



National Ground-Water Monitoring Network

Advisory Committee on Water Information—Subcommittee on Ground Water

Status Report from the Subcommittee on Ground Water

Activities related to the National Ground-Water Monitoring Network

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Lauren Schapker, NGWA; Executive Secretary, SOGW

Daryll Pope, NGWMN Lead; USGS



Presentation Outline

- Background
 - Bob Schreiber
- Progress since last ACWI meeting
 - Bob Schreiber
- 2016 Plans/Timeline
 - Daryll Pope
- Funding Outlook
 - Lauren Schapker
- What can ACWI do for SOGW?
 - Robert Schreiber
- Discussion



Background

Bob Schreiber

(Also calling on SOGW participants)

Acknowledgements

- SOGW Members and contributors
- ACWI, NWQMC, & other ACWI groups:
 - Coastal network
 - Ongoing support, guidance, & interaction
- Executive Secretary & admin support
 - NGWA
 - USGS HQ & CIDA
- Many others

Why is There an SOGW?

- Overall: Need to raise visibility of GW
 - Literally Invisible
 - Lacking Public Attention (“GW Floods”?)
 - Often a “2nd Cousin”
 - No GW Sub-Group in ACWI < 2006
 - Difficult & Costly to Characterize

Importance of Groundwater

- 99% of Earth's Freshwater Reserves
- Base Flow to Surface Waters
- Primary or Sole Source:
 - Rural Areas
 - Long Island, Cape Cod, etc.
- Multiple Threats – in 3D
- Easily Damaged & Slow to Recover

SOGW Grand Overview

- Fill “GW Gap” of ACWI (2006-7)
- Sole Purpose: National Network
- SECURE Water Act (2009)

→ Significant Volunteer Efforts

→ Funding Finally Started (December 2014)

- Lessons-Learned and Products-Created
- Inform & Facilitate “Open Data Initiative”

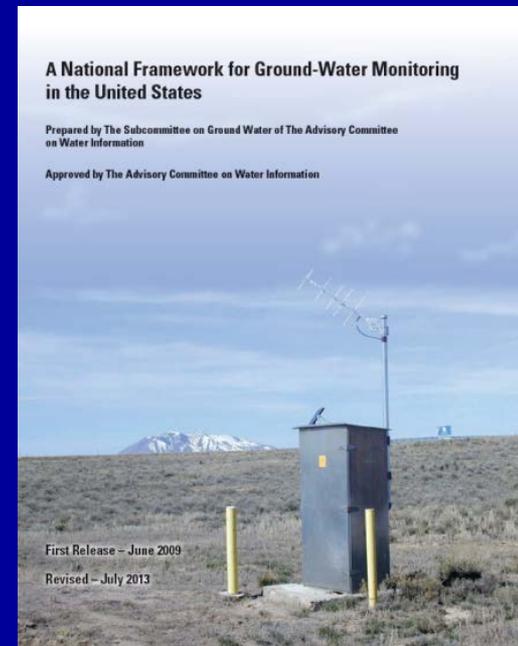
SOGW Actual Timeline

January	2007	SOGW formed by ACWI
February	2009	Framework Document approved
December	2009	Five pilot projects selected
January	2011	Pilot projects report results
July	2011	Web portal version 1 public release
September	2011	Pilot project synthesis report
Summer	2013	Framework Document revisions
Fall	2013	Web portal updated version
	2014	WQ piloting – 2 States
	2015+	Formal full-scale implementation

