

What is the National Geothermal Data System (NGDS)?

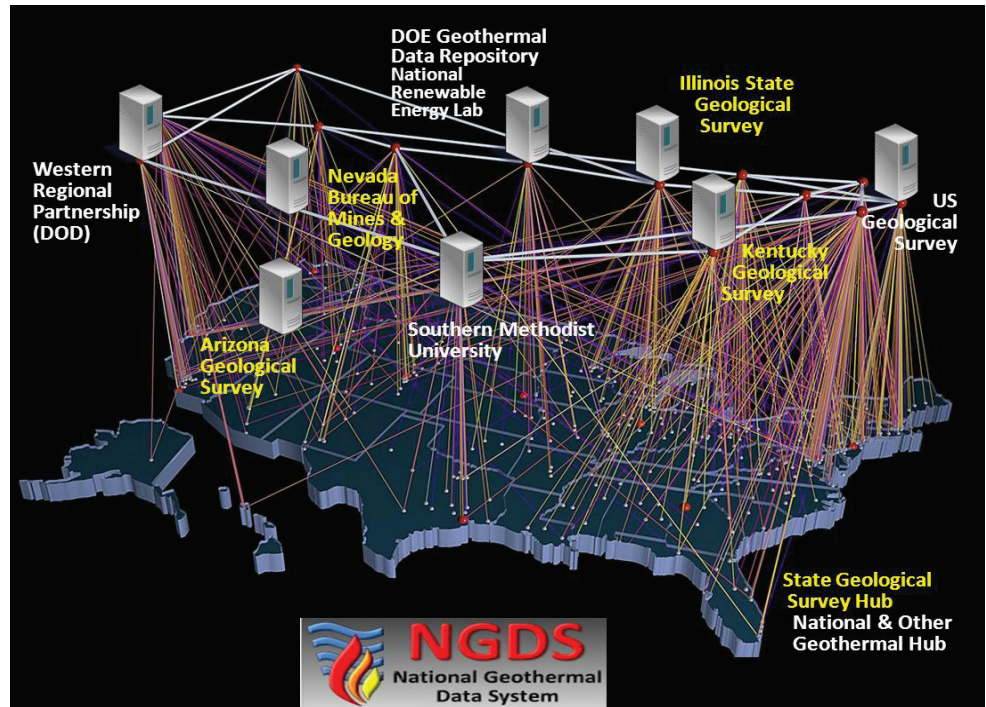
The National Geothermal Data System (NGDS) is a distributed, interoperable network of data repositories and state geological service providers from across all fifty states and the nation's leading academic geothermal centers.

The system will serve as a platform for sharing consistent, reliable geothermal-relevant technical data with users of all types, supplying tools relevant for their work. NGDS offers a central gateway to access this content-rich data, broadening the pool of knowledge that will ultimately advance discovery and development of commercial-scale geothermal energy production. Because most of the up-front risks associated with geothermal development stem from exploration and characterization of subsurface resources, wider access to distributed data will ultimately result in lower costs for geothermal development.

The National Geothermal Data System is on track to become fully operational by 2014. As the first nodes come online beginning in 2012, this network will prove increasingly beneficial for custom applications that supply standards-based components for catalog, document, and reporting utilization.

The Geothermal Technologies Office funds this enterprise to facilitate a seamless delivery of geothermal data for a variety of applications. Critical geothermal attributes will be accessible, such as temperature at depths, flow rates, and resource characterization.

Visit the Geothermal Technologies Office website at geothermal.energy.gov for more information on the NGDS, or contact geothermal@ee.doe.gov.

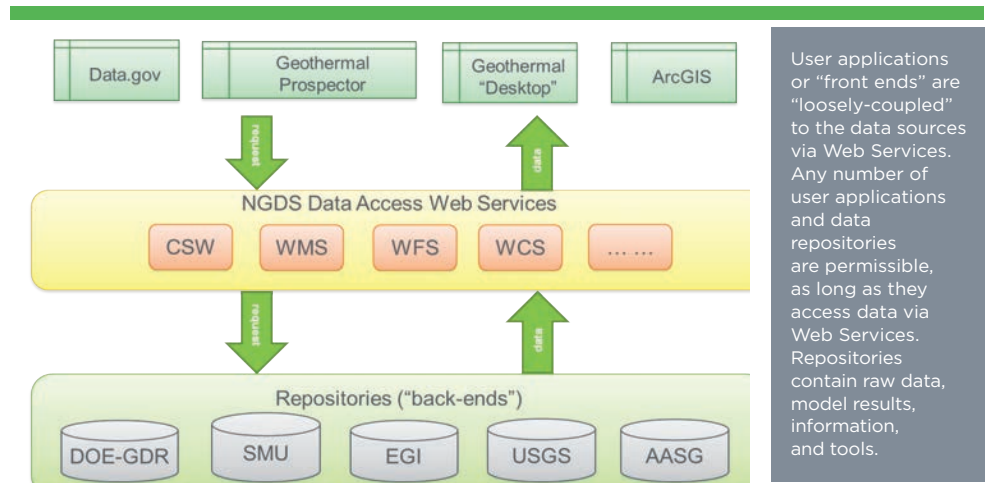


As new data come online across the nation, the United States Department of Energy advances industry access to vital resource characterization and new technologies that will ultimately enable new geothermal development.

