



National Ground-Water Monitoring Network

2020 GWPC Virtual Annual Forum

NGWMN Networking Event: National Ground-Water Monitoring Network Discussion

Moderator: Daryll Pope, USGS



Overview

- Overview of National Ground-Water Monitoring Network
- NGWMN Status
- NGWMN 2021 Funding Opportunity
- Opportunity for input from current NGWMN Data Providers
- Discussion
 - Questions on NGWMN
 - Questions about funding opportunity
 - Discussion of Network gaps (water-quality)



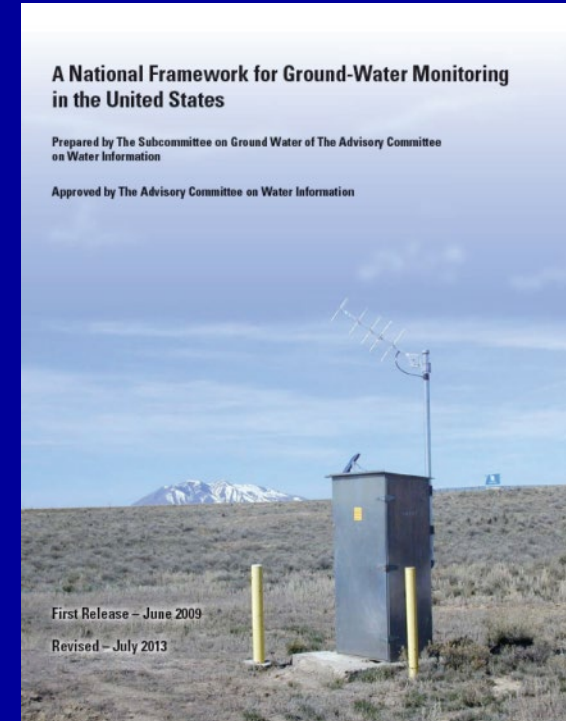
National Ground-Water Monitoring Network

- The Subcommittee on Ground Water (SOGW) of the Advisory Committee on Water Information (ACWI) worked to establish the National Ground-Water Monitoring Network (NGWMN)
- Driven by need for data to assess groundwater conditions nationally and regionally
- Approach
 - Created the ‘Framework Document’ with network design
 - Began implementation in 2015
 - Established management structure that includes the SOGW, USGS, and the NGWMN Program Board



Framework Document

- Design for a collaborative National GW Monitoring Network
- Subnetworks
- Guidance for Field Methods
- Guidance for Minimum Data Elements, Standards, & Management
- Implementation Plan and Recommendations
- Initial version in 2009. Revised in 2013 after pilot phase completed

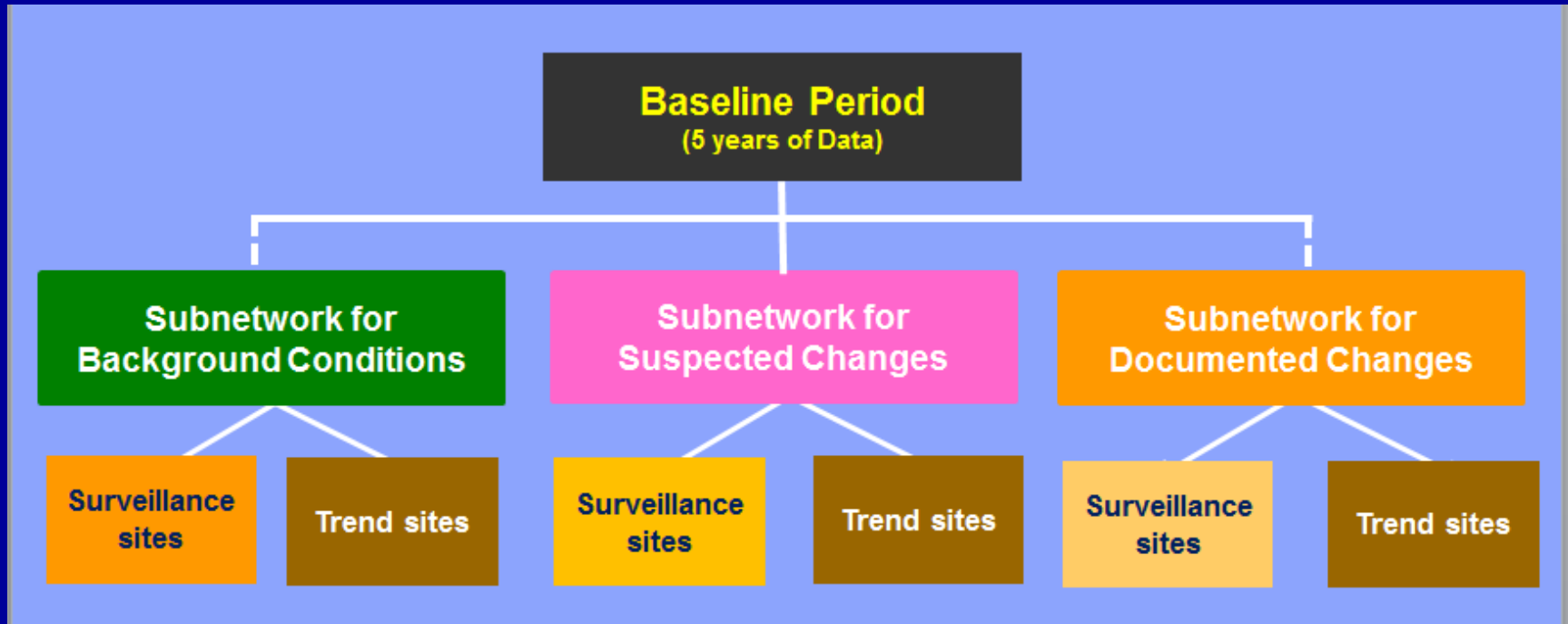


NGWMN Design Elements

- Principal and major aquifer scale
- GW levels and quality, focus on availability
- Willing data providers: State, Federal, Tribes, others
- Priority on sites with long-term data
- Network, not a Warehouse or Master Database
- Sites selected and classified by local experts/data providers
- Sites stored in NGWMN Well Registry
- Data provider is the authoritative data source



