

Drought Early Warning Information System for Southern California

National Integrated Drought Information System (NIDIS) Pilot Activity

Friday, January 20, 2012

Scripps Institution of Oceanography, San Diego, CA

Meeting Notes

This first group meeting of the Southern California NIDIS Pilot Activity had broad representation from key representatives in the drought community, including federal, state, regional, and local agencies; industries; researchers; and stakeholders, spanning both drought information producers and users. (See participant list on last page.)

Goals of this meeting included the following: (a) explore drought information needs and resources among participants; (b) identify potential and specific applications of drought early warning information, including the decision-maker, information needed, related decisions, and potential benefits; and (c) discuss the criteria and needs for a California Drought Monitor-type product that would be useful and germane to representing droughts in Southern California.

Southern California presents unique complexities and opportunities for understanding drought and developing drought information products, due to the diversity of drought types and vulnerabilities, predominance of managed water systems, high dependence on imported water, range of temporal and spatial scales of droughts, and frequent extended dry conditions, among other factors.

The meeting began with a welcome from the co-organizers, Anne Steinemann, Dan Cayan, Mike Dettinger, and Robin Webb. Each of the participants then provided an introduction, along with a brief overview of activities concerning drought. Next, Robin Webb presented an overview of NIDIS, the Pilots, and Pilot Activities. This led to a roundtable discussion, with contributions from each participant, about drought information needs, resources, and priorities, led by Anne Steinemann, Dan Cayan, and Mike Dettinger. This discussion led to the identification and exploration of potential applications, including the decision-makers, drought problem, types of information needed, ways that information would be used, and potential benefits, led by Anne, Dan, and Mike. We also explored what would be needed and useful for developing a drought product for California. The meeting concluded with a summary of main results and recommendations, and next steps (detailed on following pages).

Summaries for each meeting goal

(a) Drought Information Needs and Resources:

Consolidating and providing inventory of resources, products, and predictions

(e.g., list of what we can forecast, when, and how accurately)

Defining stages and severity of drought

Forecasts, with lead time of one week to one year or more

Warning for dry precipitation year

Predictive tools - at what point do we say, maybe we over/under estimated?

Precariousness of supply; pursuing recycling, conservation, greater use of local sources

Taking into account the "new normal"

Forecasting negatives

Considering small water systems

Providing information for production management versus demand management

Public education

Forecasts of shift of blocking patterns on weeks; blocking highs

Dry year forecasts; paleoclimate analogs

Small water systems - more susceptible to droughts

(b) Potential Applications - Initial Scoping:

(Agency/representative; +Drought information needed; *Related decisions)

California Department of Water Resources (Jeanine Jones, Mike Anderson)

- +better hydrology (monthly, watershed scale)
- +water transfers (receivers, purveyors of water)
- *what's needed to change allocations, releases, purchases?

City of San Diego Water Department (George Adrian)

- +forecasts 6-9 months, year in advance
- +extreme events
- +before budget year of July 1
- *winter - whether to buy more water, not deplete reservoirs
- *water purchasing decisions
- *demand management

Orange County Water District (Roy Herndon)

- +2-3 months ahead, precipitation
- *what should the pumping allocation be?
- *do you feel comfortable draining reservoirs?

Metropolitan Water District (Tim Brick)

- +precipitation, SoCal Member Agencies
- *are we going to make water available for groundwater replenishment?

San Diego County Water Authority (Sandy Kerl)

- +6-9 months ahead
- +Spring - precipitation
- + MWD drought risk
- +preparing for July 1 year
- *make sure we have enough supply
- *sales availability - fiscal year

(c) Drought Product for California:

relative to historic conditions
different climatologies (the "new normal")
reflect managed water systems, heavily reliant on imported water
days of water remaining
per capita water consumption
information package
one-stop shopping
all indicators in one place - but separated, and objective
vulnerability assessment
impact assessment
interconnections, adaptive capacity
reflect small systems
incorporate economics (e.g., operating costs)
incorporate uncertainty
drought risk map
indicators for both supply and demand
reservoir status tool
"gas gauge" forecast
who is the audience?
 ask what users want - what we can provide - what/why we can't provide

For Next Meeting:

Present forecasts, samples, concepts
Discuss remote sensing

Background Questions for Meeting / Roundtable Discussions

1. Tell us about yourself: What are your interests, activities, and responsibilities with respect to drought? What are your biggest drought concerns?
2. Are you a producer or user of drought information (or both)? What information would you like to have - or what information could you provide - that would be useful for drought preparedness and mitigation?
3. A goal of NIDIS is to provide an early warning information system to improve drought decisions and thereby reduce drought impacts and costs. Can you think of examples where drought early warning information could lead to better decisions and reduce impacts?
4. If you have seen or used the NIDIS drought portal website: How could this be made more useful? What is missing?
5. If you have seen or used the U.S. Drought Monitor:

What is needed in a drought monitor product to make it useful to address Southern California issues? More generally, what types of drought monitoring products are needed to manage and mitigate drought?

http://www.drought.gov/portal/server.pt/community/drought_indicators/us_drought_monitor

6. What would be your criteria of "success" for this Southern California drought early warning activity? What would be impediments to success?

Even if you had ideal early warning information, could you deviate from standard operating procedures, based on forecast information?

What information would be of most use and value - such that you're willing and able to use it for making decisions, and willing to invest in it to sustain it?

Participant List

Name	Organization	Email
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AGENDA

- 9:30 a.m. Continental Breakfast
- 10:00 a.m. Welcome, Goals, Introductions:
R. Webb, A. Steinemann, D. Cayan, M. Dettinger
- 10:15 a.m. NIDIS Overview; Pilots and Pilot Activities: R. Webb
- 10:45 a.m. Round Table Discussion of Drought Information Needs, Resources, and
Priorities: led by A. Steinemann
- 11:30 p.m. Break
- 11:45 p.m. Round Table Discussion of Potential Applications of Drought Early
Warning Information: led by A. Steinemann
- 12:30 p.m. Lunch (brought in)
- 12:45 p.m. Identify and Discuss Applications: Decision-Makers, Partners,
Stakeholders, and Products: led by A. Steinemann, D. Cayan, M. Dettinger
- 1:45 p.m. Break
- 2:00 p.m. Describe and Prioritize Applications: led by A. Steinemann, D. Cayan, M.
Dettinger
- 3:00 p.m. Next Steps: A. Steinemann, D. Cayan, M. Dettinger
- 4:00 p.m. Meeting Adjourned