Activities of the National Climatic Data Center: Report to WERA-102 Meeting

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NOAA's National Climatic Data Center (NCDC)

WERA-102 Annual Meeting
October 31-November 2, 2006
Reno, Nevada

Updates

- NCDC and Partners
- Climate Reference Network (CRN)
- NIDIS

Buzzwords of Late

Integrated

Portal

System of Systems

Interfaces

Data Sharing

Efficiency

Leveraging

User Communities Engaged

Standards

Collaboration

Coordination

Information Enterprise

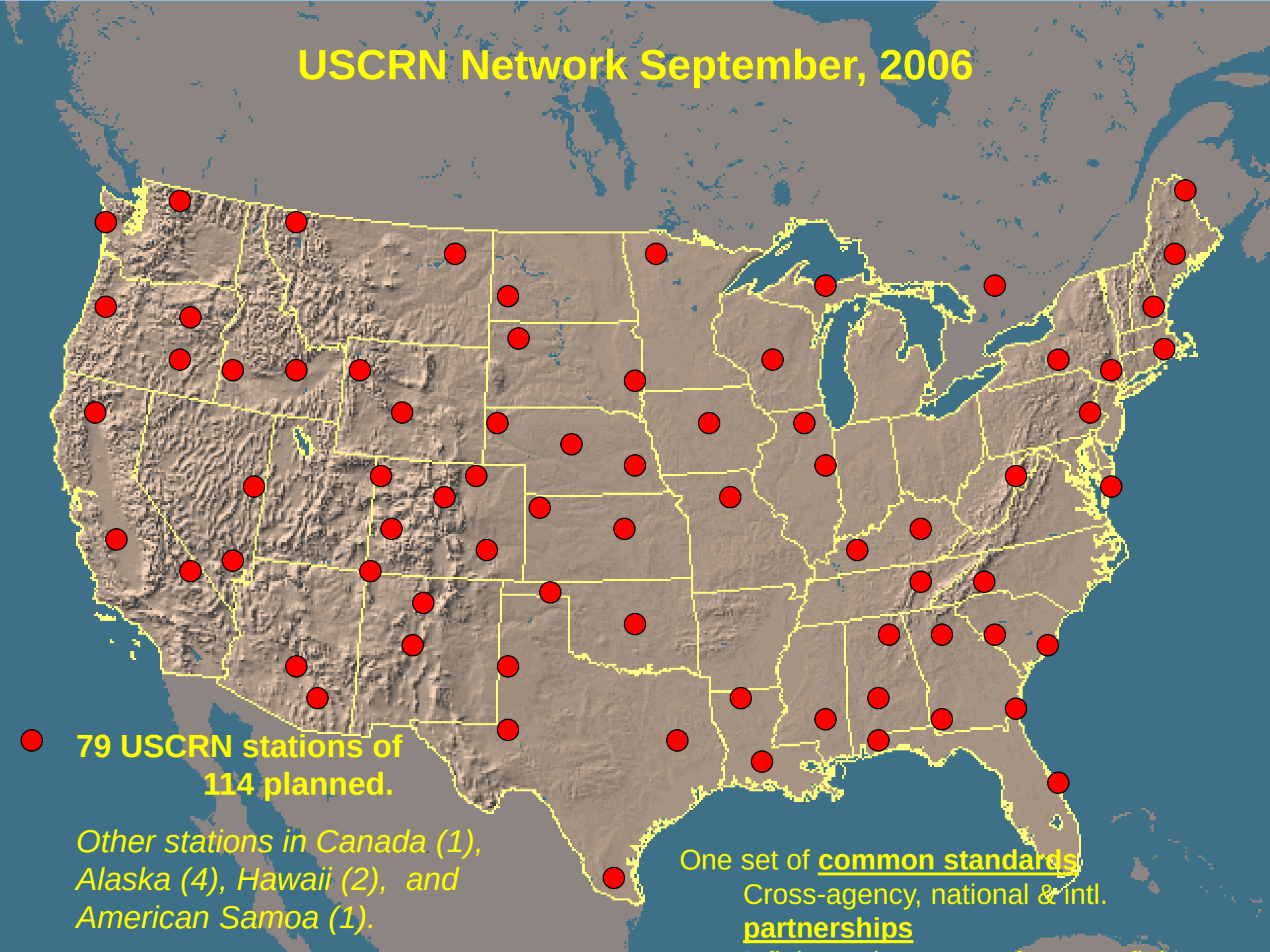
Partnerships for Improved Data

- A common complaint (from management and staff, from across the US): Eliminate NCDC QC Errors As Early As Possible.

- RCCs/NCDC/AASC: Datzilla for error reports to engage NWS (HQ, regions, and field) to explore changes in both QC practices and the way they do business with us.

- Forward Progress:
  - Daily electronic access to the bulk of COOP data by the RCCs
  - Common QC at the RCCs and NCDC
  - Mechanism for convenient daily communication of RCC QC results to WFOs and easy feedback (xmACIS, etc.)

USCRN Network September, 2006



79 USCRN stations of 114 planned.

Other stations in Canada (1), Alaska (4), Hawaii (2), and American Samoa (1).