National GW Monitoring Network

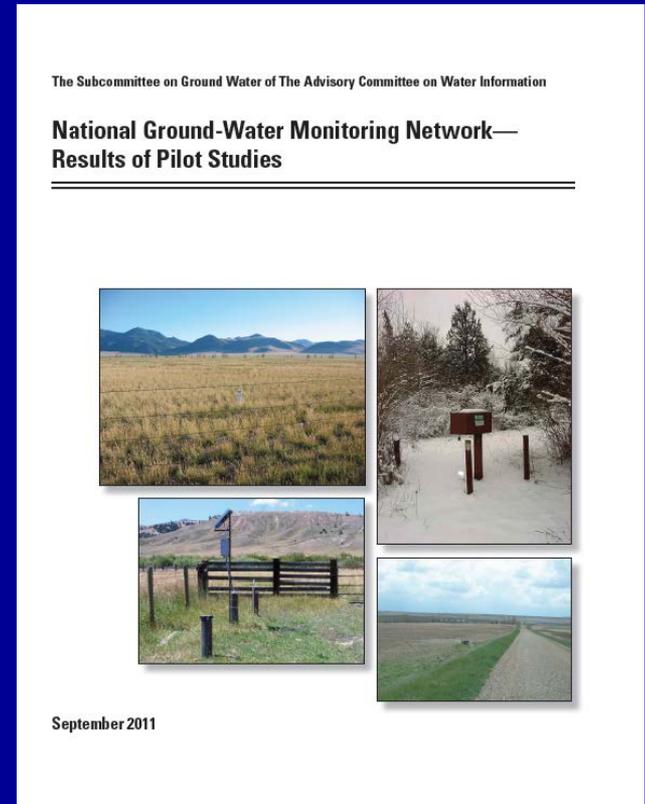
“Framework Document”

- Design
- Inventory
- Guidance:
 - Field Methods
 - Data Elements, Standards, & Mgt
- Implementation Plan
- 2009 and 2013

