NGDA Lifecycle Maturity Assessment (LMA)

May 2, 2017
2017 LMA Team Members

Interagency Team

• Kyle Arndt (NPS)
• Anne Ball (NOAA)
• Wendy Blake-Coleman (EPA)
• David Cackowski (US Census Bureau)
• Roger Johnson (NPS)
• Lisa McBride (Forest Service)
• Lorri Peltz-Lewis (Forest Service)
• Charles Spicer (US Census Bureau)
• Douglas Vandegraft (BOEM)
• Butch Lazorchak (Library of Congress) for Archive Stage

Support Team

• Jennifer Carlino (FGDC)
• Jim Irvine (ArdentMC)
• Robin Hoban (BAH)
• Bradley Macpherson (BAH)
• John Davidson (Image Matters)
• Lara Duffy (Image Matters)
Lifecycle Maturity Assessment - Benefits

- Fulfills **OMB A-16 Supplemental Guidance** requirements
  - 3.4.1. NGDA Dataset Management - NGDA Dataset Managers should evaluate their NGDA Dataset(s) against the Geospatial Data Lifecycle stages in order to report on their maturity and status

- Consistent maturity metrics for all NGDA Datasets in the NGDA Portfolio to:
  - Identify opportunities where maturity can be improved
  - Describe strengths and weaknesses among NGDA Datasets and Themes
  - Identify where access and discoverability can be enhanced
  - Promote collaboration among Theme strategic goals
  - Provide managers with a broad view of the status of the national geospatial portfolio
2017 LMA Basic Assumptions - Lifecycle Stages

- No changes to the A-16 Geospatial Data Lifecycle Stages between the 2015 and 2017 LMA assessments
2017 LMA Basic Assumptions - Benchmarks

- No changes to the Lifecycle Stage Benchmarks between the 2015 and 2017 LMA assessments
2017 LMA Basic Assumptions - Maturity

- No changes to the maturity matrix between the 2015 and 2017 LMA assessments

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Maturity Characteristics for All Lifecycle Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimized; Established</td>
<td>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 for both the primary owner and secondary users on a regular basis and resources for addressing both current and future business requirements are available.</td>
</tr>
<tr>
<td>Rank = 5</td>
<td></td>
</tr>
<tr>
<td>Mature; Consistent</td>
<td>Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as an authoritative resource by the primary owner and secondary users. Future needs are being 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.</td>
</tr>
<tr>
<td>Rank = 4</td>
<td></td>
</tr>
<tr>
<td>Managed; Predictable</td>
<td>Dataset meets a significant number of the business needs of the primary owner and is widely used 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.</td>
</tr>
<tr>
<td>Rank = 3</td>
<td></td>
</tr>
<tr>
<td>Transition; Transformation</td>
<td>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.</td>
</tr>
<tr>
<td>Rank = 2</td>
<td></td>
</tr>
<tr>
<td>Planned; Initial Development</td>
<td>Dataset in initial planning or limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses. Partners/stakeholders involvement is being defined and developed to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.</td>
</tr>
<tr>
<td>Rank = 1</td>
<td></td>
</tr>
<tr>
<td>No Activity</td>
<td>Dataset not developed or meets project/local business needs of the primary owner. Secondary, additional uses, or partners/stakeholders were not considered. Dataset is not recognized as authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.</td>
</tr>
<tr>
<td>Rank = 0</td>
<td></td>
</tr>
</tbody>
</table>
Lifecycle Maturity Assessment - Overview

- 20 Maturity Ranked Questions
  - 12 Justification Questions to support maturity responses
  - 2 Feedback Questions to determine number of personnel and hours needed for LMA and feedback on assessment

- All Maturity Ranked Questions Required
  - Justification responses required if either:
    - Question response ranked 0 (text based justification)
    - Question response ranked 1-5 (pick-list justification questions)
    - Other response selected (text based justification)

- To keep questions aligned with 2015 LMA, made adjustments - starting 2017 LMA with question zero “0”

- How to Calculate Maturity updated for 2017

Use [2015 LMA NGDA Dataset submission](#) to complete 2017
Lifecycle Maturity Assessment - Components

1. **Questions:** An interagency team developed a series of benchmark activities associated with each lifecycle stage that must be completed for the dataset to reach full maturity.

2. **Clarifying statements:** For each question, there are examples and supporting references that may be associated with the successful completion of the question.

