

NGDA Dataset Report

Official NGDA Title: Parameter- Elevation Regressions on Independent Slopes Model (PRISM) Dataset

Metadata Record Title: Parameter- Elevation Regressions on Independent Slopes Model (PRISM) Dataset

A-16 NGDA Theme: Climate and Weather

Executive NGDA Theme Champion(s):

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Metadata:

Registration Status: Complete

Registered on 11/21/2014

GeoPlatform Link*: <https://www.geoplatform.gov/node/243/396803f6-cb8a-4c52-b536-66d171d72615>

Data.gov Metadata Link*: <http://catalog.data.gov/harvest/object/5af802bf-c8a8-4816-bd6b-ac912e0f5e1e/html>

*If the metadata has been updated and reharvested after publication of this report, the link may no longer be valid. The dataset may be searched for manually in Data.gov or GeoPlatform.gov.

NGDA Lifecycle Maturity Assessment (LMA) Report

Time Frame:

Baseline assessment responses include dataset activities from the late 1990's (around 1997) through FY 2015.

LMA Submission:

Status: Complete

Date: 11/2/2015

Extension Requested: No

LMA Reviewer(s):

Supervisor: Cara McCarthy

Theme Lead: Did not review

Executive Champion: Did not review

SAOGI*: Did not review

Other: Did not review

LMA Verifier:

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Attachments:

To get access to any attachments referenced in the report, email the LMA Help Desk at NGDA_LMA_help@fgdc.gov. Please use the subject "Dataset Report Attachment(s)" and indicate the associated official NGDA title.

*Senior Agency Official for Geospatial Information (SAOGI)

Lifecycle Maturity Assessment (LMA) Summary

Overall Maturity:

Planned; Initial Development

General Questions: 8%

No Activity

Stage 4 - Access: 25%

Planned; Initial Development

Stage 1 - Define/Plan: 56%

Managed; Predictable

Stage 5 - Maintain: 28%

Planned; Initial Development

Stage 2 - Inventory/Evaluate: 25%

Managed; Predictable

Stage 6 - Use/Evaluate: 44%

Transition; Transformation

Stage 3 - Obtain: 69%

Managed; Predictable

Stage 7 - Archive: 0%

No Activity

NGDA Dataset Maturity Definitions:

How To Calculate Maturity: https://www.geoplatform.gov/sites/default/files/How_to_Calculate_Maturity.pdf

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Rank = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Rank = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as authoritative by the primary owner. Dataset is used widely by secondary users actively engaged in sustaining the dataset. Future needs are identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Rank = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used as an authoritative resource by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Rank = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Rank = 1	Dataset limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, partnerships are forming to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Rank = no activity	Dataset meets project or local business needs of the primary owner, secondary or additional uses or users were not considered, not recognized as an authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

General Questions for All Stages

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

Answer: Funding is from local offices, budgeting effort minimal, staffing minimal.

Justification Comment:

Attachment(s): 0

The PRISM datasets are created and maintained by the PRISM group at Oregon State University. The federal government has some rights to access the data since we have provided funding for the development of these datasets.

With that said, there is no consistent dedicated funding from the NRCS to support the PRISM dataset. The NRCS Water and Climate Center has funded development and maintenance of the datasets through initiative requests for nearly 20 years. Currently, USDA Risk Management Agency (RMA) is providing ongoing funding for agency specific requirements. As a result of staffing shortages at the Water and Climate Center, there is little to no coordination between NRCS and RMA at this time.

2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

Answer: No.

Justification Comment:

Attachment(s): 0

Ultimately, since this is not a federally owned dataset, there may be limits to what can be required of the PRISM group.

With that said, there are some ad-hoc processes in place to consult with various user groups and outside organizations but nothing is formalized or documented. The original efforts to support the PRISM dataset were focused on resource planning and conservation efforts. At that time, there were indirect methods, organized by the NRCS Water and Climate Center, of gathering input and feedback but it was all ad-hoc. For example, if an NRCS staff member was attending an annual meeting or workshop with the American Association of State Climatologists, they would share information and solicit input from that group.

3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure a continuity of the dataset for all stages of the lifecycle, especially during staffing transitions?

Answer: No.

