

Jornada Experimental Range

Ecological Site Research and Development



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USDA NSSC and Jornada Experimental Range

JER Ecological Site Research and Development

Larger context for the work-National Cooperative Soil Survey

Jornada contributions over the past decade

Jornada leadership in the next decade

Impact of the work



The National Cooperative Soil Survey

inventory



investigate



classify



interpret



disseminate



maintain



information



NATIONAL COOPERATIVE SOIL SURVEY TIMELINE

1896-soils/climate/organic life – production

1903-systematic mapping

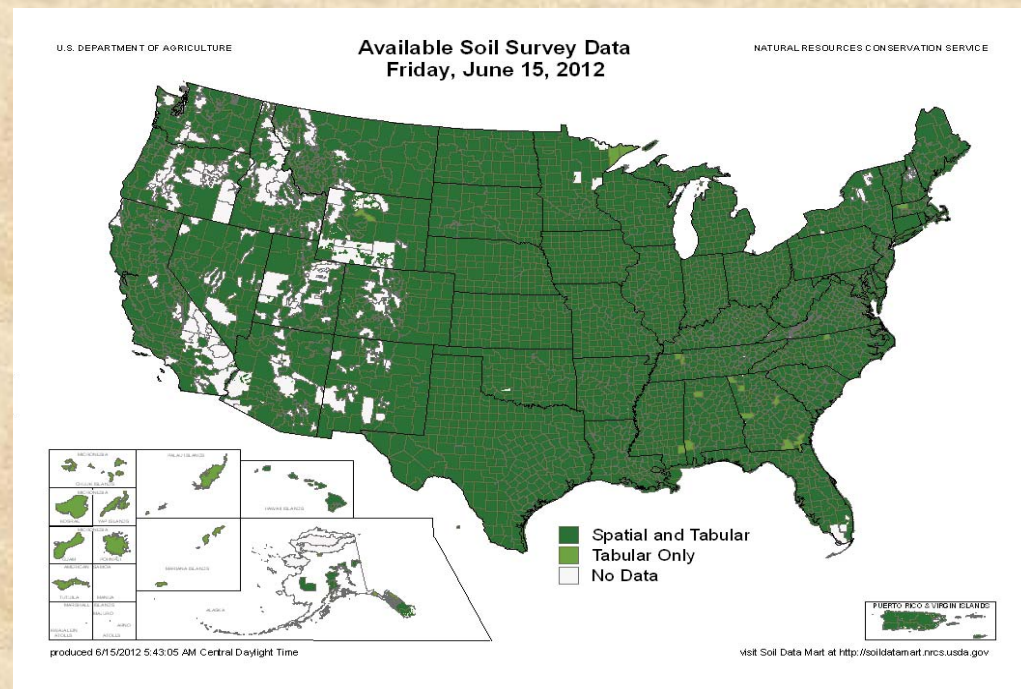
1928-cooperative nature

1935-USDA SCS-erosion

1966-environmental quality

1985-conservation compliance

2005-soil ecology/dynamic properties



Some important definitions (and distinctions)

•**Ecological Site (ES):** An ecological site is a conceptual division of the landscape defined as “a distinctive kind of land with specific soil and physical characteristics that *differs* from other kinds of land in its ability to produce *distinctive kinds and amounts of vegetation and in its ability to respond similarly to management actions and natural disturbances*” (from the Rangeland Ecological Site Manual).

