Activities and Plans of the National Integrated Drought Information System (NIDIS)

Jim Verdin
USGS, Earth Resources Observation and Science Center and NIDIS Program Office, Boulder, Colorado
Background

Hazard X Vulnerability = Risk
(Impact)
The Cycle of Disaster Management

- Risk Management
  - Preparedness
  - Mitigation

- Protection
- Disaster
- Response
- Impact Assessment
- Recovery
- Reconstruction

- Crisis Management

NDMC and others

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Creating a Drought Early Warning System for the 21st Century
The National Integrated Drought Information System

Western Governors’ Association • June 2004

U.S. Integrated Earth Observations System:
National Integrated Drought Information System
Draft Integration Framework

Climate Information for Managing Risks
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The National Integrated Drought Information System (NIDIS)

• An information system for drought early warning and adaptation
• Public Law 109-430 authorizing NIDIS signed by President in December 2006
• Led by NOAA, a multi-agency partnership of Federal, State, and Local cooperators
• A clearinghouse for drought mitigation and response innovations
• Coordination of drought plans among states, communities of a common river basin
• Strengthening monitoring networks
NIDIS – 2007

- NIDIS Director appointed – Roger Pulwarty
- NIDIS Program Office (NPO) established at NOAA in Boulder
- USGS and WGA assignees at NPO
- NIDIS highlighted in NOAA RFP’s (SARP, TRACS, Climate Test Bed)
- NIDIS highlighted in NASA ROSES 2007 RFP
- NIDIS Implementation Plan released, June
- NIDIS Program Implementation Team Meeting, October
- NIDIS website www.drought.gov demonstrated at the U.S. Drought Monitor Workshop, October
Governance Structure

**NIDIS Executive Council**

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

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**NIDIS Program Office**  
(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

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Public Awareness and Education  
Engaging Preparedness Communities  
Integrated Monitoring and Forecasting  
Interdisciplinary Research and Applications  
U.S. Drought Portal  
Drought Early Warning System Design, Pilots, and Implementation

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*Climate Information for Managing Risks*  
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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 Pilots:
  - Early Warning System Design and Implementation
- 5. NIDIS Program Office
http://www.caes.uga.edu/topics/disasters/drought/
NIDIS Workshops

• “Remote Sensing Contributions to Drought Monitoring”, February 6-7, 2008, Boulder
• “NIDIS Southeast Drought Workshop” – April 29-30, 2008, Peachtree City, Georgia
• “Drought Early Warning – State of the Practice in the United States”, June 2008, Kansas City
NIDIS SOUTHEAST US DROUGHT WORKSHOP
Peachtree City, Georgia - April 29th-30th, 2008

- Overview of Federal Drought Products
- Overview of State Drought Plans and Triggers Used: What Works and What is Needed
- Coastal and Estuarine Issues and Drought
- Current Long Range Forecast from NOAA
Workshop on Status of Drought Early Warning Systems in the U.S.
June 17-19, 2008, Kansas City, MO

You are invited!

Please register ASAP to ensure that you can participate, as space will be limited. To register, please go to the workshop link:

http://snr.unl.edu/ndmcsurvey/nidisregistrationkc2008.html

This workshop will bring together drought planners from watersheds, agriculture, energy, municipal water suppliers, and other sectors. Speakers and attendees will include providers, brokers, and users of drought information across a variety of climatic timescales.

Location:
National Weather Service Training Center
7220 N.W. 101st Terrace
Kansas City, Missouri
NIDIS Pilots – Drought-type analysis units

Low flow shortage triggering criteria (Powell/Mead)

Forest health/recreation/tribal lands

Urban-Interbasin transfers
Upper Colorado River Pilot

Pilot Scoping Workshop

Drought early warning client organizations convened from three categories:

- Water managers from Reclamation and State governments of Utah, Wyoming, and Colorado
- Urban/local water supply managers (like Denver, Salt Lake City, Northern Colorado Water Conservancy District)
- Ecosystems/environmental/recreational resource managers (Forest Service, EPA, States, NPS, USGS/BRD, NGOs)
- Explore existing mandates, decision cycles, and organizational capacities to determine a team to implement the pilot
Upper Colorado River Pilot

Assessment study of monitoring gaps

- Gather and synthesize information from observation network operators like USGS, NRCS, NOAA, etc.
- Identify unmet needs for drought early warning
- Provide the basis for initiatives to strengthen and enhance monitoring in support of drought early warning
Upper Colorado River Pilot

Risk Assessment Team

• The team would review existing practices for use of monitoring and forecast information, mitigation, preparedness, communication, and response

• Use the findings to make recommendations for improvements in human capacity, information management, etc, contributing to design of the Upper Colorado River Drought Early Warning System
Upper Colorado River Pilot

Design Implementation

• “Test run” the data, information, and communication flows of the early warning system design through a full annual cycle of decision making

Document outcomes and lessons learned with respect to:

- Timelines and other assumptions
- Resources
- Sustainability
- Transferability – replication in other basins
NIDIS Pilots – Drought-type analysis units

Water supply & low flow:
- Navigation
- Energy
- Urban and agricultural
- Coastal-Nearshore impacts

Southeast ACT-ACF Basins
Global Climatic-Drought Contributors: A continuum

SCALES OF DROUGHT

Heat Waves
Storm Track Variations
Madden-Julian Oscillation
El Nino-Southern Oscillation
Decadal Variability
Solar Variability
Deep Ocean Circulation
Greenhouse Gases

Droughts span a large range of temporal and spatial scales
Managing Drought as Climate Changes

• The combination of the inherent uncertainty of natural variability, plus projections for a warmer climate in the 21st century, make early warning and adaptation more important than ever

• NIDIS offers a framework for integration of vulnerability and hazard information for planners and decision makers
Questions?