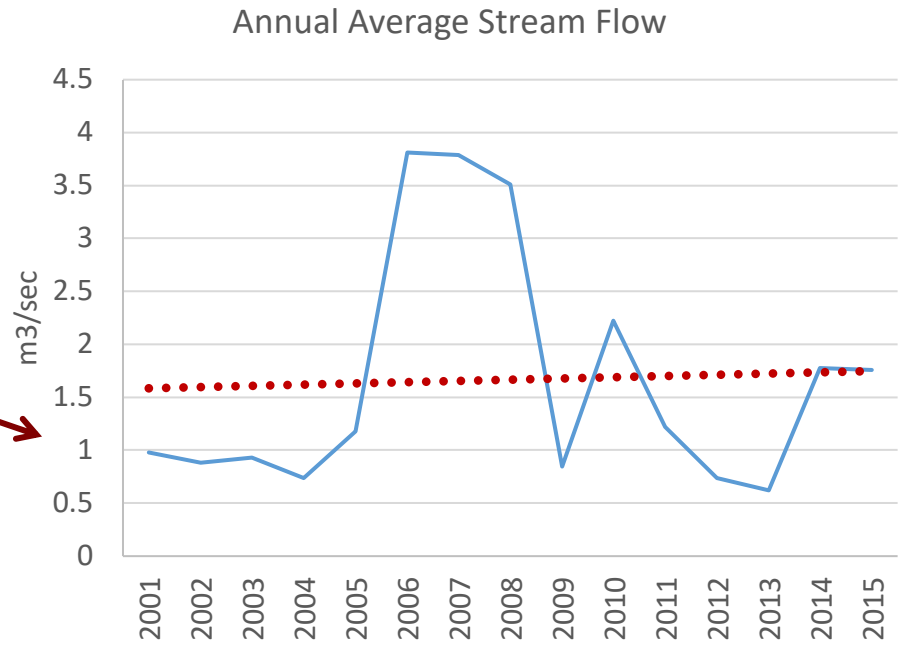
Source: Mead Mier, PAG

Gauges



Pantano Wash
Gauge # 09484600

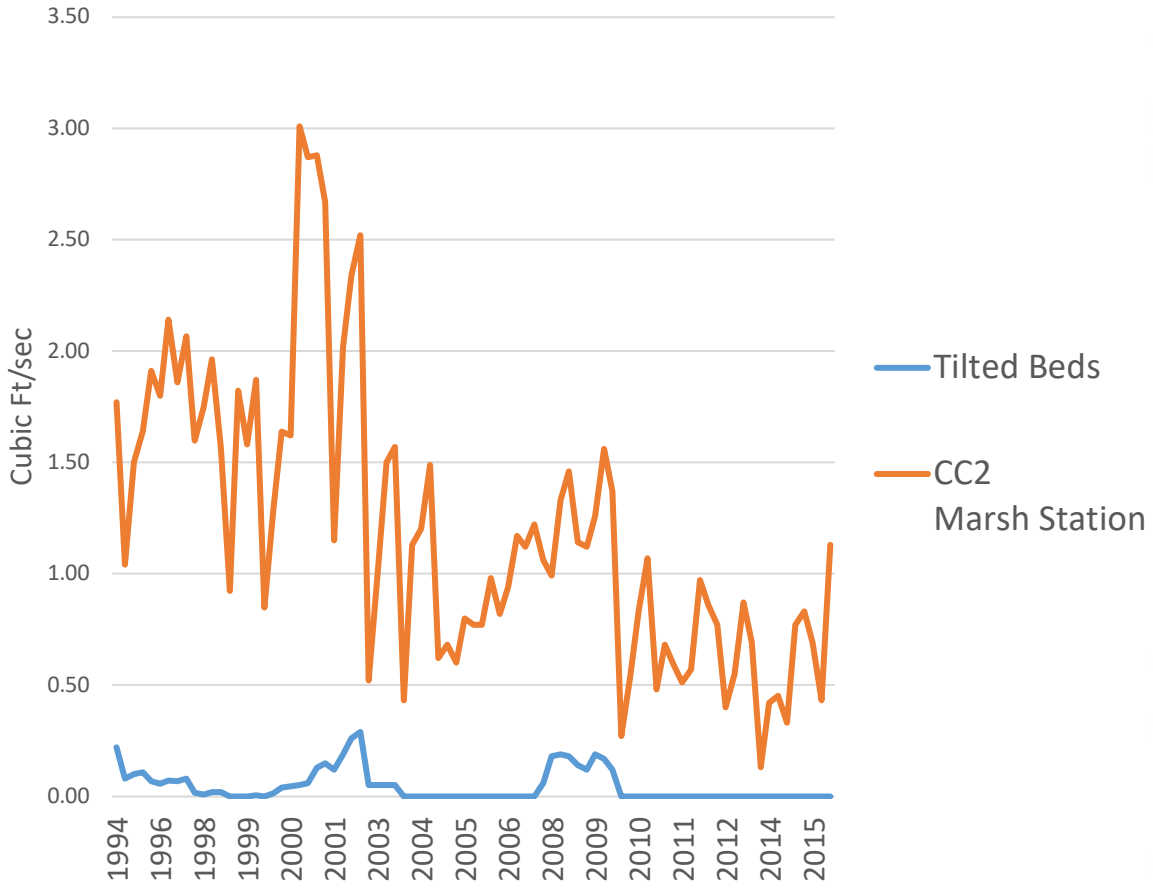


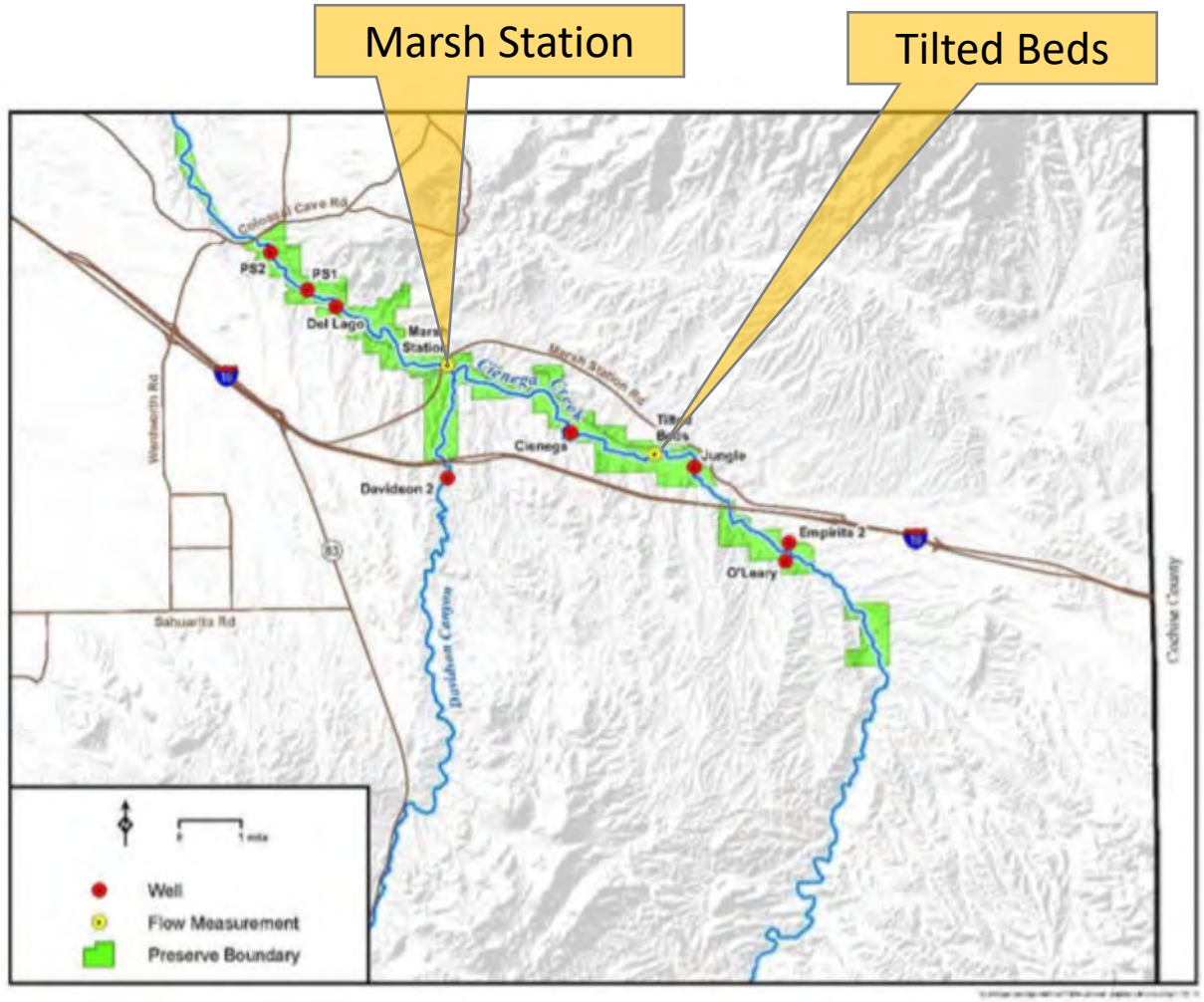


Cienega Creek
Gauge # 09484550

Source: waterdata.usgs.gov

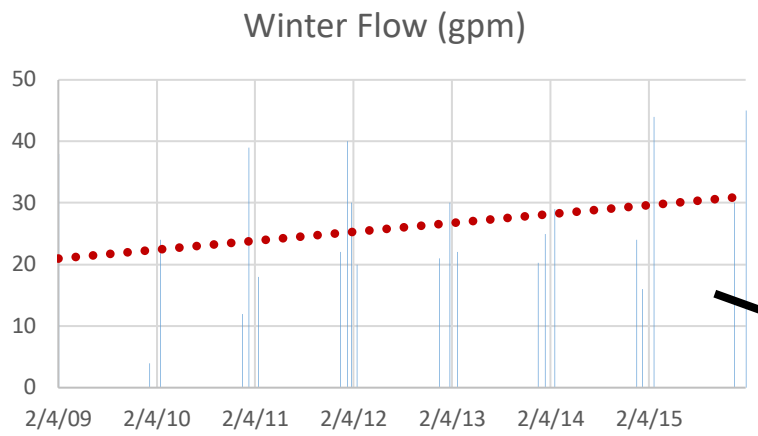
Winter Stream Flows – Cienega Creek Natural Preserve





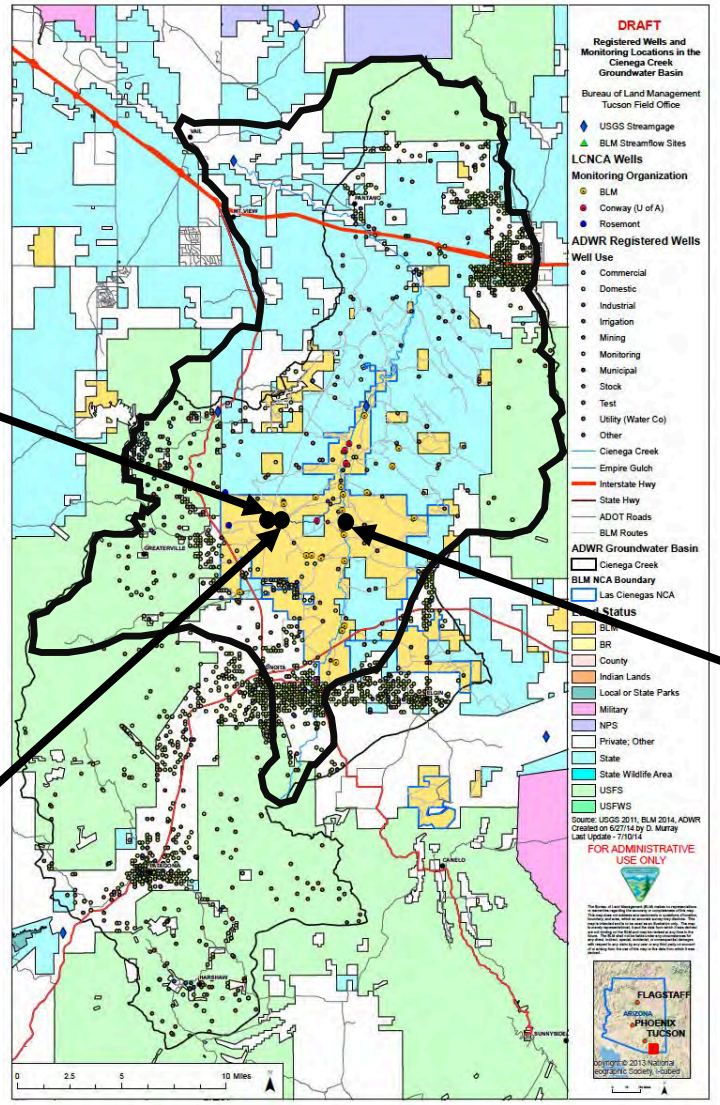
Source: Mead Mier, PAG; Pima County Regional Flood Control District (from 6/2015)

Winter Stream Flows - BLM

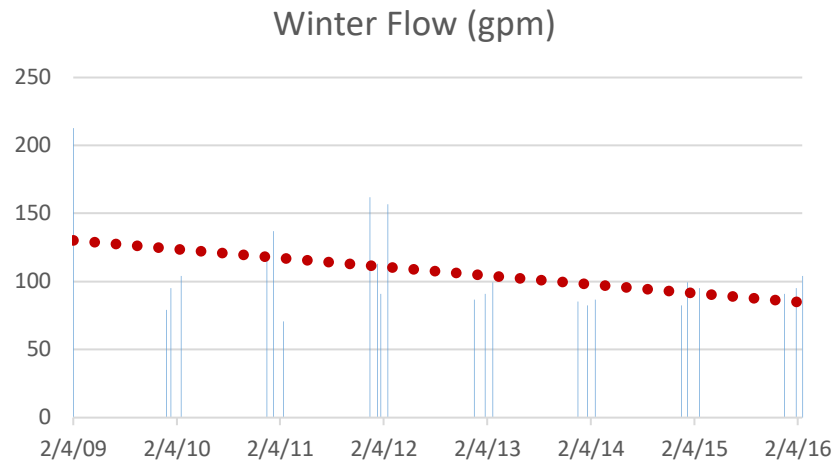


Empire Gulch – Spring Source

New measuring site
(200ft downstream)
Data starts 2/2016



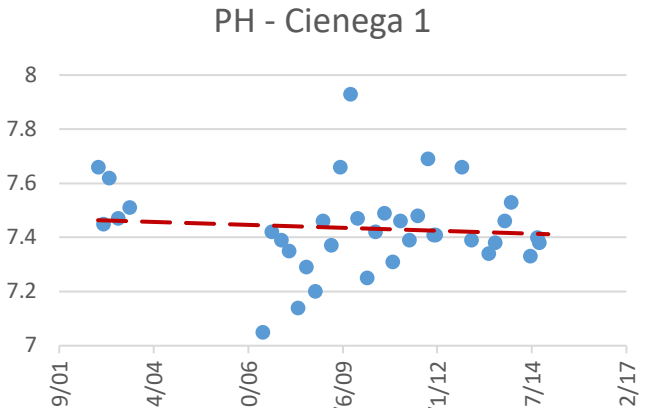
- This data provides a ‘snapshot in time.’
- Stream flow is measured once a month, and varies depending on which day and hour the data is collected.

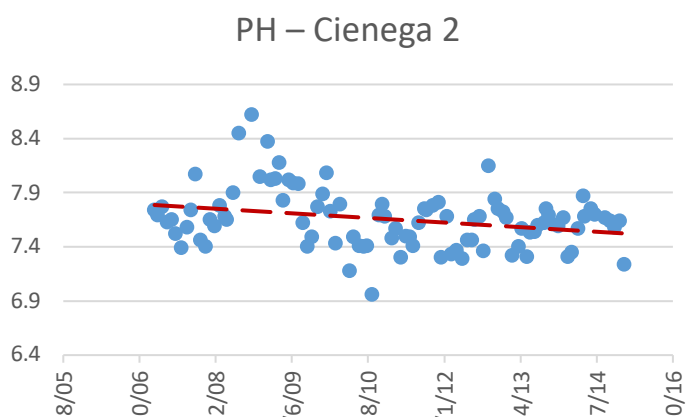


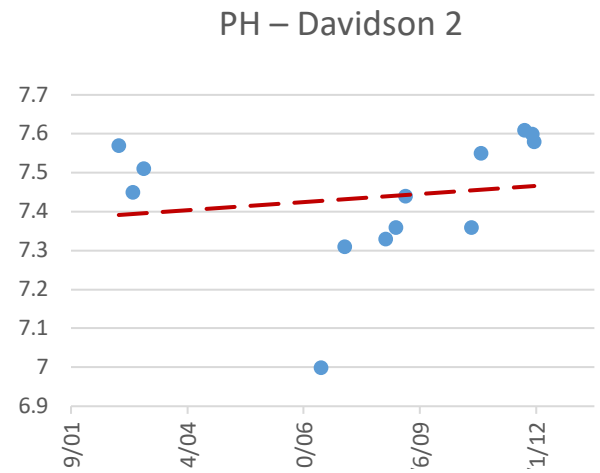
Upper Cienega Creek site

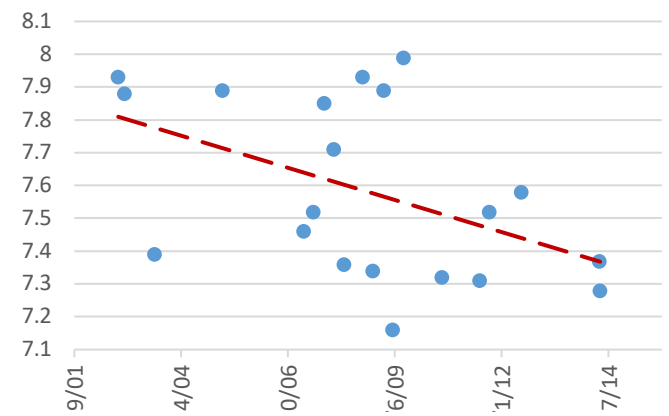
Source: Dave Murray, BLM

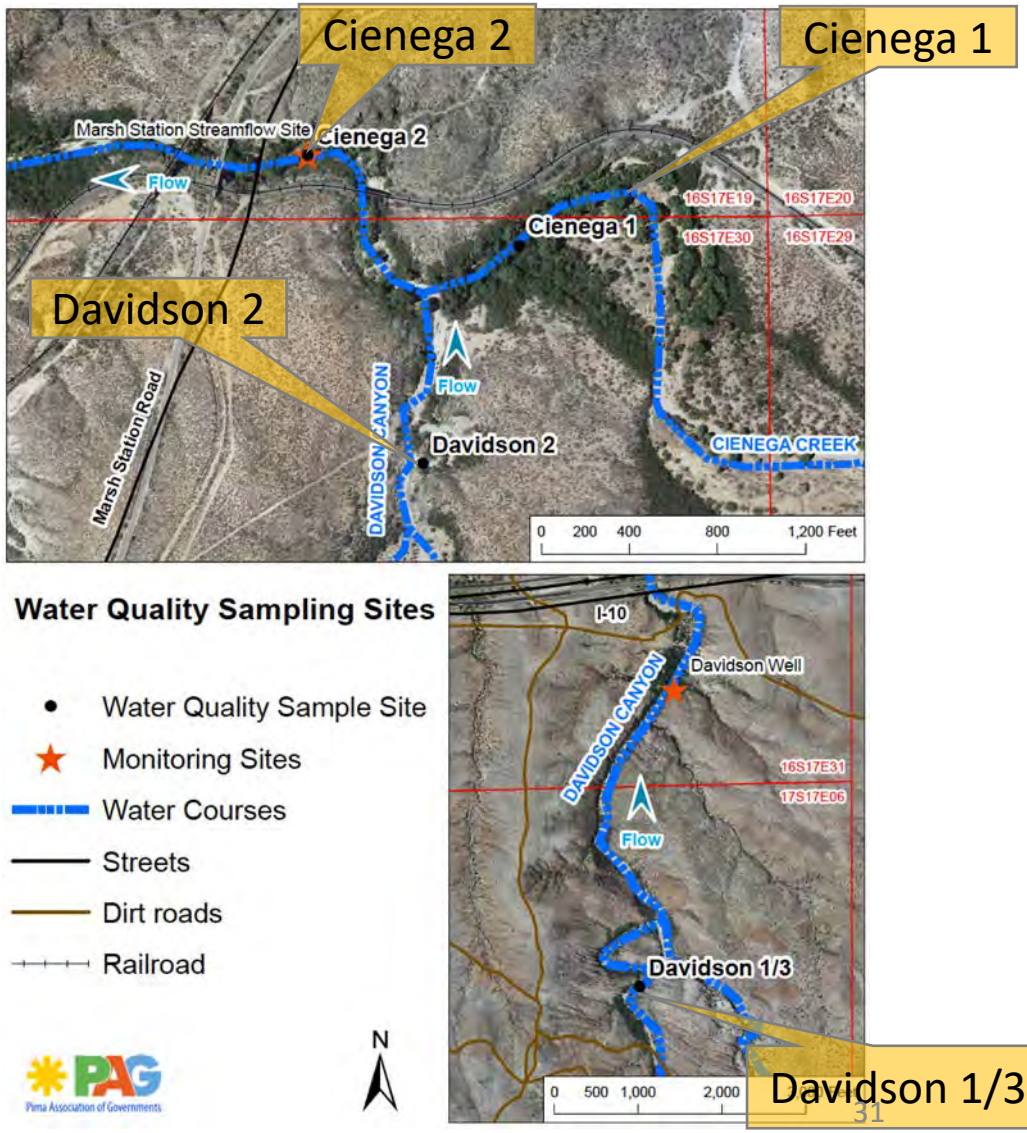
Water quality – Pima County





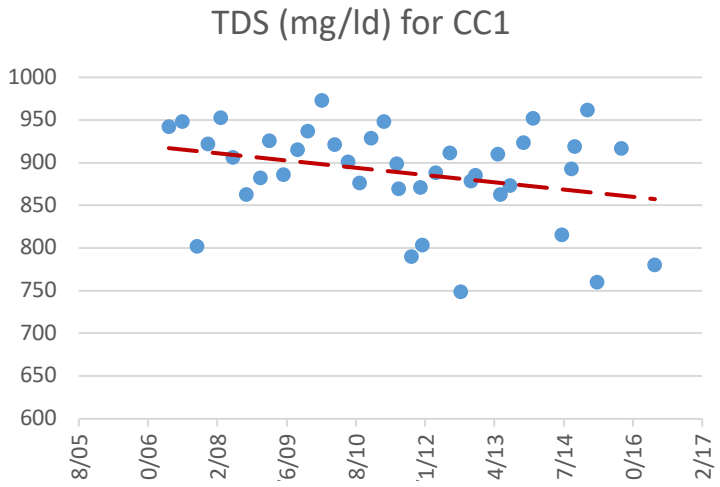


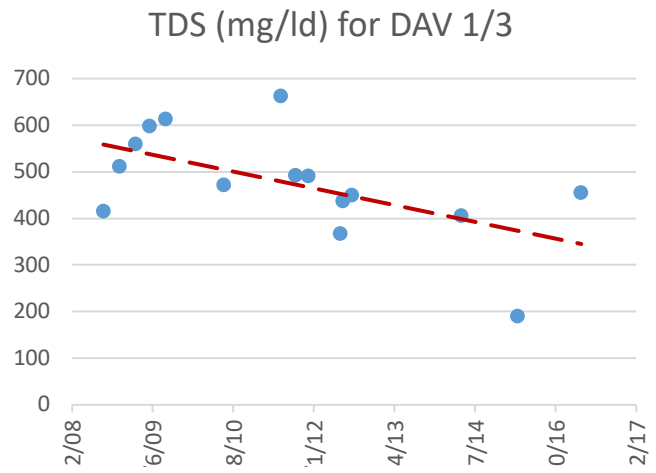


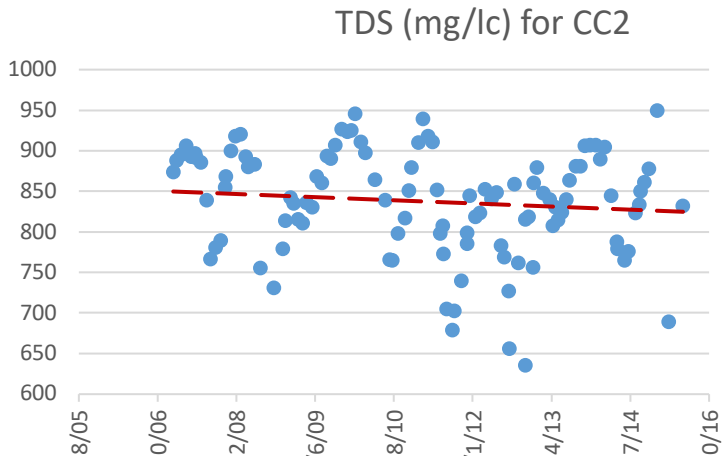


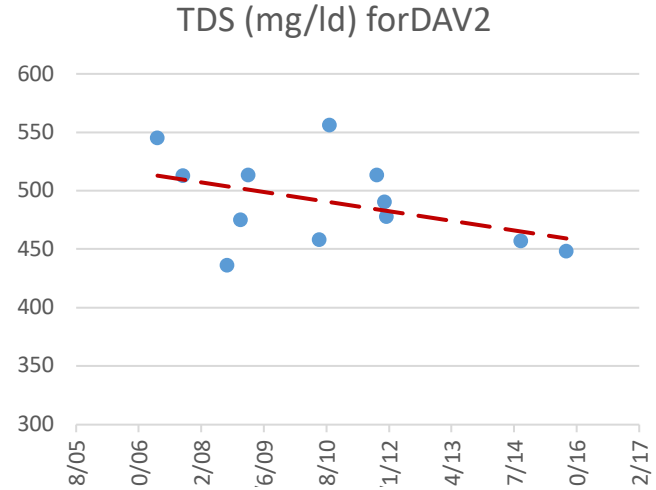
Source: Mead Mier, PAG and David Scalero, PC Flood Control District

