The National Integrated Drought Information System (NIDIS): Viewing Drought Through a Portal

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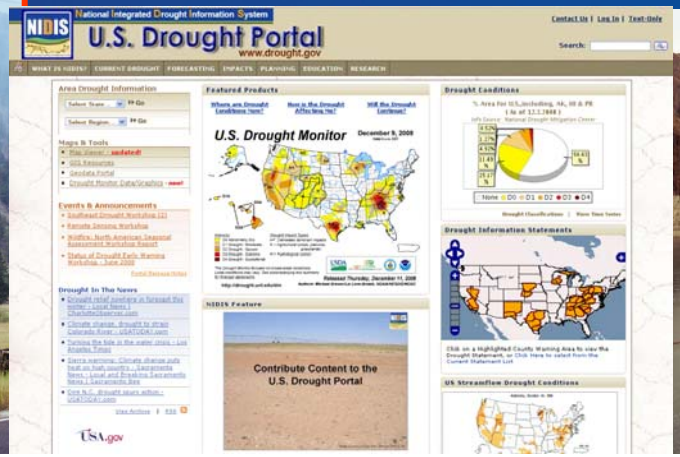
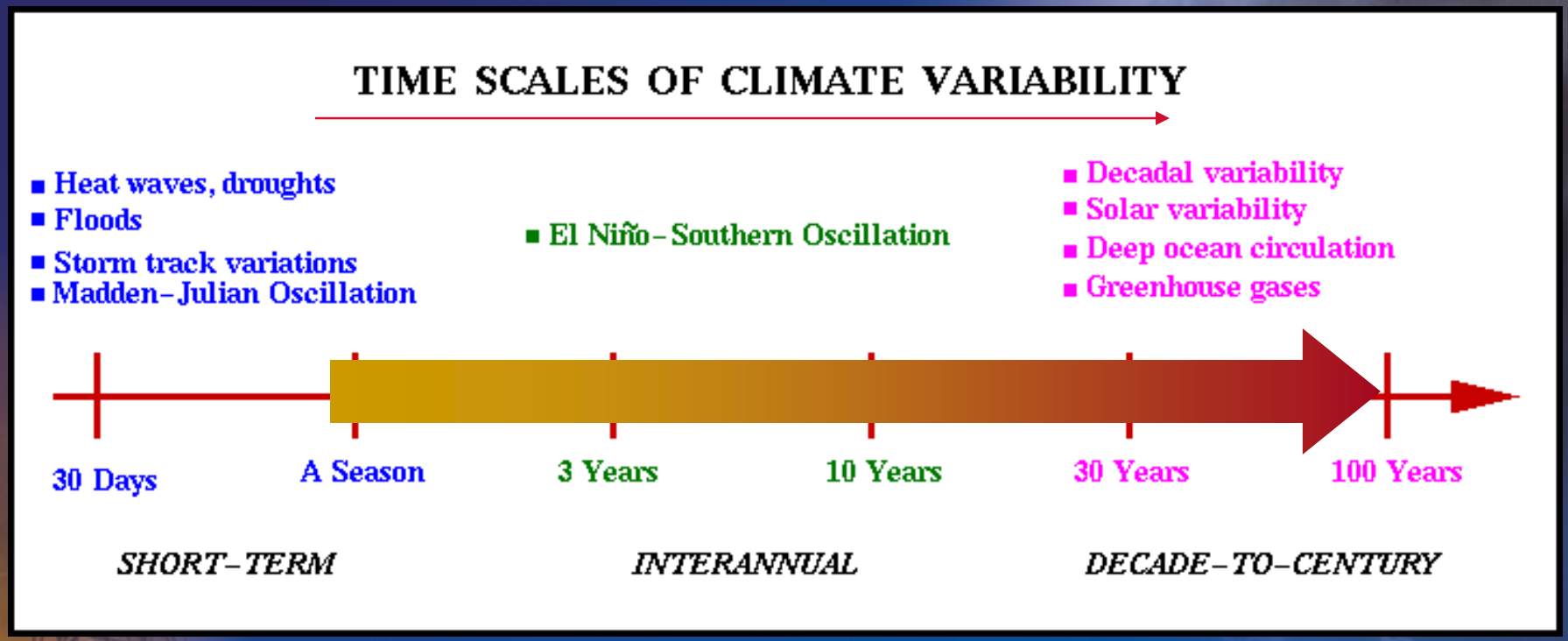
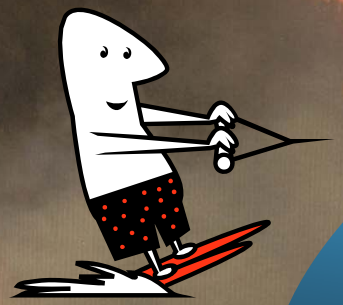


