



National Geothermal Data System (USA): an Exemplar of Open Access to Data

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The National Geothermal Data System's (NGDS – www.geothermaldata.org) formal launch in April, 2014 will provide open access to millions of data records, sharing -relevant geoscience and longer term to land use data to propel geothermal development and production. NGDS serves information from all of the U.S. Department of Energy's sponsored development and research projects and geologic data from all 50 states, using free and open source software. This interactive online system is opening new exploration opportunities and potentially shortening project development by making data easily discoverable, accessible, and interoperable.

We continue to populate our prototype functional data system with multiple data nodes and nationwide data online and available to the public. Data from state geological surveys and partners includes more than 6 million records online, including 1.72 million well headers (oil and gas, water, geothermal), 670,000 well logs, and 497,000 borehole temperatures and is growing rapidly. There are over 312 interoperable Web services and another 106 WMS (Web Map Services) registered in the system as of January, 2014. Companion projects run by Southern Methodist University and U.S. Geological Survey (USGS) are adding millions of additional data records. The DOE Geothermal Data Repository, currently hosted on OpenEI, is a system node and clearinghouse for data from hundreds of U.S. DOE-funded geothermal projects.

NGDS is built on the US Geoscience Information Network (USGIN) data integration framework, which is a joint undertaking of the USGS and the Association of American State Geologists (AASG). NGDS complies with the White House Executive Order of May 2013, requiring all federal agencies to make their data holdings publicly accessible online in open source, interoperable formats with common core and extensible metadata.

The National Geothermal Data System is being designed, built, deployed, and populated primarily with support from the US Department of Energy, Geothermal Technologies Office. To keep this system operational after the original implementation will require four core elements: continued serving of data and applications by providers; maintenance of system operations; a governance structure; and an effective business model. Each of these presents a number of challenges currently under consideration.