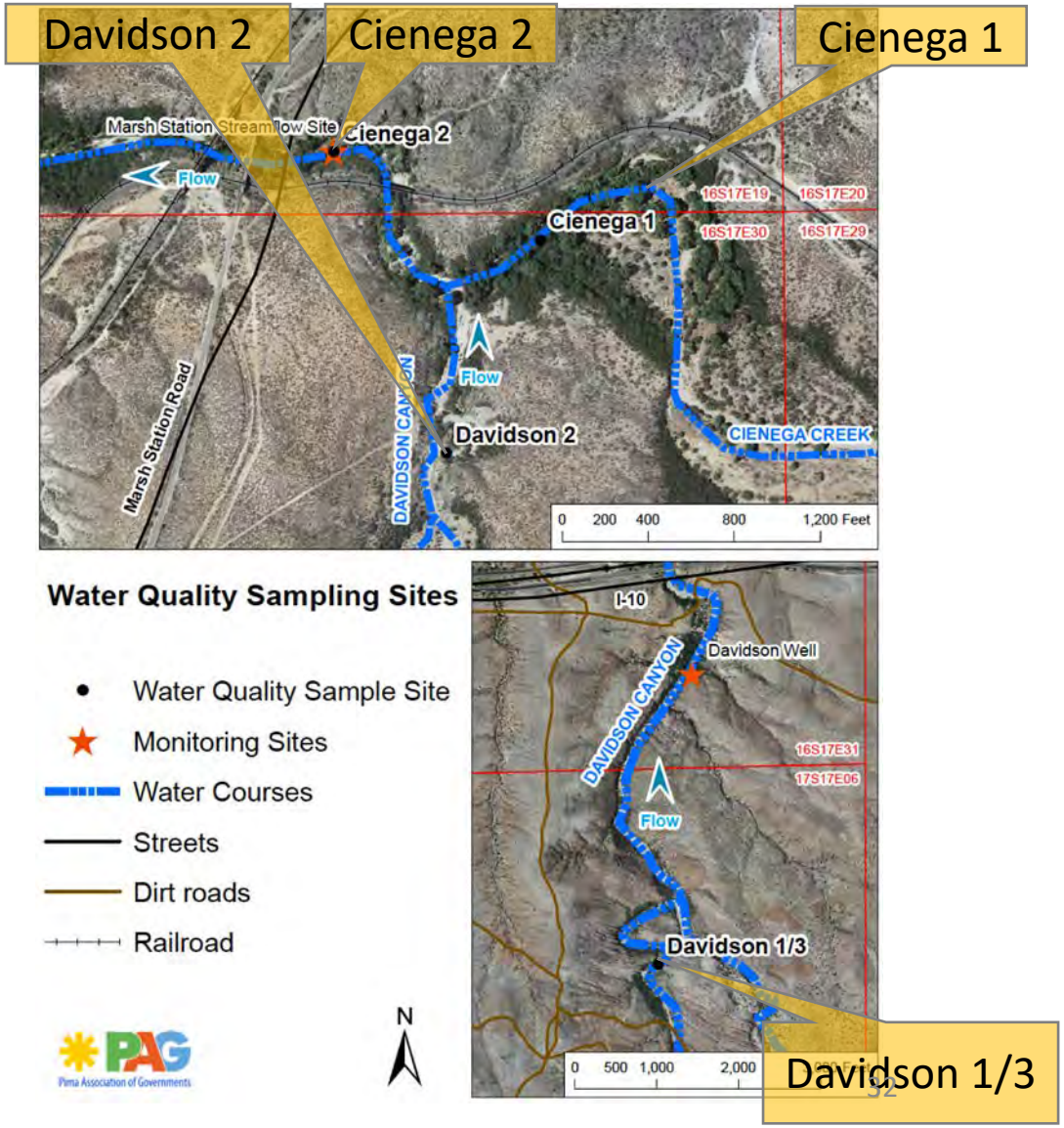
Water quality – Pima County





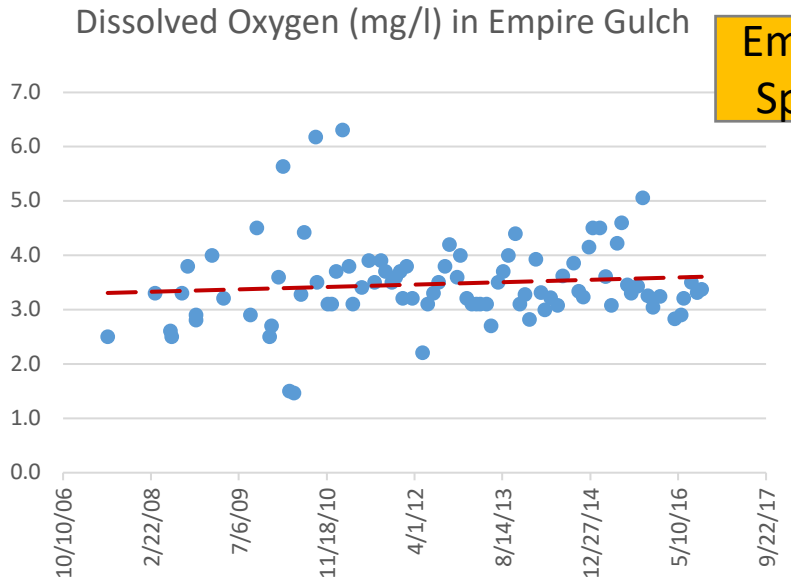


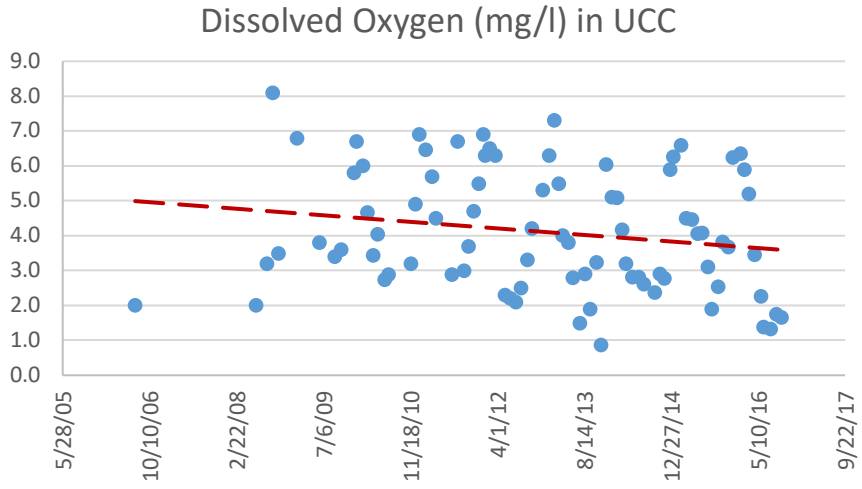


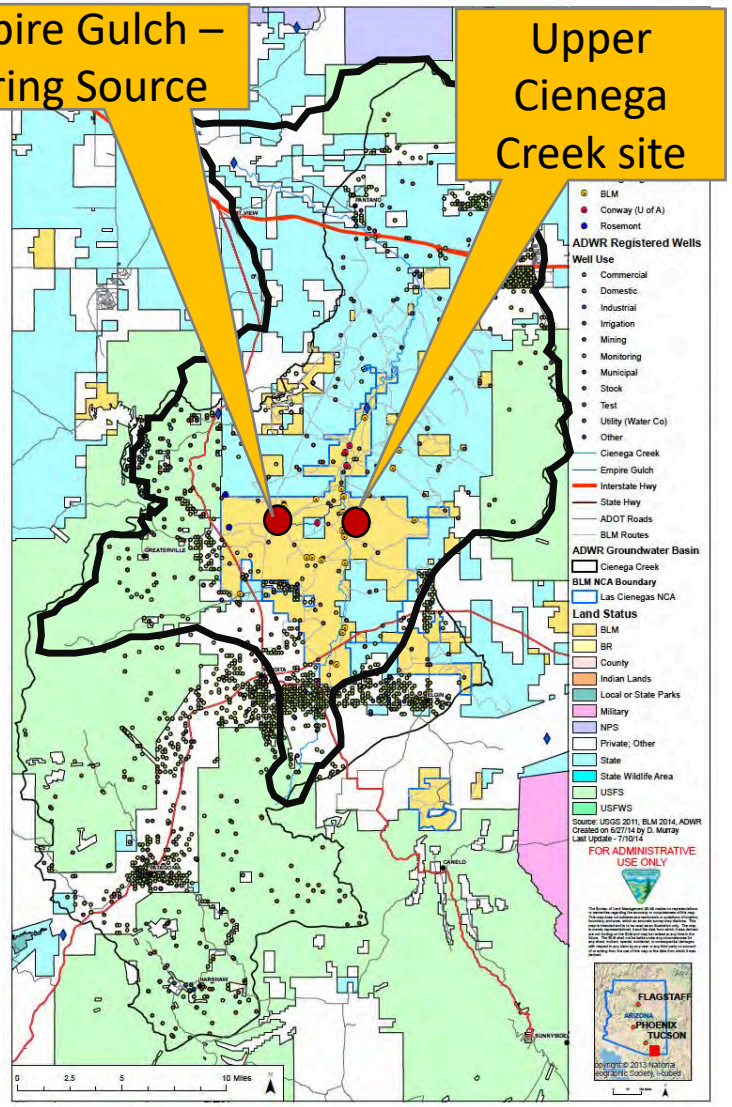


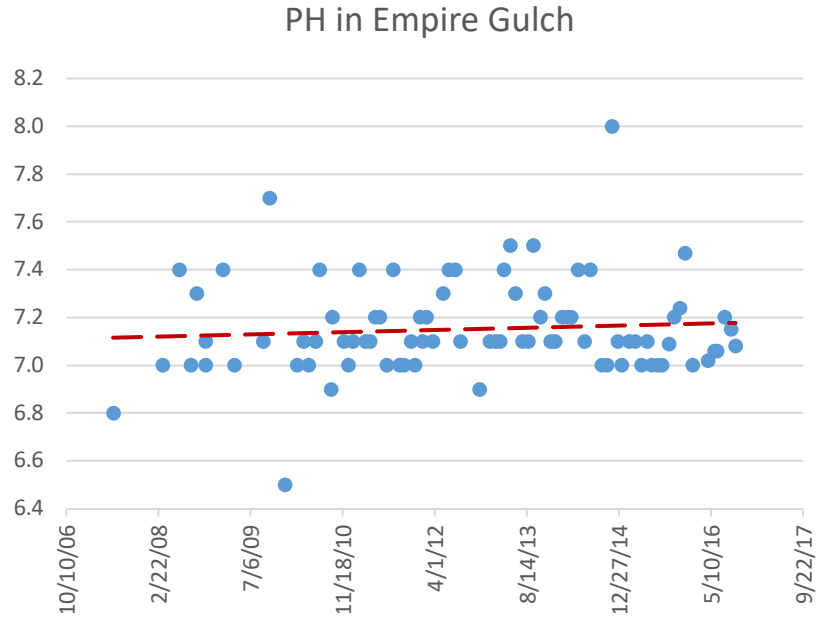
Source: Mead Mier, PAG and David Scalero, PC Flood Control District

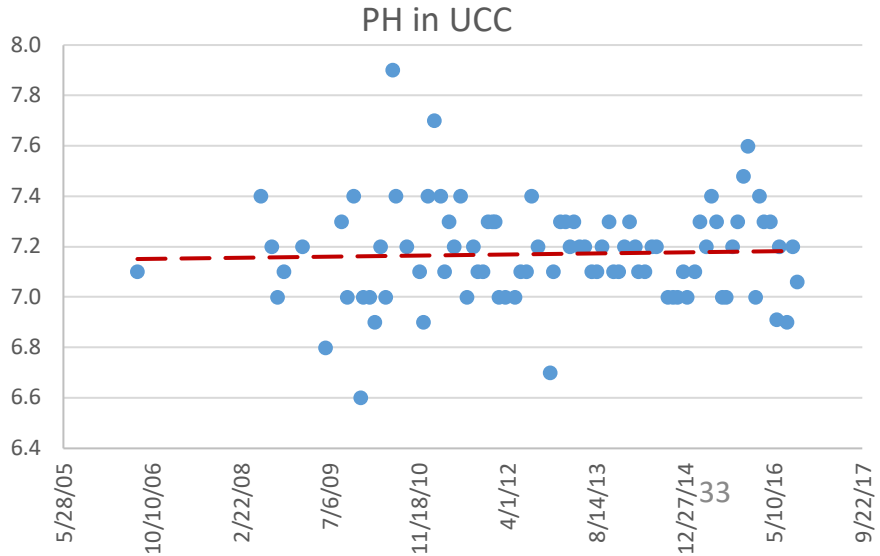
Water quality - BLM





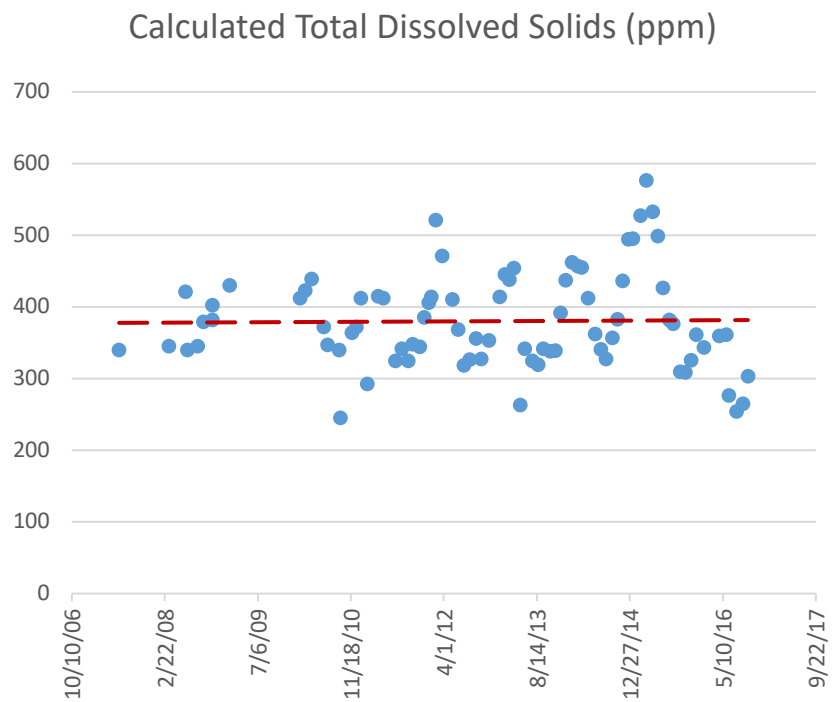




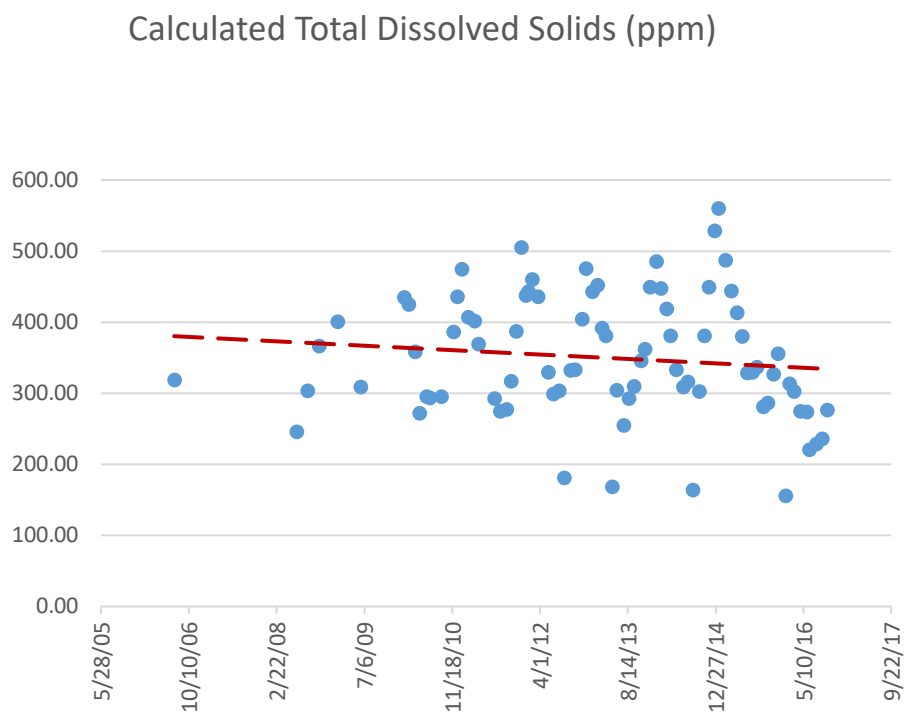


Source: Dave Murray, BLM

Water quality - BLM



Empire Gulch



Upper Cienega Creek

Source: Dave Murray, BLM

Water - general trends

- **Groundwater levels:**
  - Shallow wells show decrease in levels in the last 20 years with a slight recovery in the last couple of years – impact on riparian habitat.
  - Deeper wells – there is not enough information to determine trends.
- **Wetlands:**
  - Baseline created for upper watershed this year. Need data from the lower watershed.
- **Wet-dry:**
  - Pima County: Significant decrease in minimum flow (June) since the 1980s, with slight recovery in 2016.
  - BLM: Significant decrease in minimum flow (June) with slight recovery in 2015.
- **Gauges:**
  - Pantano Wash: decrease in annual average stream flow over the past 25 years.
  - Cienega Creek: slight increase in annual average stream flow.

Water - general trends (cont.)

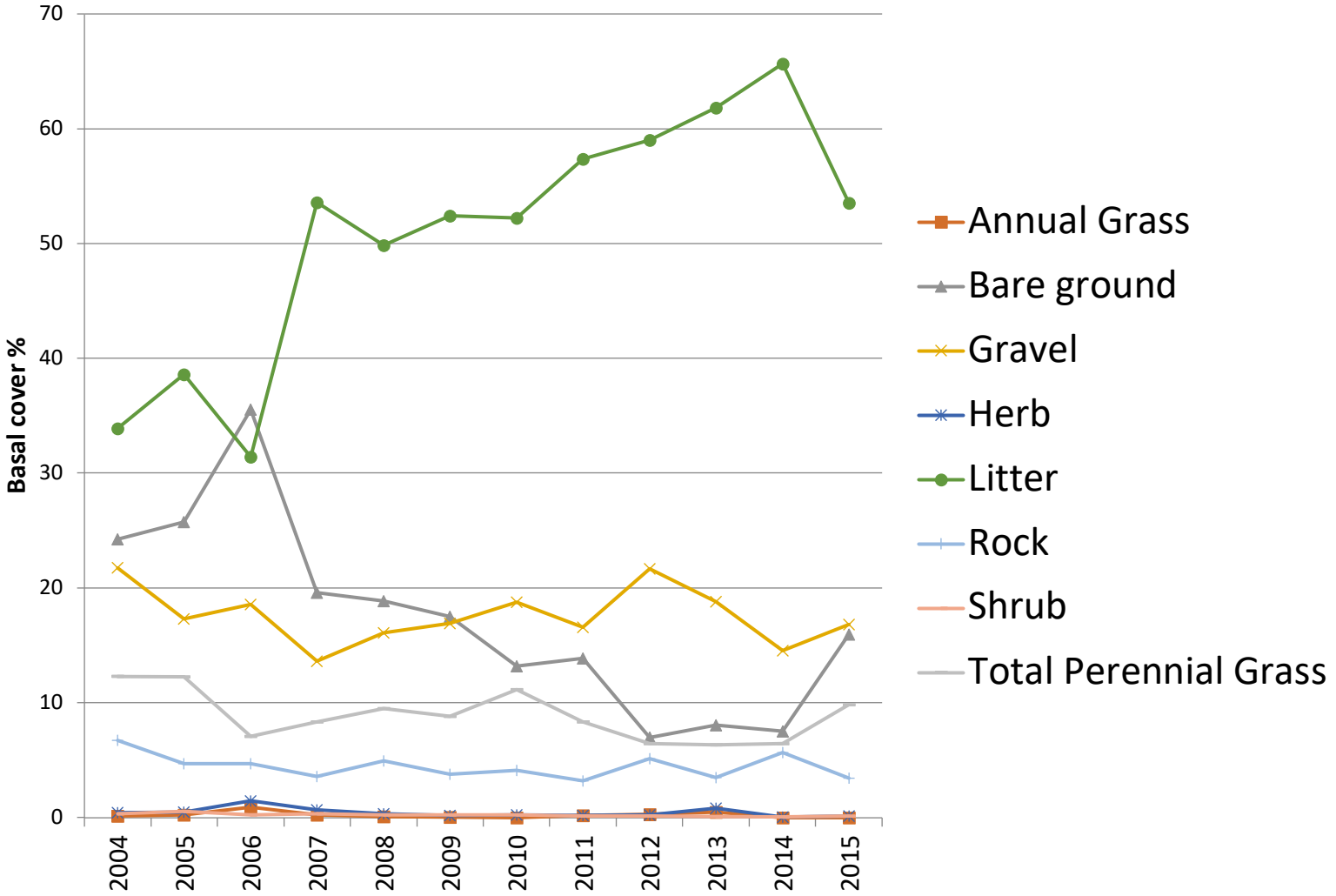
- **<u>Winter stream flows:</u>**
  - Preserve: Significant decrease in Marsh Station, slight increase in Titled Beds
  - BLM: Slight increase in Empire Gulch, slight decrease in Upper Cienega Creek

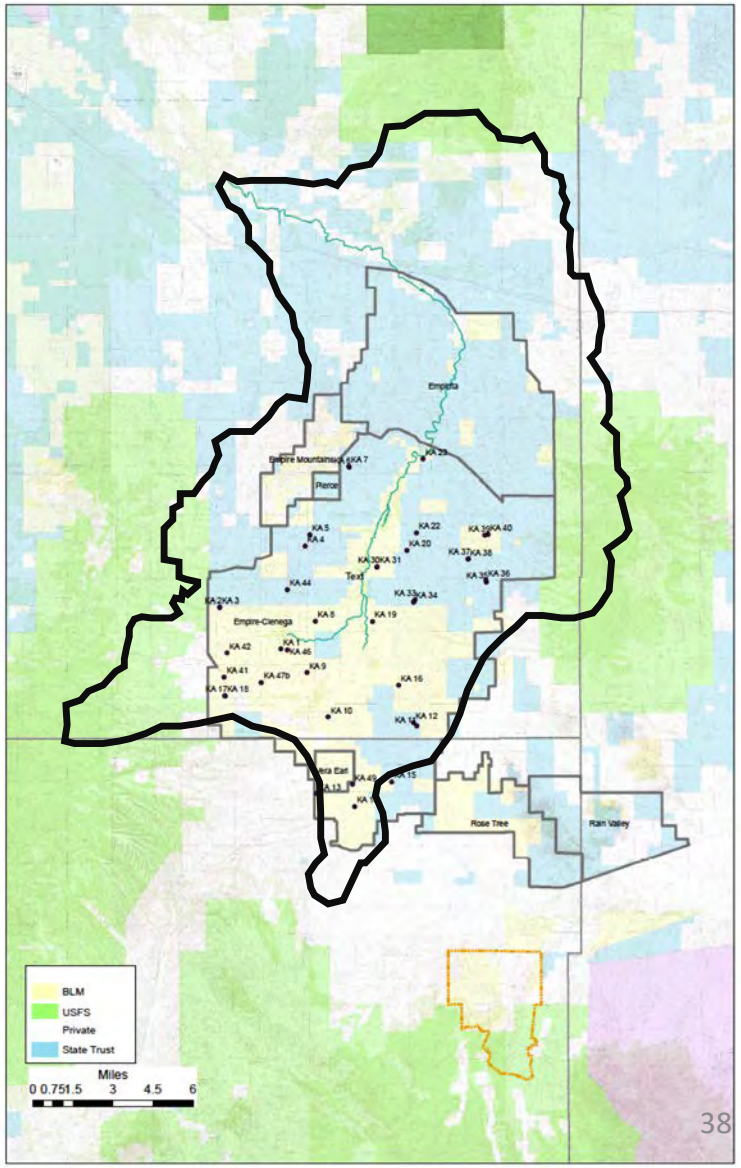
- **<u>Water quality:</u>**
  - Pima County:
    - PH: Decrease in most sites, except for Davidson 2
    - TDS: Decrease in all sites
  - BLM:
    - PH: No clear trend
    - DO: No clear trend in Empire Gulch, decrease in Upper Cienega Creek
    - TDS: No clear trend

Ecological

Indicator	No.	Description
Veg. vol./comp./cover	9	Land cover
Wildlife	10	Pronghorn
	11	Fish
	12	Frogs
Fire	13	Coverage, severity

