USDA, Natural Resources Conservation Service

Addressing Salinity in the Central Valley

NRCS

- Address resource concerns (such as soil salinity and water quality) through voluntary technical and financial assistance to agricultural producers
- National Cooperative Soil Survey

Technical Assistance

Planning

Technical Assistance

Design

Conservation Practices

Conservation Practices

Conservation Practices

Conservation Practices

- NRCS maintains over 200 Practice Standards
- Establishes the purpose and minimum planning and design criteria for the practice
- New Practice Standards are developed as new technology is developed and proven

Environmental Quality Incentive Program (EQIP)

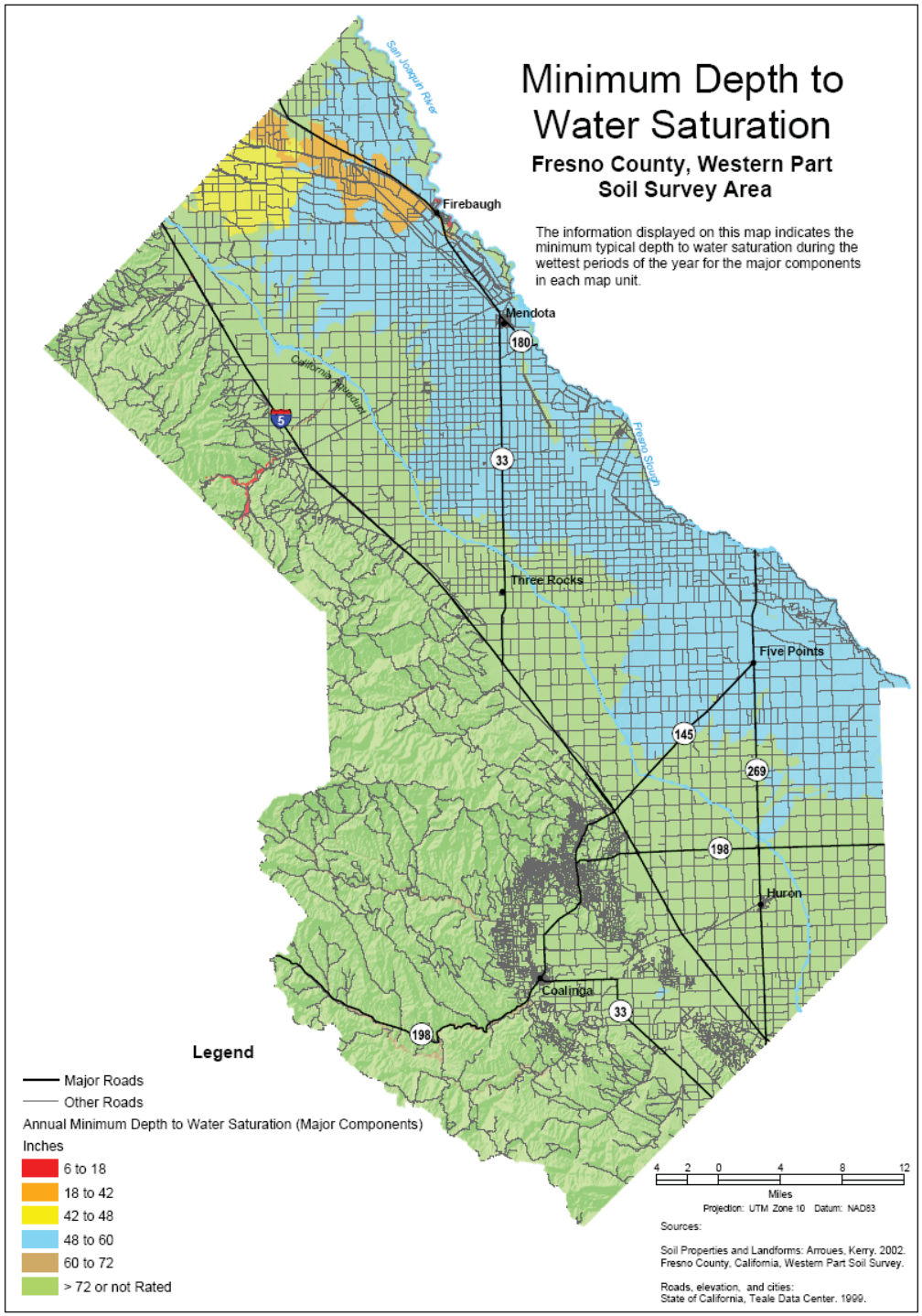
- 50% cost share for installing conservation practices
- Irrigation and manure management practices are the primary practices funded in many Central Valley NRCS county offices
- Fresno County NRCS includes salinity in their criteria to rank EQIP applications