Network Design: Subnetworks



**“Classified” based on water level or water quality change
and on frequency of data collection**

NGWMN Data Portal



National Ground-Water Monitoring Network

The National Ground-Water Monitoring Network (NGWMN) is a product of the [Subcommittee on Ground Water](#) of the Federal Advisory Committee on Water Information ([ACWI](#)). The NGWMN is a compilation of selected groundwater monitoring wells from Federal, State, and local groundwater monitoring networks across the nation.

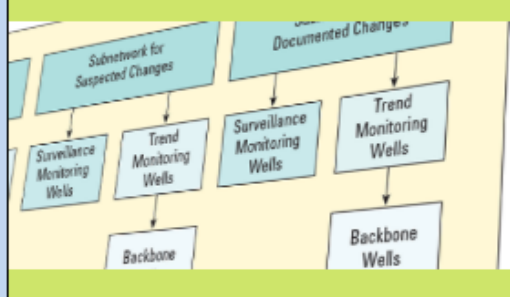
The [NGWMN Data Portal](#) provides access to groundwater data from multiple, dispersed databases in a web-based mapping application. The portal contains current and historical data including water levels, water quality, lithology, and well construction. The NGWMN is currently in the process of adding new data providers to the Network. Agencies or organizations collecting groundwater data can [find out more about becoming a data provider for the Network](#).

Funding to support data providers to the National Ground-Water Monitoring Network is provided through USGS Cooperative Agreements. Agencies can also find information about the status of the [USGS cooperative agreements](#).

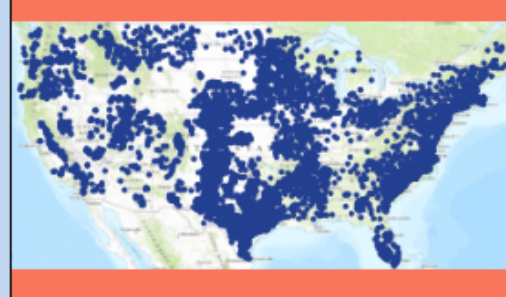
CURRENT NETWORK:

7042 water-level wells
1901 water-quality wells
10 subnetworks
27 contributing agencies
x administrative units
63 principal aquifers

LEARN about the Network



EXPLORE the Network



INGWMN NETWORKS

Water level: 1

Subnetwork: All Background Suspected Changes Documented Changes

Monitoring Category: All Surveillance Trend Special

Water quality: 7

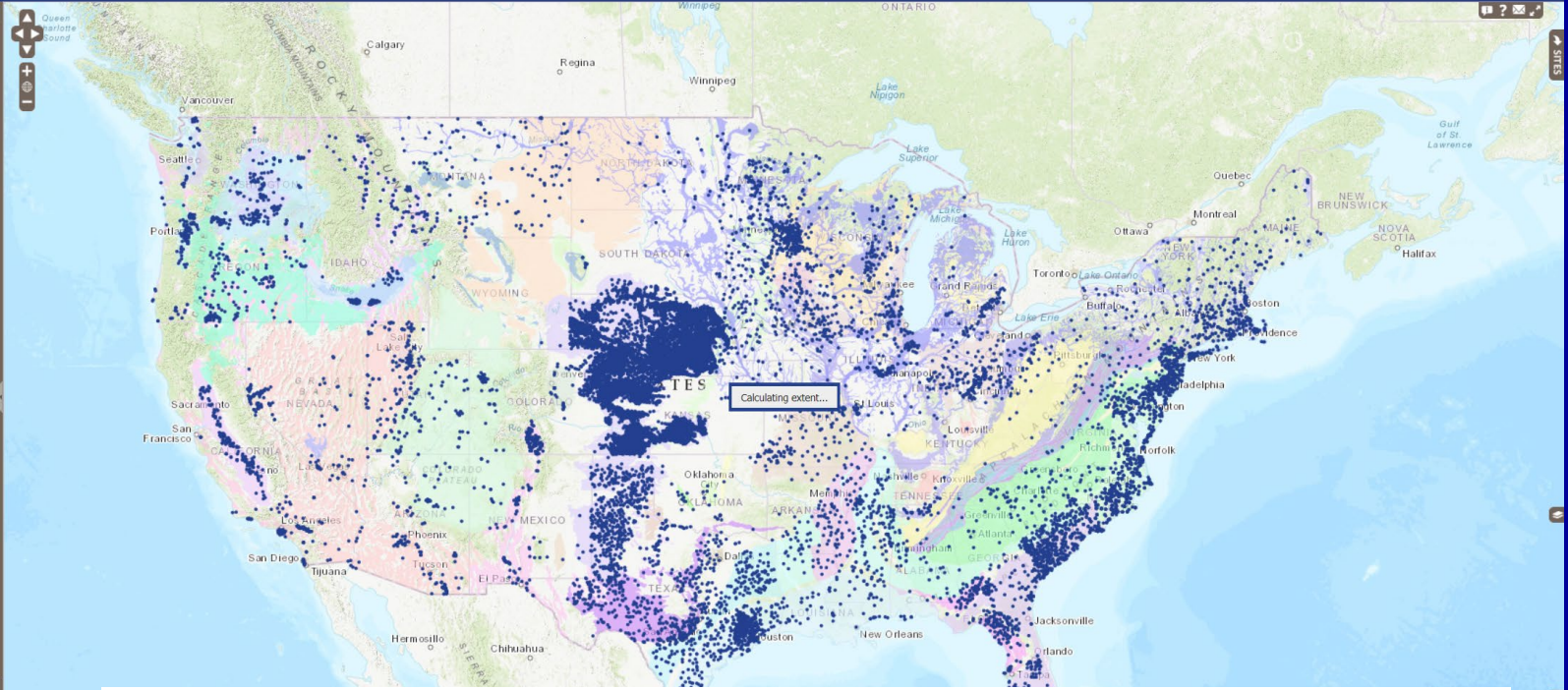
Subnetwork: All Background Suspected Changes Documented Changes