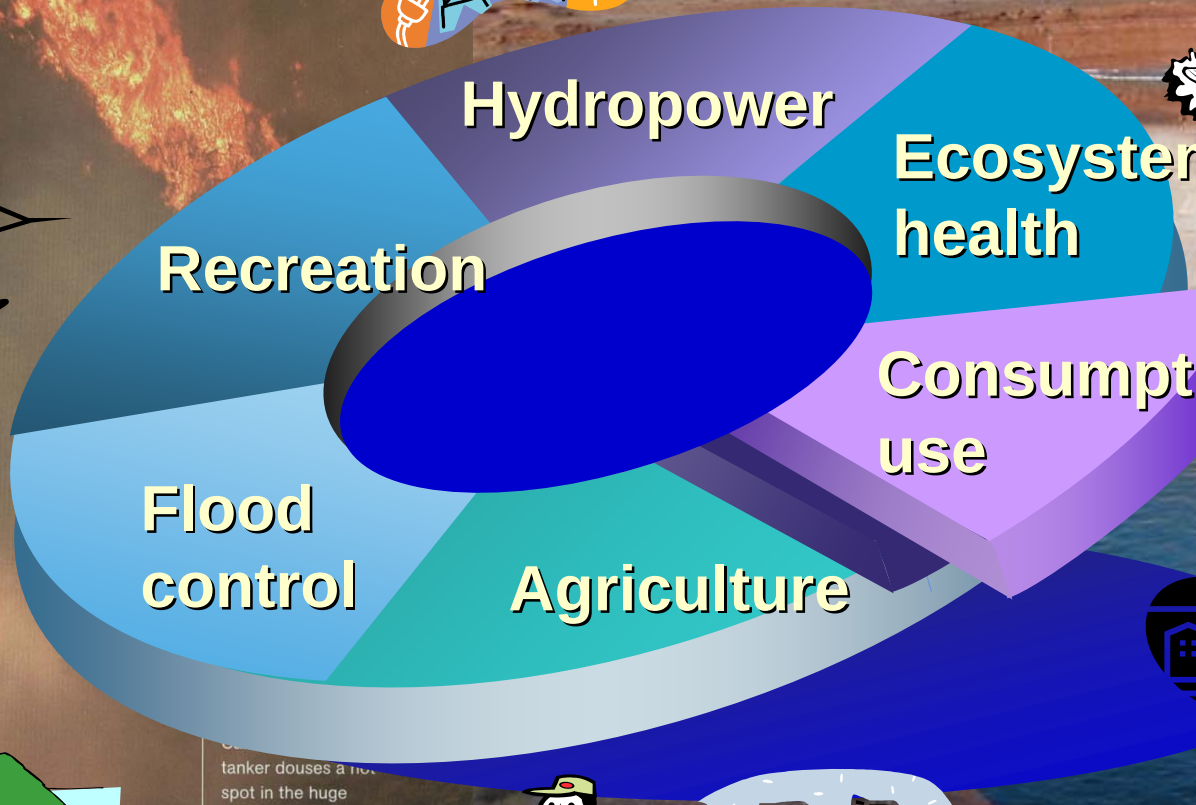
Challenge:
Diverse Temporal and Spatial Scales