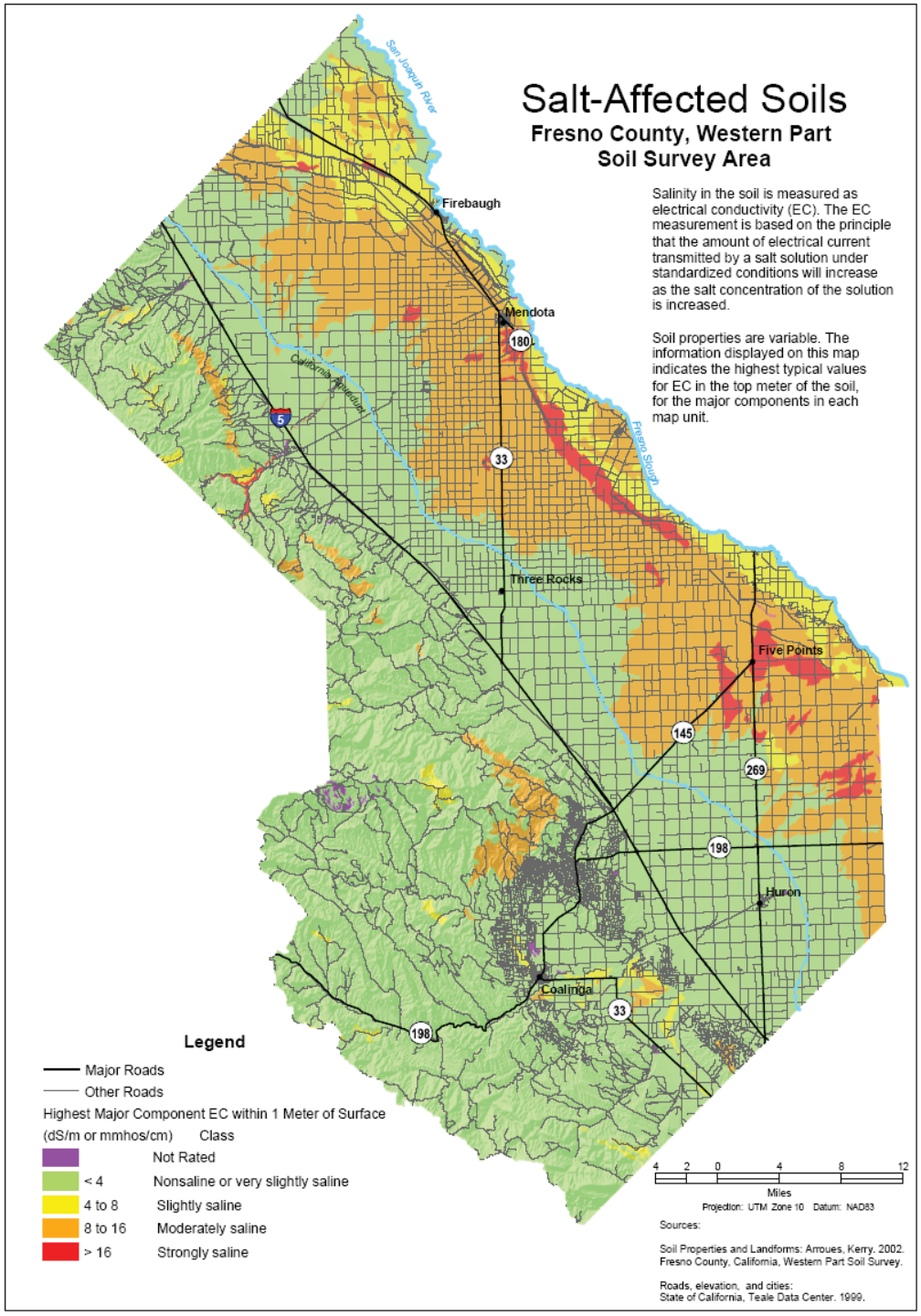
Conservation Innovation Grants

- Evaluate and demonstrate promising new technology
- National Level and State Level funds
- Request for proposal process