One set of **common standards**

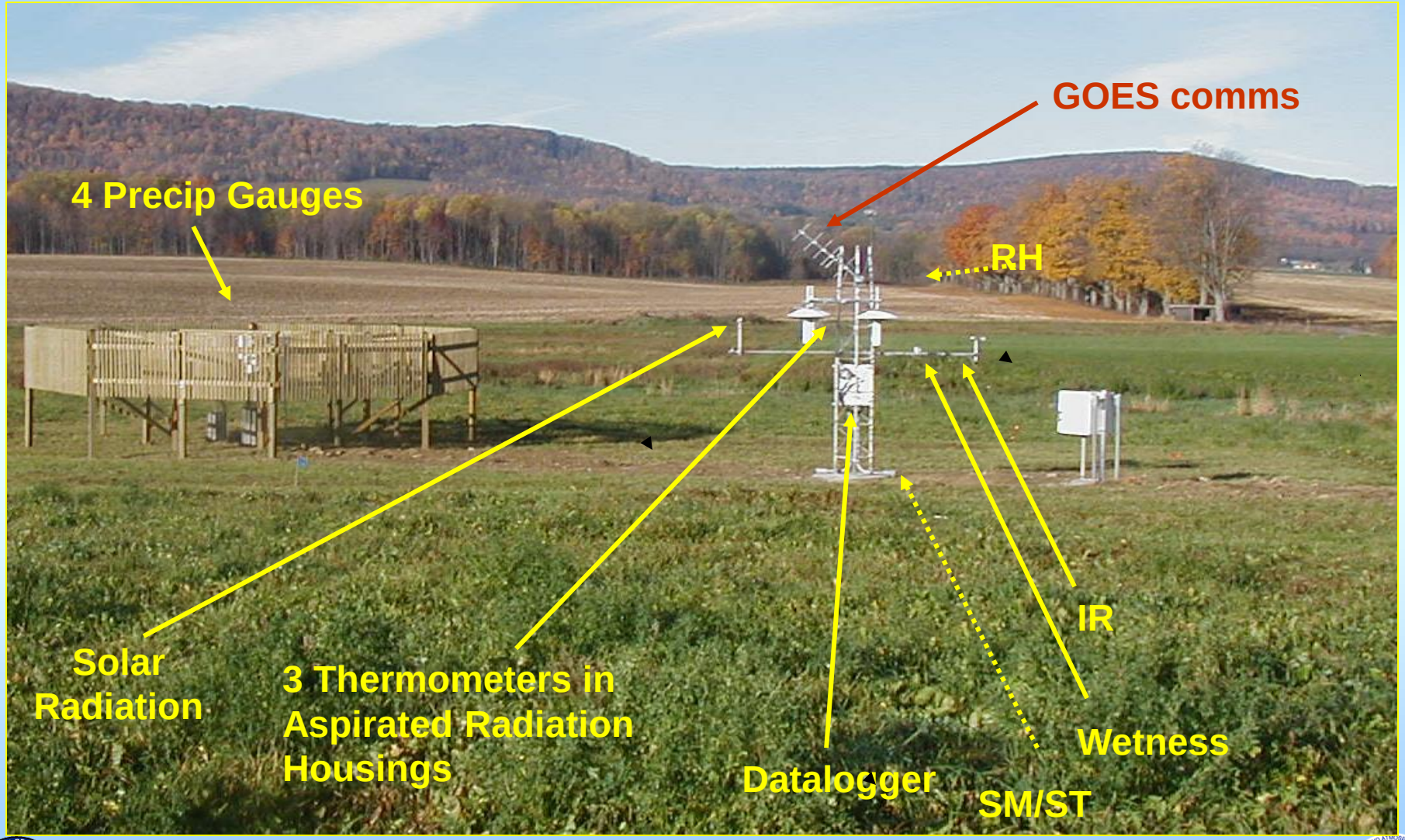
Cross-agency, national & intl. **partnerships**

Standard (Base) CRN Station

- Sensors: Temp (3), Precip gauge (4), Solar rad; Infrared rad, RH, SM/ST, “wetness”, etc.
- 26-ft dia SDFIR, or 9-ft dia double alter.
- CS 1000 datalogger, 34-month data storage.
- GOES DCS communications with ice/snow antenna cover; 7-level layered comms.
- 5-minute data reported hourly.
- AC and Solar Power versions.
- Modular, expandable, upgradable.
- Weight: ~976 lbs.
- Cost: ~$57K, calibrated & ready for deployment

Base CRN Station (Full Configuration)

(Cornell University, Ithaca, NY)



Barrow, Alaska (03/2004)

Note to Self:

Build the SDFIR skirt above the (previous) record snowfall …

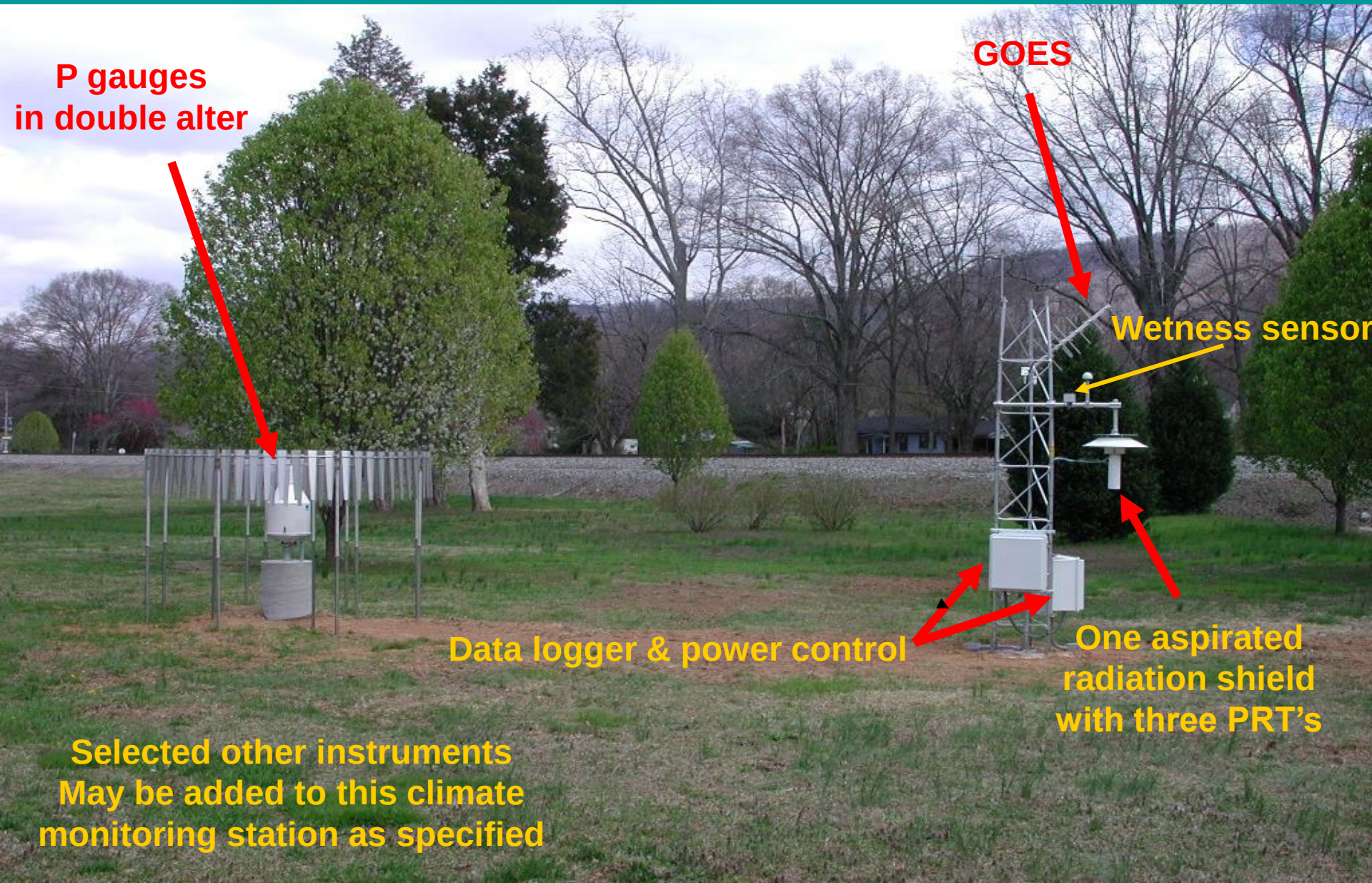
Fairbanks, Alaska CRN Station

CRN Lite Specifications

- **Temperature:** three (3) aspirated platinum resistance thermometers (≤60ºF to ≥300ºF).
- **Precipitation:** three-transducer, all-wx, weighing bucket precipitation gauge with wetness sensor.
- Double-alter wind fence, stainless steel.
- Newer CS 1000 datalogger, 34 months data storage.
- GOES DCS comms.
- 5-minute data reported hourly; 7-layer comms.
- AC or Solar Power.
- Modular: expandable, upgradable.
- Data Standards same as Standard CRN Sta.
- Weight: ~650-800 Lbs (solar pwr is heavier).
- Cost: ~28K, calibrated & ready for deployment.

CRN Lite Configuration

(Valleyhead, Northern Alabama)

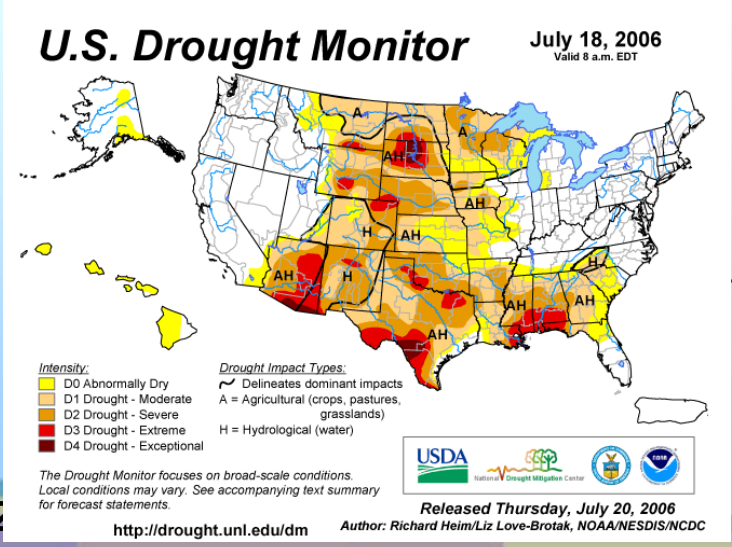


What is NIDIS?