Monitoring Category: All Surveillance Trend Special

>> FILTER MAP DATA

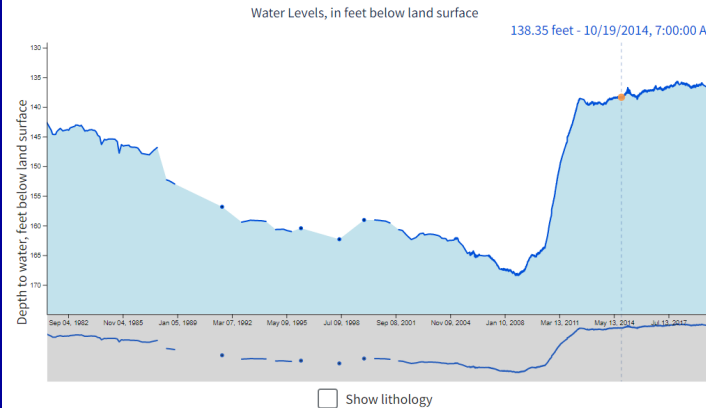
CURRENT STATUS

16723 Sites mapped
 18889 Sites matching filter
 14302 Water-level network wells
 3391 Water-quality network wells



Como
 North Carolina Division of Water Resources

Located in Hertford County, North Carolina, this groundwater monitoring location is associated with a water well in the Northern Atlantic Coastal Plain aquifer system.

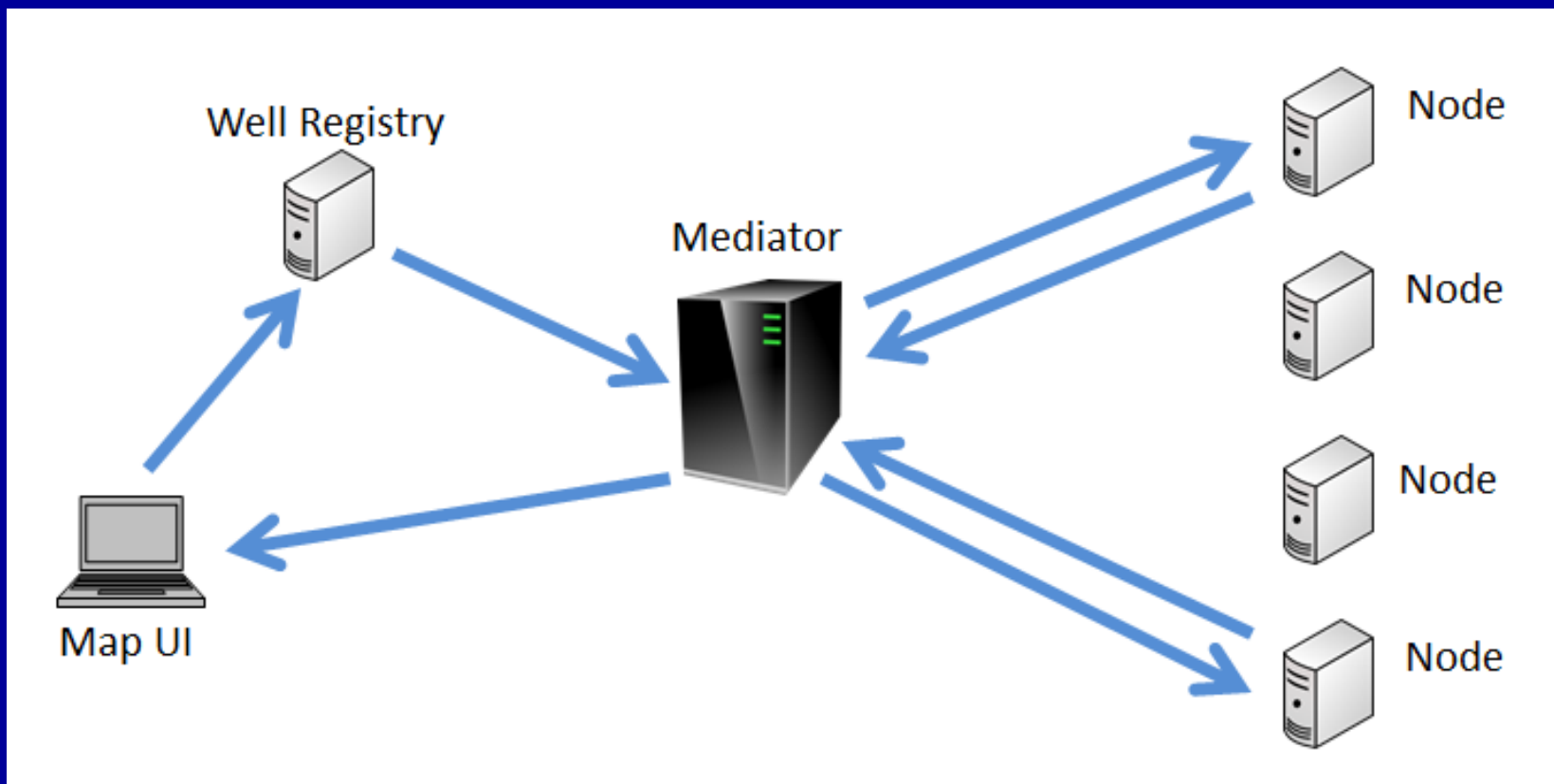


Well Construction **Detailed Lithology**

All **Screens** **Casings**

Depth	Description
-2.93-560.0 ft	4.0 in diameter black ductile iron casing
560.0-570.0 ft	2.5 in diameter galvanized steel screen

