Model Catalog Working Group

Description: A short-term working group to inform a USGS Model Catalog (beta) effort: https://data.usgs.gov/modelcatalog/

Point Of Contact: Leslie Hsu (lhsu@usgs.gov), gs-modelcatalog@usgs.gov to reach Leslie Hsu, Amanda Liford, and Grace Donovan.

Meetings: Quarterly updates - Previous meetings March 24, 2021, December 16, 2020.

Sign up for ongoing updates in FY21 at https://listserv.usgs.gov/mailman/listinfo/cdi-models

Project Updates Meetings and Presentations Model Catalog Documentation

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- Why are we building a USGS Model Catalog?
- Who needs this catalog, and what is it going to do for them?
- What do we know already?
- How can I contribute?

Outputs from Model Catalog Team

- Model Catalog (v. 1.2, January, 2021: https://data.usgs.gov/modelcatalog
- Model Catalog Documentation Pages
- Phase 2 Requirements (v. 2.1, Dec 16, 2020): Model Catalog Phase 2 Requirements.docx
- Phase 1 Requirements (v. 4, July 1, 2020): Model Catalog Requirements-v4-200701.docx
- Initial input into design of the Model Catalog (May 14, 2020): 200515 Model Catalog WG Responses.pdf

Overall objective

The overall objective of this working group is to get diverse perspectives of what users potential users expect to see from a USGS Model Catalog.

We are aware that "model" means different things to different people, so we want to be inclusive of the many different users that might visit such a model catalog.

Why are we building a USGS Model Catalog?

The model catalog will support the USGS Director's vision of modernized, 21st century USGS Science, as detailed in his USGS-wide blog posts. This vision includes the EarthMAP concept, of integrated predictive science capacity.

A USGS-wide model catalog has also been an idea that has been proposed through the CDI previously, for example at the 2017 CDI Workshop and recommendations from the Roadmap to Integrated Science discussions.

"there is a somewhat logical pathway to this from the other things that USGS has done in an attempt to catalog/inventory its wares. We have our Publications Warehouse, our Science Data Catalog, and a code.usgs.gov - all enterprise-scale information systems about certain types of digital artifacts produced by our work. Statistical/mathematical models are another thing we do as a core part of USGS science, and they happen to be one of the types of products we build that has touch points on all of those other catalogs. They are important building blocks for forecasts, which gets into the integrated predictive and actionable intelligence parts of the developing EarthMAP concept, and so there is a somewhat logical connection to that initiative and this particular time period in our history." (Sky Bristol, member of the EarthMAP project team)

Who needs this catalog, and what is it going to do for them?

This is one of the questions that the working group may address further.

But some examples are:

- Researchers who want to find existing models for a specific topic to learn from or link to
- Early career researchers who want to see what models exist in their discipline
- Members of large, integrative projects who may want to discover opportunities for linking different process models

There are surely many more cases not yet listed here.

What do we know already?

First, we should note that the USGS develops, uses, and applies many different types of models. Examples range from quantitative physics- and/or thermodynamics-based computer models (such as those that model processes of hydrologic flow or geochemical reactions), to empirical and descriptive models such as grade-tonnage or descriptive models of mineral deposit types. Models are used by the USGS to conduct or apply research to particular management applications.

Different parts of the USGS have already compiled lists of their models.

For example, the water mission area has a listing of their models.

USGS models are sometimes captured in other systems such as the Ontosoft USGS listing and the CSDMS model repository.

There are many USGS Digital Object Identifiers that have been tagged as related to models.

ScienceBase hosts many models.

Pubs Warehouse has many publications that describe models for all sorts of USGS science.

There are some "well known" USGS models with name recognition that are displayed/communicated in different ways: MODFLOW (web page) , PROSPER (journal publication), SLAB2 (ScienceBase item).

One thing we know for sure is that different people have different ideas of what should be in a model catalog, so we must engage a working group to get more viewpoints.

How can I contribute?

We will be convening sessions to listen to your views on a USGS Model Catalog in Spring 2020.

We want to hear views on

- What are expectations/criteria for a USGS model catalog
- What are major, established models in USGS
- Where are general locations to find the various data/code pieces for USGS models

We will be contacting an initial group of CDI members and asking for recommendations of other participants.

You can also send at note to Leslie Hsu, Amanda Liford, and Grace Donovan at gs-modelcatalog@usgs.gov.