3. **Metrics:** Each question has a series of metrics in the form of response options from which the Dataset Manager will need to select. Response options reflect each level of maturity from 0 to 5.
Example:

<table>
<thead>
<tr>
<th>Question</th>
<th>Clarifying Statement</th>
<th>References</th>
<th>Metrics - Response Options Ranked 0-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Is there a process for obtaining data for this dataset?</td>
<td>Supporting examples may include developing a data acquisition plan to procure the data. If the data is not available, the process could include methods to create, collect, produce, generate, make, build, or construct data that currently does not exist (new data), and generation of additional data. This includes any spatial data collected with government or contracted equipment. The process may also include determining cyclic refresh of the dataset and/or methodology used to create the dataset. Identifying cost associated with conversion, the financial process created and updated for the purchase or modification of, converting, or transforming of data; methods to leverage the sharing or exchanging of data; and, creating or obtaining data to support and meet business requirements with respect to the geographic extent and data resolution. Also included are Federal Acquisition Regulations (FAR) as appropriate. Respondents for static datasets should consider this question in reference to the time the dataset was active.</td>
<td>OMB Circular A-16 Supplemental Guidance, Stages of the Geospatial Data Lifecycle Pursuant to OMB Circular A-16, and Federal Acquisition Regulations System, Electronic Code of Federal Regulations Title 40.</td>
<td>0</td>
</tr>
</tbody>
</table>
2017 Lifecycle Maturity Assessment Questions
LMA Questions- All Stages

0) Part 1: Is this dataset considered “active” or “static”?

0) Part 2: For the 2017 LMA, please provide what time frame the assessment includes?

0) Part 3: Do you have a process to evaluate the dataset to determine if it continues to meet the criteria established for an National Geospatial Data Asset (NGDA)?

**Bold** = Maturity Ranked Questions
LMA Questions- All Stages

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

1.a) To justify your response to Question 1, what is the primary funding source for your NGDA?

1.b) To further justify your answer to Question 1, do you have secondary source(s) of funding?

1.b.1) What are the other source(s) of funding for your NGDA?

**Bold** = Maturity Ranked Questions
LMA Questions - All Stages

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

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

**Bold** = Maturity Ranked Questions
LMA Questions - Stage 1: Define/Plan

4) Are business requirements defined and formalized?

5) Are there processes in place to ensure partners and stakeholders are involved in requirements collection?

5.a) To justify your response to Question 5, which external partners and stakeholders are involved in the requirements collection process?

**Bold** = Maturity Ranked Questions
6) Is there a quality assurance process for the dataset?

6.a) To justify your response to Question 6, what methods are used to develop and complete quality assurance assessments?

7) Has an assessment been done to evaluate the sensitivity, privacy, and confidentiality of this dataset?

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

8.a) To justify your response to Question 8, what types of data standards are used in collection, processing, and/or rendering the data?

Bold = Maturity Ranked Questions
9) Is an assessment done to determine if data necessary to meet requirements already exists from other sources (either within or outside the agency) before collecting or acquiring new data?

9.a) To justify your response to Question 9, what actions are performed to determine if data already exists from other sources?

**Bold** = Maturity Ranked Questions
LMA Questions- Stage 3: Obtain

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

10.a) To justify your response to Question 10, what actions are performed to obtain data?

11) Is the metadata in an FGDC-endorsed geospatial metadata standard, follows the NGDA Metadata Guidelines, and is published?

**Bold** = Maturity Ranked Questions
LMA Questions- Stage 3: Obtain

12) Part 1: Is there a business process in place to determine the geographic coverage of the dataset and establish milestones to track progress towards completion?

12) Part 2: Based on the business requirements, what is the estimated completeness of the geographic coverage?

12.a) To justify your response to Question 12 Part 2, what is the geographic coverage of the dataset as defined by the business requirements?

**Bold** = Maturity Ranked Questions
LMA Questions- Stage 4: Access

13) Do you provide users access to the data in a digital machine-readable format?

13.a) To justify your response to Question 13, what types of digital machine-readable formatted web services or data download services are available for this dataset?
LMA Questions- Stage 5: Maintain

14) Is there a maintenance process in place for this dataset?
15) Is there a quality assurance/quality control (QA/QC) process as part of this dataset’s maintenance?
16) Is there a process to determine if the dataset meets user needs?

Bold = Maturity Ranked Questions
LMA Questions - Stage 6: Use/Evaluate

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

18) Do the business processes and management practices include an assessment of changing technology?