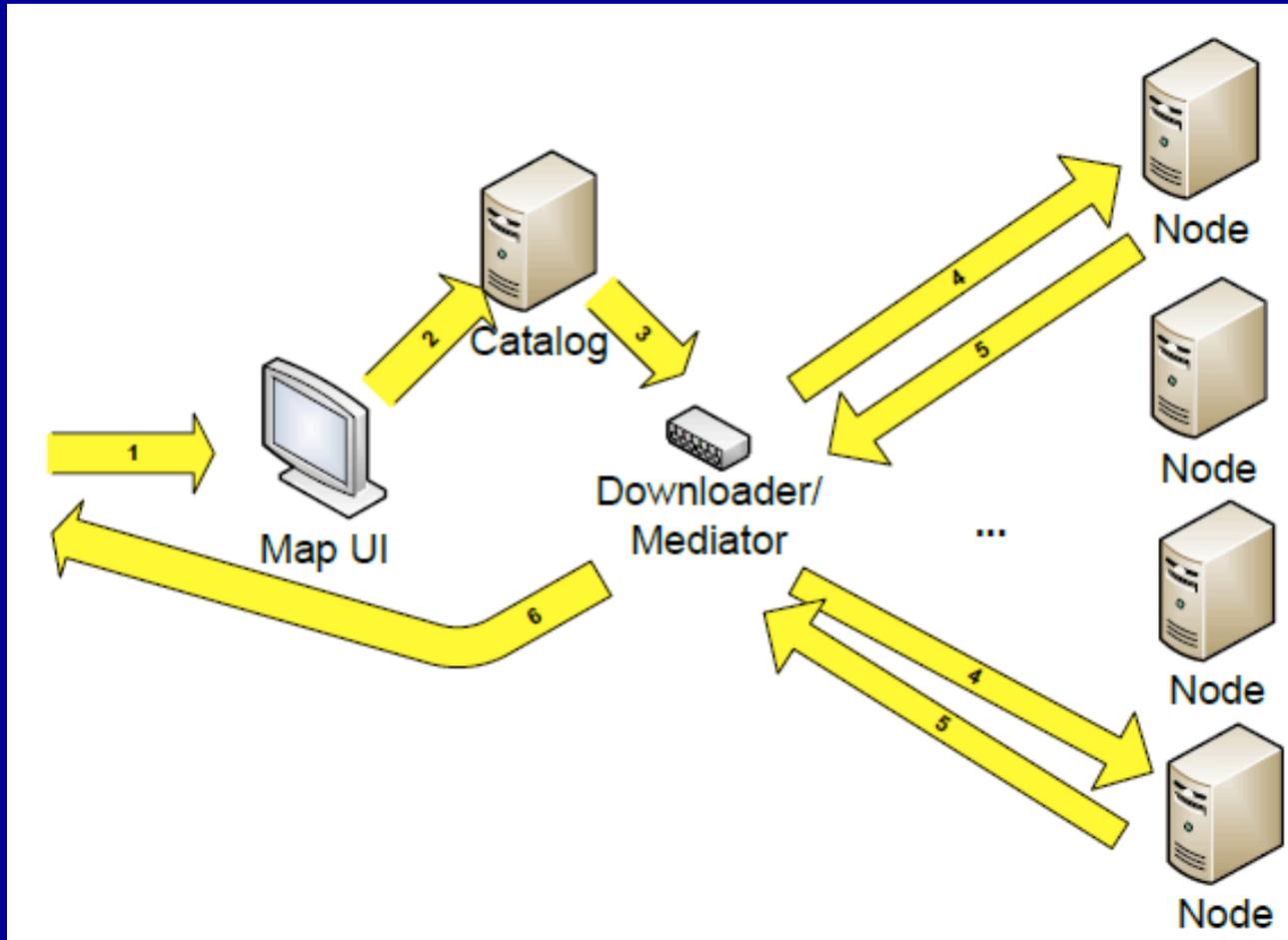


NGWMN Pilot Studies

- Validated Design
- Evaluated:
 - Field Practices
 - Data Mgt Procedures
- Identified:
 - Network Gaps
 - Costs



Network Portal Data Model



NGWMN User Interface

The screenshot shows a web browser window with the URL cida.usgs.gov/ngwmn/. The page features the ACWI logo (Advisory Committee on Water Information) and the title "National Ground-Water Monitoring Network".

The main content area includes three paragraphs of text:

- The National Ground-Water Monitoring Network (NGWMN)** is a compilation of selected groundwater monitoring wells from Federal, State, and local groundwater monitoring networks across the nation.
- The **NGWMN** is a product of the [Subcommittee on Groundwater](#) of the Federal Advisory Committee on Water Information ([ACWI](#)).
- The **NGWMN Data Portal** provides access to groundwater data from multiple, dispersed databases in a web-based mapping application. The portal contains current and historical data including water levels, water quality, lithology, and well construction. The NGWMN is transitioning from a pilot phase into full implementation. In the future we will be adding additional data providers to the network.

To the right of the text is a box titled "CURRENT NETWORK:" containing the following statistics:

- 2806 water-level wells
- x water-quality wells
- 10 subnetworks
- 7 contributing agencies
- 29 states
- 48 principal aquifers

At the bottom of the page are two interactive sections:

- LEARN about the Network:** A flowchart diagram showing the hierarchy of monitoring wells. It starts with "Subnetwork for Suspected Changes" and "Documented Changes". "Subnetwork for Suspected Changes" leads to "Surveillance Monitoring Wells" and "Trend Monitoring Wells". "Documented Changes" leads to "Surveillance Monitoring Wells" and "Trend Monitoring Wells". "Surveillance Monitoring Wells" leads to "Backbone", and "Trend Monitoring Wells" leads to "Backbone Wells".
- EXPLORE the Network:** A map of the United States with numerous blue dots representing monitoring wells distributed across the country.

Side Trip –

Shared Experiences Benefit NGWMN & Other ACWI Efforts

- “Walk Before Running”
 - Learning from Other Countries
 - Inclusive Standards & Procedures
 - USGS CIDA – Serving Others beyond USGS
 - Pilot-Testing Value
 - Data-Owners Retain Data-Ownership
 - Web Portal Transferability
- **NWQMC and “WQ Data Portal”**

Progress since last ACWI meeting

Bob Schreiber

EPA Regional Laboratories Support

- Key to Joining for Some States
- Provision of Analytical Capabilities
- Interim support During Early Phases
- Within Budgeted Resources and Capacity

→ Many Thanks to USEPA & Its Regions

States Seeking EPA Lab Support for NGWMN Samples

- Ongoing (Began in FY2014)
 - Utah Pilot:
 - Via Region 8 (Denver)
 - Multiple rounds
 - New England Pilot:
 - 5 States – through EPA Region 1 (Boston)
 - First Round – Summer 2015
- Future
 - Multiple EPA Regions Contacted
 - Several States Potentially Interested