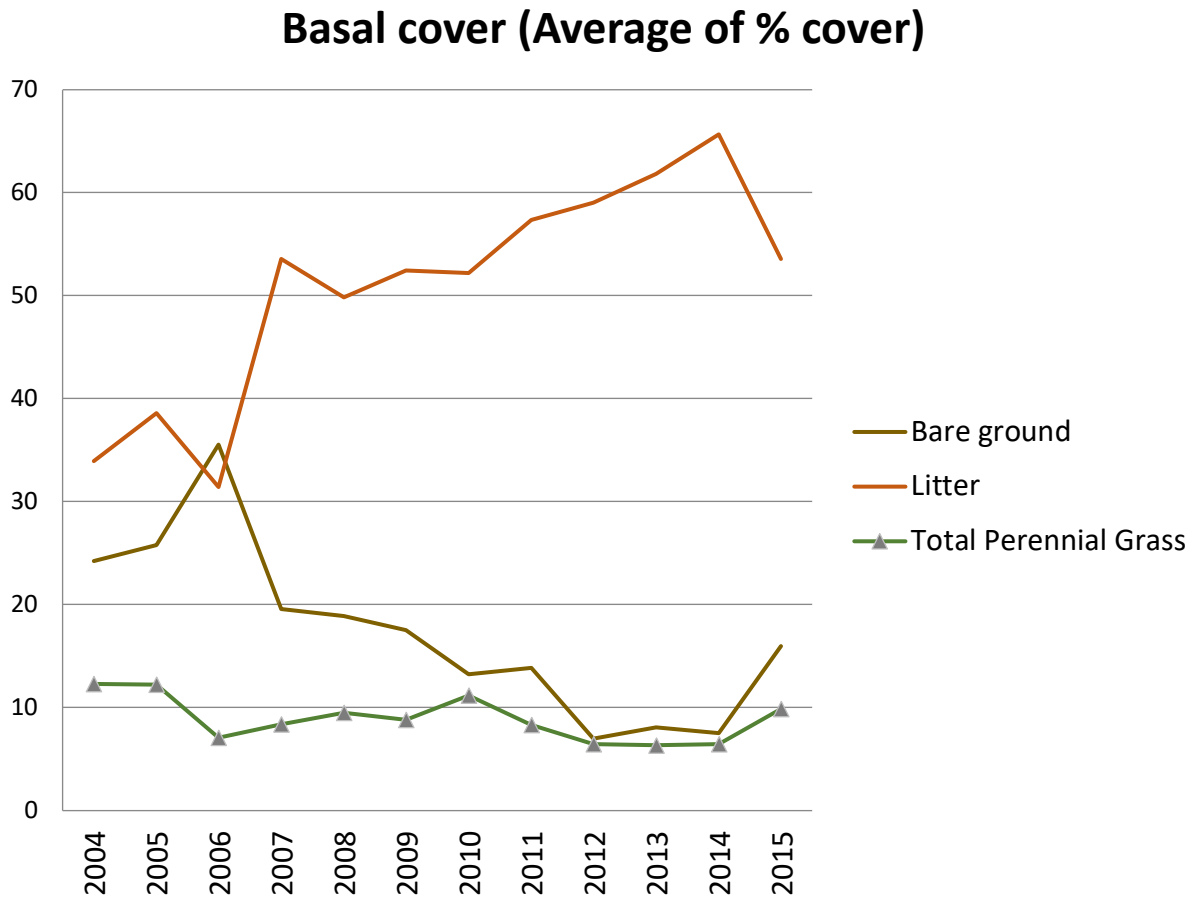
Vegetation composition – basal cover (LCNCA)

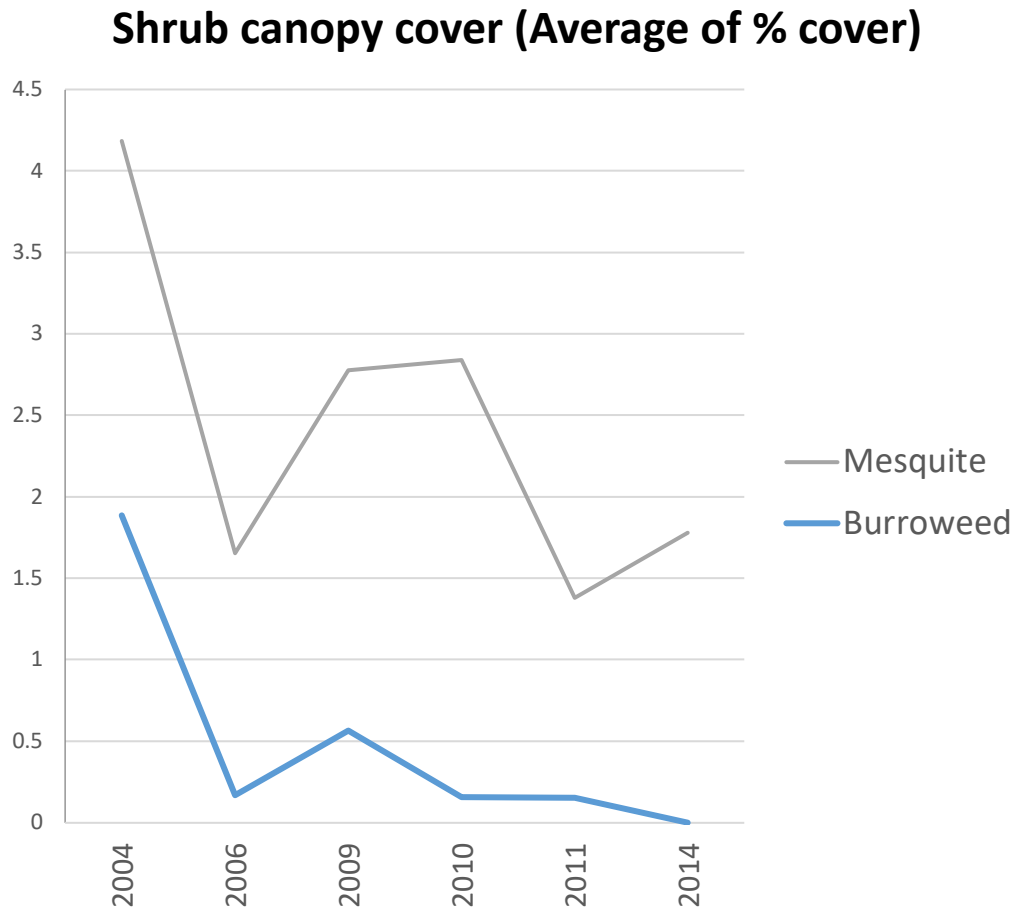




Source: Gita Bodner, The Nature Conservancy

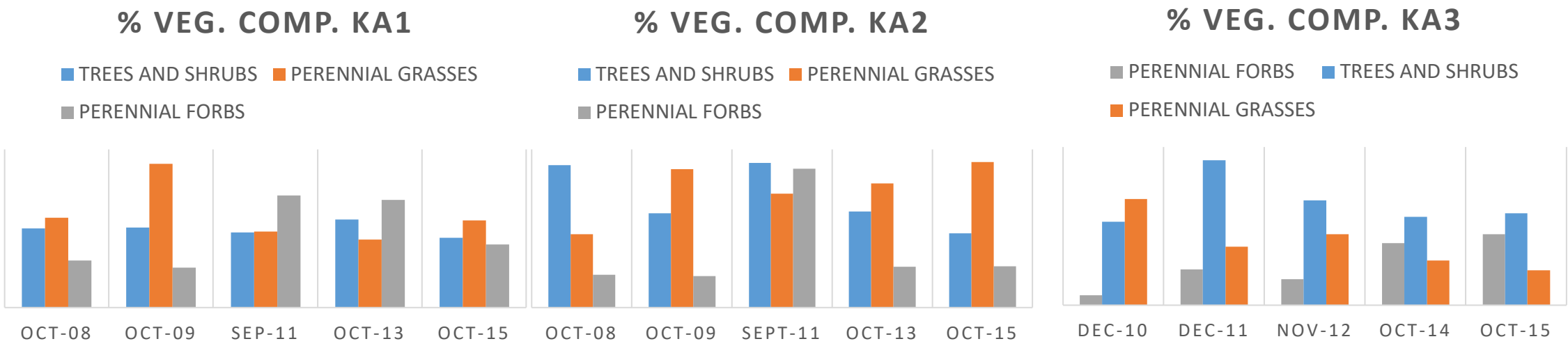
Vegetation composition – basal cover and shrubs (LCNCA)

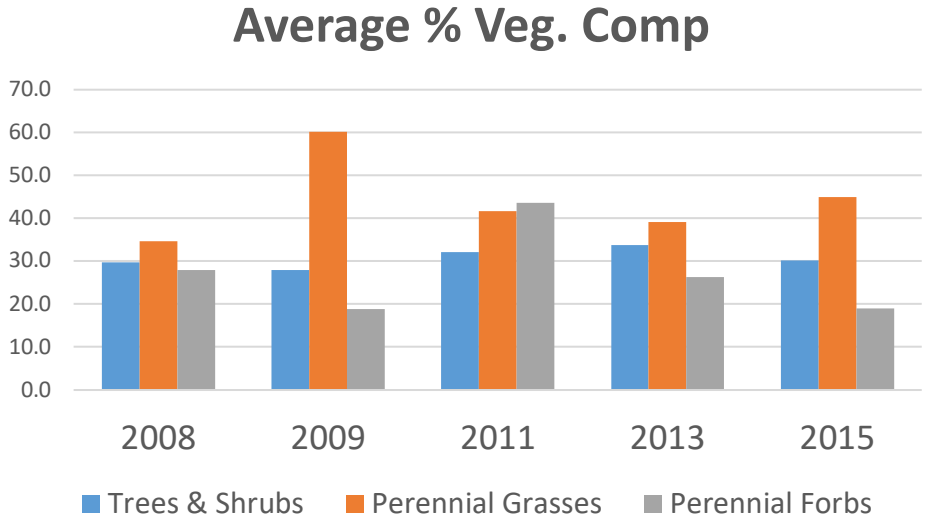


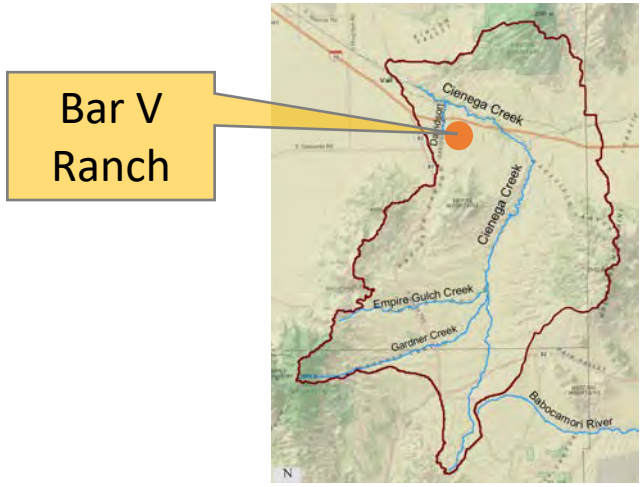


Source: Gita Bodner, The Nature Conservancy

Vegetation composition – Bar V Ranch, Pima County



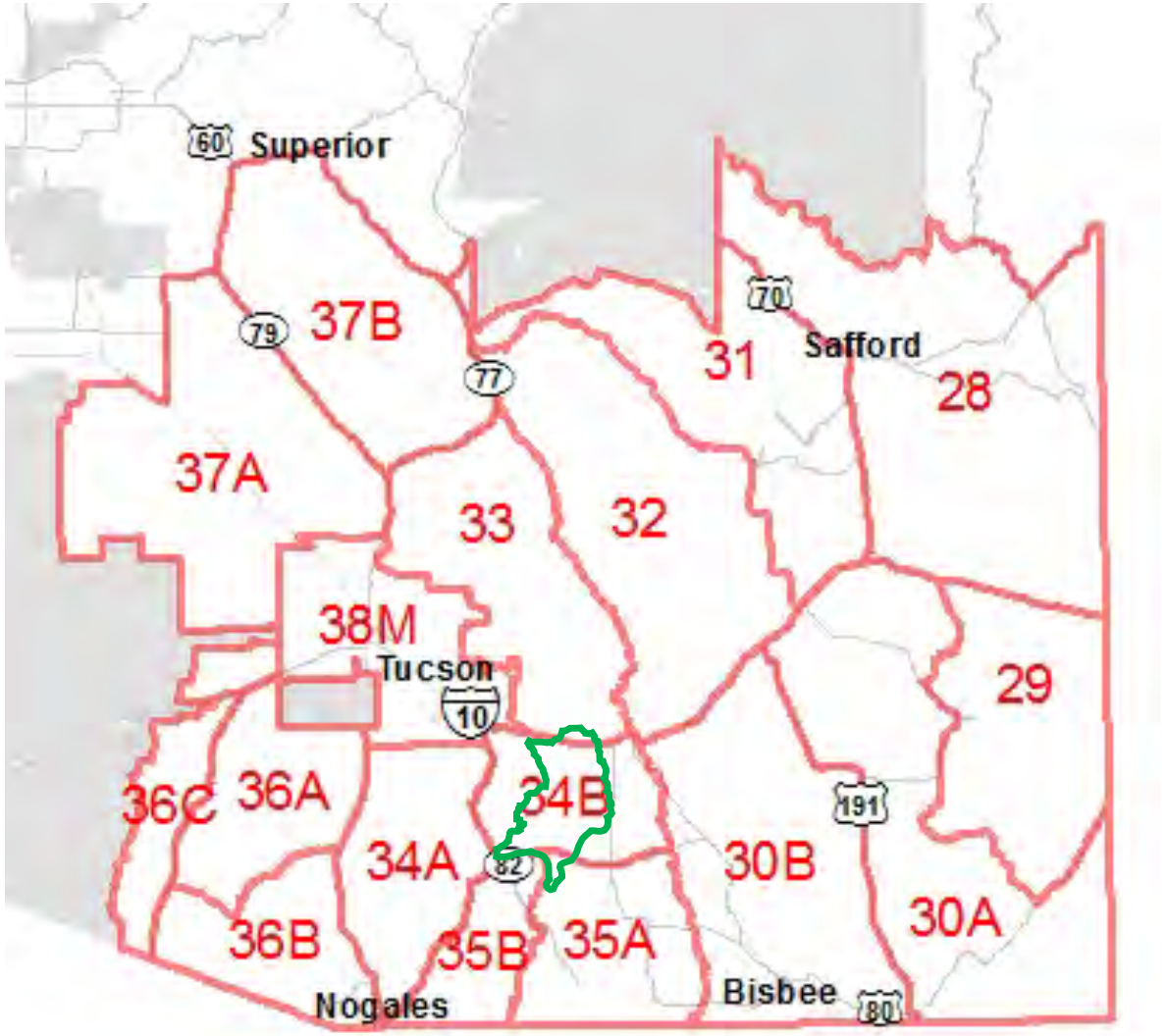




Source: Brian Powell, Pima County

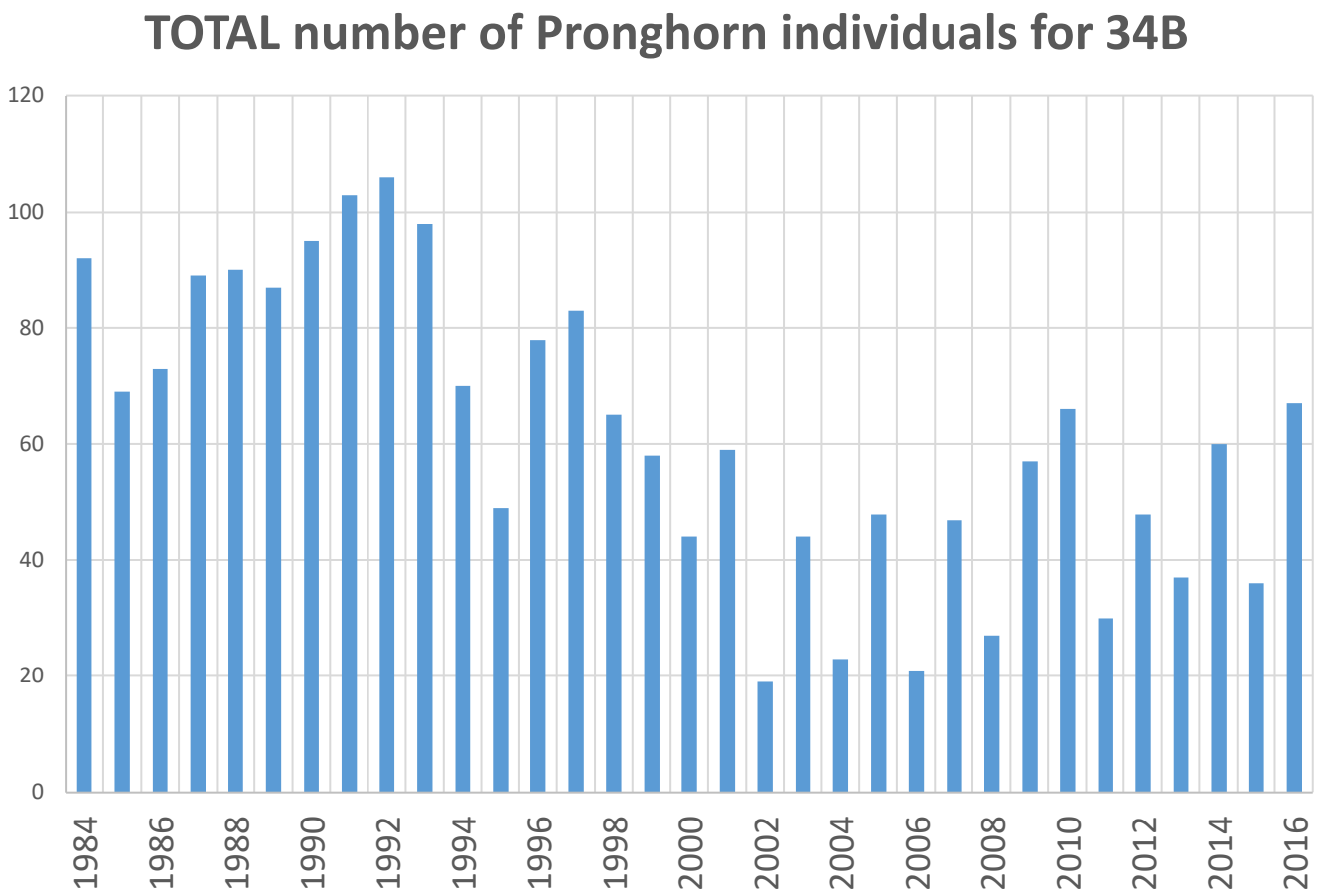
Pronghorn

- The Cienega Watershed is mostly contained in section 34B
- Habitat fragmentation and mesquite encroachment are major threats to pronghorn.



Source: Karen Klima, Arizona Game and Fish Department

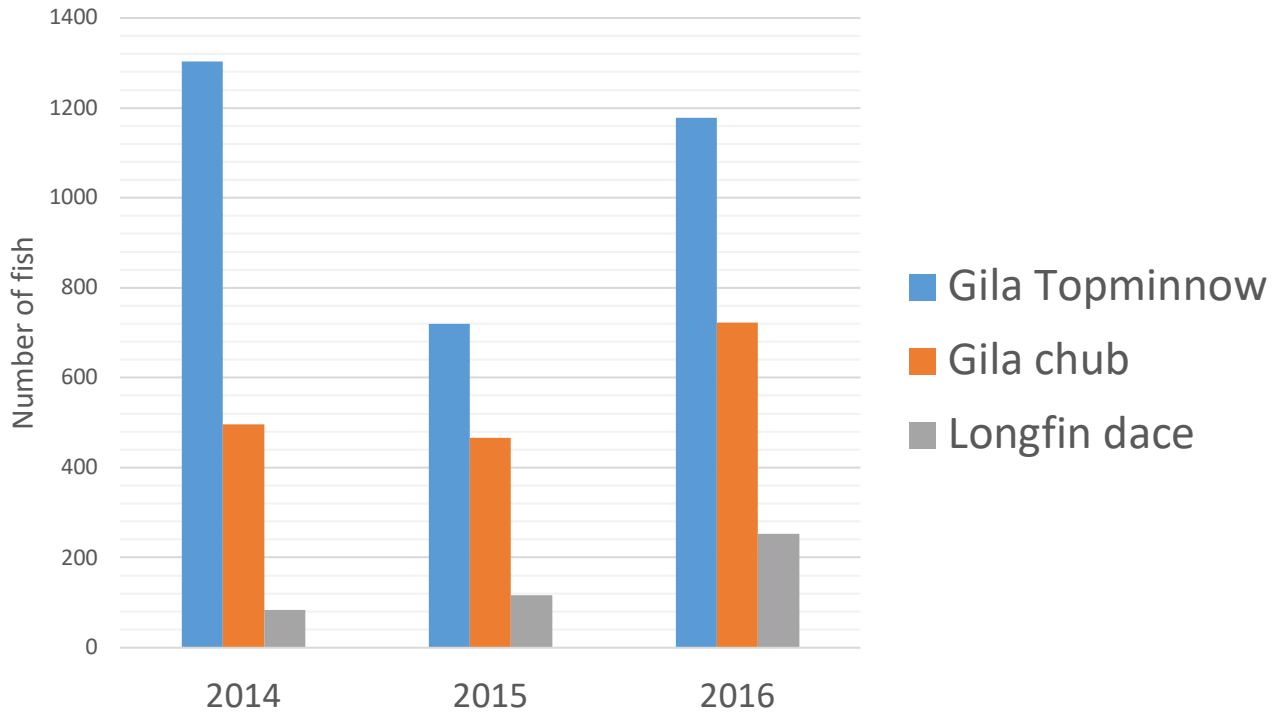
Pronghorn

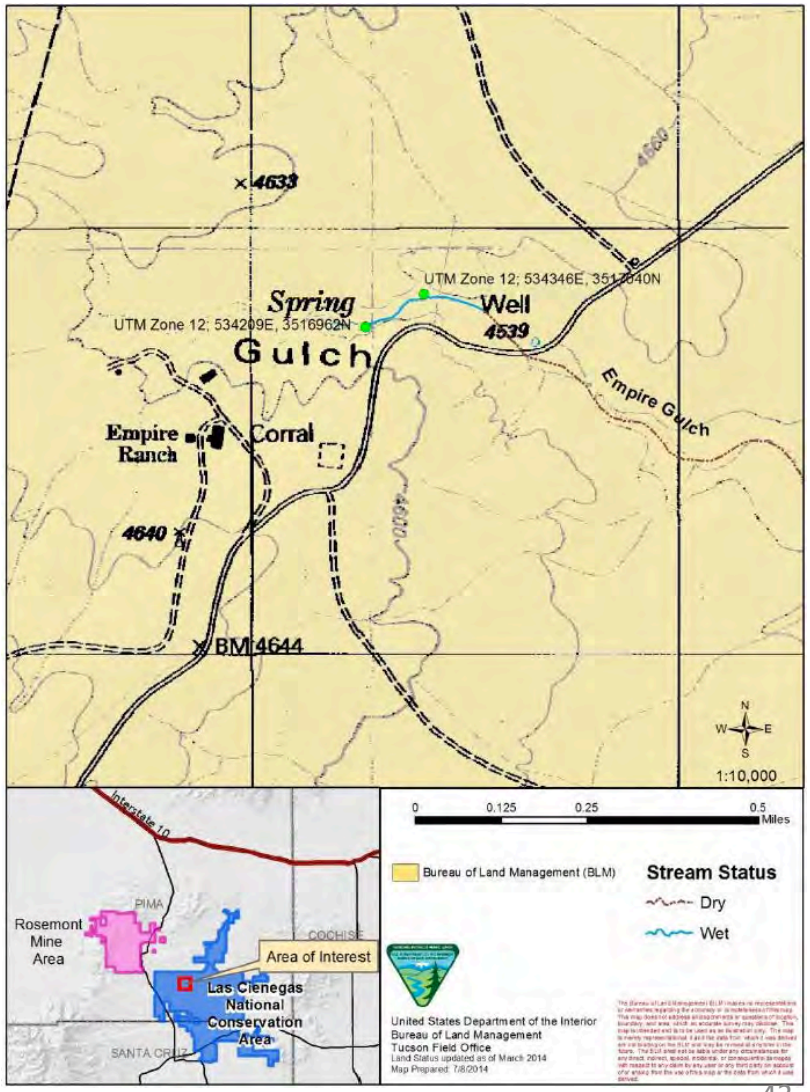


- Declines in population of pronghorn in 2002.
- Management responses:
  1. restricted hunting permits
  2. control measures on predator population (coyotes)
  3. install and maintain water tanks
  4. modify fences
- After management, pronghorn population in unit 34B appears to be slowly increasing