Network Portal Data Model



Data Providers

- Data providers are the key to the success of the NGWMN
- Benefits of participating as a data provider
 - Consistent data for shared interstate GW resources
 - Identification of ‘gaps’
 - Opportunity for review of field and data management procedures
 - “Community of Practice”
 - Data Portal provides tools to access data
 - Portal links back to Agencies website
 - Funding available to improve networks
 - Participation in National Network gives your network visibility
- Agencies participating with the USGS to do groundwater monitoring using Cooperative Matching Funds are considered data providers and are eligible to apply for objectives 3-5

Data Providers

National Ground-Water Monitoring Network

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 Ground Water](#) 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.

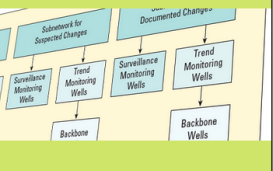
CURRENT NETWORK:
3560 water-level wells
578 water-quality wells
10 subnetworks
8 contributing agencies
43 states
53 principal aquifers

GET INVOLVED WITH THE NATIONAL GROUND-WATER MONITORING NETWORK!

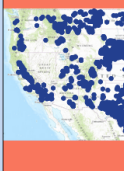
The network is made up of selected wells from existing monitoring networks across the nation. Agencies providing groundwater data can become data providers for the Network. [Learn about contributing data from you.](#)

NEW - Information about USGS cooperative agreements to fund data providers is available [here](#).

LEARN about the Network



EXPLORE the Network



National Ground-Water Monitoring Network

The National Ground-Water Monitoring Network (NGWMN) is a compilation of selected wells monitoring groundwater aquifers all around the nation. The NGWMN Data Portal brings groundwater data together in one place to provide users with current and reliable information for the planning, management, and development of groundwater resources.

ABOUT THE NETWORK

THE DATA PORTAL

DATA PROVIDERS

GET INVOLVED

About the Network

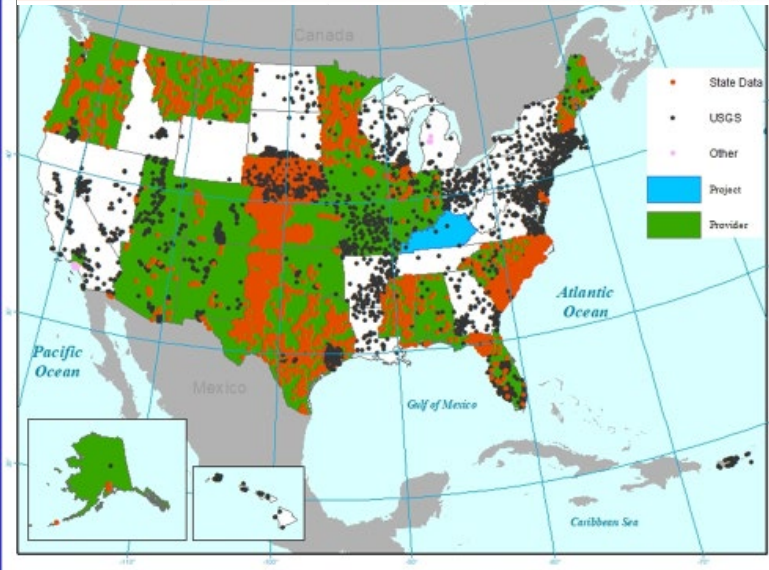
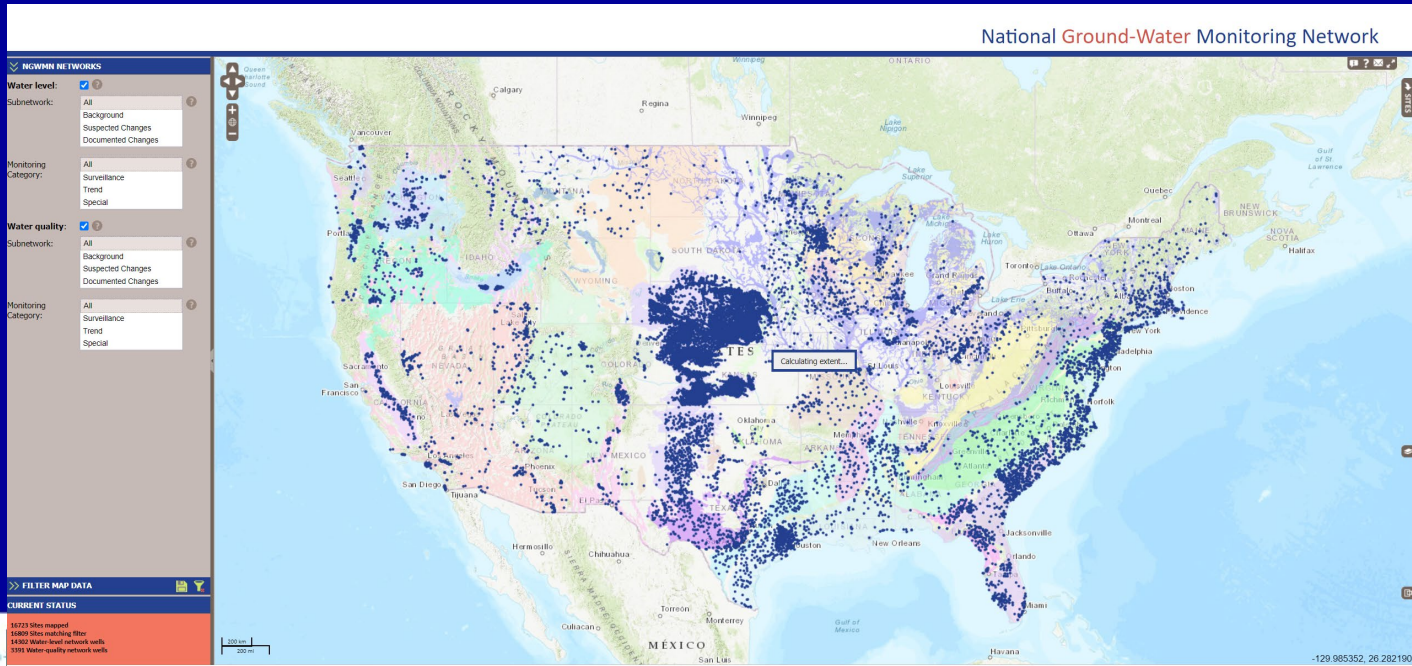
Background | Network Design | Network Status

