The USDA - NRCS Data Sources, Uses and Priorities

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With the vision, "Helping People Help the Land," NRCS provides direct technical and financial assistance, at the county level, to America's non-federal landowners - primarily farmers, ranchers, and other agricultural producers - to conserve, maintain, or improve their soil, water and other natural resources.

On a larger scale, NRCS assists conservation districts, irrigation districts, drainage districts, other local government and community groups, Federal, State and Tribal governments to develop plans to address watershed or regional concerns.

NRCS programs are designed to help land managers develop and implements plans for long-term sustainable use of natural resources, however, can also be used to address short-term resource impacts on agricultural lands, and to plan and implement conservation systems that improve drought preparedness, and assist with water management.

Some examples include:

- Conservation Technical Assistance Program
    - NRCS technical specialists can assist private landowners with the design of conservation systems such as grazing systems or irrigation systems, to enable producers to maintain productive land through the course of drought periods. To design such systems specialized technical tools are sometimes necessary.
- Environmental Quality Incentives Program (EQIP)
    - provides technical and financial assistance to farmers and ranchers on a variety of conservation practices
    - in drought periods, practices to improve irrigation efficiencies or to convert irrigated land to permanent vegetation are especially useful
- Agricultural Water Enhancement Program
    - this program is a part of EQIP
    - that targets water conservation and water quality improvements on agricultural working lands
- *Wetland Reserve Program*
    - *utilizes easements and long term contracts to restore and protect wetlands which can contribute to water storage.*
- Watershed Protection and Flood Prevention Operation program
    - provides assistance to rural communities to address larger natural resources issues on a watershed basis, including water storage and floodwater retarding structures.
- *Emergency Watershed Protection Program (EWP)*

- *provides financial and technical assistance to communities to address natural resource impairment*
- *used mostly for post disaster clean-up activities (flooding, fire,...)*

NRCS, through the National Water and Climate Center, administers the Snow Survey and Water Supply Forecasting Program. Through Snow Survey, NRCS maintains a network of over 900 high elevation hydrometeorological data collection stations collecting snowpack and other climate data used in producing seasonal volume streamflow (water supply) forecasts for the 12 western states.

Additionally, the NWCC maintains the Soil Climate Analysis Network, or SCAN, a smaller network of only 150 or so hydrometeorological data collection stations in 40 states. The SCAN network was originally installed to collect soil moisture data, but includes standard climate data collection as well.

How the information from SNOTEL and SCAN are used:

- SNOTEL data are used to develop regular water supply forecasts as a part of the hydrologic information NRCS distributed that are useful in water management decisions, including drought situations.
- NRCS SNOTEL and SCAN data are used in the NIDIS and the drought monitor
- NRCS develops a Surface Water Supply Index (SWSI) in several Western States which can be used as a drought index and a triggering mechanism in drought response plans.

Looking ahead. What we need in order to better serve our constituents:

a. Improve the SNOTEL and SCAN networks

- continued expansion of SNOTEL as we automate manual snow courses
- improve quality control of SNOTEL and SCAN data

b. Improve documentation of the impacts of drought to agriculture (farming and ranching) - includes monetary losses

- continued support of NDMC and NIDIS
- through the Drought Monitor

c. Develop better tools for forecasting drought and establishing early warning triggers for drought

- develop and improve PRISM climate datasets for Evapo-Transpiration, Temperature, Precipitation, etc
- develop and improve the SWSI technology
- develop drought decision tools

d. Work with technical specialists to develop improved technical tools for design of conservation systems and tools that assist land managers and ag producers with management of their own system, such as irrigation scheduling tools