How it Works

Informatics--Keeping Up with Changing Technology

As the image below illustrates, the basic structure of the NGDS will employ state-of-the-art informatics to advance geothermal knowledge. Six separate Energy Department projects provided data support and coordination to reduce the amount of staff time devoted to retrieving, integrating, and verifying vital geothermal knowledge from hundreds of project sites nationwide. NGDS is being built using the US Geoscience Information Network (US GIN) data integration framework to promote interoperability across the Earth sciences community and with other emerging data integration and networking efforts.



User applications or "front ends" are "loosely-coupled" to the data sources via Web Services. Any number of user applications and data repositories are permissible, as long as they access data via Web Services. Repositories contain raw data, model results, information, and tools.

How to Submit Data via the Geothermal Data Repository (DOE-GDR)

Below are instructions for all DOE Geothermal Technologies Office funds recipients.

Step 1. Register

Funds recipients register for an account before submitting data by visiting the DOE-GDR at <https://gdr.openet.org>. For technical assistance with registration or help accessing the data submission interface, contact the OpenEI team at openet.webmaster@nrel.gov.

Step 2. Submit

Once registered, users can log into the data submission site to submit data. For each data resource (Excel, Word, PDF, or data containment software), funds recipients will:

- ❑ Provide appropriate metadata and contact information
- ❑ Agree to the data handling terms of the DOE-GDR
- ❑ Specify the release date for any protected data consistent with the Intellectual Property Provisions
- ❑ Attach the data

Once data has been submitted, recipients will not be able to edit the data for the duration of the review and curation process. It is recommended that you retain a copy of the submitted data. For information and assistance concerning preparation of data files, metadata, unique data requirements, or data curation process, contact Arlene Anderson at arlene.anderson@ee.doe.gov or Jon Weers at jon.weers@nrel.gov.

Step 3. Protect

Data submitted to the DOE-GDR and identified as "Protected Data" are subject to the terms and conditions set forth in the Intellectual Property Provision incorporated into the award. Prior to the public release date, Protected Data are held in a secure data store with restricted access. All other submitted data will be made publically available.

Step 4. Cancel or Resubmit

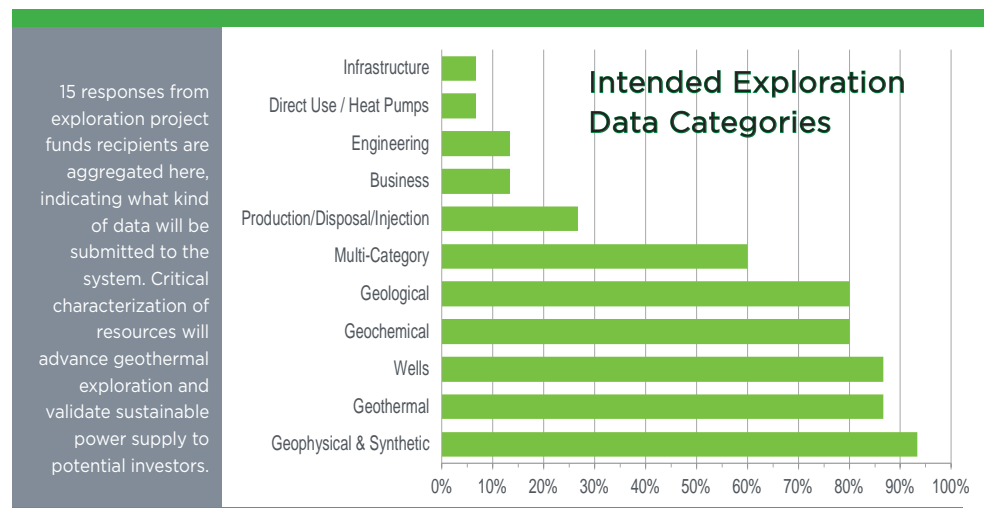
You may cancel a submission at any time prior to public release. Cancellation will terminate the curation process and remove any copies of the originally submitted data from the system. If you wish to edit data or metadata after submission, you will need to cancel and resubmit.

The Geothermal Data Repository (DOE-GDR)

All grant recipients of the DOE Geothermal Technologies Office are required to enroll in the National Geothermal Data System via the Geothermal Data Repository (DOE-GDR). Within 90 days of receiving their award, recipients must develop a data plan, listing the specific type of data that will be generated as part of each task and project deliverable. There is a specific protocol for this task, which is outlined in the simple guidelines to the left. The table below contains critical contact points for each of the steps to submitting data.

Data Provision Summary	Website	Contact
Registration	https://gdr.openet.org	Open EI Team at NREL openet.webmaster@nrel.gov
Data submission	https://gdr.openet.org	Open EI Team at NREL openet.webmaster@nrel.gov
General information about the DOE Geothermal Data Repository and the National Geothermal Data System	www.geothermal.energy.gov	Arlene Anderson at U.S. DOE Geothermal Technologies Program arlene.anderson@ee.doe.gov

While the lack of reliable and accurate resource data and information has been a critical deterrent to potential geothermal investors, the NGDS supplies a robust set of data that reduces uncertainty and attracts capital. The graph below indicates an example of exploration data expected through the NGDS.



15 responses from exploration project funds recipients are aggregated here, indicating what kind of data will be submitted to the system. Critical characterization of resources will advance geothermal exploration and validate sustainable power supply to potential investors.