Justification Comment:

Attachment(s): 0

As discussed above, the PRISM dataset is managed largely outside the realm of the federal government. Additionally, with limited staffing at the NRCS Water and Climate Center, it has been challenging to maintain continuity of knowledge with respect to the PRISM datasets - both in terms of the latest science being used to create the datasets as well as the types of datasets available and any changing methods for retrieving the datasets.

STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

Answer: Ad hoc process is used for involving Partners/stakeholders in identifying requirements.

Justification Comment:

Attachment(s): 0

Because the PRISM datasets are created and maintained by a group outside the federal government, any new development is typically well defined and clearly documented as part of the contracting process. Outside of this process, I'm unaware of other processes or structure that supports defining and formalizing business area requirements.

5) How are partners/stakeholders involved in the requirements collection process?

Answer: Ad hoc process is used for involving Partners/stakeholders in identifying requirements.

Justification Comment:**Attachment(s):** 0

Each development or maintenance effort undertaken by the PRISM group, and funded by the NRCS Water and Climate Center, has involved a process for collecting requirements. On occasion, this process will include some outreach to partners to solicit input. Rarely is the general public solicited directly.

6) Is there a quality assurance process for the dataset?

Answer: No.

Justification Comment:**Attachment(s):** 0

The processes and methods used for the development and maintenance of the PRISM datasets have been published in a number of peer-reviewed scientific journals. However, the NRCS Water and Climate Center has had only limited resources to review the quality of the datasets. Because sophisticated algorithms and mathematical equations are used to derive the PRISM datasets, it is very challenging, if not impossible, to perform any kind of hind-cast analysis of the datasets. The PRISM group conducts fairly extensive internal quality assurance that is likely beyond the rigor of anything the NRCS Water and Climate Center could offer.

7) Is there a process to evaluate the sensitivity, privacy, and confidentiality of this dataset?

Answer: Sensitivity, privacy, and confidentiality evaluations fully implemented, reviewed and updated on a recurring basis.

Justification Comment:**Attachment(s):** 0

It is self-evident that the PRISM datasets do not include any sensitive information. These datasets are strictly limited to climatic data - temperature and precipitation specifically.

8) Are defined data standards used in collecting, processing, and/or rendering the data?

Answer: Standards fully implemented documented and published as appropriate.

Justification Comment:**Attachment(s):** 0

The standards used by the PRISM group were developed internal to that group with some input from the NRCS Water and Climate Center. At the time NRCS representatives are unaware about the extent to which other agencies provided input or guidance on the standards. With that said, the standards have been peer reviewed and published in prominent scientific journals.

STAGE 2 - Inventory/Evaluate

9) Is there a process for determining if data necessary to meet requirements already exist from other sources (either within or outside the agency) before collecting or acquiring new data?

Answer: Process is under development to identify datasets promoting reuse and reduce unnecessary duplication.

Justification Comment:**Attachment(s):** 0

The PRISM datasets are created using a unique methodology whereby the slope and aspect from a high resolution digital elevation model (DEM) layer are used to create sophisticated algorithms for distributing temperature and precipitation measurements over the mountainous west. These techniques are unique to the PRISM datasets.

The NRCS Water and Climate Center does not currently have a formalized process to identify other sources or datasets that may provide similar data. On an ad-hoc basis, staff at NRCS monitoring scientific journal articles and occasional coordinate with partner agencies to discuss advances in this arena.

STAGE 3 - Obtain

10) Is there a process for obtaining data in relation to this dataset?

Answer: Process is under development.

Justification Comment:**Attachment(s):** 0

There are a few different ways for users, both federal government partners as well as members of the general public, to access and retrieve the PRISM datasets. These methods have been developed on an ad-hoc basis to meet agency-specific business requirements. To the best of my knowledge, there is no coordinated approach between various federal partners to create or maintain data access. With that said, the PRISM group, who provide direct access to these datasets, is committed to maintaining easy access to the datasets that have been developed and maintained with financial support for federal agencies.

11) Is the metadata in a FGDC endorsed geospatial metadata standard?

Answer: Metadata is available in a format endorsed by the FGDC, it fully describes the dataset and provides all the information required to make the dataset discoverable, accessible, and usable.