Source: Karen Klima, Arizona Game and Fish Department

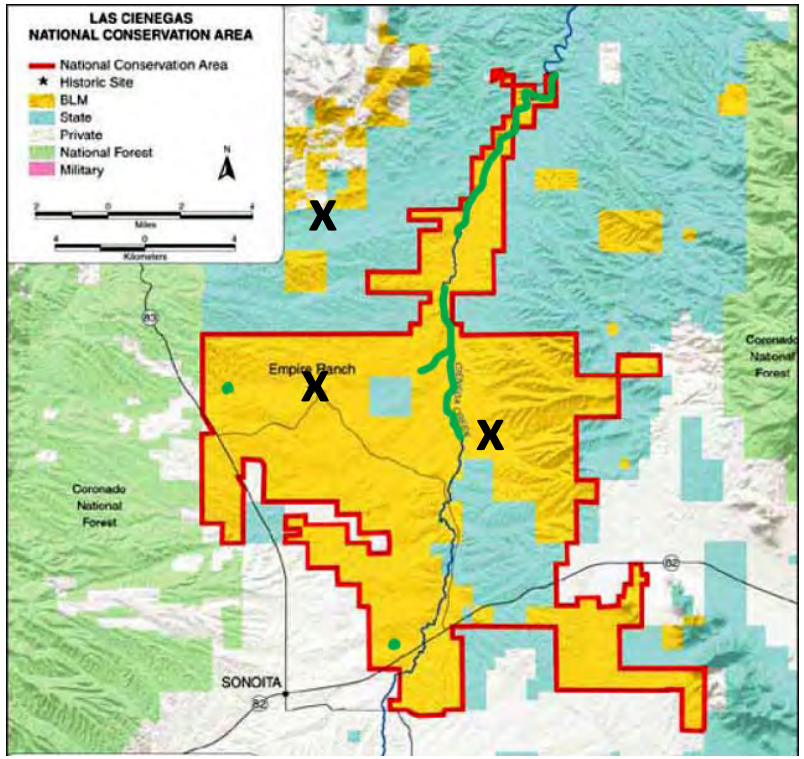
Fish



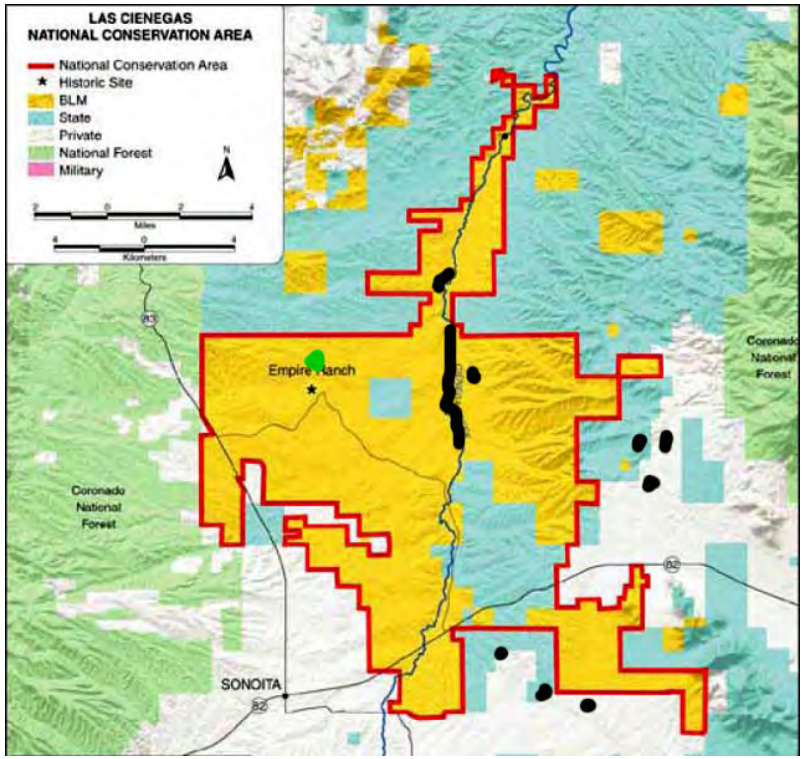


Source: Jeff Simms from BLM

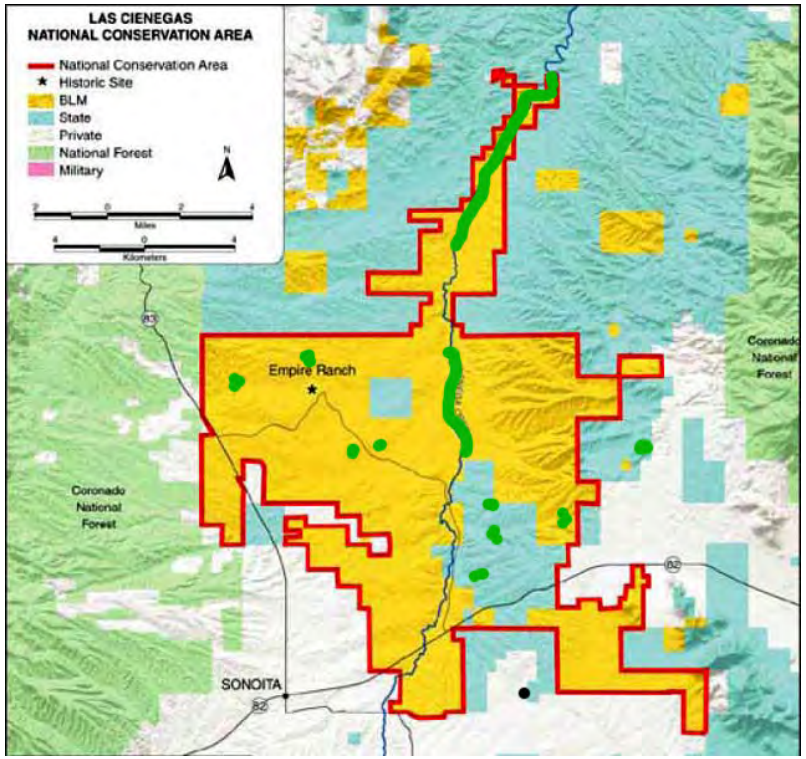
Frogs



1980's Geographic distribution of Chiricahua Leopard frog (green line) Black Xs show bullfrog records



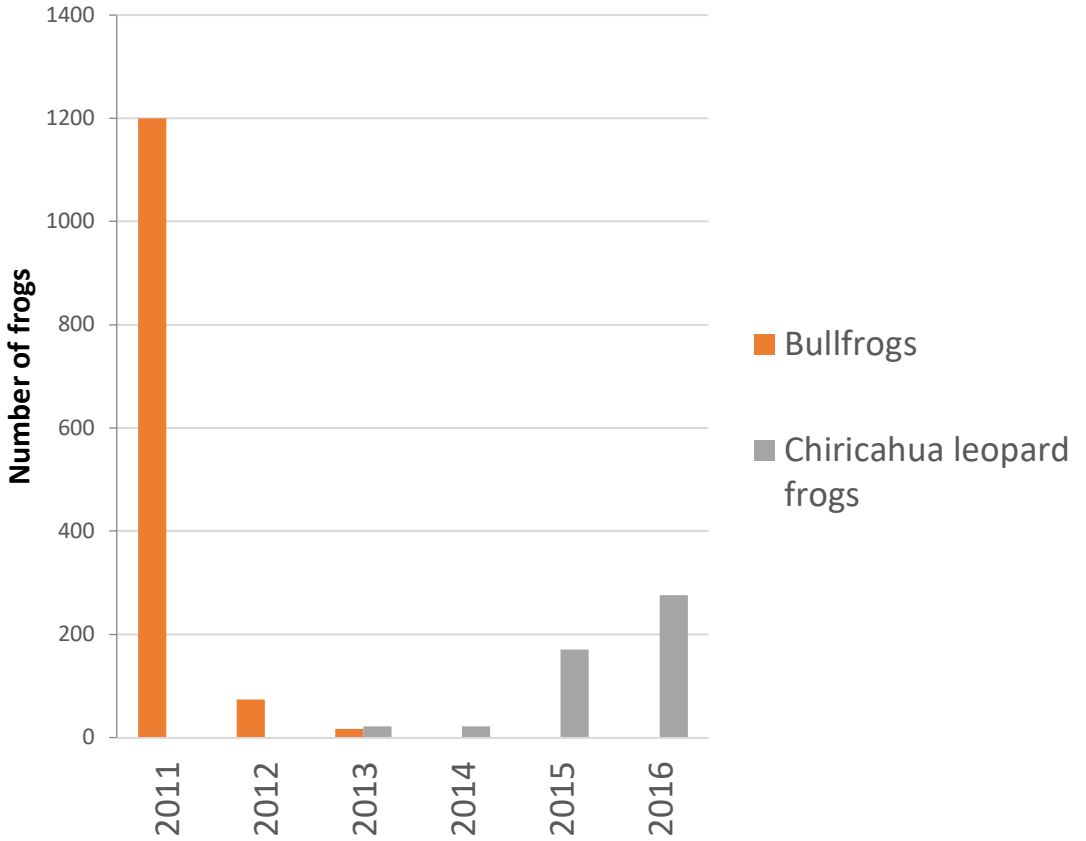
2010 Geographic distribution of Chiricahua Leopard frog (green point) Black lines show bullfrog records



2016 Geographic distribution of Chiricahua Leopard frog (green line and points). Black point show current bullfrog distribution

Source: David Hall, CWP-Frog Project

Frogs

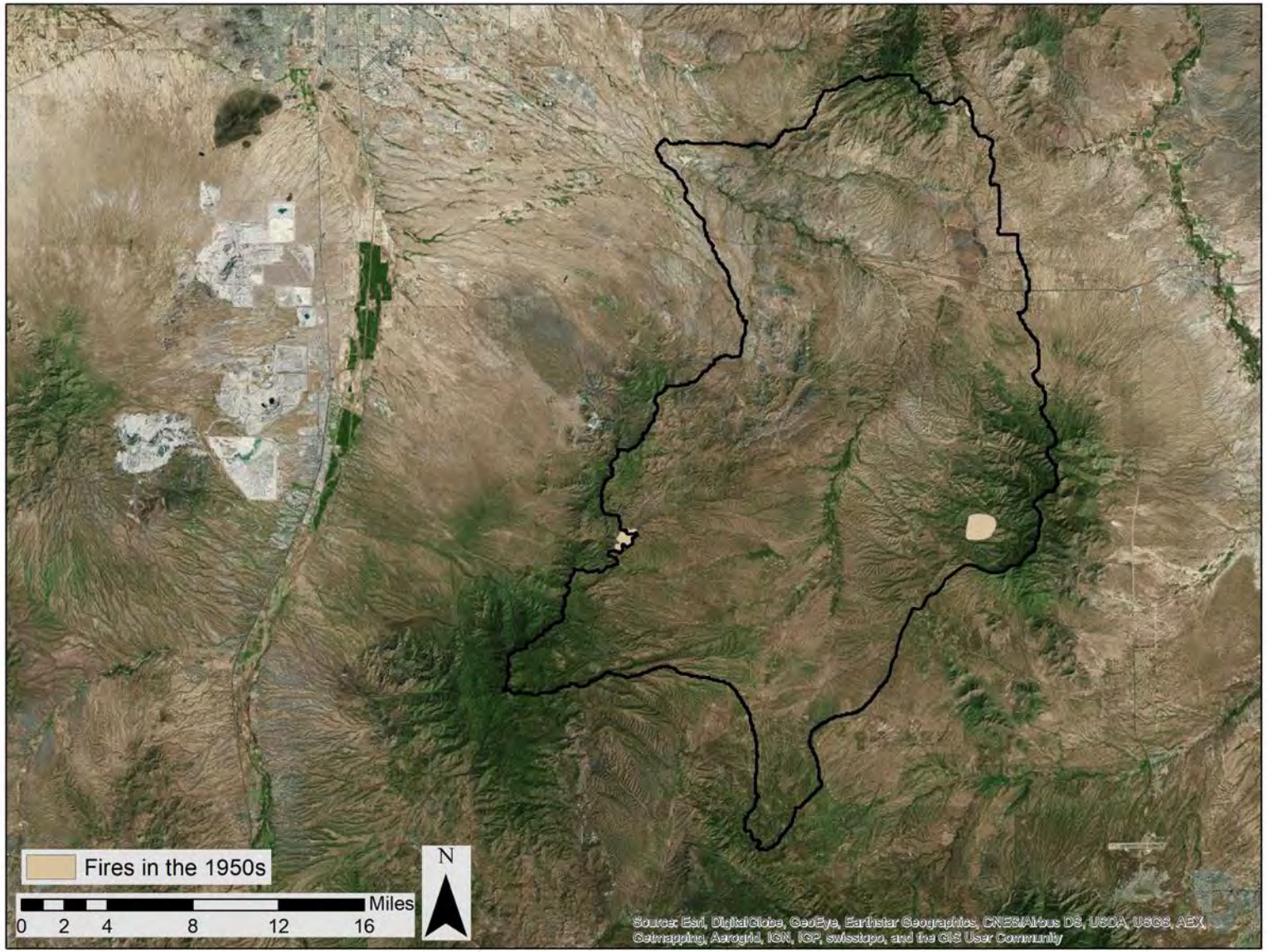


Source: David Hall, CWP-Frog Project

Management actions include:

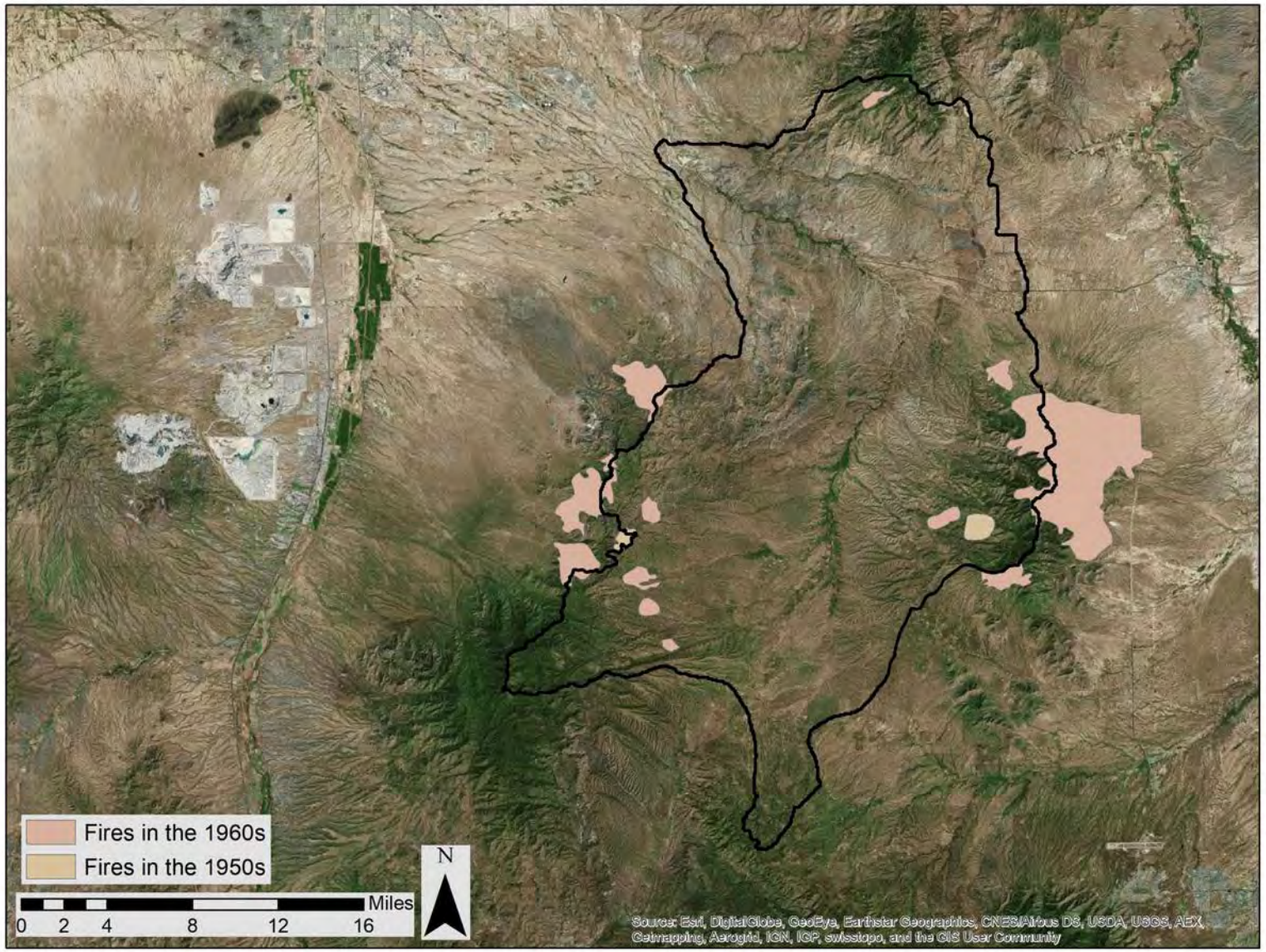
- Removal of invasive species
- Creation of buffer zones that consist of stock water tanks that are wetted during the monsoon season. Then they monitor the tanks during spring and summer months and remove any bullfrogs found.
- Efforts involve the collaboration between federal agencies:
  - AZGFD
  - BLM
  - USFW
  - USFS
- Engagement with private land-owners to work in their land, or creating a buffer zone around it.

Wildfires



Source: http://wfdss.usgs.gov/wfdss/WFDSS_Data_Downloads.shtml
Advice: Kyle Hartfield, ARSC

Wildfires



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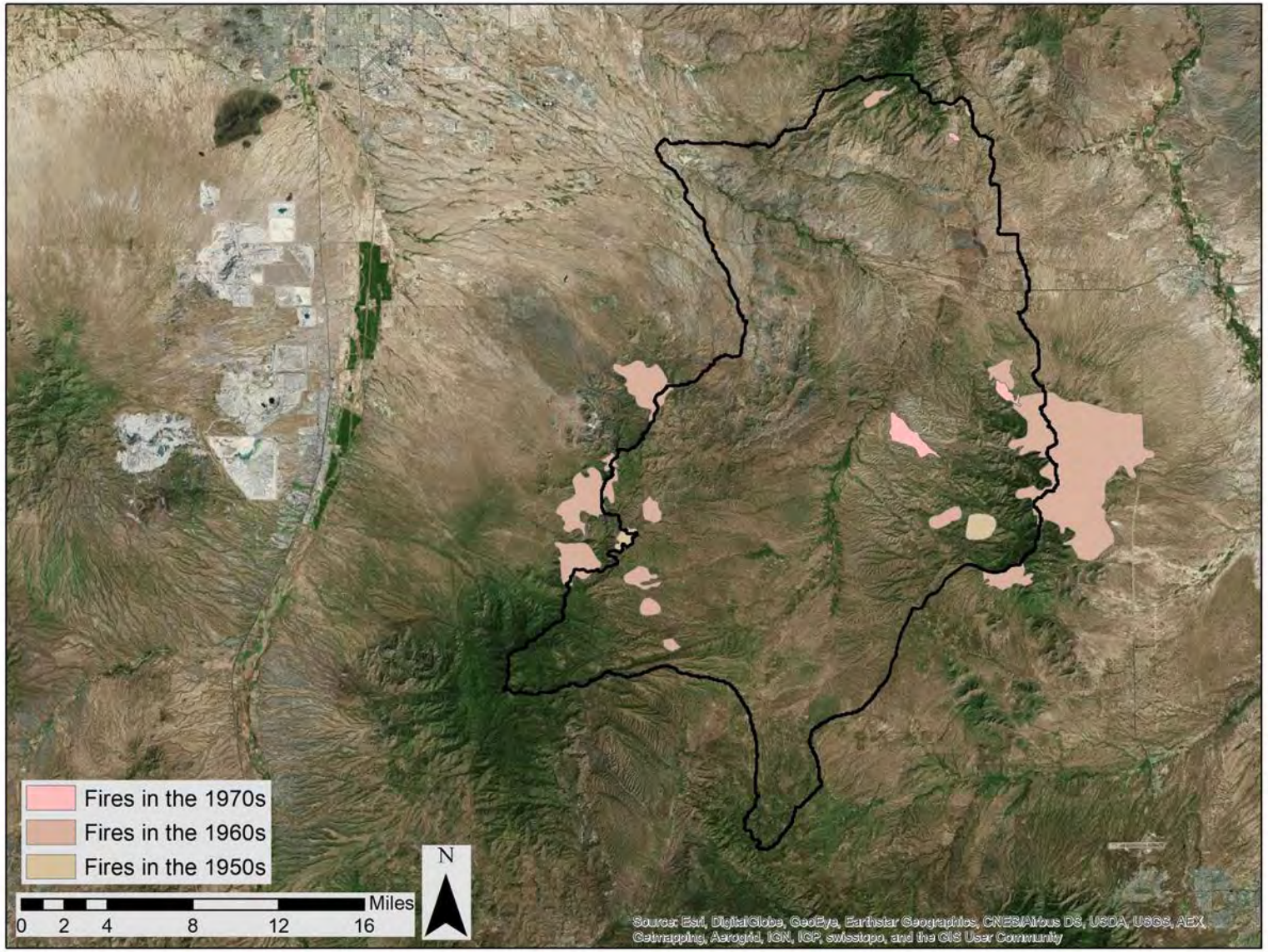
Wildfires



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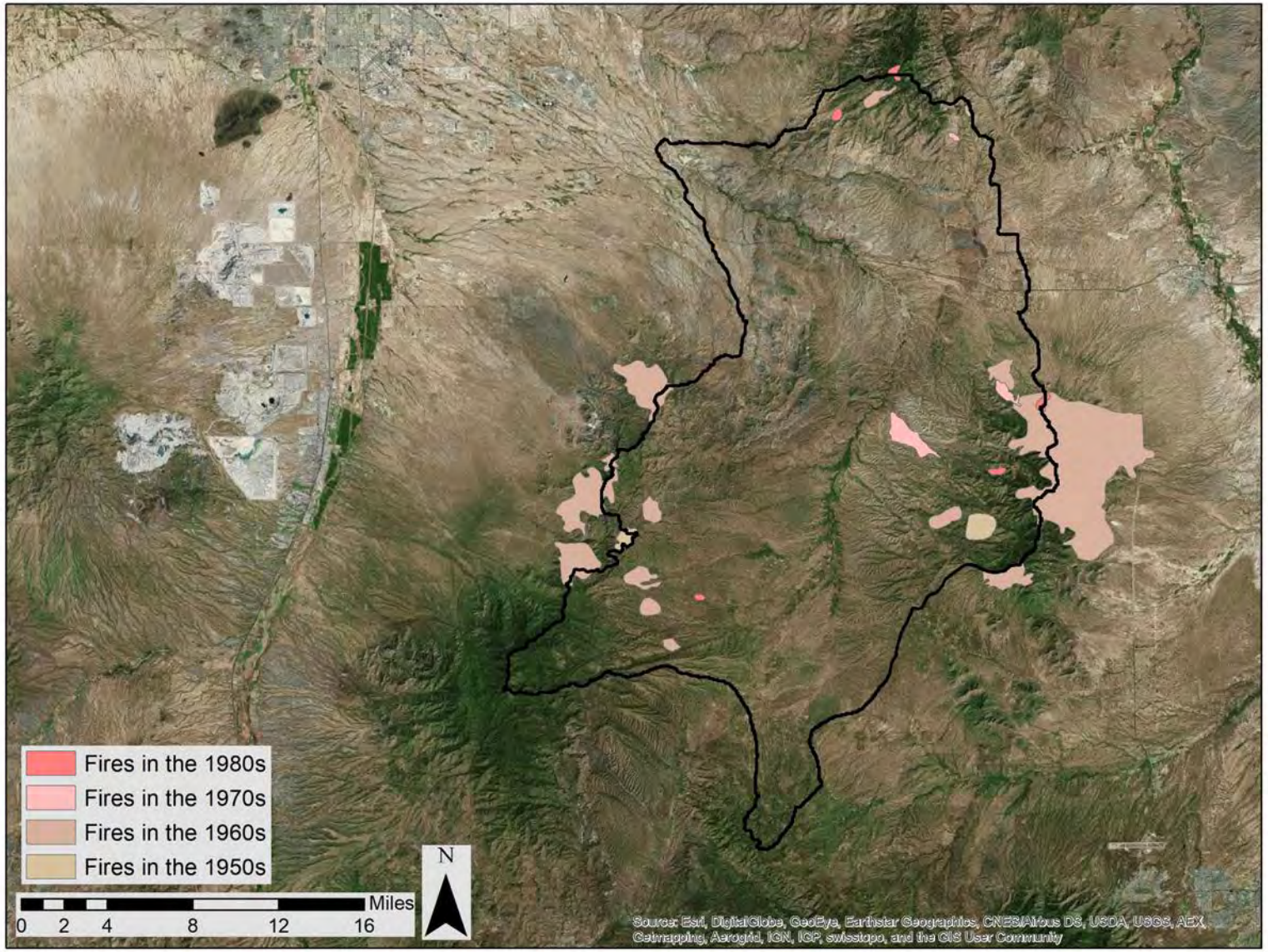
Wildfires