Background

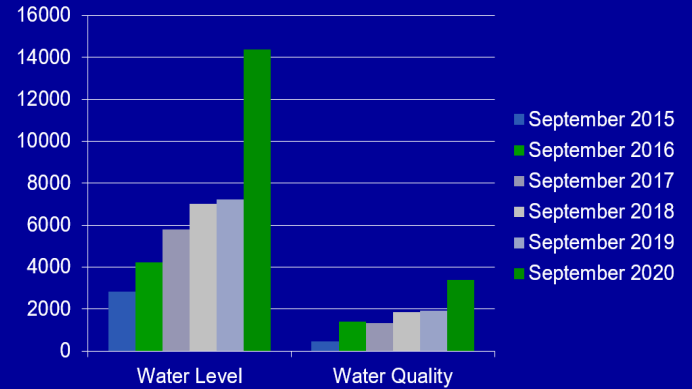
The NGWMN network is sponsored by the Advisory Committee on Water Information's (ACWI) Subcommittee on Ground Water (SOGW) and was established in 2009 with a pilot network.

The goal of the National Ground-Water Monitoring Network (NGWMN) is to provide information needed for planning, management, and development of groundwater supplies to meet current and future water needs and ecosystem requirements. This will be accomplished by aggregating suitable

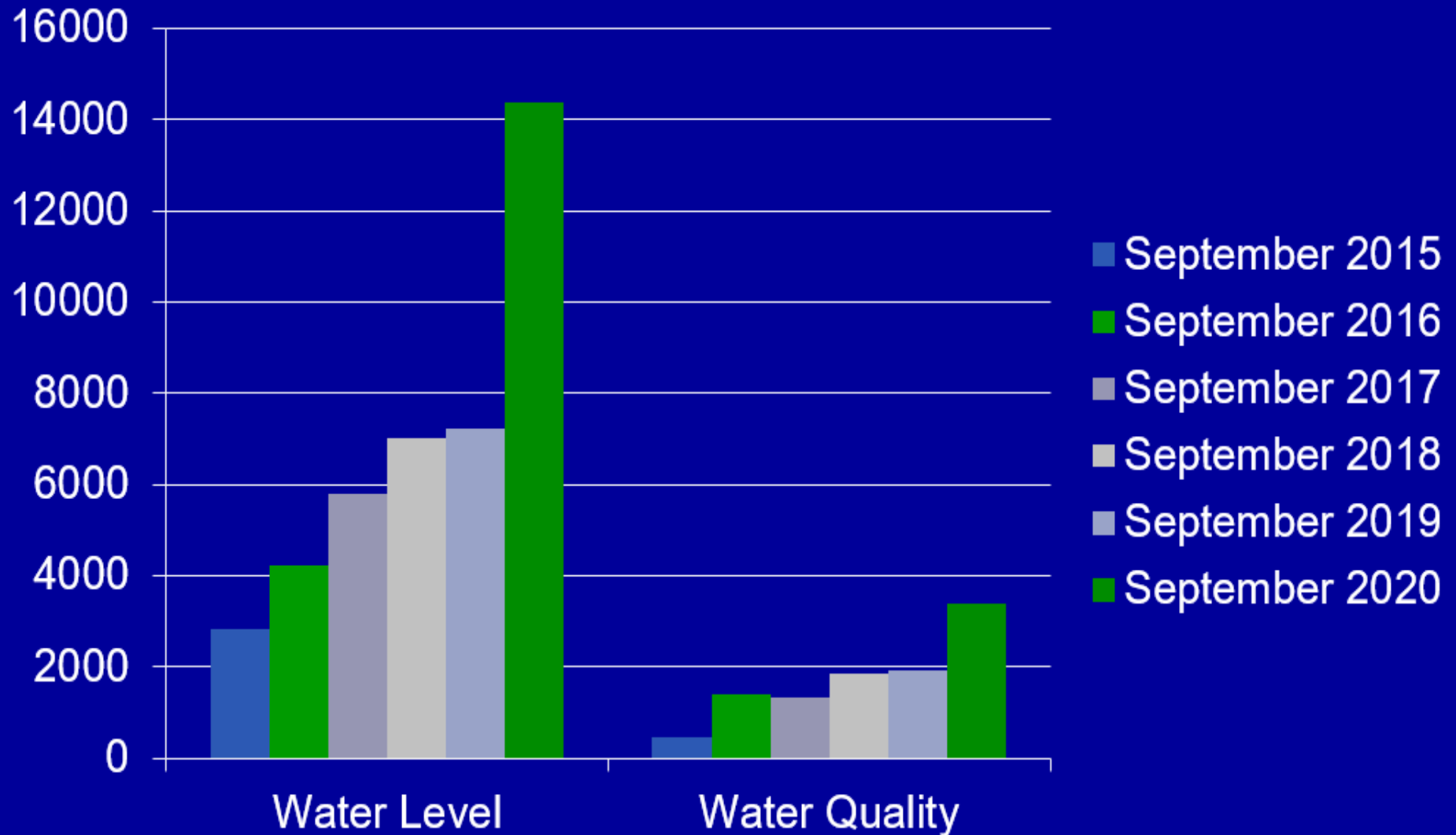
NGWMN Status



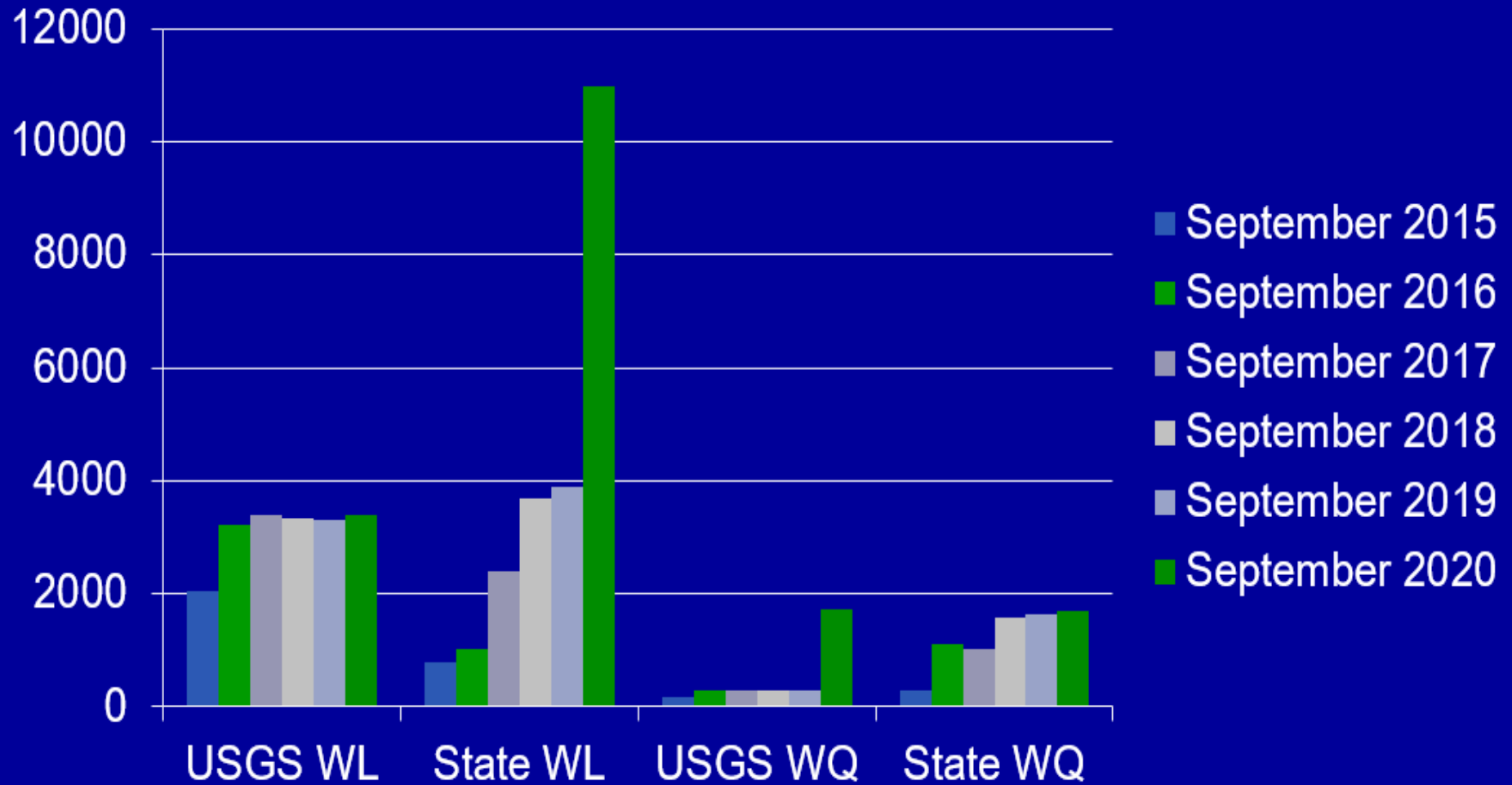
Network growth



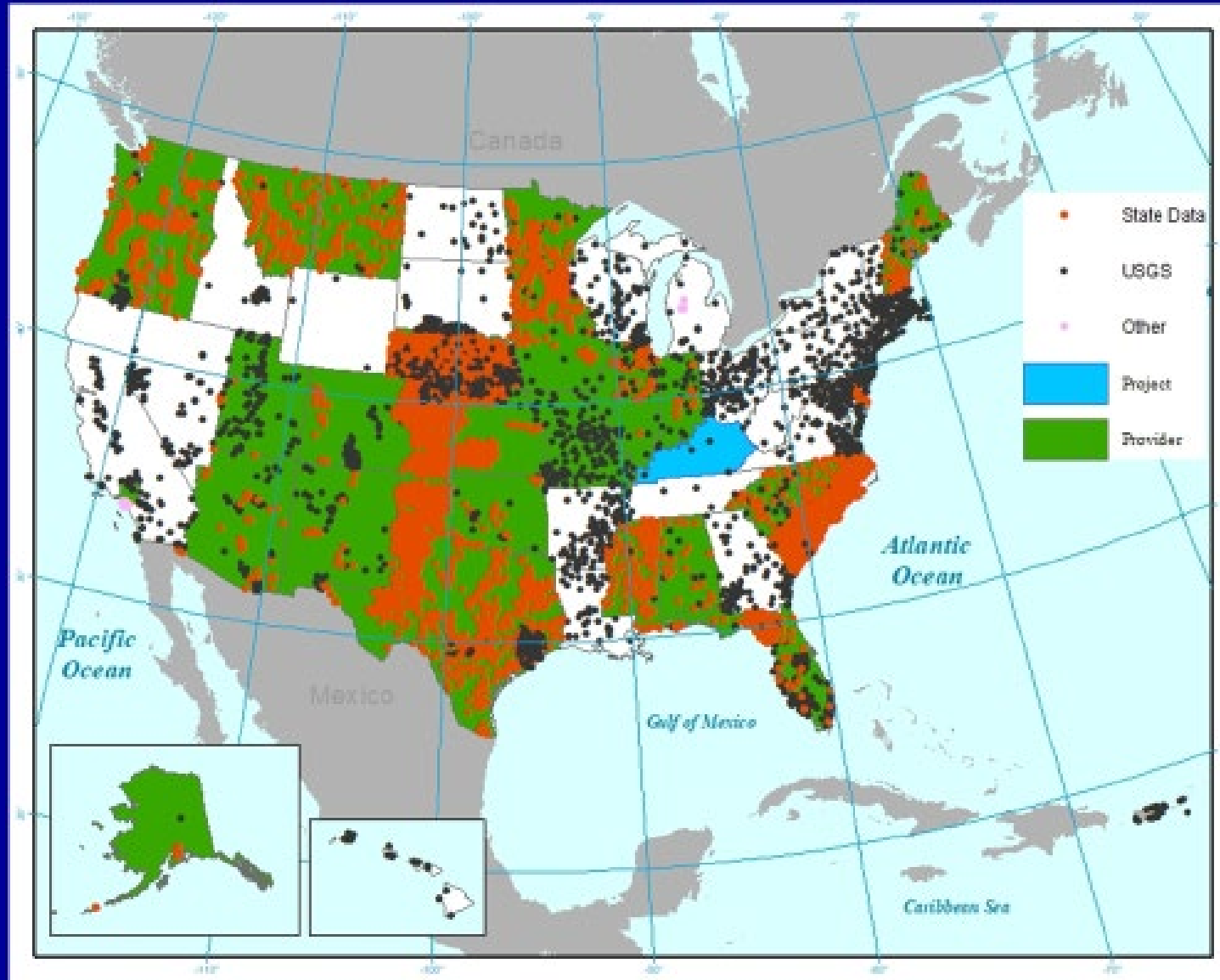
Network growth



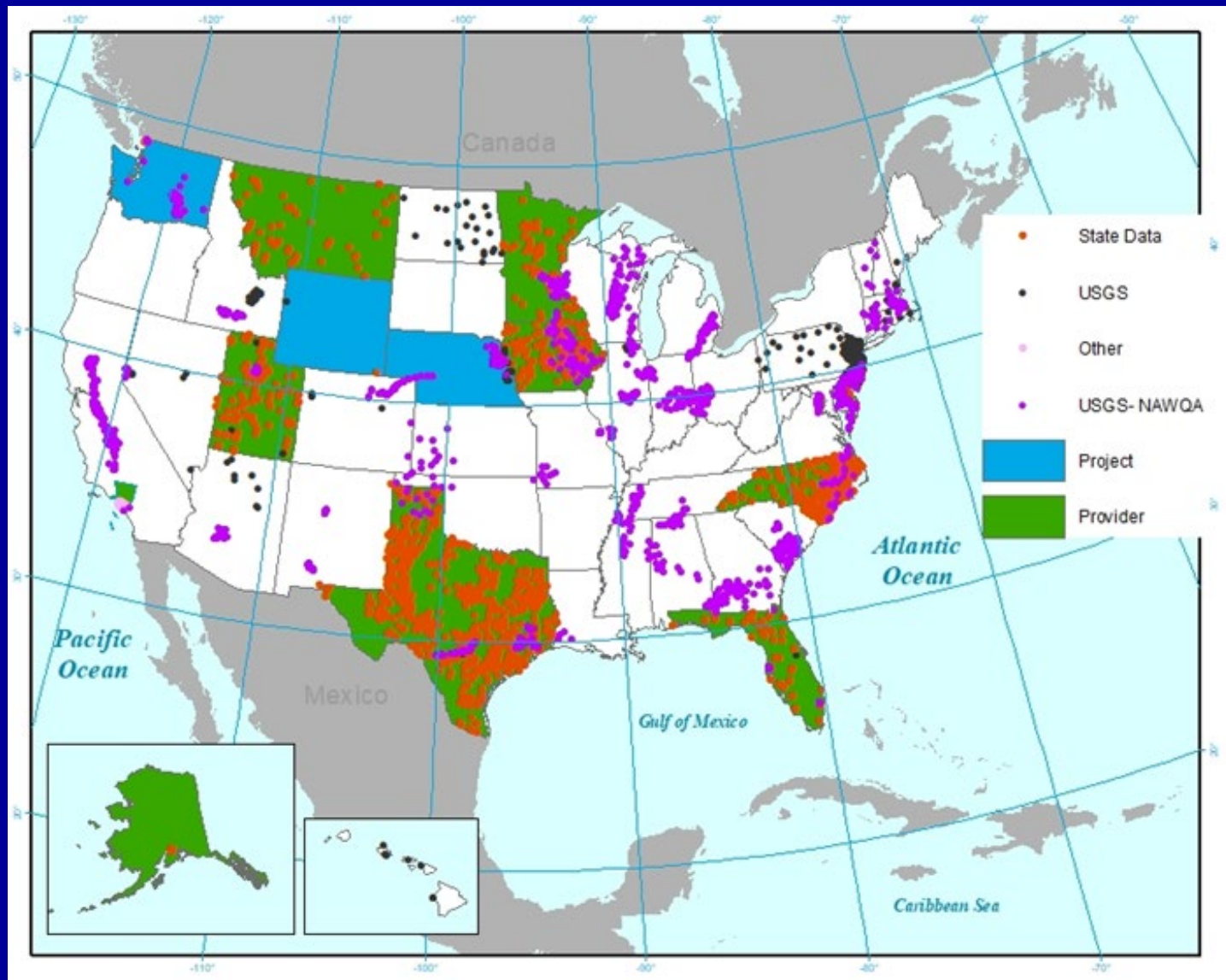
Growth Details



Water-level data providers and current projects



Water-quality data providers and current projects



Cooperative funding agreements to support NGWMN data providers


- Authorized as part of Secure Water Act of 2009
P.L. 111-11 SECURE Water Act 2009
- Established under CFDA 15.980
- Funding opportunity available to State or Local groundwater resource agencies
 - Federal agencies, Tribes, institutions, and companies may contribute data, but are not eligible for funding
- Funded annually through Congressional appropriations
- Summaries of funded projects from 2015 through FY 2020 are on the NGWMN Cooperative agreements web page
 - <https://cida.usgs.gov/ngwmn/cooperativeagreements.jsp>

Funding Opportunity for 2021

- Application period is open from September 28, 2020 through January 21, 2021