Justification Comment:**Attachment(s):** 0

At the core of all agreements that the NRCS Water and Climate Center has made with the PRISM group, is the idea that the resulting datasets will be accessible to both USDA and the general public. The PRISM group regularly updates metadata to ensure that the published information is available and complete to federal standards. There is a deep commitment to making the datasets both useful and usable and to this end the public-facing PRISM website provides robust documentation and instruction for retrieving all available datasets. Please refer to the following website for additional details: <http://www.prism.oregonstate.edu/>

12) How complete is the geographic coverage as defined in the requirements for the dataset?

Part 1 Answer: Business requirement targets are being attained, cyclic updates being assessed.

Part 2 Answer: Dataset has presently attained the greatest geographic coverage as defined by the current requirements or roughly 100%.

Justification Comment:**Attachment(s):** 0

From the early stages nearly 20 years ago, the NRCS supported development of PRISM datasets has focused on a spatial extent for complete US coverage in the lower 48. This target has long since been achieved. Additionally, the PRISM group has created and provided datasets covering most of North America.

The process for cyclic updates or review of either spatial extent or resolution (i.e. size of grid cells) is still ad-hoc and fully dependent on agency specific business needs.

STAGE 4 - Access

13) Do you have a process for providing users access to the data in an open digital machine readable format?

Answer: Process is under development.

Justification Comment:**Attachment(s):** 0

The PRISM group currently maintains access to all of their datasets. Access to the data is maintained to deliver content in an open, machine readable format.

Also, if contractual business area requirements call for new methods of access, the PRISM group has created and provided those methods. For example, when the NRCS Water and Climate Center requested that a web service method be developed for downloading underlying data files created from a data QC methodology, the PRISM group built and maintained this access. Additionally, the PRISM group created a protected web-portal to deliver data in support of the requirements from USDA Risk Management Agency.

With that said, NRCS staff are unaware of any federally coordinated process to review or govern data access.

For additional details, please refer to the following website:

STAGE 5 - Maintain

14) Is there a maintenance process for updating and storing the dataset?

Answer: Dataset maintenance process is under development.

Justification Comment:

Attachment(s): 0

The PRISM group updates and maintains their datasets with input from their federal partners. All of the servers, web access, metadata and file management is handled internally within the PRISM group.

At this time, staff at the NRCS Water and Climate Center are unaware of any federal procedures that relate to the management or maintenance of the PRISM datasets.

15) Is there an error correction process as part of dataset maintenance?

Answer: Error correction process under development.

Justification Comment:

Attachment(s): 0

The PRISM group performs their own series of quality assurance procedures. There are routine processes in place to evaluate and correct any processing errors.

Given the complexity and level of sophistication associated with the PRISM datasets, the NRCS Water and Climate Center is technically incapable of making consistent and scientifically rigorous assessments of the PRISM datasets.

STAGE 6 - Use/Evaluate

16) Is there a process to determine if the dataset meets user needs?

Answer: Process is being developed to determine if user needs are being addressed or met.

Justification Comment:

Attachment(s): 0

There are only ad-hoc processes in place. The PRISM group works directly with business area representatives to ensure that baseline datasets and future development meet the needs of the business area. Beyond that, there are no formal federal procedures in place to evaluate user needs.

17) Is there a process to provide users information on how to access and properly use the dataset?

Answer: Process is fully implemented supporting access and proper use, process is reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

This is true only for the PRISM group itself. In other words, the PRISM group has worked diligently over the years to ensure that their datasets are understandable, usable, and useful. They provide complete documentation on the various datasets that they offer and a number of different ways to access data from those datasets (i.e. digital download vs. web-based portal with direct user access to data).

18) Are the business processes and management practices assessed to meet changing technology?

Answer: No.

Justification Comment:

Attachment(s): 0

The NRCS Water and Climate Center has recognized that legacy approaches to dealing with the PRISM datasets (and other geospatial data) may not support ongoing business needs. However, to the best of our knowledge, we have not defined a process for evaluating new technologies and how to respond to or incorporate those new technologies in future business activities. The NRCS national geospatial center leads the way on those issues but because of limited staffing there has been limited coordination between our two groups.

For more information on the NRCS Geospatial gateway, please visit the following websites:

<https://gdg.sc.egov.usda.gov/>

STAGE 7 - Archive

19) Is there an archiving process for the dataset?

Answer: No archival or disposition process.

Justification Comment:

Attachment(s): 0

To the best of our knowledge, the PRISM group maintains their own archive of datasets. There is no federal repository for managing either the current or historic datasets developed in partnership with the PRISM group.