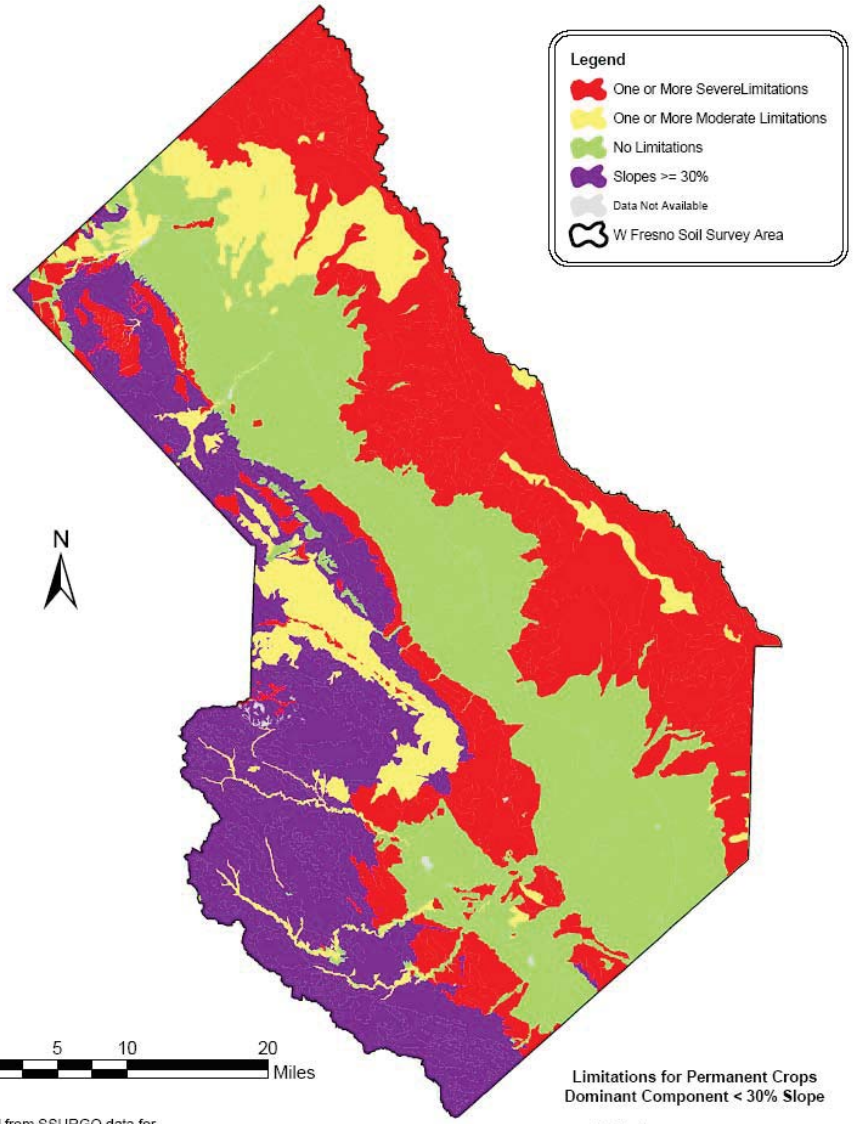
Soil Survey

- Essentially all irrigated land in California has been mapped
- Soil Surveys include data bases of soil physical and chemical properties, land use production, climate, land use limitations, etc
- Many are available in digital formats


Minimum Depth to Water Saturation
Fresno County, Western Part Soil Survey Area
The information displayed on this map indicates the minimum typical depth to water saturation during the wettest periods of the year for the major components in each map unit.
San Joaquin River
Firebaugh
Mendota
180
California Aqueduct
5
33
Fresno Slough
Three Rocks
Five Points
145
269
198
Huron
Coalinga
33
198
Legend
Major Roads
Other Roads
Annual Minimum Depth to Water Saturation (Major Components)
Inches
6 to 18
18 to 42
42 to 48
48 to 60
60 to 72
> 72 or not Rated
4 2 0 4 8 12
Miles
Projection: UTM Zone 10 Datum: NAD83
Sources:
Soil Properties and Landforms: Arroues, Kerry. 2002. Fresno County, California, Western Part Soil Survey.
Roads, elevation, and cities: State of California, Teale Data Center. 1999.


Salt-Affected Soils
Fresno County, Western Part
Soil Survey Area
Salinity in the soil is measured as electrical conductivity (EC). The EC measurement is based on the principle that the amount of electrical current transmitted by a salt solution under standardized conditions will increase as the salt concentration of the solution is increased.
Soil properties are variable. The information displayed on this map indicates the highest typical values for EC in the top meter of the soil, for the major components in each map unit.
San Joaquin River
Firebaugh
Mendota
180
California Aqueduct
5
33
Fresno Slough
Three Rocks
Five Points
145
269
198
Huron
Coalinga
33
198
Legend
Major Roads
Other Roads
Highest Major Component EC within 1 Meter of Surface
(dS/m or mmhos/cm) Class
Not Rated
< 4 Nonsaline or very slightly saline
4 to 8 Slightly saline
8 to 16 Moderately saline
> 16 Strongly saline
4 2 0 4 8 12
Miles
Projection: UTM Zone 10 Datum: NAD83
Sources:
Soil Properties and Landforms: Arroues, Kerry. 2002. Fresno County, California, Western Part Soil Survey.
Roads, elevation, and cities:
State of California, Teale Data Center. 1999.

Suitability for Permanent Crops
West Fresno Soil Survey



Data extracted from SSURGO data for Soil Survey of Fresno County, Western Part.

Soil Data Viewer was used to extract data for the Dominant Component of the mapunits for each of the properties: EC:0-100 cm, depth to restriction, and drainage class.

Limitations for Permanent Crops
Dominant Component < 30% Slope

	EC (rv) (dS/m)	Depth (cm)	Drainage
None	<2	>=150	WD, MWD, SED
Moderate	>=2,<4	>=75,<150	SPD
Severe	>=4	<75	PD, VPD

Partnerships

- Resource Conservation Districts, Department of Water Resources, Others
- Salinity Mapping
- Integrated Farm Drainage Management

NRCS Approach to Salinity Management

- Maintain soil quality
- Source reduction
- Provide producers with the tools they need to manage their soil resource the best they can while minimizing offsite impacts

END