•**Ecological Site Descriptions (ESD):** An ESD is the **documentation of the characteristics** of an ecological site and the **interpretation of its properties** as related to use and management. An ESD consists of:

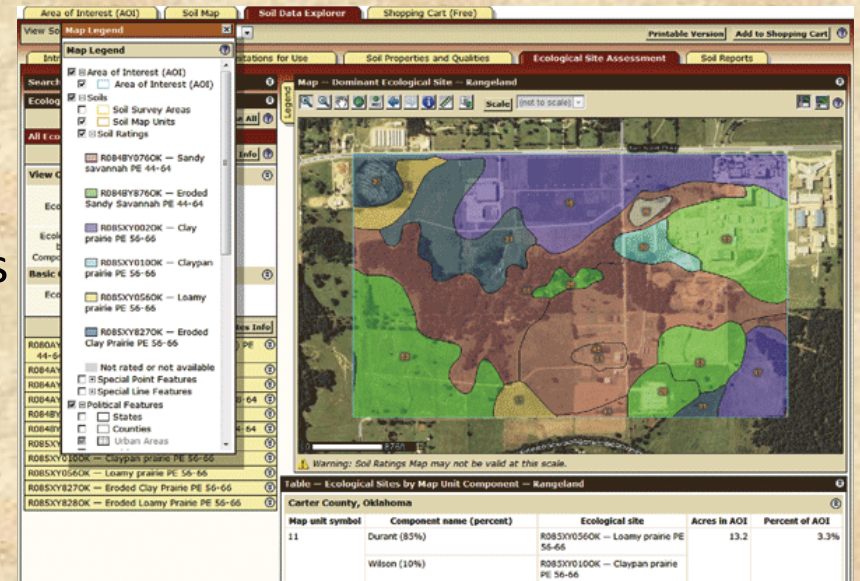
- biotic and abiotic characteristics-climate, location, physical attributes
- dynamics of the site-state and transition models
- land uses that a particular ecological site can support
 - ecosystem services associated with different states
 - management alternatives for achieving objectives
- supporting documentation

RECENT HISTORY

1997 - NRCS adopts Ecological Sites as official concept and format

2009-Multi-agency agreements, NRCS expands inventory responsibility to soil survey, acceleration

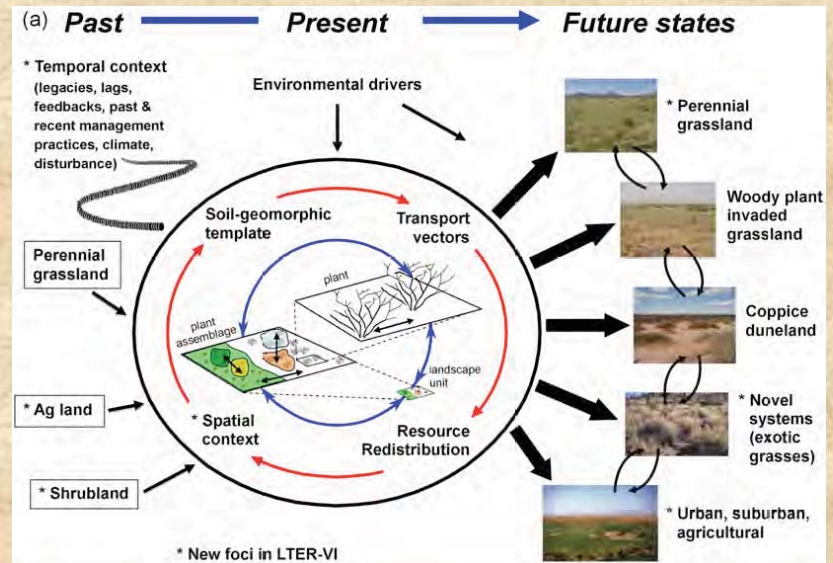
2012-Estimates of Ecological Sites 5,000 Rangeland/10,000 Total