National Integrated Drought Information System

NIDIS: An integrated, interagency national drought monitoring and forecasting system that provides:

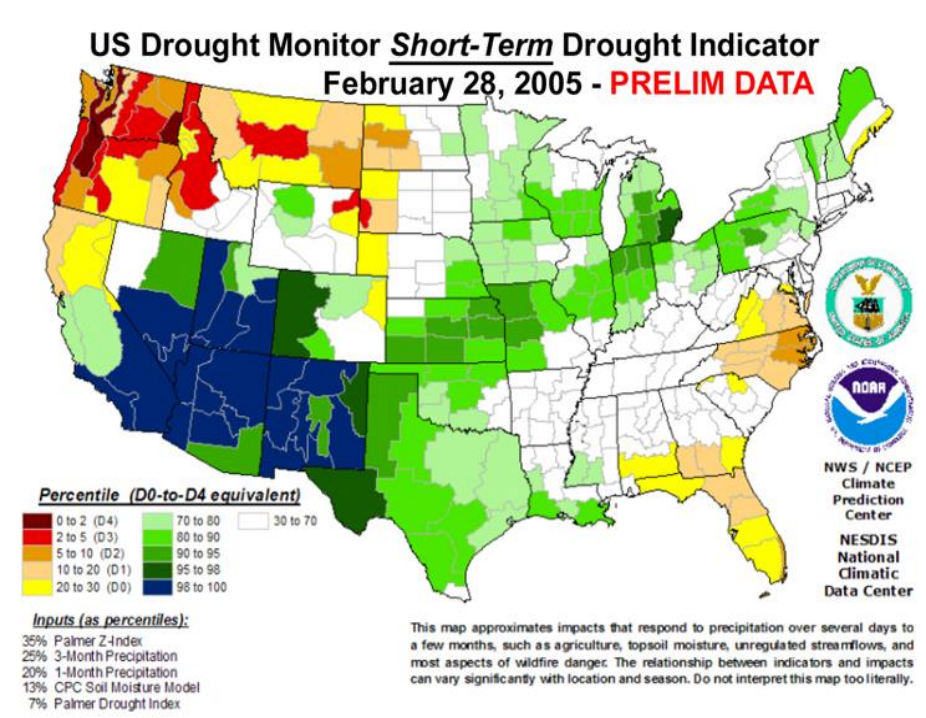
- An **early warning & forecast system** for drought.
- Drought impact and causation **education.**
- Information for drought **mitigation**.
- An interactive, web-based **drought portal**.
- Improved **observational** capabilities.

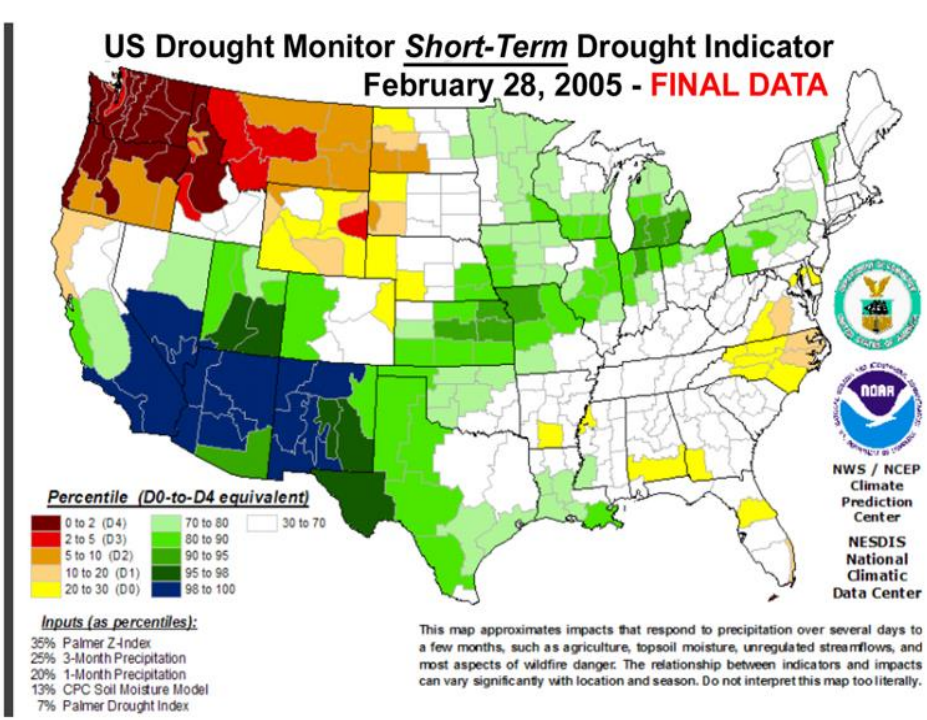


Existing Drought Product:
NIDIS will Provide Major Improvements

NIDIS Operations: Improved Monitoring

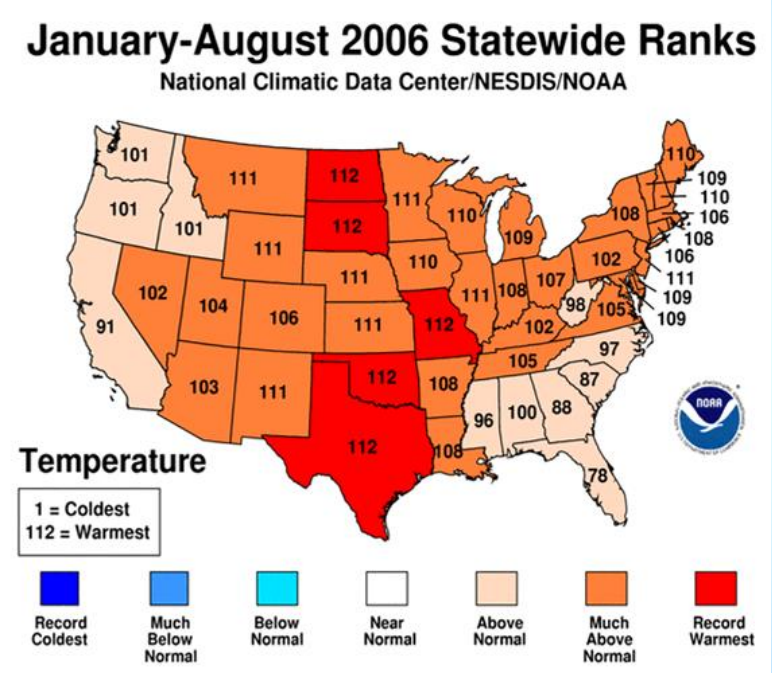
- Drought indicators based on available preliminary data differs greatly from final data in some areas.