Implementation 2015 Actions

- New cooperative funding opportunity initiated
- 'Tip Sheets' to Help Data Providers
- Non-Competitive Cooperative agreements
 - FY 2015
 - Existing Pilots/Pilot States (MT, TX, IL, UT)
 - New Data Providers (OR, SC)
 - FY 2016
 - New Data Providers (NC, DE, KS, OK, MS)

Implementation 2015 Actions (cont'd)

- USGS Science Centers:
 - Asked to work with cooperators
 - Adding appropriate USGS sites (WL and WQ)
- Developed Operating Principles:
 - SOGW collaborative effort
 - Implementation of NGWMN Program Board
 - Very important multi-sector effort (State, Federal, Private)
- Expanded portal capabilities

Tip Sheets

- Created to help data providers with common tasks
- Based on NGWMN Framework Document
- Current tip sheets
 - Subnetwork
 - Monitoring Categories
 - WL Criteria
 - WQ Criteria
 - Well Registry
 - Minimum Data Elements
- Available on the NGWMN page at:
<http://cida.usgs.gov/ngwmn/learnmore.jsp> on the 'Data Provider' tab. Resources for New Data Providers



2016 Plans/Timeline

Daryll Pope

Competitive Funds Available in Federal FY16

- About \$2M available in Grants.gov within the next few weeks.
- Informational Webex sessions will be held for guidance and questions (tentative dates are 11/4 and 11/18)
- Funds for new data providers to:
 - Select wells/springs
 - Classify wells/springs
 - Establish database connection to NGWMN portal using web services
 - Document Field Techniques
 - Produce report
- Funds for ongoing support to existing data providers
- Available to state or local water-resource agencies
- Will notify ACWI when opportunity is available

NGWMN Projects



- USGS will fund data providers
- Projects must provide matching via in-kind services
- Projects can be up to a 2-year duration
- New data providers establish sites in first year. These agencies may apply for maintenance funding for 2nd year
- Current data providers may apply for “maintenance” funding for both years
- Report is required at end of project



New Data Provider Project Application

- Description of Agency and purpose of monitoring.
- Identification of USGS principal or other major aquifers.
- Description of the Agency's existing monitoring networks
 - Water level
 - Water quality
- IT Infrastructure
- Work Plan
 - More details on next slides
- Personnel/Timeline

Project Workplan Elements for New Data Providers

- Evaluate monitoring sites
- Provide data for required data elements
- Classify sites into subnetworks and monitoring categories
- Populate NGWMN Well Registry with site information and Network classifications
- Set up web services to provide data to NGWMN portal
- Document field and data management practices
- Prepare a brief report documenting project
- Maintenance funding for year 2

Proposal Evaluation

- Proposals evaluated and ranked by Program Board
- Conflict of Interest statement
- Evaluation Criteria
 - Availability of groundwater data (25%)
 - Geographic areas and Principal aquifers monitored (10%)
 - Compliance with Framework Document (20%)
 - Project Proposal (25%)
 - Products (10%)
 - Maintenance (10%)

NGWMN Governance Structure

Management of the National Ground-Water Monitoring Network (NGWMN)

Data Providers

[Networks and Individual Sites That Meet NGWMN Criteria]

Federal

State

Tribal

Regional

Local

Other

Advisory Committee on Water Information
Subcommittee on Ground Water

[Federal Interface]

U.S. Geological Survey
Management and Operations Group

[Day-to-day operations]

NGWMN Program Board
[Representatives from Data Providers]