JORNADA CONTRIBUTIONS

2000-2012

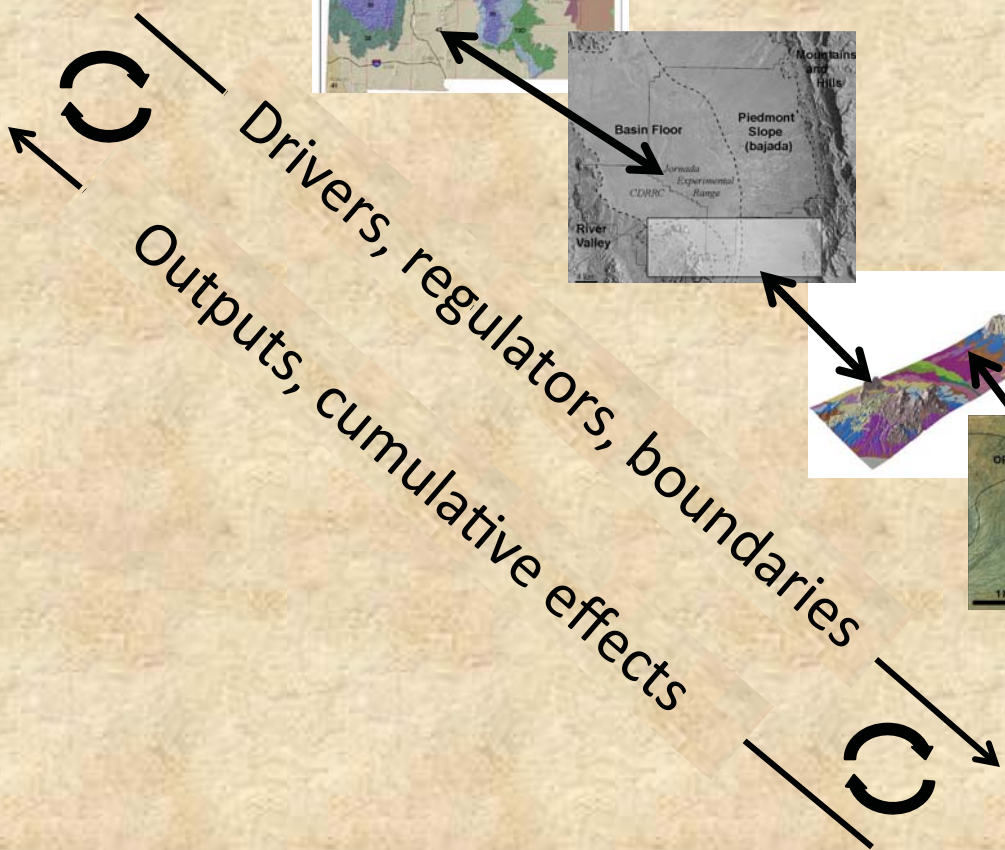
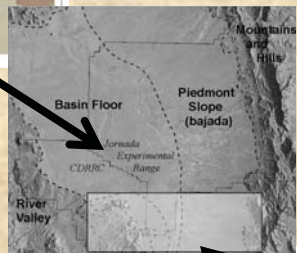
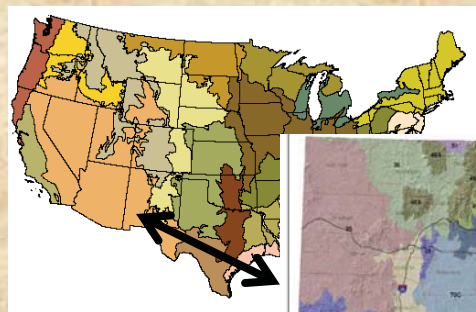
- Cross-scale interactions
- Spatiotemporal patterning/redistribution
- Degradation/restoration transitions
- Links to rangeland health monitoring
- Data collection/handling/analysis
- Ecosystem services
- Training



Jornada leadership in the next decade

What is important?
How do you figure it out?

- Classification
- Description
- Interpretation
- Monitoring
- Policy



Jornada Experimental Range

Ecological Site Research and Development

Uses the existing framework of the National Cooperative Soil Survey

Basis for important policy and regulatory, as well as management, decisions

Emphasis on the integration of science into decision-making

Collaboration with action agencies

Compliments LTER, LTAR, CRIS