NIDIS Deconstructed

National *Integrated* Drought *Information* *System*

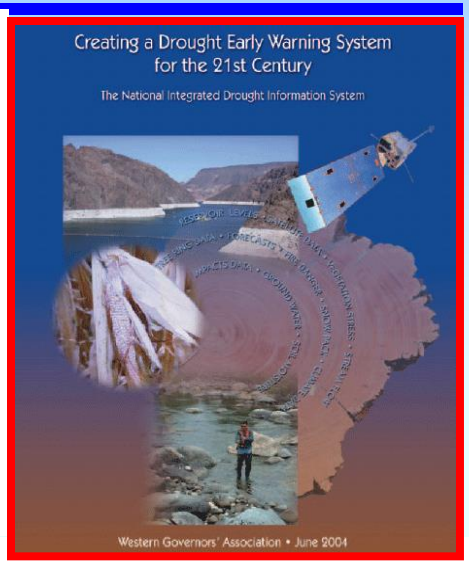


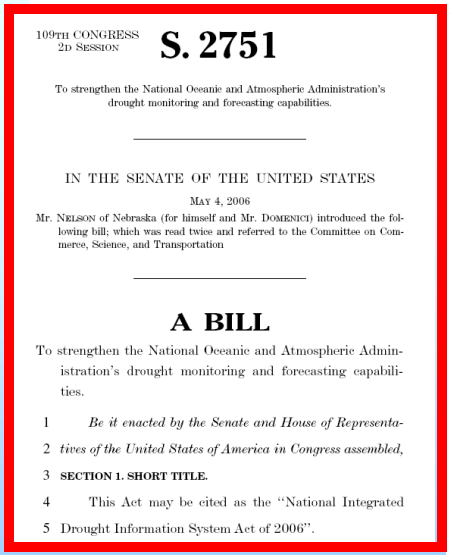
- The environmental and geospatial data collected by NOAA and its partners … are an invaluable resource that should be archived and **made accessible in a form that allows researchers and educators to conduct analyses and generate products** ...
- Funding for Earth System measurements should include sufficient resources to archive and **provide ready and easy access** to these data for an extended period of time.
- **Metadata that completely document and describe archived data should be created and preserved to ensure the enhancement of knowledge for scientific and societal benefit.**

NIDIS Drivers

Western Governor's Association

- **1996**: Recommendation for national preparation for and response to drought.
- **2000:** Creation of National Drought Policy Commission.
- **2003:** Partnership with NOAA to improve drought monitoring and forecasting.
- **2004:** Formal document published recommending NIDIS.





109TH CONGRESS
2D SESSION

S. 2751

To strengthen the National Oceanic and Atmospheric Administration's drought monitoring and forecasting capabilities.

IN THE SENATE OF THE UNITED STATES

MAY 4, 2006

Mr. NELSON of Nebraska (for himself and Mr. DOMENICI) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To strengthen the National Oceanic and Atmospheric Administration's drought monitoring and forecasting capabilities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Integrated Drought Information System Act of 2006".

U.S. Congress

- The 109th Congress introduced H.R. 5136/S. 2751 to improve national drought preparedness, mitigation and response efforts.