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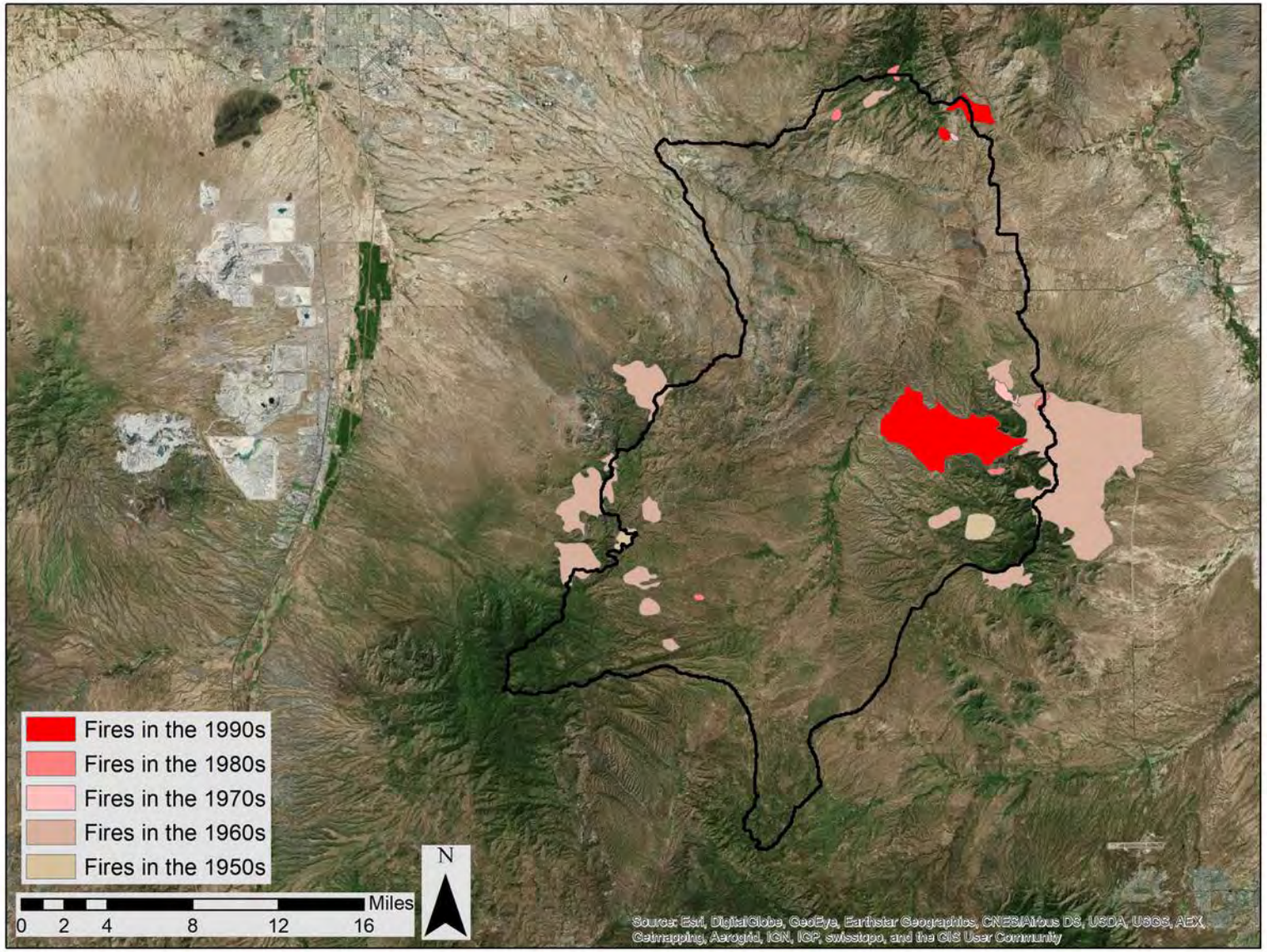

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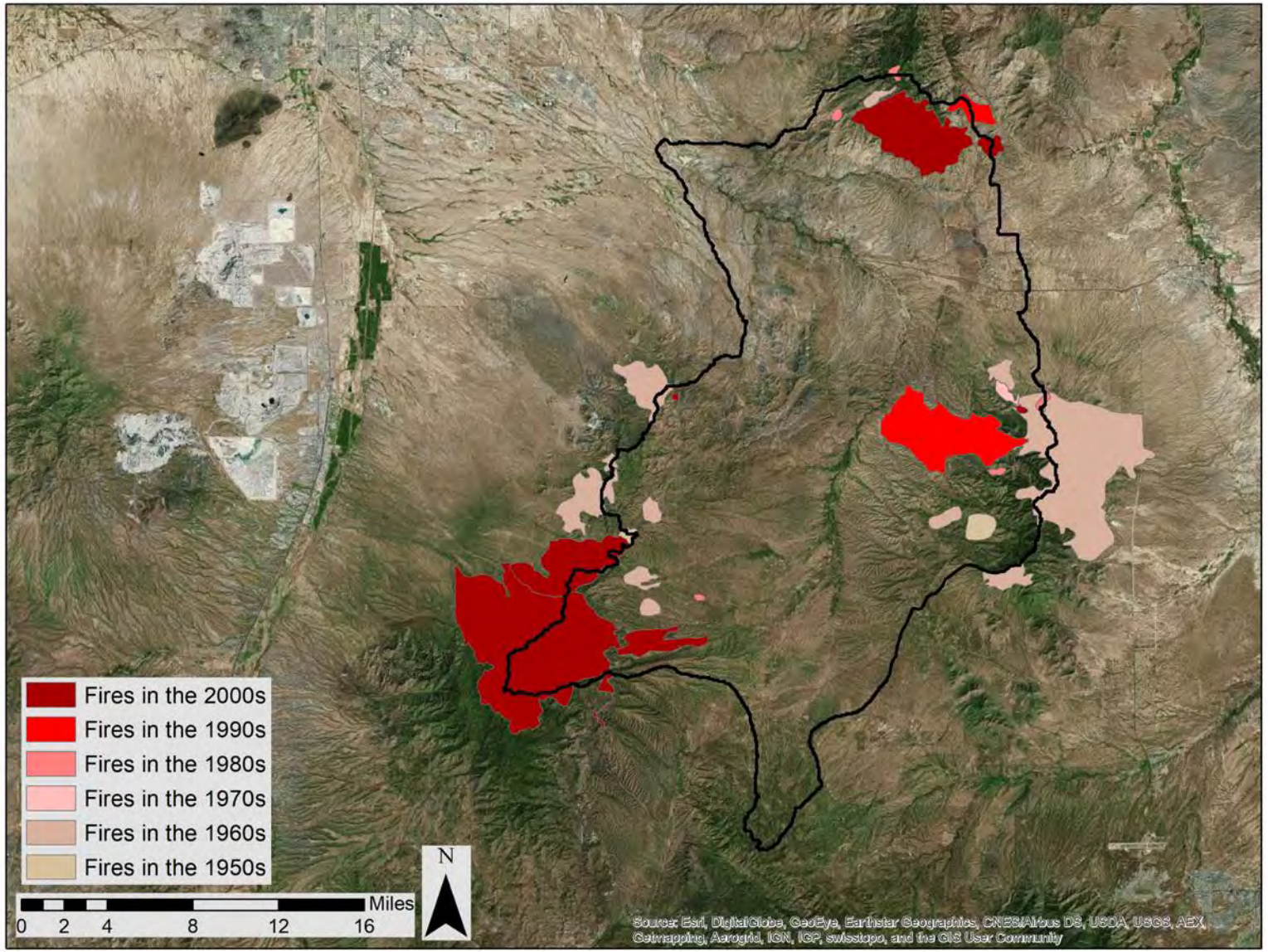

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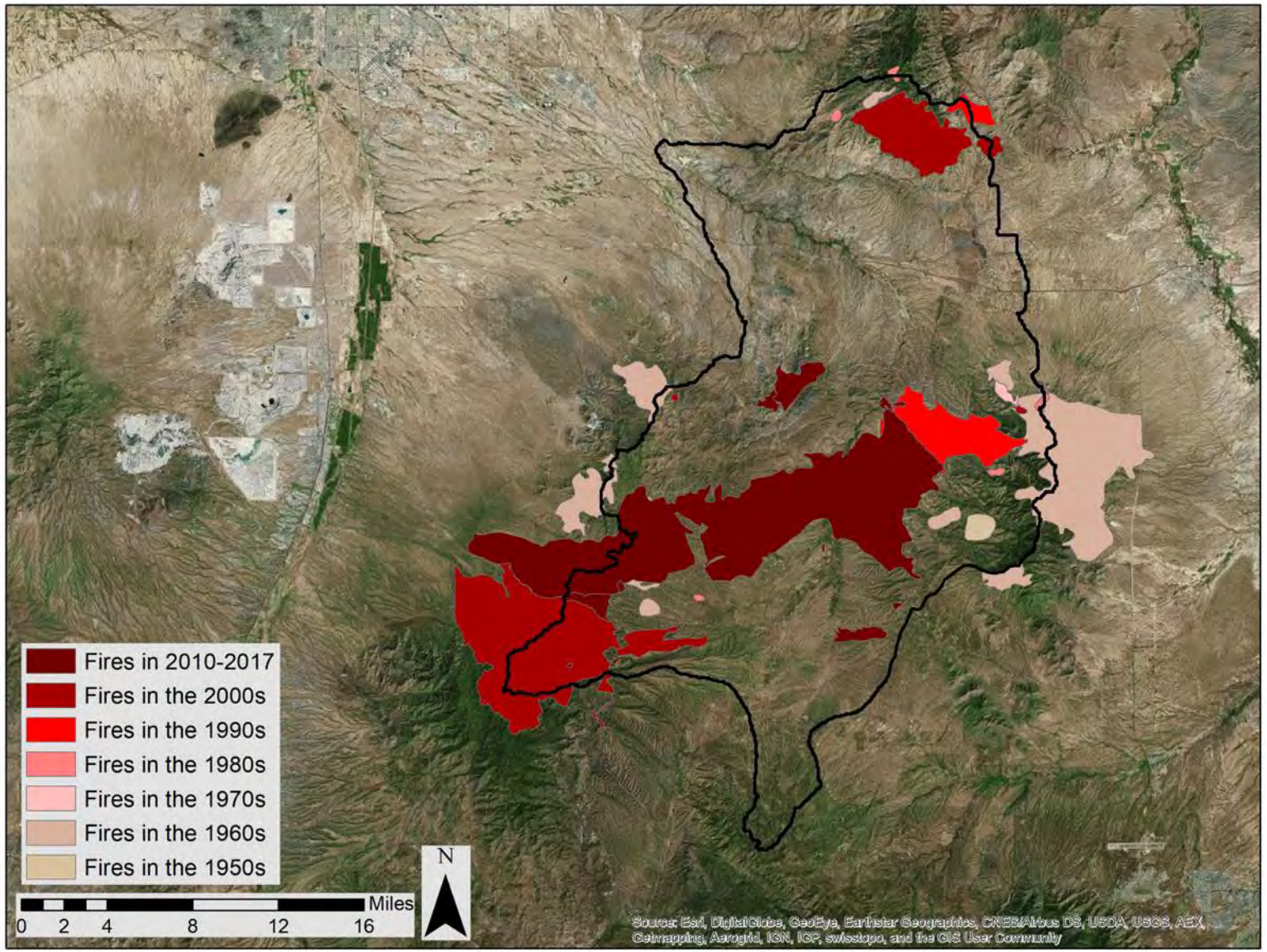
Advice: Kyle Hartfield, ARSC

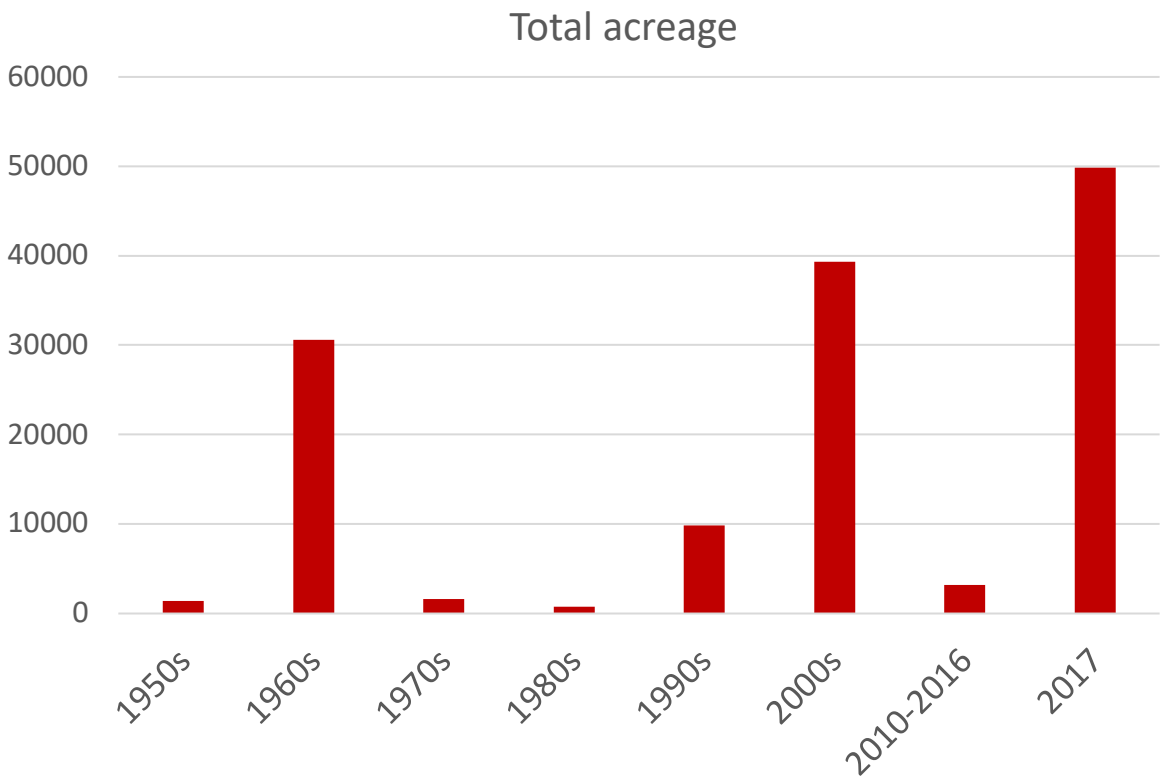
Wildfires

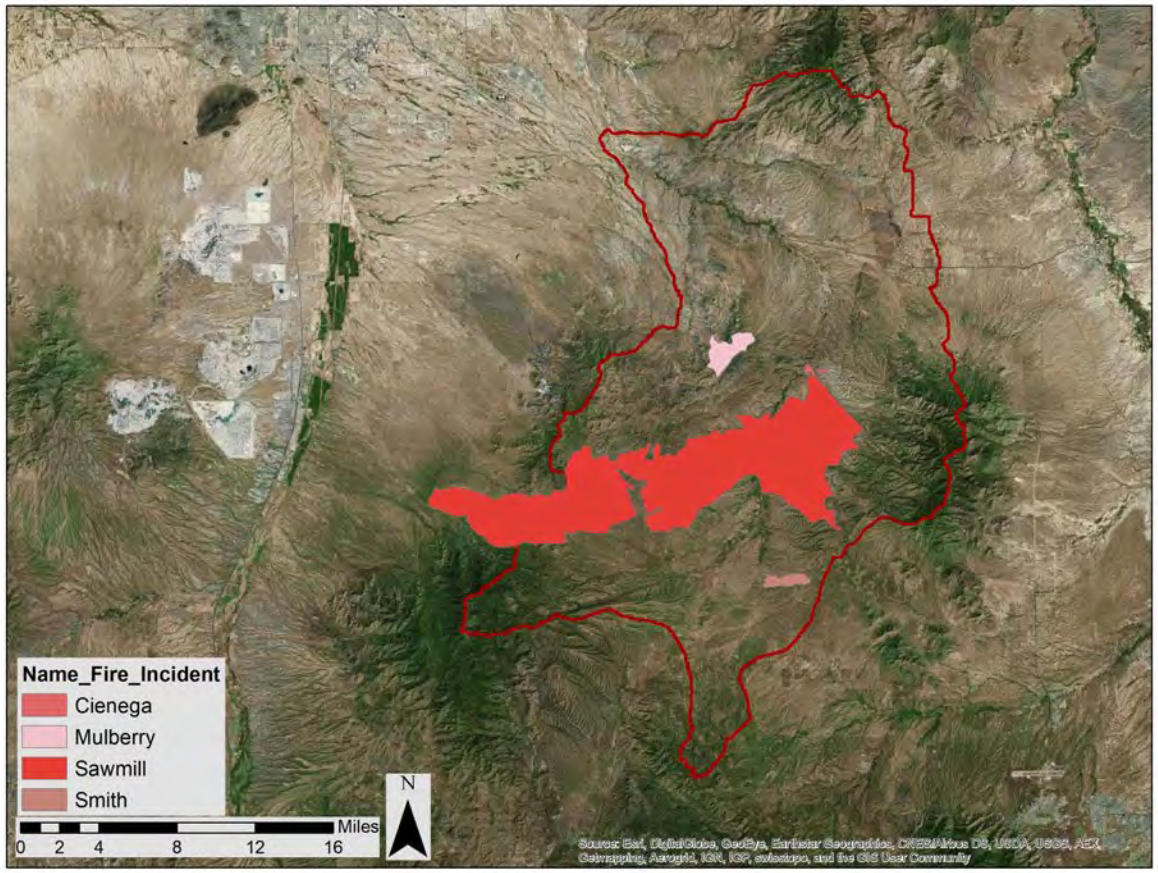


Source:
http://wfdss.usgs.gov/wfdss/WFDSS_Data_Downloads.shtml
Advice: Kyle Hartfield, ARSC
Fires from 2015-2017: Dan Quintana and Zach Driscoll - BLM

Wildfires

Fires in 2017 have burned more acreage than all fires in the past decade – 2000s (largest in record)





Source: Dan Quintana and Zach Driscoll - BLM

Ecological indicators - General trends

Vegetation composition

- **Shrub cover** (including mesquite) has been decreasing. This decline may be due to mesquite removal and prescribed-fire projects. More data is needed (e.g., Santa Rita).

- **Perennial grass** basal cover has declined, but 2015 and 2016 have shown some recovery.

- **Invasive perennial grasses** (e.g., Lehman lovegrass) have shown increase. There is an unusual relationship between cover data: basal area is generally down, while canopy is generally up. This may be in large part due to Lehman lovegrass.

- **Bare ground** has decreased, while the amount of **litter** has increased.

This means that

- Mesquite removal has been successful in decreasing shrub species cover and density
- The trend re perennial grass is unclear, but invasive species remain a threat
- Soil erosion may be decreasing because there is less bare ground and more litter

Ecological - General trends

Pronghorn:

- Earlier decline in pronghorn population (2002) has triggered management actions that have resulted in population recovery

Fish:

- Gila Topminnow has recovered significantly in 2015
- Gila chub also shows slow recovery
- Longfin dace has steadily increased

Frogs:

- Successful recovery of listed species and reduction of invasive species since 2013

Wildfires:

- Significant acreage burned in 1960s. Dramatic increase in acreage burned in 2000s. Damage from recent fires is significant and costly.

Socio-cultural

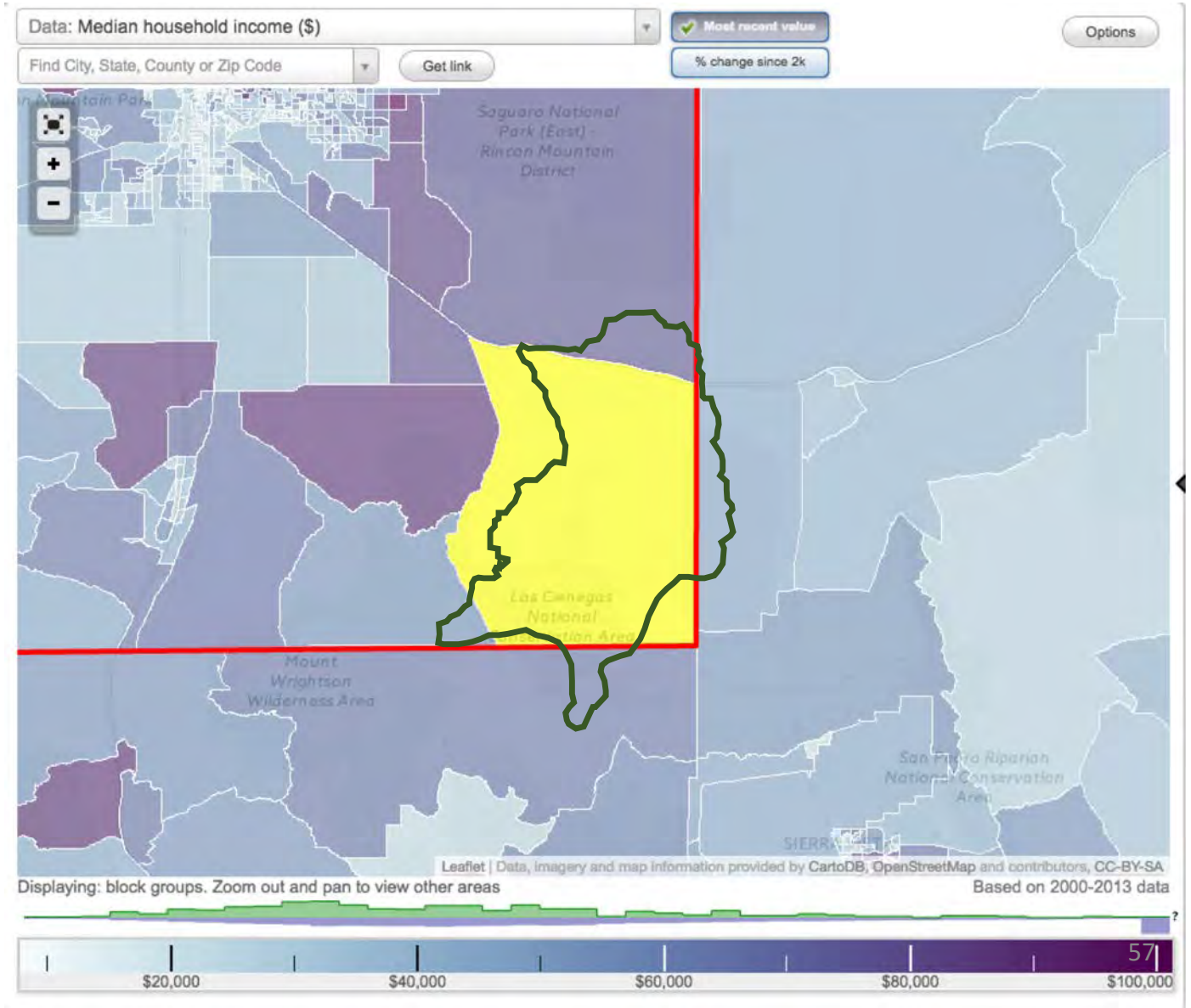
Indicator	No.	Description
Economic vitality	15	Median household income, median home values, unemployment, residents below poverty level
Land-use land-cover change	16	Land use and land cover change
Number of wells	17	Number of wells installed within the watershed and buffer area of 10 mi
Archaeological site conditions	18	Trend in site conditions, both human and natural-caused damage.
Number of recreational permits	19	Number of recreational permits over time
Stewardship engagement programs	20	Number of opportunities for active engagement

Economic vitality

Data collected in January 2017

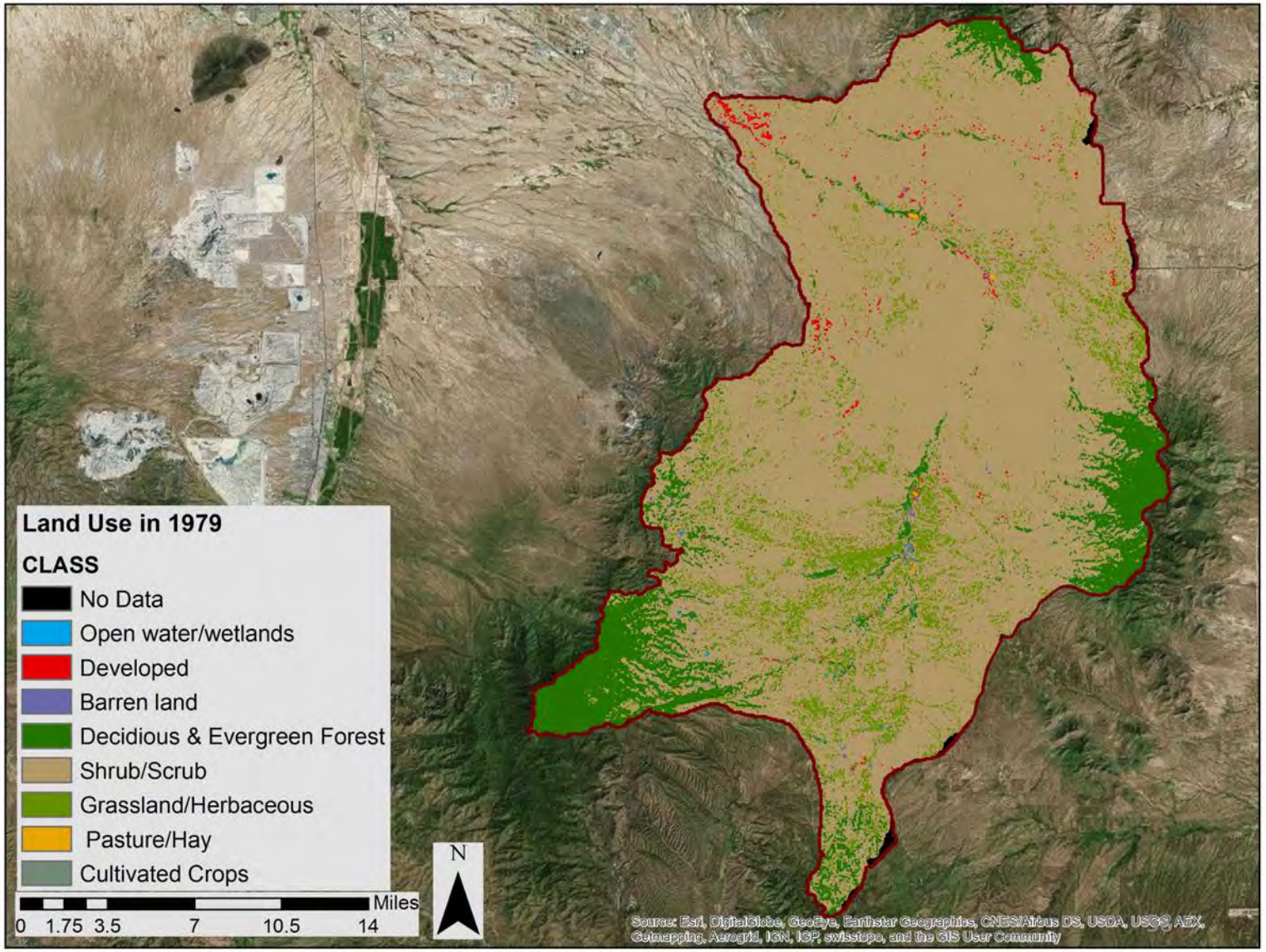
Pimaco Two, AZ
Zip codes = 85611, 85637, 85641