- Six objectives are supported
 1. Support to become a new data provider
 2. Support persistent data service from existing data providers
 3. Filling gaps in information at NGWMN sites
 4. Well Maintenance
 5. Well Drilling
 6. Purchase equipment for continuous water-level data collection
- The last three objectives are available to current data providers only

Grants.gov Application Package

[Grants.gov 2021 page](#)



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G21AS00008
2021 National-Ground Water Monitoring Network
Department of the Interior
Geological Survey

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SYNOPSIS | **VERSION HISTORY** | **RELATED DOCUMENTS** | **PACKAGE**

[Print Synopsis Details](#) **?**

General Information

Document Type: Grants Notice	Version: Synopsis 1
Funding Opportunity Number: G21AS00008	Posted Date: Sep 28, 2020
Funding Opportunity Title: 2021 National-Ground Water Monitoring Network	Last Updated Date: Sep 28, 2020
Opportunity Category: Discretionary	Original Closing Date for Applications: Jan 21, 2021
Opportunity Category Explanation:	Current Closing Date for Applications: Jan 21, 2021
Funding Instrument Type: Cooperative Agreement	Archive Date: Feb 20, 2021
Category of Funding Activity: Natural Resources	Estimated Total Program Funding: \$1,800,000
Category Explanation:	Award Ceiling: \$300,000
Expected Number of Awards: 20	Award Floor: \$0
CFDA Number(s): 15.980 -- National Ground-Water Monitoring Network	
Cost Sharing or Matching Requirement: No	