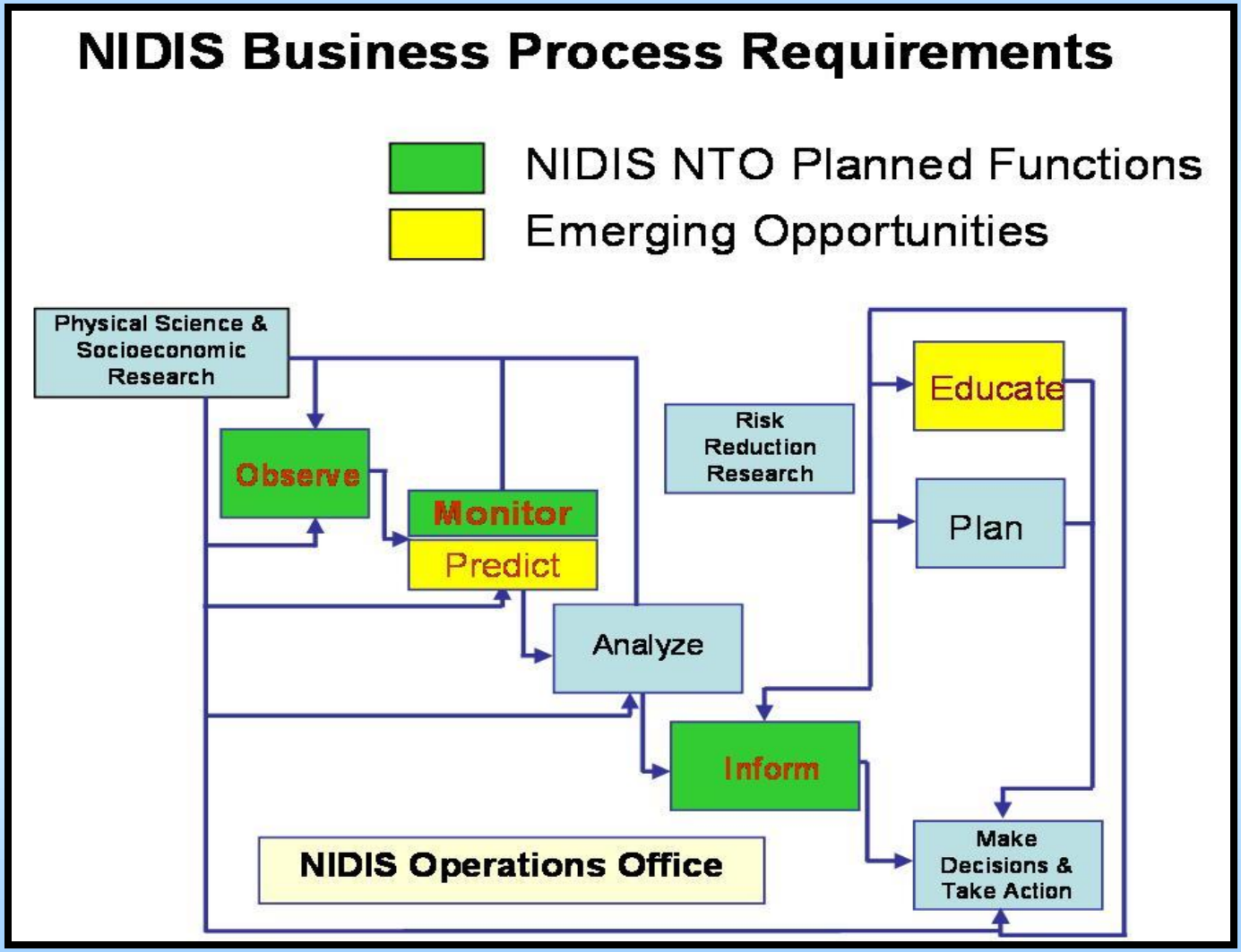
President's National Science & Technology Council

- Highlighted drought as one of the grand challenges for disaster reduction in 2005.
- Proposed action: developing an implementation plan for NIDIS.

U.S. Group on Earth Observations (US GEO)

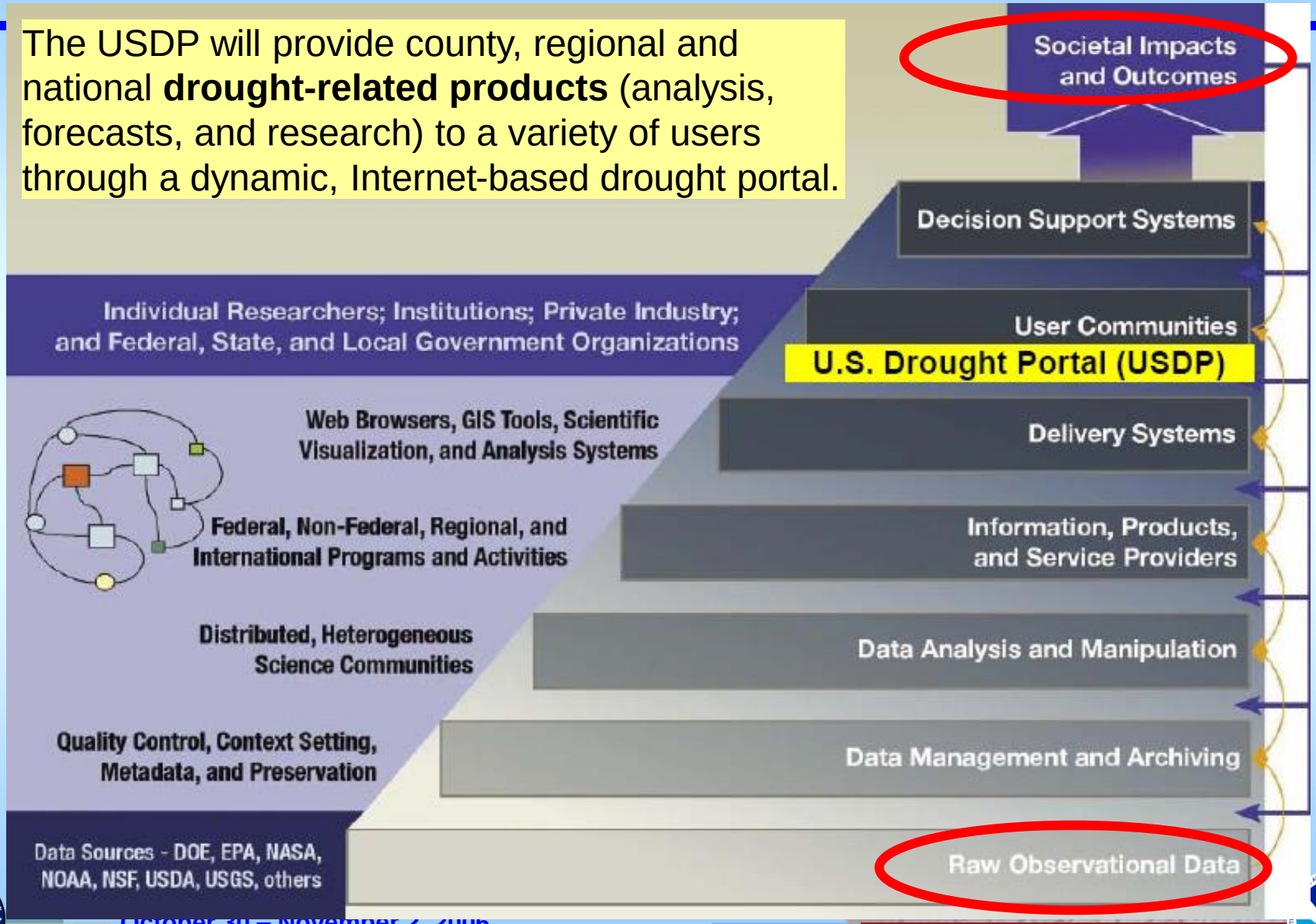
- NIDIS is one of several near term opportunities identified.