**Bold** = Maturity Ranked Questions
19) Is there an archiving appraisal process for the dataset?

19.a) To justify your response to Question 19, where is digital data being archived as determined by your appraisal process outcome?

19.b) To justify your response to Question 19, where is printed data being archived as determined by your appraisal process outcome?
20) What is the total number of personnel and estimated aggregate amount of time required for gathering and entering information to complete the LMA for this NGDA?

21) Please provide any other comments you have about the NGDA Lifecycle Maturity Assessment:

**Bold** = Maturity Ranked Questions
2017 Lifecycle Maturity Assessment Online Tool
NGDA LMA Online Tool

- Uses LimeSurvey
- Available online for easy information capture and reporting
- Each NGDA Dataset Manager will receive a token for each individual NGDA Dataset (can be multiple tokens)

Token for each NGDA Dataset
NGDA LMA Online Tool

- Each NGDA Dataset identified with Dataset Manager as part of the online assessment
NGDA LMA Online Tool

- Navigate LMA on Right

Identifies NGDA

Navigate LMA
Typical LMA Maturity Ranked Question

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

Clarifying statement - Supporting examples may include: developing a data acquisition plan to procure the data. If the data is not available, the process could include methods to create, collect, produce, generate, make, build, or construct data that currently does not exist (new data), and generation of additional data. This includes any spatial data collected with government or contracted equipment. The process may also include determining cyclic refresh of the dataset and/or methodology used to create the dataset. Identifying costs associated with conversion, the financial process created and updated for the purchase, modification of converting or, transforming of data; methods to leverage the sharing or exchanging of data and, creating or obtaining data to support and meet business requirements with respect to the geographic extent and data resolution. Also included are Federal Acquisition Regulations (FAR) as appropriate. Respondents for static datasets should consider this question in reference to the time the dataset was active.


Choose one of the following answers:
- No process exists (Please explain)
- Under development
- Developed, documented, and implementation started
- Implementation progressing
- Implementation well established
- Fully implemented including recurring assessments

Metrics - Response Options
Ranked 0-5
NGDA LMA Online Tool

Review and Submittal

Identifies LMA Respondent

Identifies LMA Reviewer
# Lifecycle Maturity Assessment - Output

<table>
<thead>
<tr>
<th>NGDA Dataset Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Official NGDA Title: Daley's Ecoregions and Subregions of the United States, Puerto Rico, and The U.S. Virgin Islands - Direct Download</td>
</tr>
<tr>
<td>Metadata Record Title: Daley's Ecoregions and Subregions of the United States, Puerto Rico, and The U.S. Virgin Islands - Direct Download</td>
</tr>
<tr>
<td>A-16 NGDA Theme: NGDA</td>
</tr>
</tbody>
</table>

**Executive NGDA Theme Champion(s):**
- Name: Jerry Johnston
- Agency: DOI
- Email: jerry.johnston@ios.do.gov

**Theme Lead(s):**
- Name: Maria McNiff
- Agency: USGS
- Email: mmcneff@usgs.gov

**Dataset Manager(s):**
- Name: Robert C. Balch
- Agency: USGS
- Email: robergbaloy@fs.fed.us

**Metadata:**
- Registration Status: Complete
- Registered on: 3/26/2015
- GeoPlatform Link: [https://www.geoplatform.gov/ndec/328fe6ce-7275-477e-b729](https://www.geoplatform.gov/ndec/328fe6ce-7275-477e-b729)
- Data.gov Metadata Link: [http://catalog.data.gov/harvest/doi.gov/852c03ac0f011f01](http://catalog.data.gov/harvest/doi.gov/852c03ac0f011f01)

*If the metadata has been updated and reharvested after publication of this report, the Geoplateform.gov link may not be valid. The dataset may be searched for manually in Data.gov or Geoplateform.gov.*

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- NGDA Dataset Reports
- Theme Summary Reports
- A-16 NGDA Portfolio Summary Report
- GeoPlatform LMA Performance Dashboard
Next Steps

 Training (select one):
   May 3 10-11:30 ET
    Dial-in: 703.648.4848 or 855.547.8255; Code 14602#
    WebEx: [link]
   May 4 1-3 PM ET
    Dial-in: 703.648.4848 or 855.547.8255; Code 14602#
    WebEx: [link]

 LMA Timeframe: Open May 8, 2017 to Aug 4, 2017
 LMA Analysis and NGDA Reports: Fall 2017