Droughts span an enormous range of temporal and spatial scales

Multiple competing values
Multiple, competing objectives

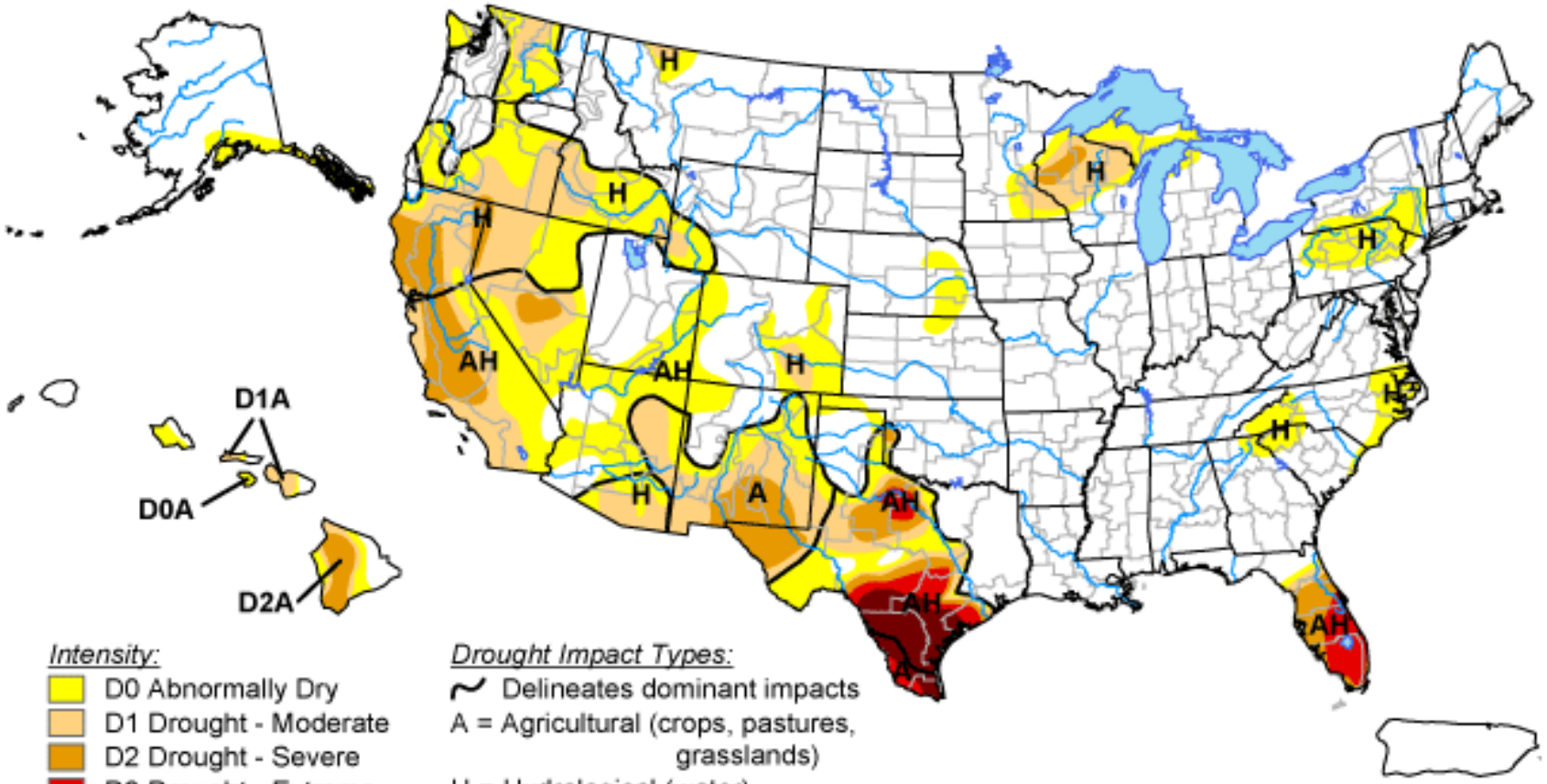




tanker douses a hot spot in the huge Zaca fire that erupted in July 2007, scorching 240,000 acres. Years of sparse rain primed the region for the second largest fire in California history.