NIDIS NTO Business Plan



U.S. Drought Portal

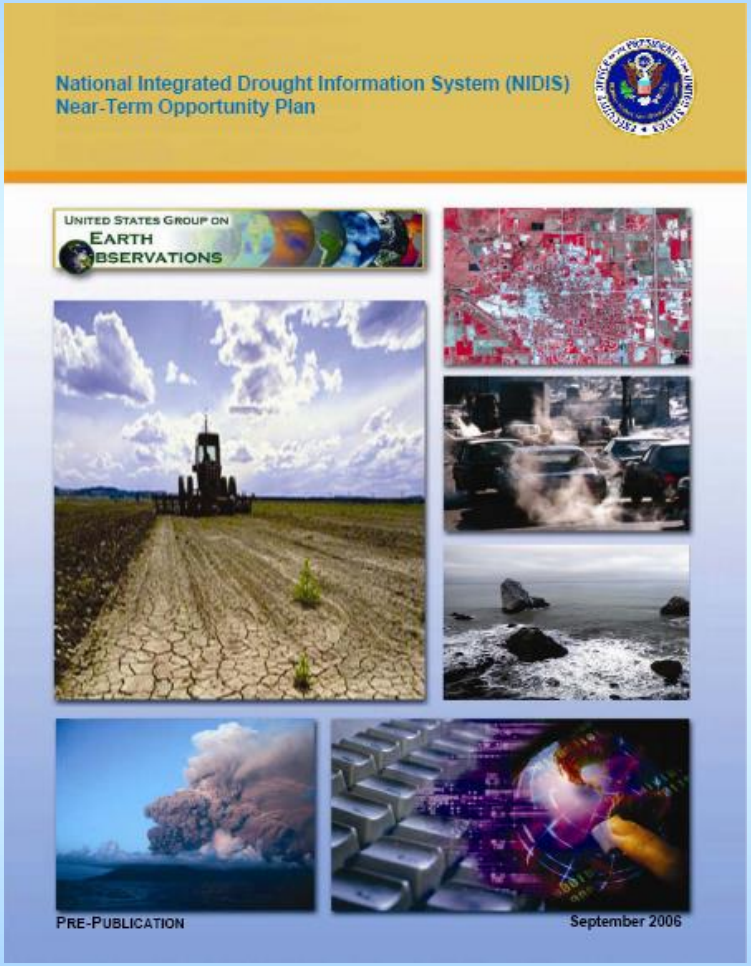
The USDP will provide county, regional and national **drought-related products** (analysis, forecasts, and research) to a variety of users through a dynamic, Internet-based drought portal.



NIDIS Near Term Opportunity Plan

- NIDIS Report was approved September 2006

- Available at the U.S. Group on Earth Observations Website: http://usgeo.gov/



USDP Deliverables

Establish, operate, and update **U.S. Drought Portal**

- Number of user accesses and products available
- Number of seamless links to drought cooperators
- User feedback

Applied Climate Information System (ACIS) Integration

- Number of climate stations in ACIS
- Number of climate products related to drought
- Capability for gridded climate product generation