Eligibility

Eligible Applicants: Others (see text field entitled "Additional Information on Eligibility" for clarification)

Additional Information on Eligibility: State and local resource agencies

More Information

- NGWMN [Cooperative Agreements page](#) on Portal
 - Info on past projects
 - Link to application package
 - Information on changes
 - Links to Informational Sessions
 - October 15th
 - November 11th
 - December 9th (Q&A)
 - Resources for Proposals
 - Spreadsheet with budget template
 - Spreadsheet with example budgets
 - Shapefile current NGWMN sites
 - Shapefiles of Principal Aquifers and Glacial aquifers
 - My contact information

National **Ground-Water** Monitoring Network

The National Ground-Water Monitoring Network (NGWMN) started as a product of the Subcommittee on Ground Water of the Federal Advisory Committee on Water Information (ACWI). The NGWMN is a compilation of selected groundwater monitoring wells from Federal, State, and local groundwater monitoring networks across the nation. The design for the National Ground-Water Monitoring Network is presented in the document '[A National Framework for Ground-Water Monitoring in the United States](#)'.

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CURRENT NETWORK:
14378 water-level wells 3408 water-quality wells
10 subnetworks
32 contributing agencies 53 administrative units 62 principal aquifers

LEARN about the Network

EXPLORE the Network

What Makes a Good Proposal?

The following is an outline for a proposed webinar to cover the topic.