U.S. Drought Monitor

May 12, 2009
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

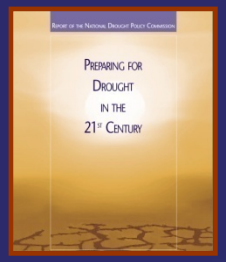
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

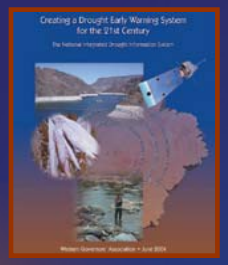
USDA National Drought Mitigation Center

Released Thursday, May 14, 2009

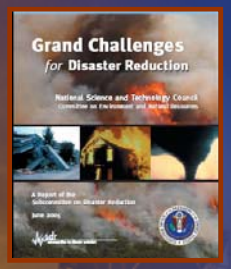
Authors: David Miskus, Matthew Rosencrans, and Anthony Artusa, CPC/NOAA



"(We) contend that we can reduce this nation's vulnerability to the impacts of drought by making preparedness— especially drought planning, plan implementation, and proactive mitigation— the cornerstone of national drought policy.."— ***National Drought Policy Commission Report, May 2000***



"NIDIS should improve and expand the **compilation of reliable data on the various indicators of droughts**, and it should **integrate and interpret that data with easily accessible and understandable tools, which provide timely and useful information to decision-makers and the general public.**— ***Western Governor's Association Report, June 2004***

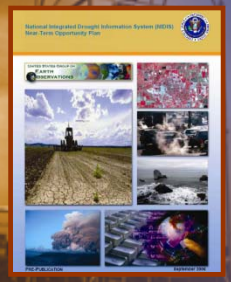


"Characteristics of disaster-resilient communities":

- **Relevant hazards are recognized and understood.**
- **Communities at risk know when a hazard event is imminent.**
- **Individuals at risk are safe from hazards in their homes and places of work.**
- **Communities experience minimum disruption … after a hazard event has passed."**

— National Science and Technology Council, June 2005

"Near-term opportunities identify observing systems or integration of components that meet high priority societal needs, and make improvements to inadequate existing systems that can be completed within 5 years and have tangible, measurable results.



- *Improved Observations for Disaster Warnings*
- *Global Land and Sea Level Observation Systems*
- ***National Integrated Drought Information System***
- *Air Quality Assessment and Forecast System*
- *Architecture and Data Management."****— U.S. Group on Earth Observations, Sept. 2006***

NIDIS VISION and GOALS

"A dynamic and accessible drought information system that provides users with the ability to determine the potential impacts of drought and the associated risks they bring, and the decision support tools needed to better prepare for and mitigate the effects of drought."

Public Law 109-430 (Signed by the President December 2006)

(www.drought.gov)

NIDIS

NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

What is NIDIS?

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.**

NIDIS
NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

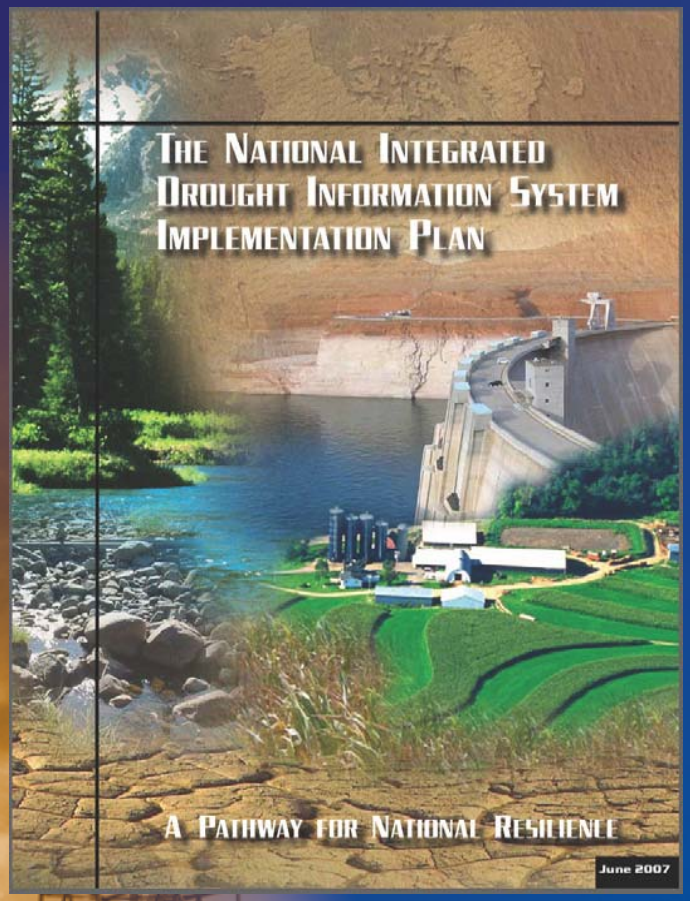
NIDIS Builds Upon Collaborative Successes!