National Water Information System (NWIS) Integration

- Number of streamflow and ground-water stations in NWIS

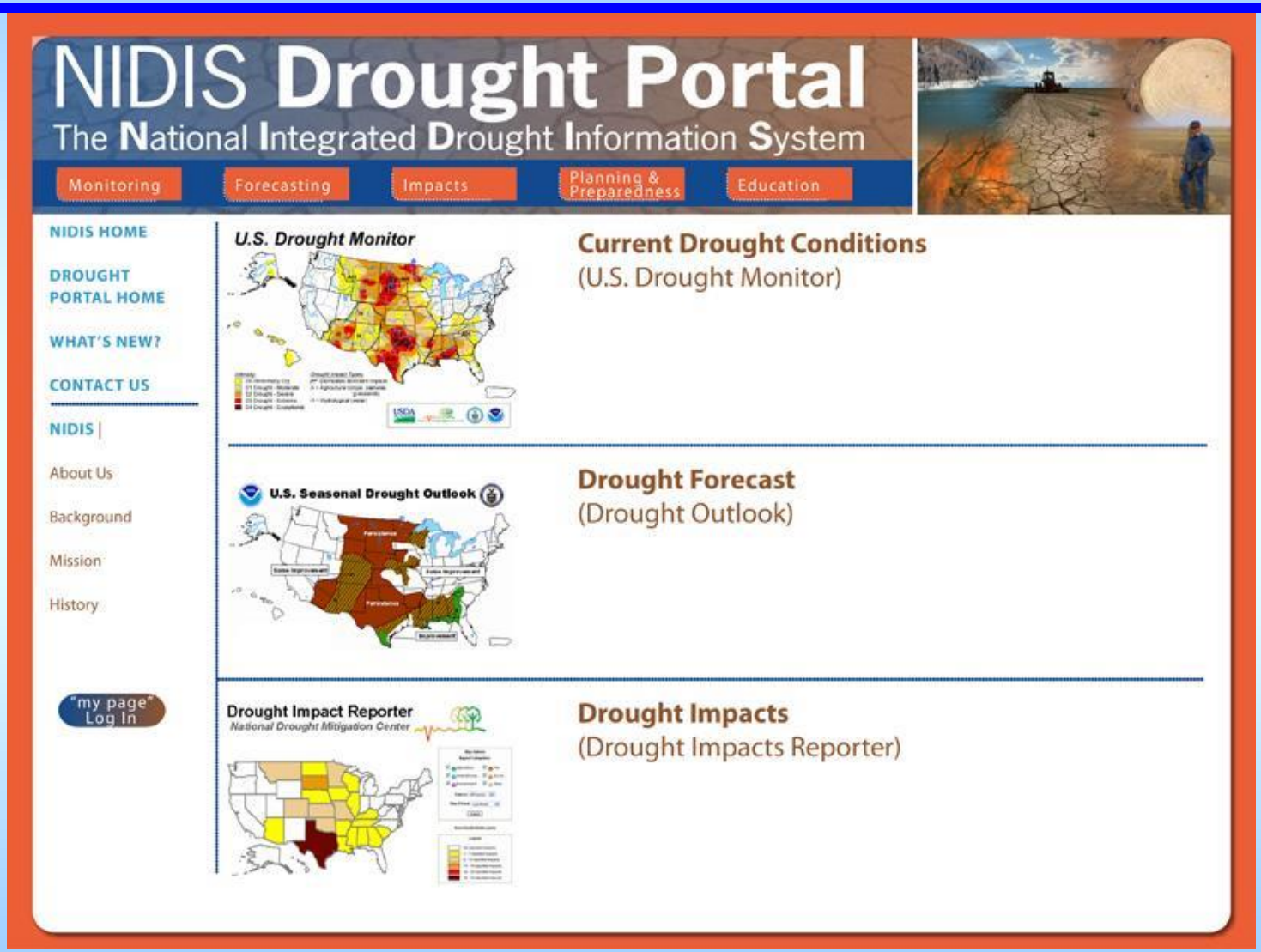
Integrated **Climate Forecasts**

- Specific product integration to meet user needs

Integrate **Remotely Sensed Data** with *in situ* data

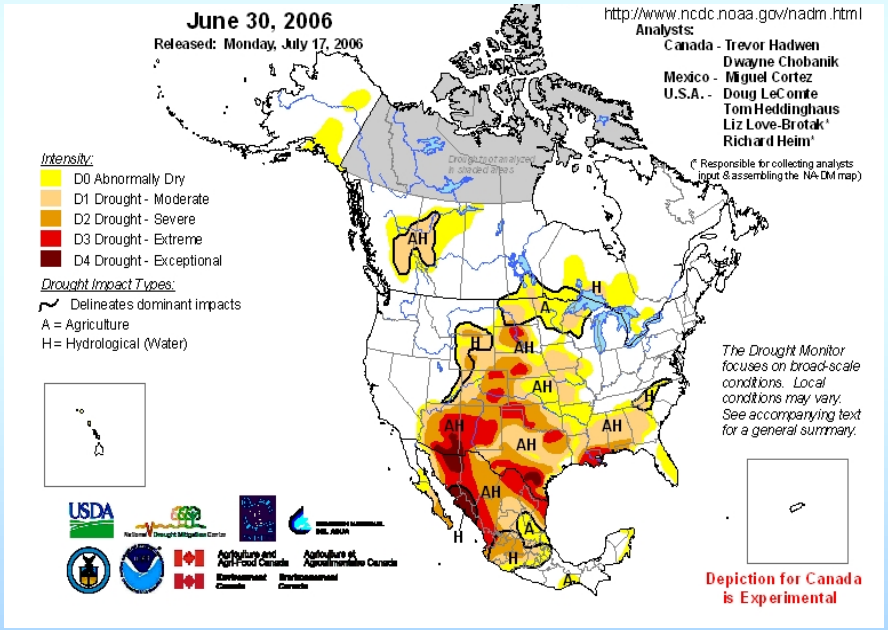
- Data in areas not covered by terrestrial network

USDP 'Showcase' Features



Extending NIDIS to GEOSS: International Opportunities

North American Drought Monitor



- North American Drought Monitor
  - Similar to US Drought Monitor (USDM)
  - **Monthly** monitoring (vs. weekly for USDM)
  - Partners
    - US: NOAA, USDA, National Drought Mitigation Center
    - Canada: Agriculture Agrifood Canada
    - Mexico: Nat. Met. Service of Mexico
- Other International Efforts
  - U.S./Chinese Meteorological Agency Joint Working Group
  - Collaboration via GCOS, bilaterals, etc. in Costa Rica/Caribbean and various S. American countries

Upsala Glacier, Argentina
1928 (top) vs 2004 (bottom).