Median household income: $47,679
Median house or condo value: $227,155
Median contract rent: $468
Unemployment: 4.88%
Residents below the poverty level: 6.22%
Median resident age: 58.9



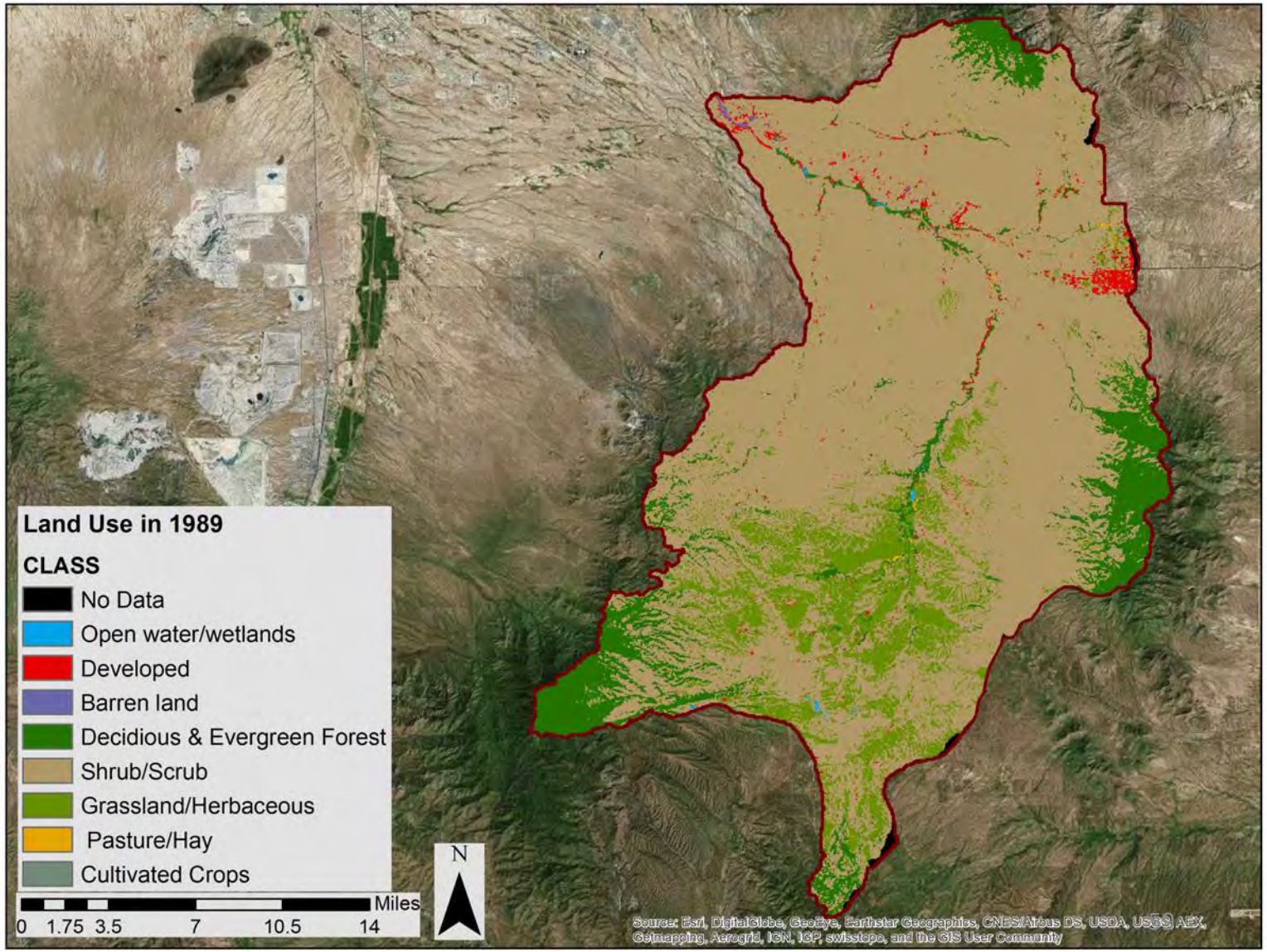
Source: Rositsa Yaneva
Website: http://www.city-data.com/county/Pima_County-AZ.html

Land use – land cover



Source: Laura Norman, USGS.
https://pubs.usgs.gov/of/2011/1131/
Advise: Kyle Hartfield, ARSC

Land use – land cover



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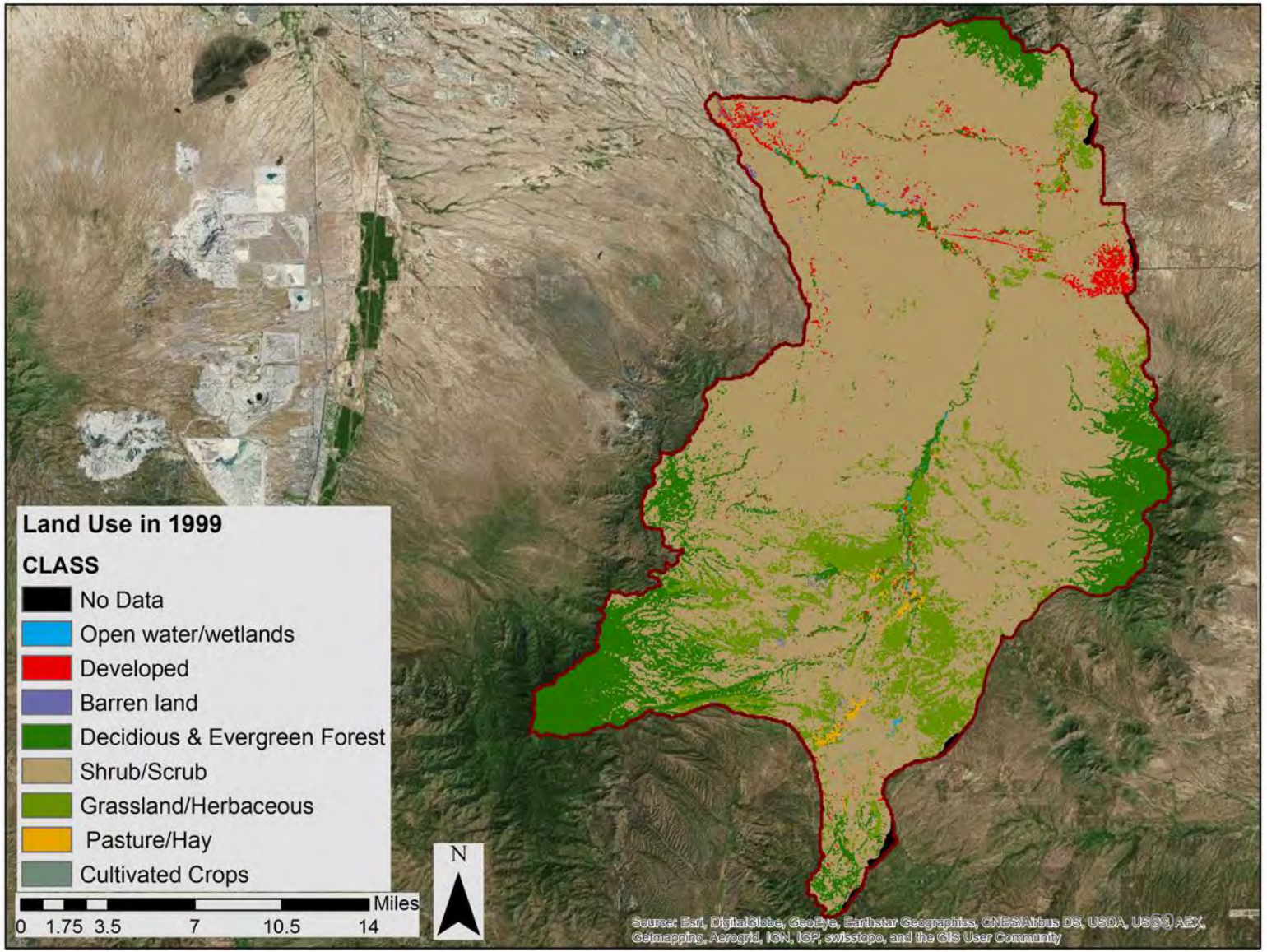

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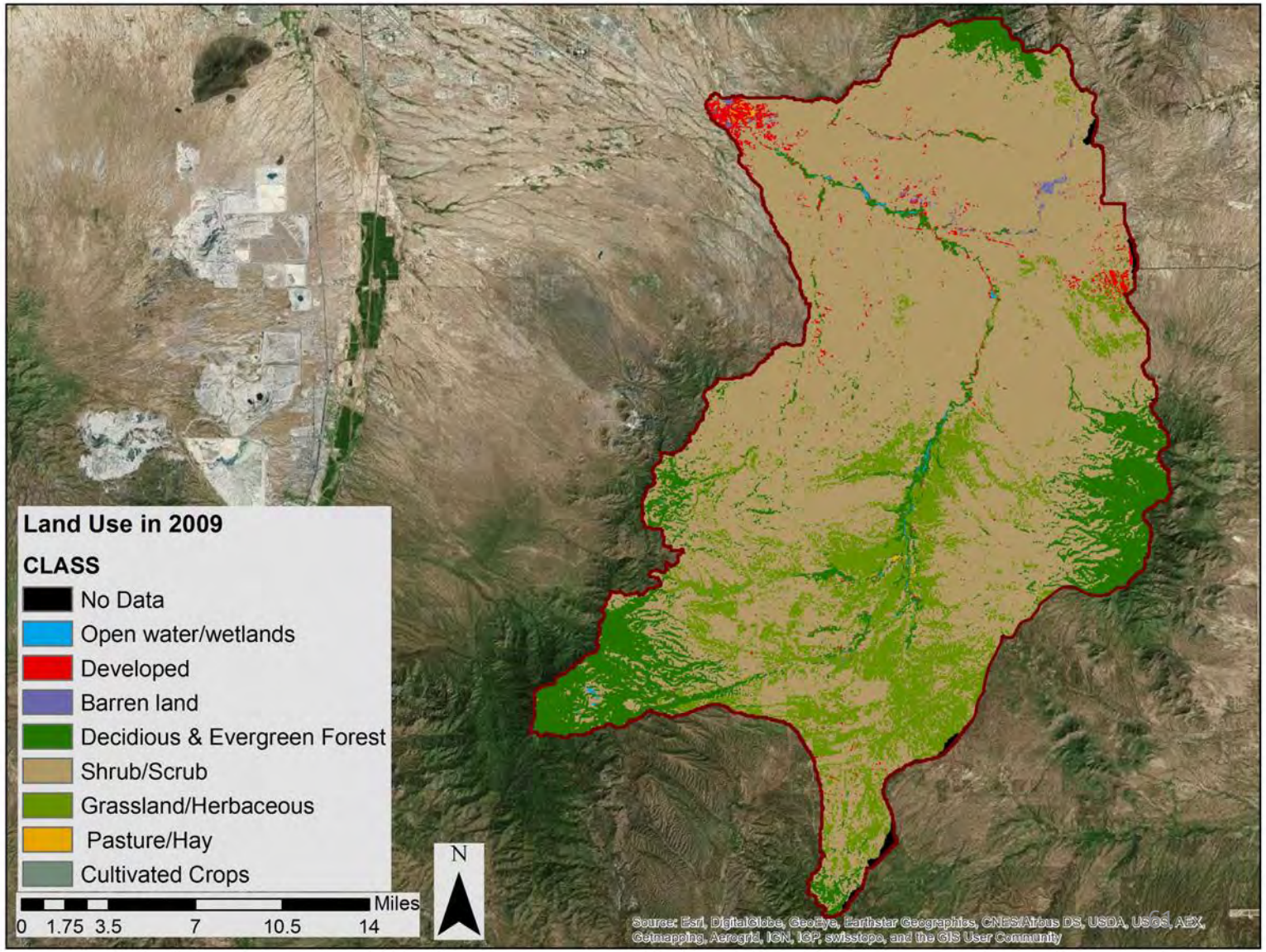

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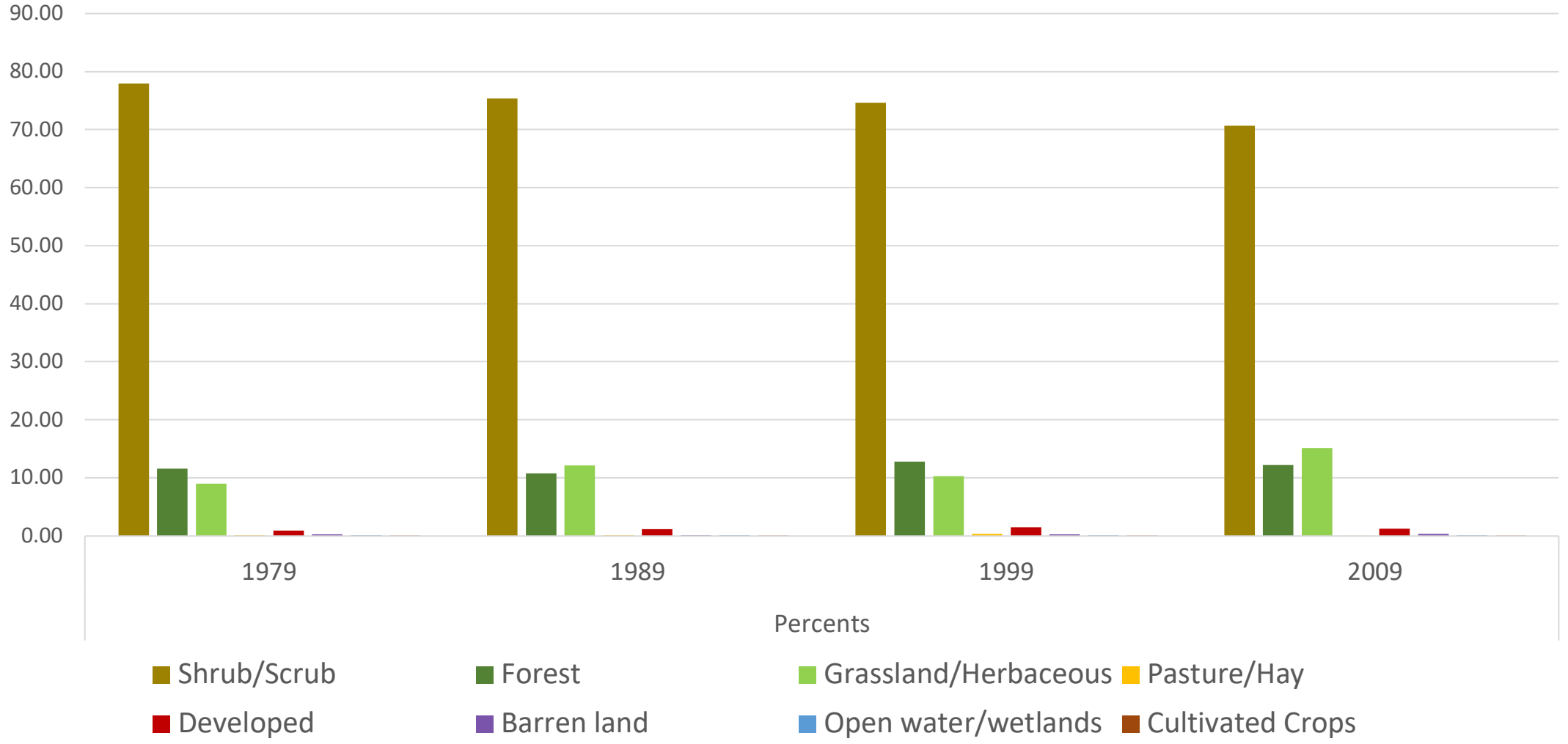

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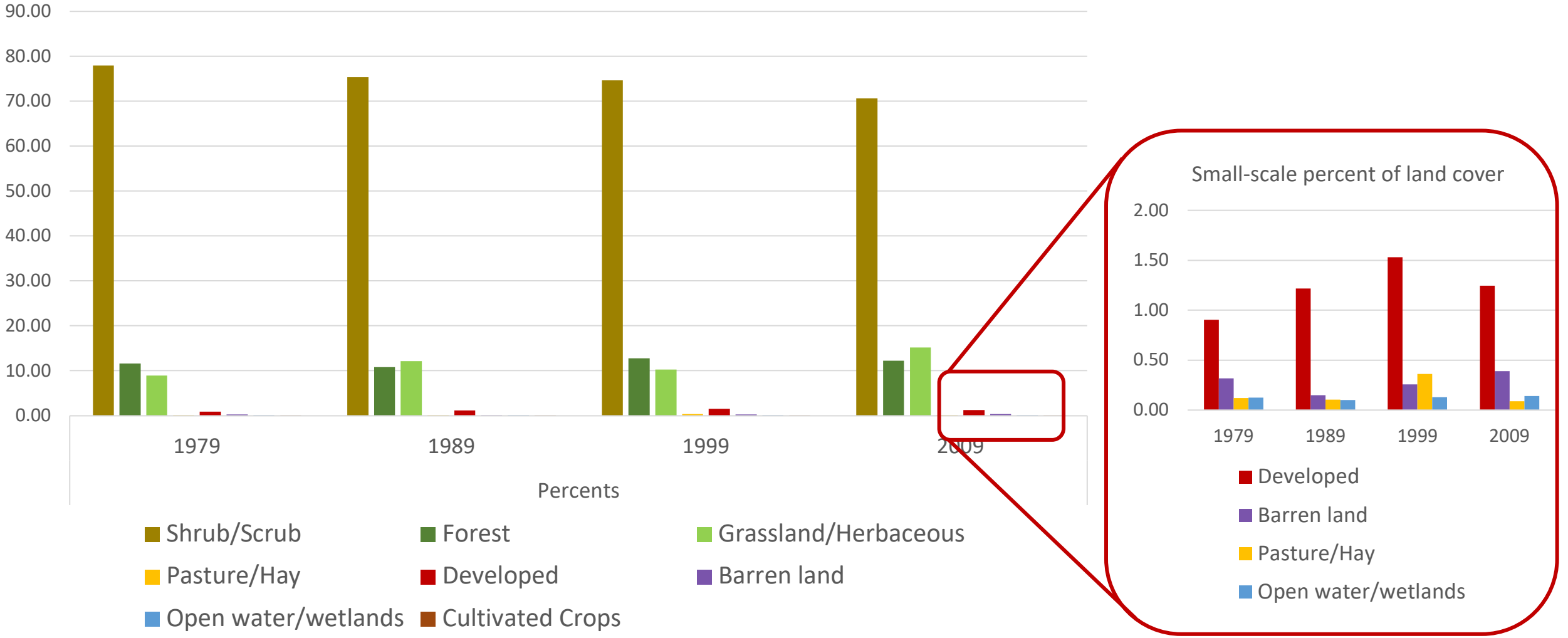
Land use – land cover



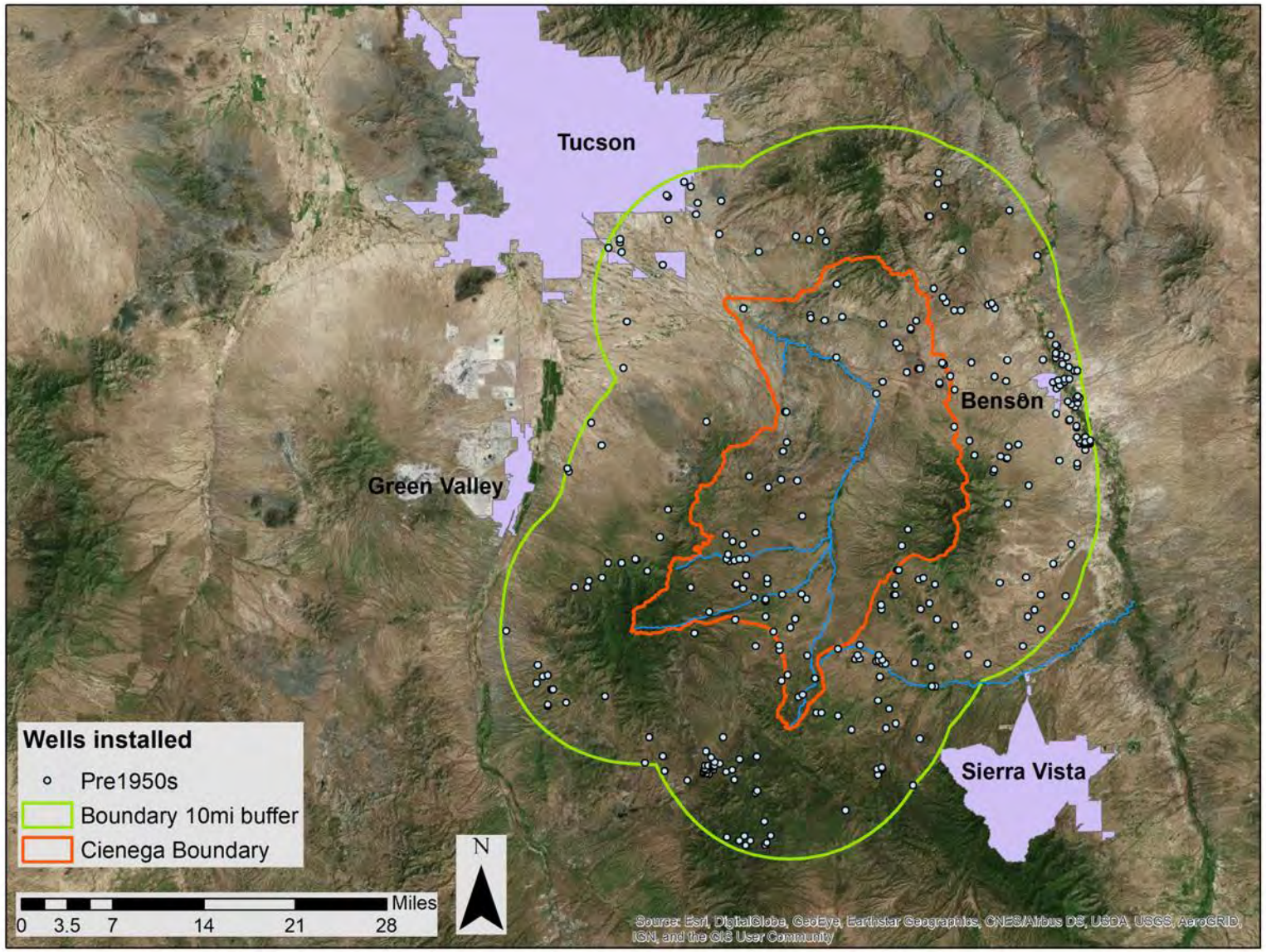
Source: Laura Norman, USGS. https://pubs.usgs.gov/of/2011/1131/

Advise: Kyle Hartfield, ARSC

Wells

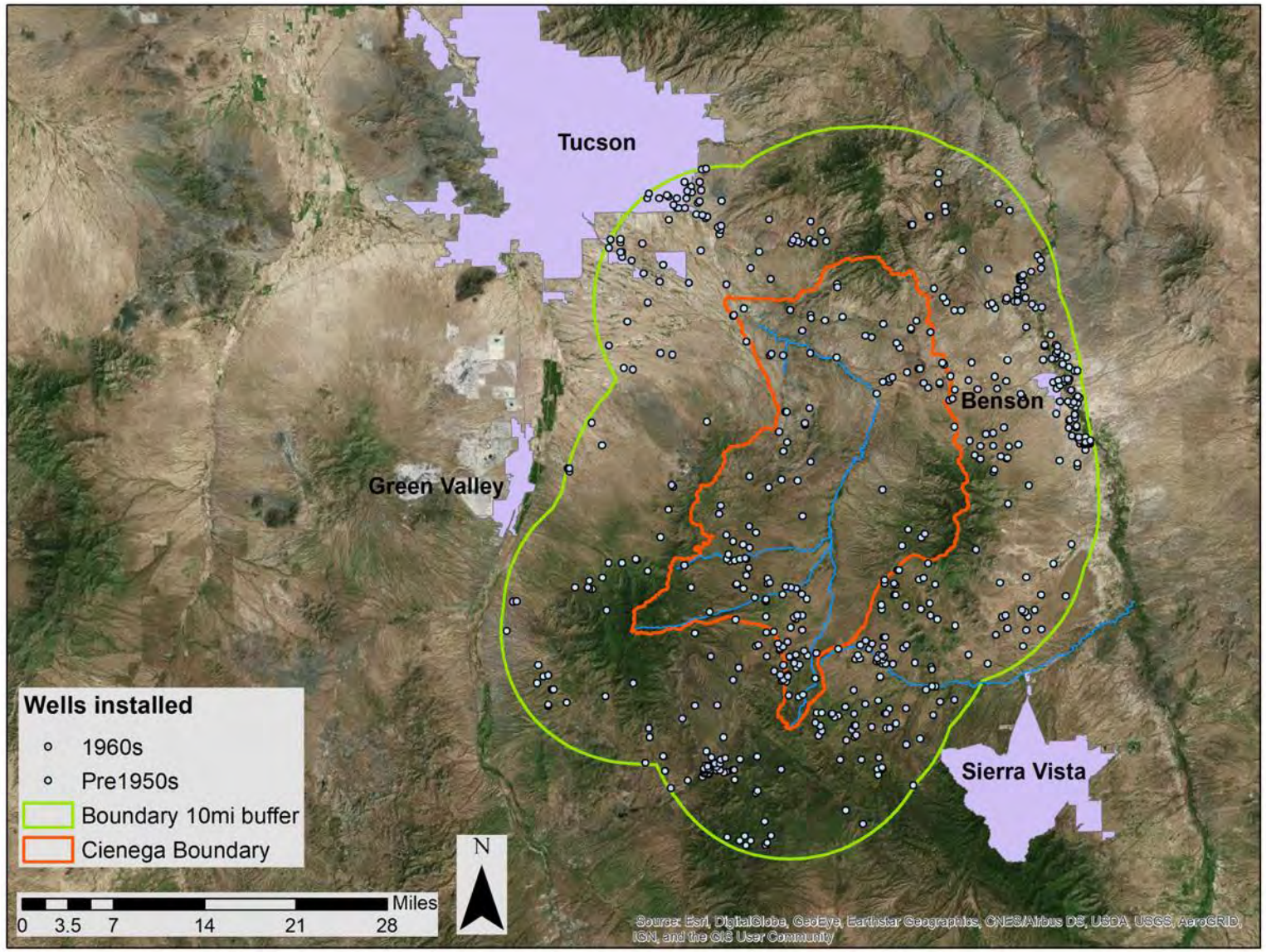
Spatial analysis steps:

- Downloaded wells data from ADWR
- Added buffer of 10 miles to the Cienega boundary
- Clipped wells beyond buffer
- Grouped by date of installment



Source: Arizona Department of Water Resources:
http://www.azwater.gov/azdwr/GIS/
Advise: Kyle Hartfield, ARSC

Wells



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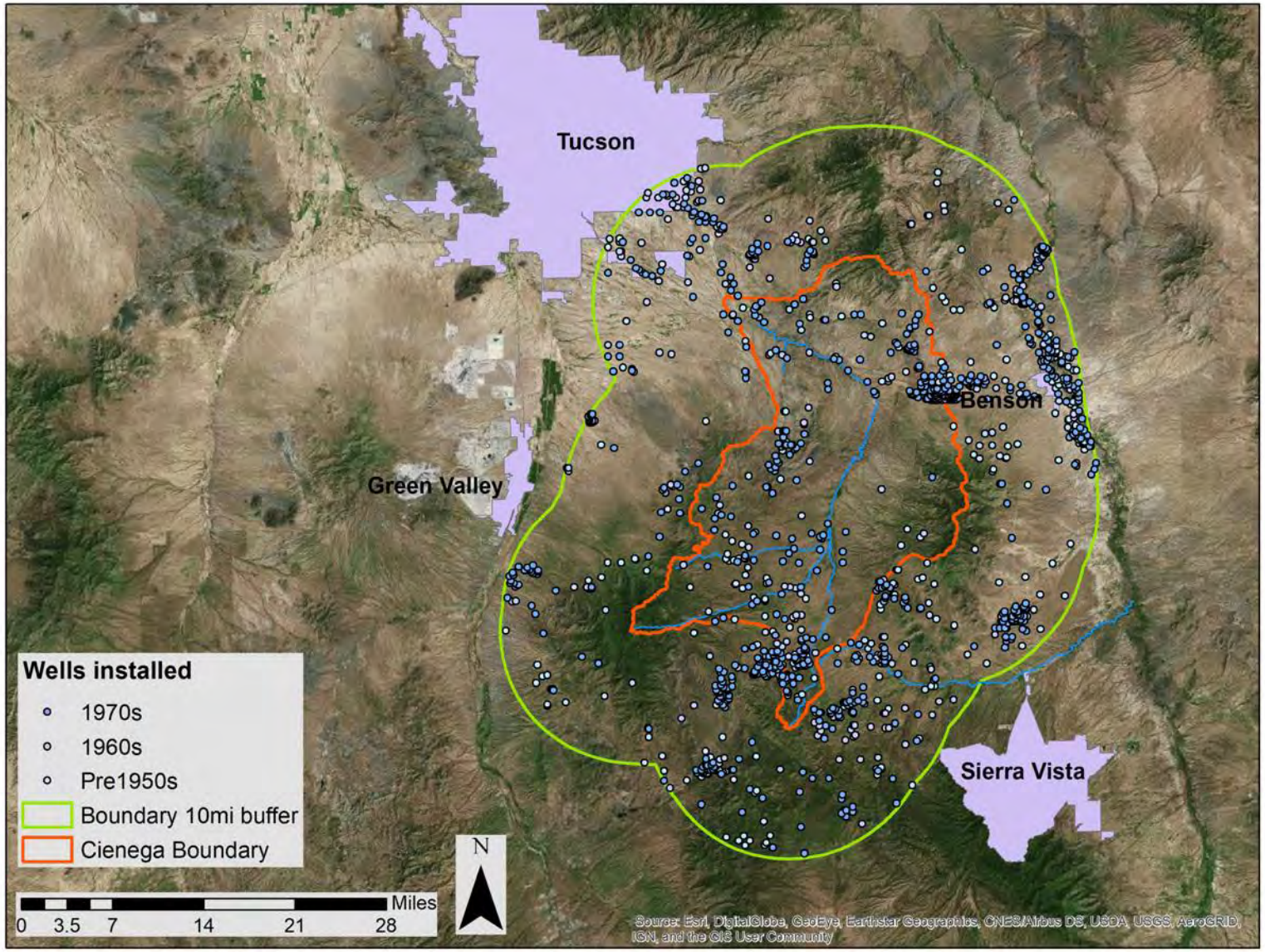

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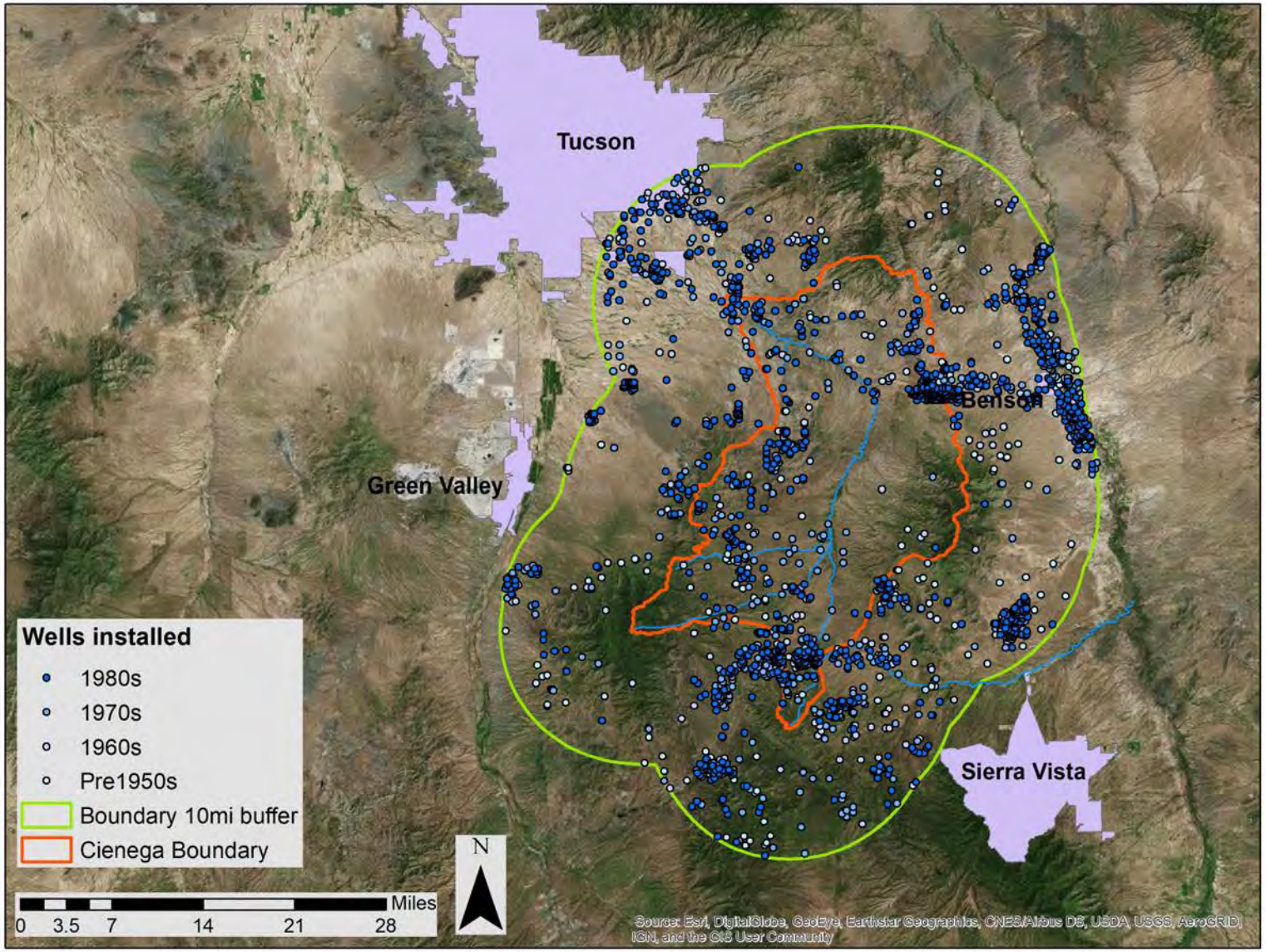

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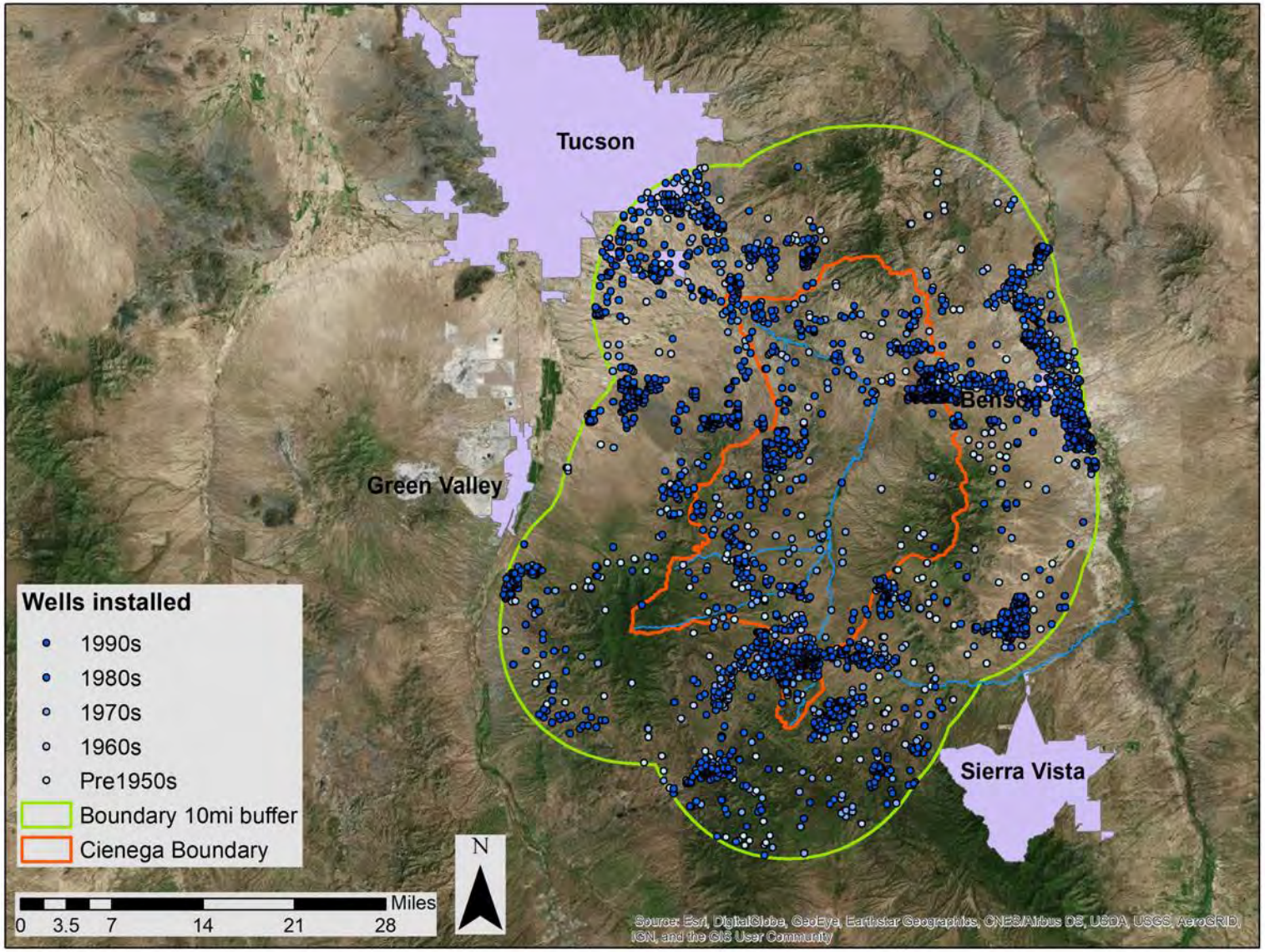

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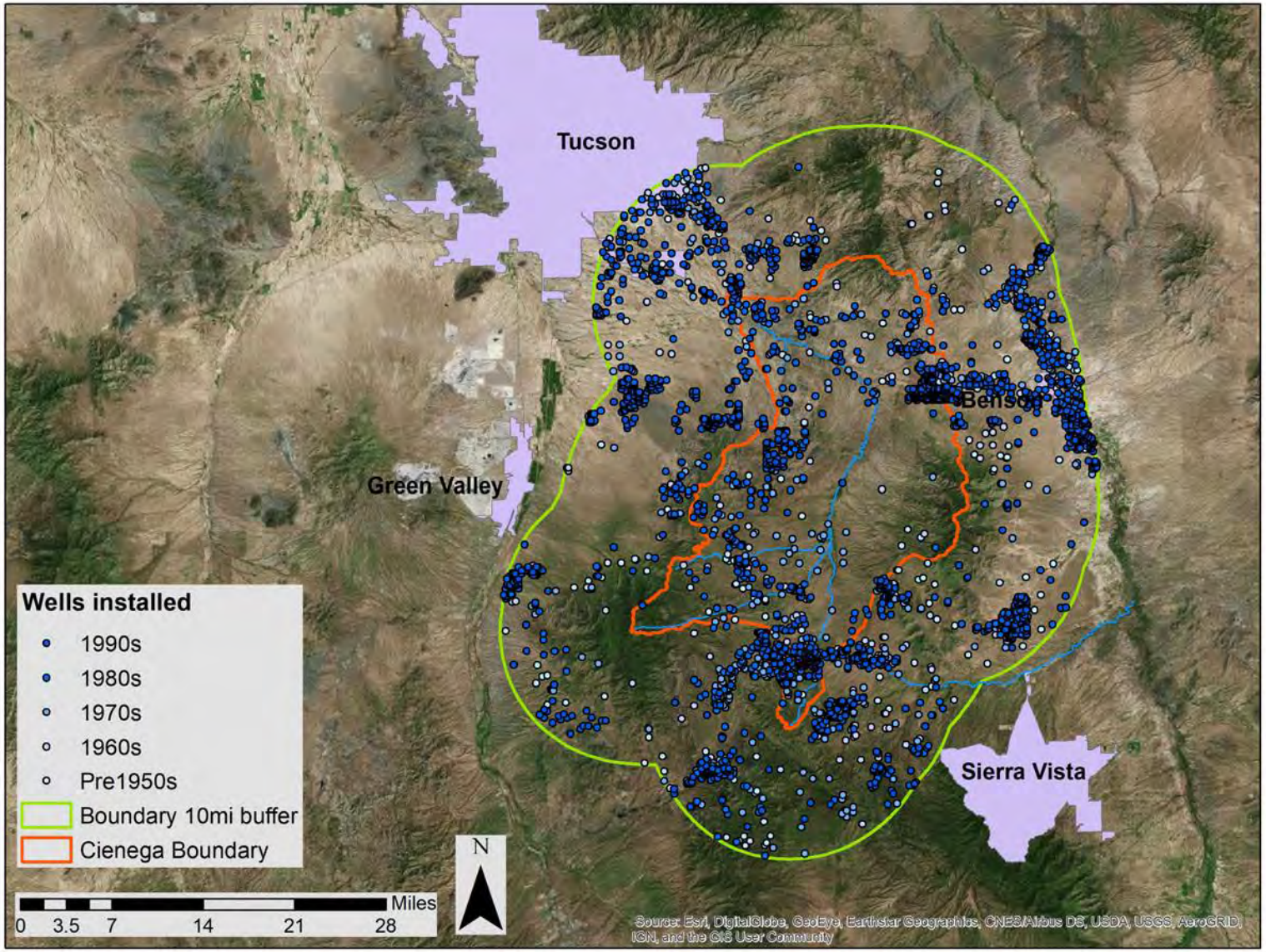

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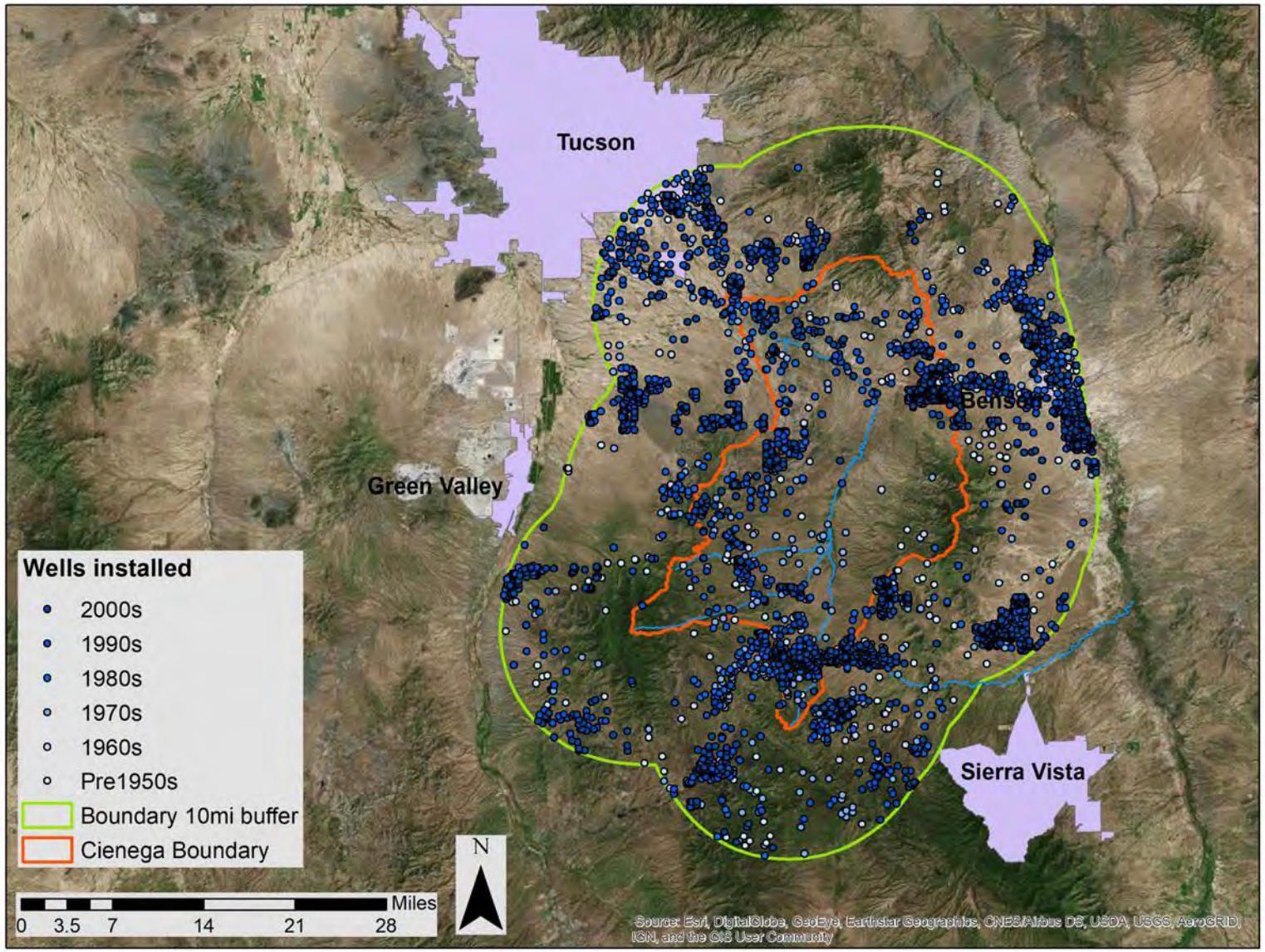

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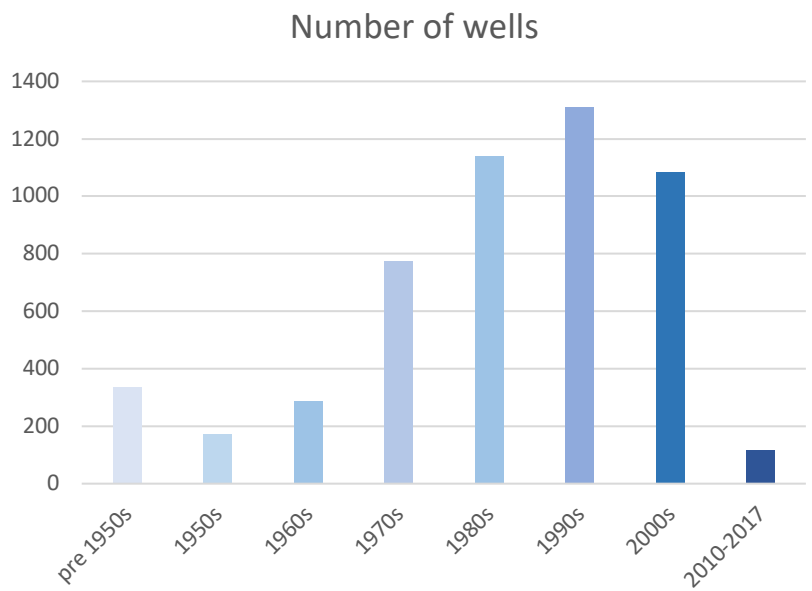

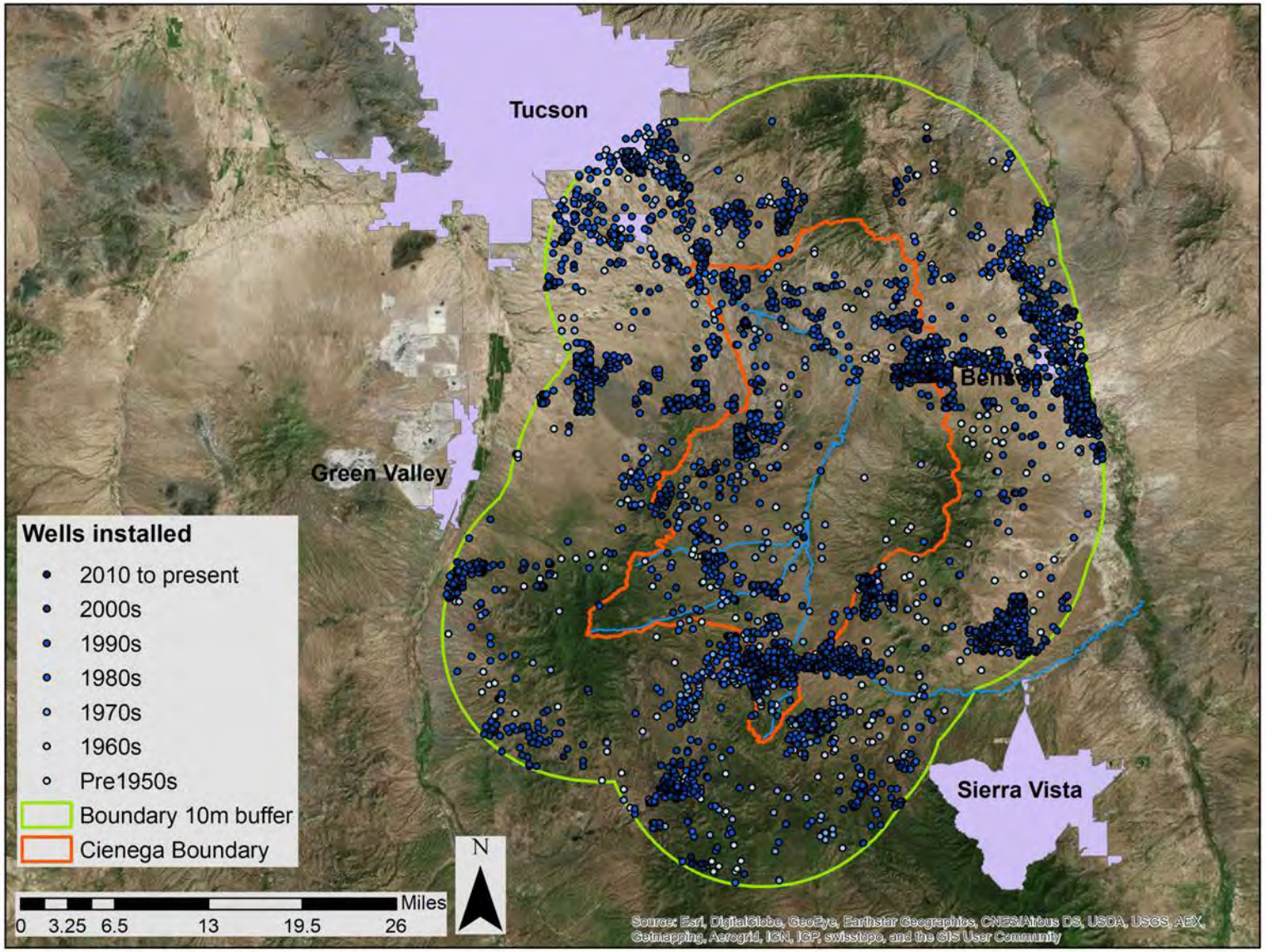

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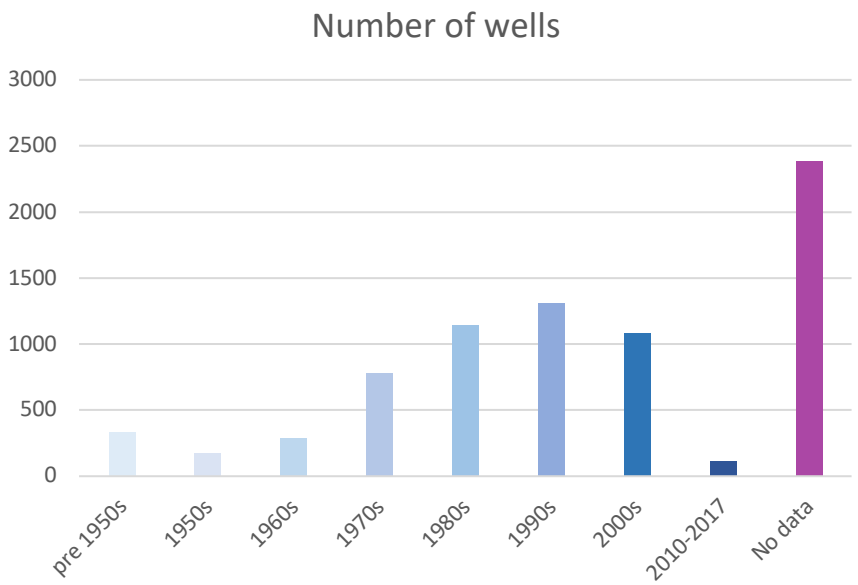