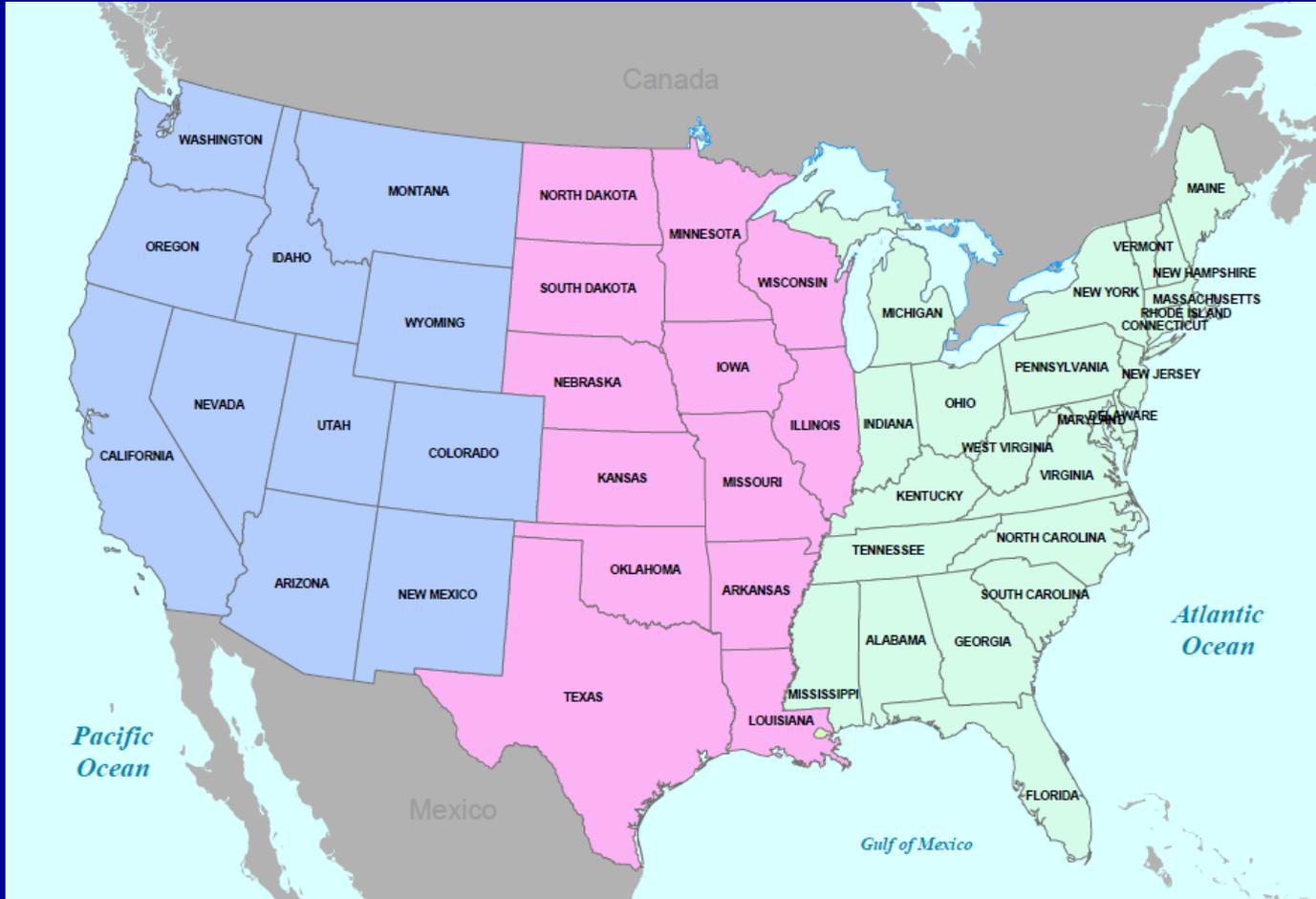
[Guidance and Direction]

Program Board

- Purpose:
 - Represent NGWMN data providers.
 - Provide input on issues related to network growth, development, and operation
 - Assist in evaluating proposals submitted to the NGWMN for cooperative funding.
- National Ground-Water Monitoring Network Program Board-- Structure and Operating Principles. Available on SOGW web page.
- Membership
 - Ten total members
 - Six data providers from three regions
 - Federal and SOGW representation
- Beginning to recruit Board members



Program Board Regions



Funding Outlook

Lauren Schapker

The Future of NGWMN

FY16 and Beyond

- FY2016 Funding Outlook
 - Continuing Resolution
- Long-term budget agreement
- FY2017 Appropriations Cycle

What can ACWI do for SOGW

Bob Schreiber



What ACWI Can Do



- Program Announcement:
 - SPREAD THE WORD
- Proposal Submittal:
 - ENCOURAGE PARTICIPATION





Discussion Time

Bob Schreiber



Discussion – Q&A



- Topic #1:
- Topic #2:
- Topic #3:
- Topic #4:

