



### SNOTEL DATA COLLECTION SITES

- APPROXIMATELY 800 SNOTEL STATIONS FROM APPROXIMATELY 12,000 ft to 1,000 ft. Elevation
- DATA COLLECTED snow water equivalent, snow depth, precipitation, temperature, wind, solar radiation, relative humidity, and soil moisture.
- APPROXIMATELY 850 MEASUREMENT SITES NOT AUTOMATED
- WATER SUPPLY FORECASTS IN 12 STATES FOR APPROXIMATELY 750 BASINS

### Snow Survey and Water Supply Forecasting

#### Basin Analysis to determine Optimal Data Collection Sites

Using new imagery and technology, we can analyze multiple variables to identify the most representative locations for data collection.

### Snow Survey and Water Supply Forecasting

#### AUTOMATED DATA COLLECTION (SNOTEL)

- No longer constrained by the traditional data and forecast time schedule.
- Daily data can drive an automated forecast system that provides a daily update to the official monthly water supply forecasts.
- As storms pass through the watersheds, water managers can get an instant assessment of how much their water supply situation has improved or deteriorated.
- Reduced employee safety concerns as associated with manual snow course measurements.

### Snow Survey and Water Supply Forecasting

#### WATER SUPPLY FORECASTING

- Hourly or daily data allows us to do hydrograph forecasts where and when needed.
- Allows more variables to be considered - improving forecast quality.
- Allows peaks and low flow forecasts.
- Works with automated data.

#### Water User Needs Timeline

### Snow Survey and Water Supply Forecasting

#### PROGRAM DIRECTION

##### SUMMARY

- *Complete Basin Analysis to Determine Optimal Sites*
- *Replace manual snow courses with automated SNOTEL stations to expand real time data collection.*
- *Upgrade Forecasting Model to improve operational forecasting.*
- *Improve customer access to information and data.*

Snow Survey and Water Supply Forecasting

**Support and Funding**

The increasing need for timely snow pack information for land based uses, for volume and operational water supply forecasts, and for climate change analysis has increased the support for maintaining and improving the Program.

**2004-2008** Program budgets for the past several years have remained level at approximately \$10.8 million. Progress towards the program objectives has been ongoing but very slow.

**2009** Additional \$1.7 million in one-time funding from NRCS conservation operations account to address deferred maintenance and operational needs.

**2010** President's budget maintained operating budget at approximately \$11 million, but proposed \$4.95 million one time funding for SNOTEL installation.

*"You will know the value of water when the well goes dry."*  
- Benjamin Franklin