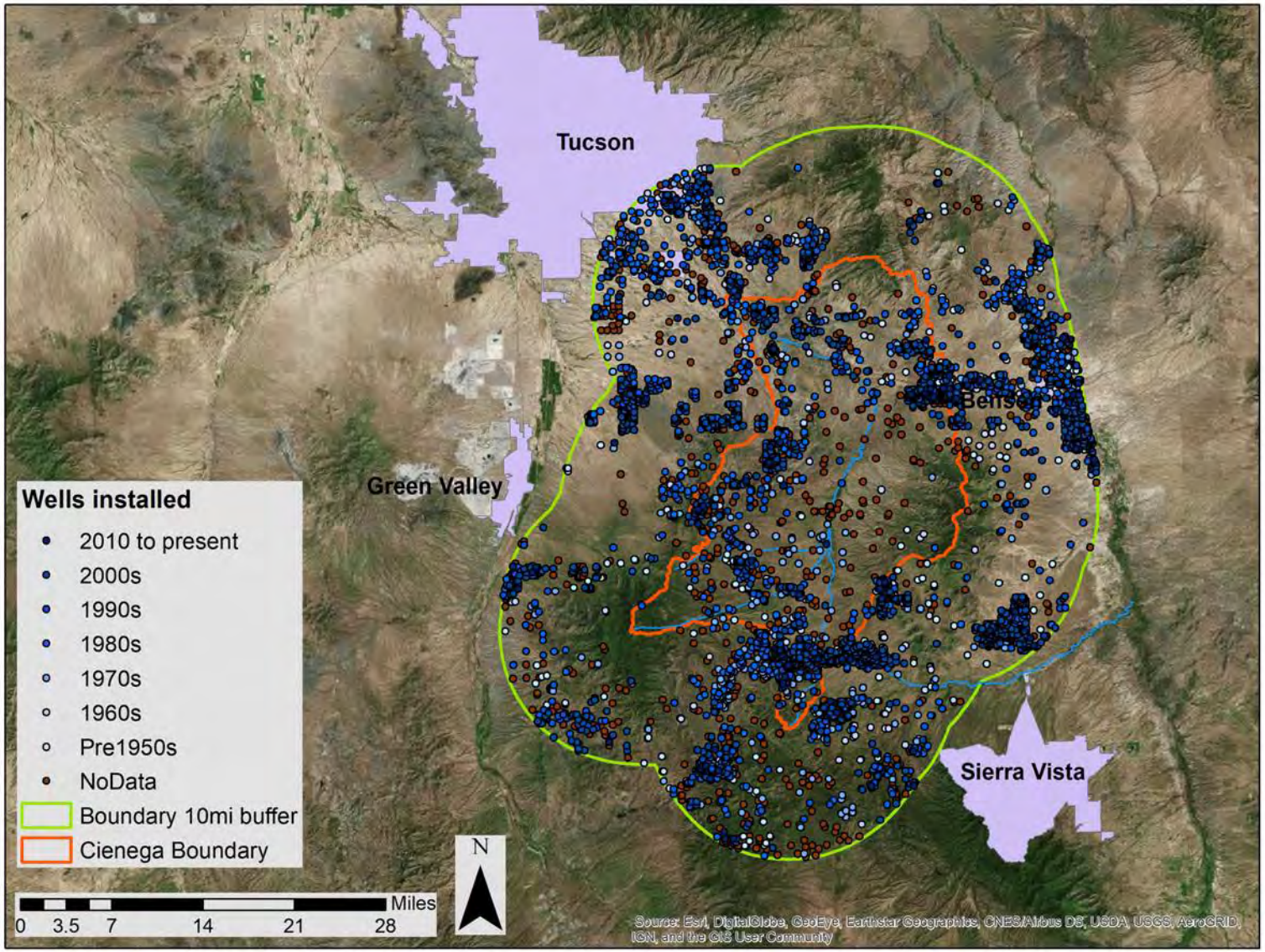

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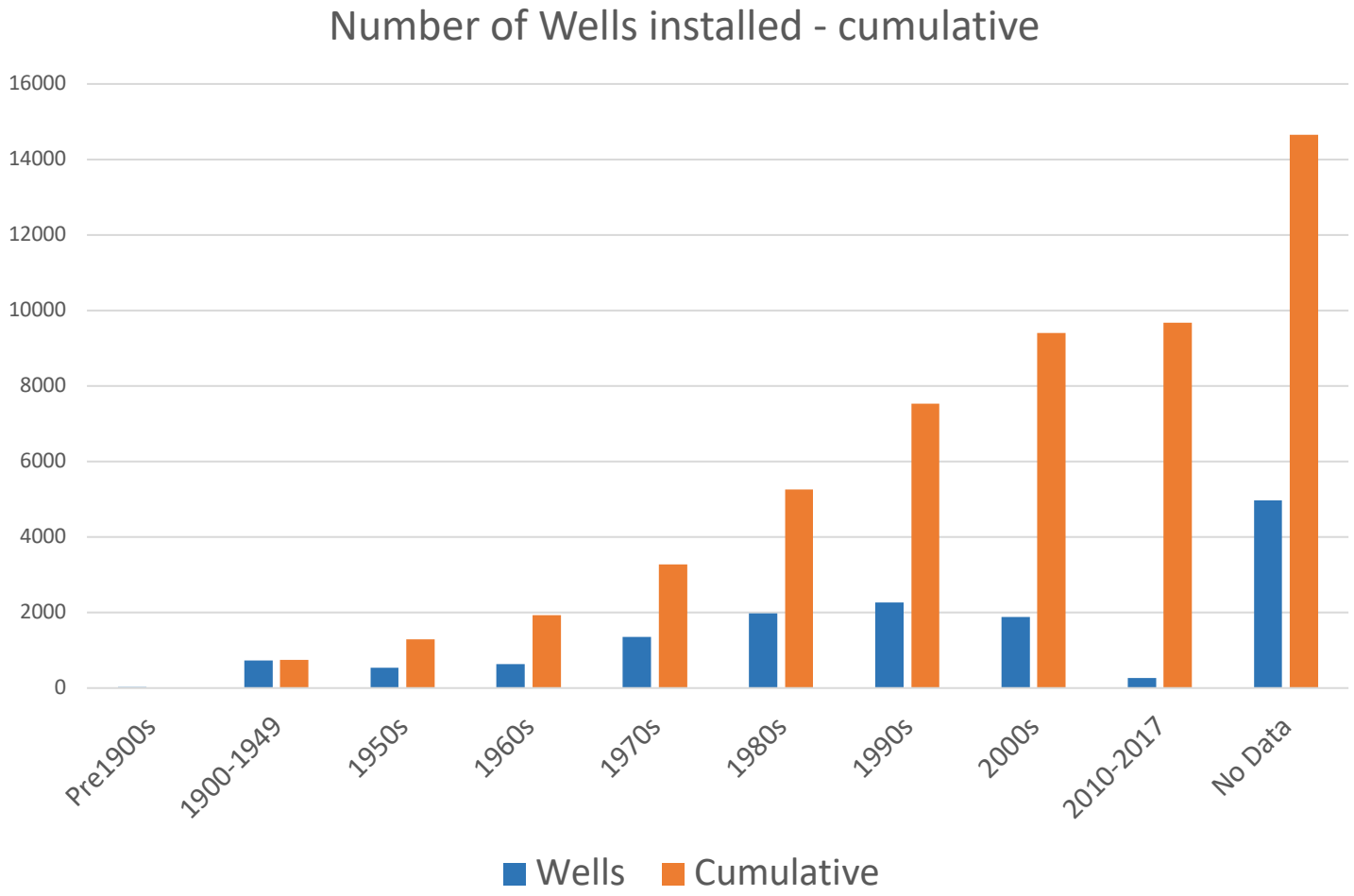
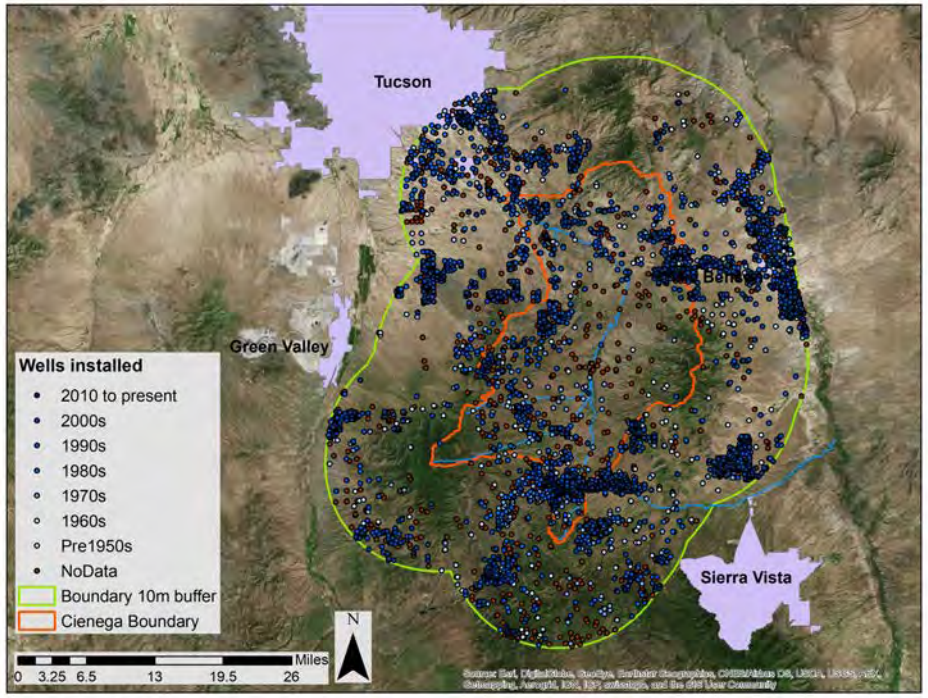




Source: Arizona Department of Water Resources: http://www.azwater.gov/azdwr/GIS/
Advise: Kyle Hartfield, ARSC

Archaeological Sites Condition

To establish trends in the conditions of selected sites, in 2017 watershed archaeologists began exploring shared standards for monitoring which identify both natural and human caused impacts.

Common characteristics to be collected and shared:

- Geographic zone
- Resource type
- National Register status
- Management status
- Resource condition
- Types of impacts
  - Human
  - Environmental

Heritage Resources

Site Number

Cultural Site Monitoring Form

Site UTMs

Date:
Prepared By:
Agency Affiliation:
Contact Phone/Email:

Resource Name:
Geographic Zone (please circle): Uplands/ Riparian/ Montane
Associated Watershed: Santa Cruz/ Gila/ San Pedro
(Circle One): Prehistoric; **Historic**; **Multicomponent**
Resource Type (describe):
National Register Status (please circle): **Listed**; **Eligible**; **Ineligible**; **Unevaluated**
Management Status (please circle): **Management Plan**; **Interpreted**; **Stabilized**; **Site Stewards**; **Other**

Resource Condition (circle one): **Good (stable)**; **Fair (deteriorating)**; **Poor (Imminently threatened)**; **Destroyed**
New Impacts: Present or Absent (circle one). Type of Impact:_____

Human (check all that apply)

___Recent footprints
___Litter
___Road/ATV use
___Rock inscription
___Uncovered human remains
___Petroglyph disturbance
___Trails present
___Collector's piles
___Campfires
___Graffiti
___Vehicle tracks
___Construction
___Illegal excavation
___Affected fencing or signs
___Probe holes
___Bullet marks
___Other

Environmental/Animal (check all that apply)

___Burrows/Nests
___Lichen growth
___Spalling/Rock fall
___Livestock
___Erosion
___Vegetation abutment
___Other
___Sediment deposits
___Mineral deposits
___Water runoff
___Trails
___Deterioration

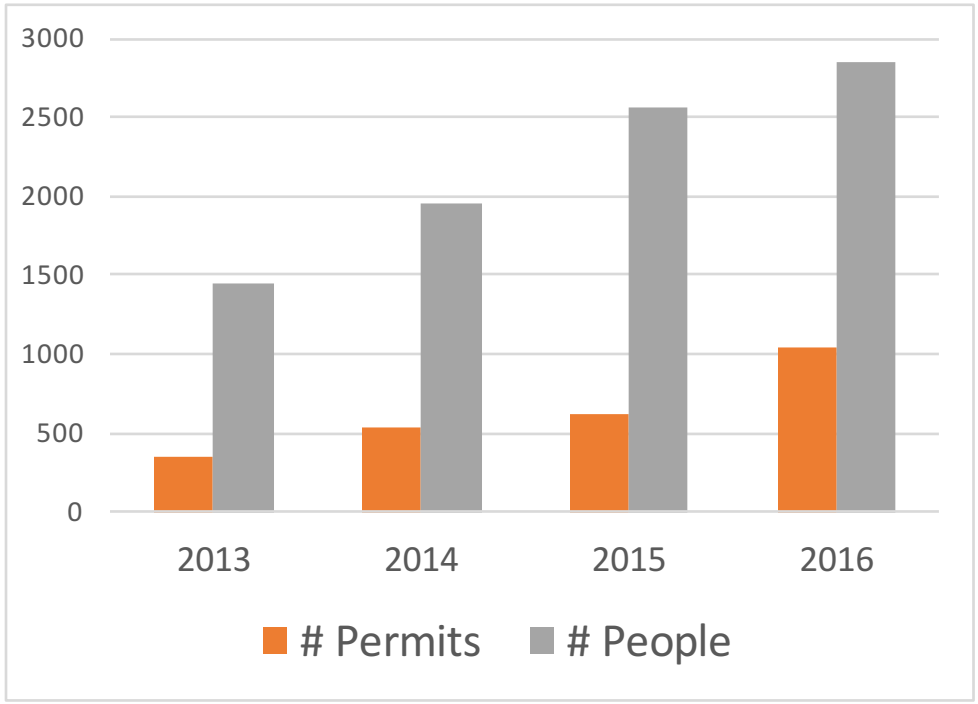
Form provided by Courtney Rose - Pima County

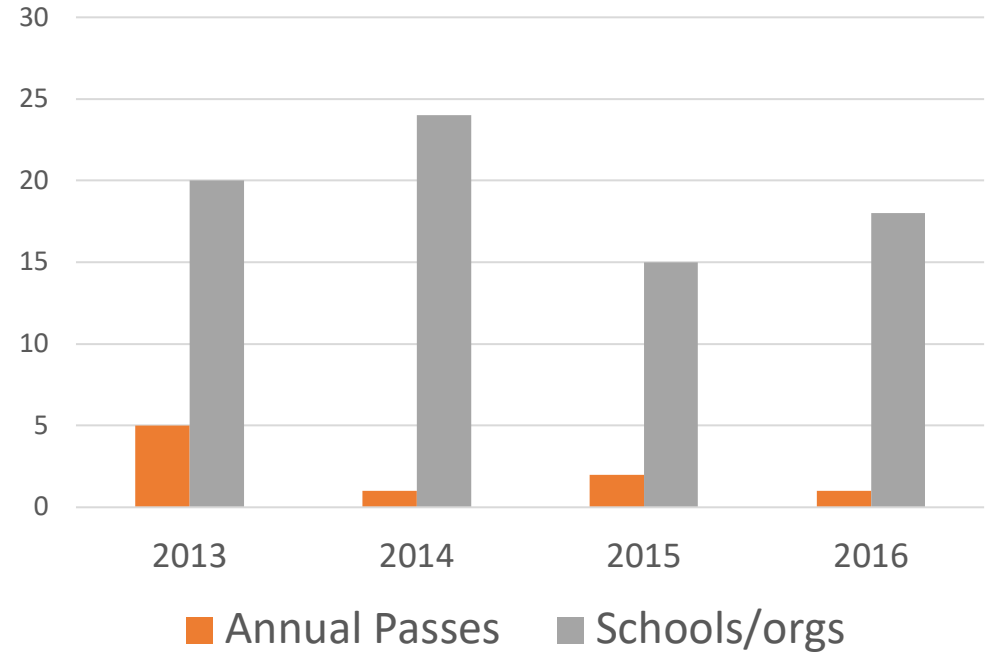
Archaeological Sites Condition

Monitor Date	Description	Eco. Zone(s)	Condition	Impacts	Human Impacts	Environmental Impacts
1/3/18	Empire Ranch	Upland & Riparian	**Fair-to-Good**	In-use interpretive site. Stabilization project on ranch house. Assorted preservation and repair efforts by ERF volunteers, school groups, etc.	Recent footprints, litter, road/ATV use, trails present, vehicle tracks, construction, affected fencing or signs, other (see notes).	Burrows/nests, livestock, vegetation abutment, water runoff, deterioration.
1/3/18	Prehistoric and historic artifact scatter.	Upland	**Good**	Recent tire tracks off main road into site towards east. Brush pile located SE of cattleguard, likely from 2017 Sawmill Fire activity. Existing main road bisects site.	Road/ATV use, vehicle tracks, other (brush pile).	Burrows/nests, livestock, trails.
1/3/18	Prehistoric habitation site and historic ranch.	Upland	**Poor-to-Fair**	Prehistoric artifacts (and subsurface cultural deposits) continue to erode out along road. Historic-age elements continue to deteriorate.	Recent footprints, road/ATV use, construction (see notes).	Burrows/nests, livestock, erosion, vegetation abutment (see notes).
1/3/18	Historic homestead	Upland	**Poor**	Livestock and vehicular use. Location is a livestock water and concentration area.	Road/ATV use, vehicle tracks.	Livestock (abundant), deterioration.

Source: Chris Schrager - BLM

Number of recreational permits - Preserve





- A limiting factor for schools/orgs has been the lack of restroom facilities in some areas.

Source: MaryAnn Adams from Pima County Parks and Recreation

Stewardship engagement programs

- Engagement programs are those in which people and especially youth have hands-on opportunities in the watershed and its resources and its management.

- These are “do” programs: activities like building, weed pulling or planting, stabilizing, recording, mapping; monitoring the resource like site stewardship, student data collection; training, development and programs like Empire Ranch Docents and Hands on the Land.

- They do not include general awareness, recreation or school visits, tours, trail rides, exhibits, or general outreach programs, participation in symposia or talks.

- Measures are the numbers of programs, not participants. Some are more in-depth than others and participation numbers vary.

Sources: Shela McFarlin, CWP; Bobbie Young, ERF; Dave Mehalic, Chris Schrager, and Kathy Makansi – U.S. Forest Service

Stewardship engagement programs

	Org	Name of program	Started
1	State of Arizona	Arizona Site Stewards	1986
2	Forest Service	Friends of Kentucky Camp Caretakers	1995
3	Various scouting orgs	Scout and Youth Group Work Projects	1995
4	BLM/Forest Service	Camp Hosts	1995
5	Empire Ranch Foundation	Docent and restoration projects	1999
6	Arizona Trail Organization	Trail Volunteers	2000
7	BLM	Pascua Yaqui Youth in Wilderness	2004
8	Vail Preservation Society	Preservation Projects	2006
9	BLM/ERF	Wild about the Grasslands	2007
10	Antelope Foundation	Youth Habitat Improvement	2009
11	Vail School District	Empire High School Ecology Class	2009
12	CWP/BLM/ITE/EHS	Youth Engaged Stewardship (YES!)	2011
13	Sky Island Alliance	Sky Island Alliance Volunteers	2012

BLM acquired Las Cienegas in 1988, so there is no data before this year.

Sources: Shela McFarlin, CWP; Bobbie Young, ERF; Dave Mehalic, Chris Schrager, Carianne Campbell, and Kathy Makansi

Socio-cultural - General trends

Economic vitality: Baseline created for 2016.

Land use – land cover:

- Downward trend in shrub cover since 1979

Wells:

- Dramatic increase in number of wells (cumulative)

Archaeological sites conditions:

- Collaboration led to the development of intra-agency assessment forms and a baseline for LCNCA.

Recreational permits

- Increase in recreational permits and number of visitors
- No clear trend in annual passes and schools/organizations

Stewardship engagement programs:

- Created a baseline for several organizations within the watershed

Conclusion of general trends

Category	No.	Indicator	Description	Trends
Climate	1	Precipitation	Decrease in winter precipitation in the last 20 years	
	2	Temperature	Dramatic increase in temperature since 1980	
	3	Drought	Since the mid 1990s, we have been in a drought with wet swings	
Water	4	Groundwater levels	Although there is a slight recent upward trend, current groundwater levels are still lower than they were prior to the 1980s.	
	5	Wetlands	Baseline produced. Data needed for lower watershed.	
	6	Wet-dry	Slight increase recently, but wet lengths are lower than they were prior to 1999, and significantly lower than the early 1980s	
	7	Gauges	Significant decrease in annual average stream flow in Pantano Wash gauge, slight increase in Cienega Creek gauge	
	8	Winter stream flows	Decrease in winter stream flows in CC2 (Preserve) and Upper Cienega Creek (BLM), but slight increase in the Empire Gulch (spring source at BLM)	
	9	Water quality	Preserve - Decrease in TDS, decrease in PH (except in Davidson 2) BLM – no clear trend	

Conclusion of general trends

Category	No.	Indicator	Description	Trends
Ecological	10	Veg. composition/cover	Shrub cover has been decreasing due to mesquite removal and prescribed-fire projects Perennial grass basal cover has declined, but 2015 and 2016 have shown some recovery Invasive perennial grasses (e.g., Lehman lovegrass) have shown increase Bare ground has decreased, while litter has increased	
	11	Pronghorn	Slight recovery after a decline in population numbers in 2002	
	12	Fish	Endangered species recovering since 2014	
	13	Frogs	Recovery of endangered species and reduction of invasive species since 2013	
	14	Wildfire	Dramatic increase in acreage burned in the 2000s, with 2017 showing more acreage burned than ever before	

Conclusion of general trends

Category	No.	Indicator	Description	Trends
Socio-cultural	15	Economic vitality	Baseline created for 2016. Median household income is $47K, median house/condo value is $227K, unemployment is 4.88%, residents below poverty level is 6.22%	
	16	Land use land cover change	Downward trend in shrub cover since 1979. No clear trend in small-scale land cover classifications.	
	17	Number of wells	Peak in number of wells installed in the 1990s and decline in more recent decades. Dramatic upward trend since pre 1990s (cumulative)	
	18	Archaeological site conditions	Intra-agency collaboration to monitor site conditions consistently. First assessment suggests poor to fair conditions.	
	19	Number of recreational permits	Increase in recreational permits and visitors since 2013, less so in number of schools and orgs. Data needed for BLM	
	20	Stewardship engagement programs	13 stewardship engagement programs were identified. The earliest program started operations in the mid 1980s.	

Next steps

- Critical feedback and suggestions
  - On the indicators and presentation
    - How effective are these indicators?
    - What's missing? What can be eliminated?
    - How can we improve the quality of the presentation?
    - How best to share this with partners and with the public?
  - On responses:
    - What does this information tell us about the State of the Cienega Watershed – trends, concerns, recommendations?
- Following today's session, we will refine, post, and publish
- CWP will continue to work with partners in using these insights to develop appropriate activities and programs

Thank you!