NIDIS Objectives

Creating a drought early warning *information* system:

- ***Coordinating*** ***national drought monitoring and forecasting system***
- ***Providing an interactive drought information clearinghouse and delivery system for products and services—including an internet portal and standardized products (databases, forecasts, Geographic Information Systems (GIS), maps, etc)***
- ***Designing mechanisms for improving information to support coordinated preparedness and planning***

NIDIS Implementation Team Partners (to date):

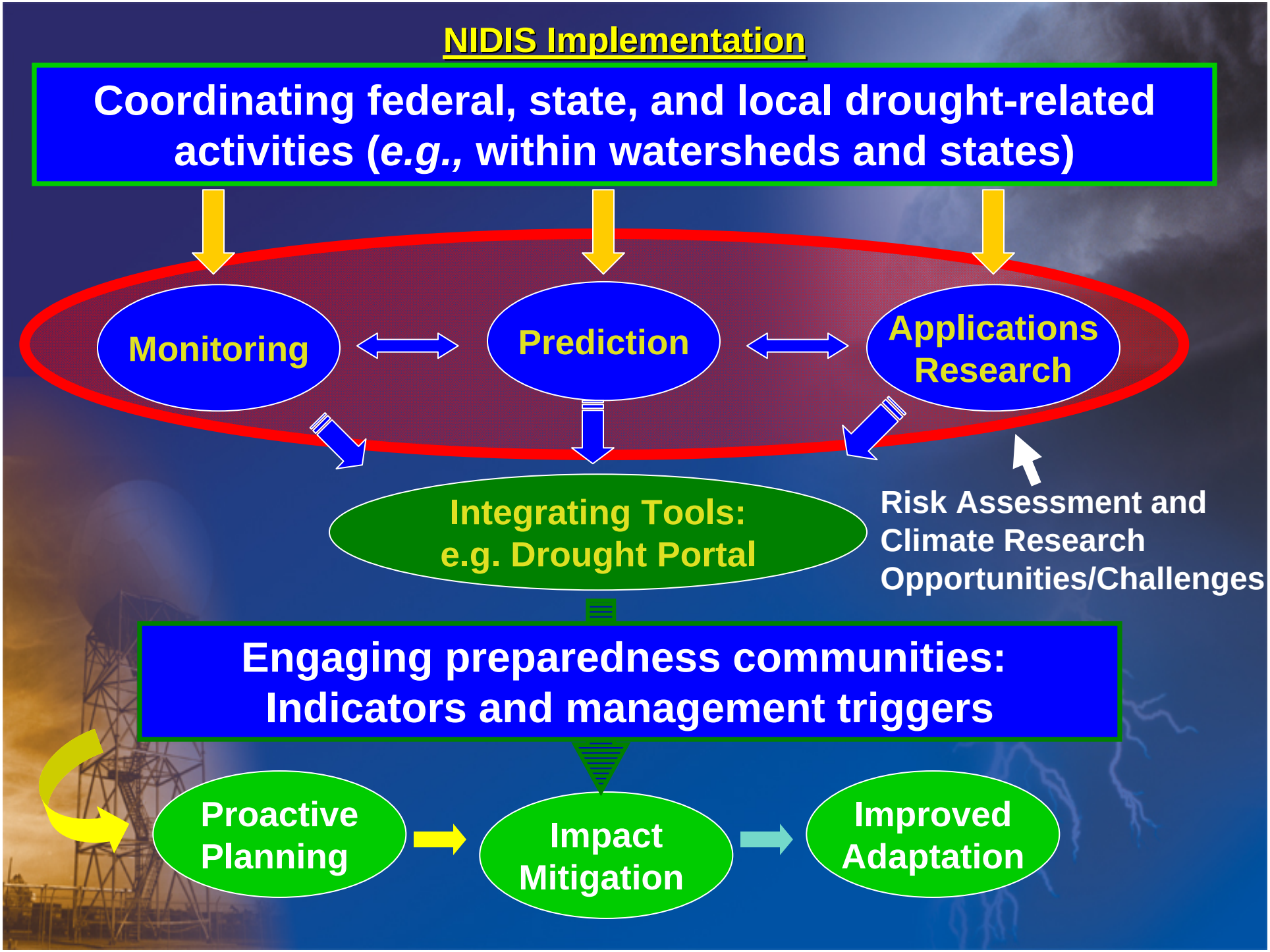


www.drought.gov

- NOAA
- Western Governors Association
- USGS
- Dept. of Interior (BoR)
- U.S. Army Corps of Engineers
- USDA (NRCS, ARS, CSREES)
- NASA
- Indigenous Waters Network
- Regional Climate Centers
- National Drought Mitigation Center
- Association of State Climatologists
- Cornell University
- New Mexico State University
- Rutgers University
- South Dakota State University
- University of Oklahoma
- University of South Carolina
- University of Washington
- The Weather Channel

New:

- Duke Power
- U. Georgia
- Others?


NIDIS Implementation
Coordinating federal, state, and local drought-related activities (*e.g.*, within watersheds and states)
Monitoring
Prediction
Applications Research
Integrating Tools: e.g. Drought Portal
Risk Assessment and Climate Research Opportunities/Challenges
Engaging preparedness communities: Indicators and management triggers
Proactive Planning
Impact Mitigation
Improved Adaptation

How Can Drought Information Be Delivered Effectively?

One-stop shop for up-to-date drought information

Predictive services for the wildland-urban interface

Data at the county level- Climate Divisions are not good enough

Better demand data

Situational awareness

Reliant on data from multiple agencies in real time

Clearinghouse for information

Governance Structure for NIDIS Implementation

NIDIS Executive Council

Co-chairs: Director, NOAA Climate Program Office (or designee)
Director, National Drought Mitigation Center (or designee)

NIDIS Program Office
(NPO Director)
- *Coordinate NIDIS-relevant cross-NOAA*
- *and Interagency drought-related activities*
- *Develop a national presence for NIDIS (e.g. formal links to National Governors Ass'n)*
- Participate in GEOSS / IEOS

NIDIS Program Implementation Team (NPIT)

Working-Level Partner Representatives
Coordinate and develop evaluation criteria for all NIDIS activities including pilot project selection
Chair: NPO Director