- Points to Remember
- Getting help
- NGWMN perspective
- Maps
- Tables
- Drilling and Well Maintenance descriptive paragraphs
- Drilling considerations
- Well Maintenance considerations
- Match
- Budgets
- Contracts
- Proofreading proposal
- Ideal proposal is 'Simple and complete'
- Proposal review criteria

Benefits of being a NGWMN data provider

- Benefits of participating as a data provider
 - Consistent data for shared interstate GW resources
 - Identification of ‘gaps’
 - Opportunity for review of field and data management procedures
 - “Community of Practice”
 - Data Portal provides tools to access data
 - Portal links back to Agencies website
 - Funding available to improve networks
 - Participation in National Network gives your network visibility
- Open discussion to current NGWMN data providers attending the session to discuss benefits



Discussion

- Questions on NGWMN
- Questions on 2021 Funding Opportunity
- Questions on becoming a NGWMN data provider
- Discussion on uses of NGWMN data
 - Research
 - Transboundary issues
 - Regional/National/Aquifer resource characterization
- Filling NGWMN water-quality data gaps
 - Finding new data providers
 - NGWMN integrates well with EPA WQX



Discussion, continued

- Water-quality issues affecting regional water availability
 - Saltwater intrusion
 - Nitrates in shallow groundwater
 - Pesticides
 - Naturally occurring constituents
 - Arsenic
 - Radionuclides



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<http://cida.usgs.gov/ngwmn/>