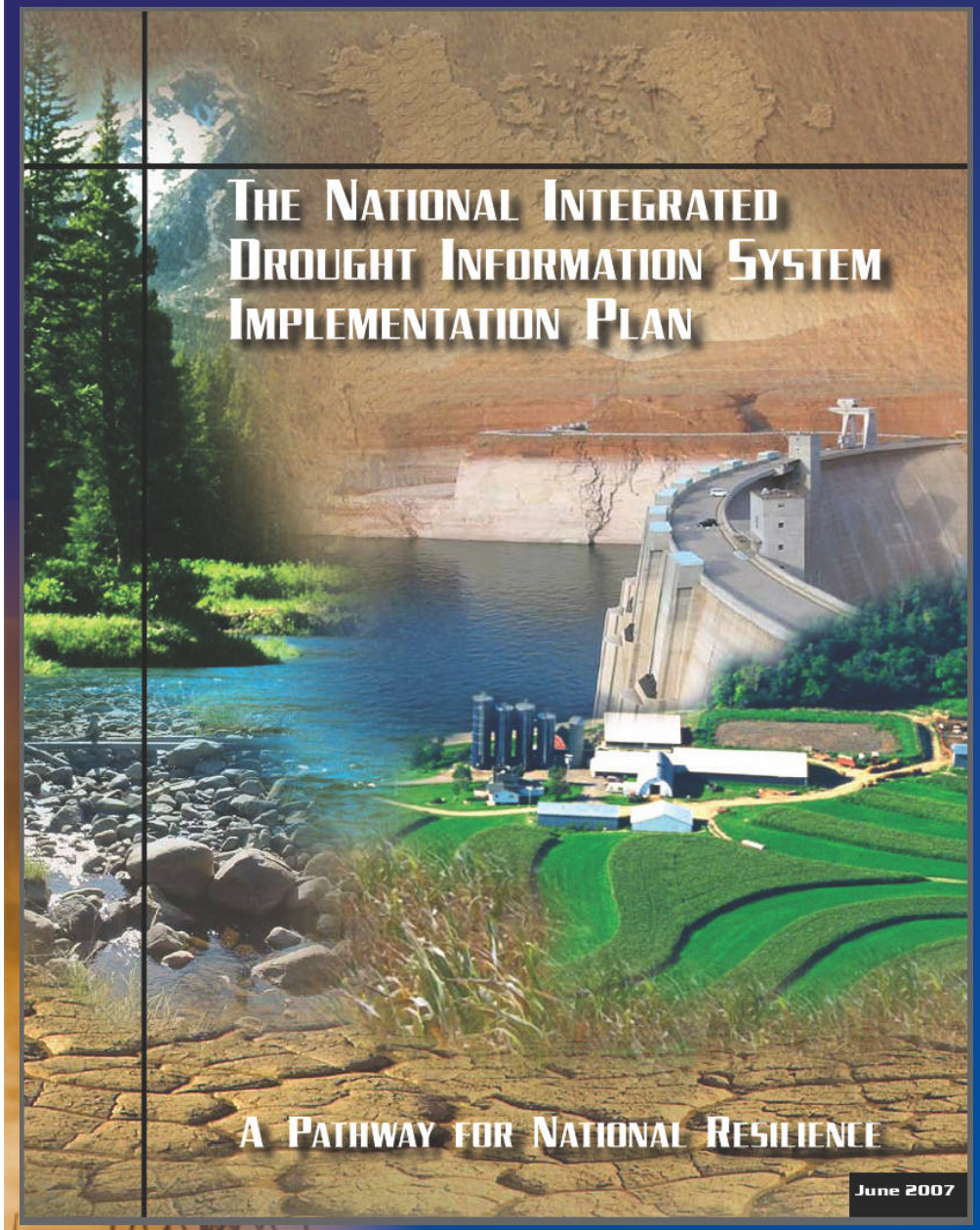
NIDIS Technical Working Groups

Federal, Regional, State, Tribal and Local Partner Leads
Embedded in national and regional, and local NIDIS Activities
Develop pilot implementation and transferability criteria
Co-Chairs selected by NPIT

- Public Awareness And Education
- Engaging Preparedness Communities
- Integrated Monitoring and Forecasting
- Interdisciplinary Research and Applications
- U.S. Drought Portal

National Integrated Drought Information System

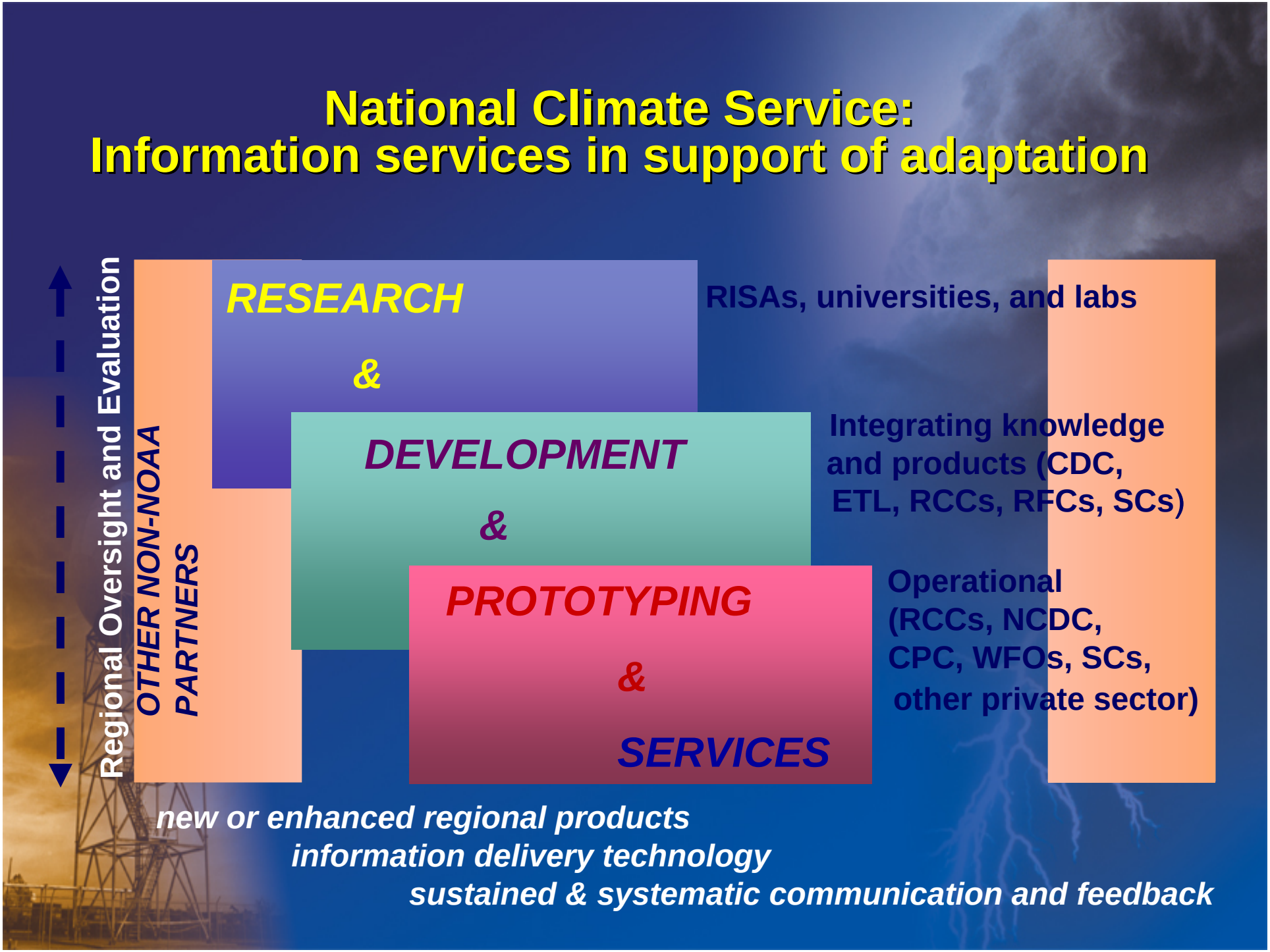
Drought Early Warning System Design, Pilots, and Implementation



Elements

- 1. U.S. Drought Portal:
  - *Development and tailoring*
- 2. Climate Test Beds:
  - *Integrating data and forecasts*
- 3. Coping with Drought
  - *Integrated Research and applications*
  - *Engaging preparedness communities*
  - *Education and awareness*
- 4. NIDIS EWS Pilots:
  - *Early Warning System Design and Implementation*
- 5. NIDIS Program Office

National Climate Service:
Information services in support of adaptation



Thanks!