OneStop
Project Update and User Interface Demo

NOAA Ocean Observing and Monitoring Division 10th Workshop

10 May 2017

Kenneth S. Casey, Ph.D.
Deputy Director, NCEI Data Stewardship Division
OneStop: Child of Open Data

- Agencies directed to provide open access to their data and information:
  - OSTP Memo, Increasing Access to the Results of Federally Funded Scientific Research, OSTP Memo (2013)

- NOAA responded with new initiatives to expand data access:
  - NOAA funding for Big Earth Data Initiative (BEDI)
  - Big Data Project -- Cooperative R&D Agreements (CRADA)
  - NOAA Public Access to Research Results (PARR) Plan, 2/13/15

- NESDIS initiated the OneStop pathfinder effort through NCEI to improve discovery, access, and usability of its data
In response to the *Open Government Initiative* and related policies, NOAA has committed to providing improved public access to all of its environmental information, to enable research and commercial innovation through ease of data discovery and use.

- **OneStop** supports NOAA's efforts by leveraging existing access technologies and infusing specific innovations to provide improved discovery, access, and visualization services for NOAA's data.

- **OneStop** adheres to NESDIS Ground Enterprise (NGE) design principles and is viewed by a NESDIS as a pathfinder effort with an initial focus on selected high-priority datasets from NESDIS and other program data meeting OneStop standards, but eventually scalable across NOAA's data.

- **OneStop** is implementing the USGEO Common Framework for Earth Observation Data and will leverage, when possible, datasets improved by the Big Earth Data Initiative (BEDI) and both leverage and support data cloud-enabled by the NOAA Big Data Project (BDP).
Goal: To enable public access to NOAA data

OneStop will leverage and support BDP by simplifying access to data currently on tape and enabling discovery of cloud-hosted data.

Essential: Partnerships and Collaborations

OneStop will leverage datasets improved under BEDI.
NO!! OneStop is improving not just discovery of, but also access to and usability of NOAA data

- Builds on foundation of existing, mature data standards and web services
- Emphasizes not just interface, but the supporting data infrastructure
- Supports users in connecting at whichever level they prefer
OneStop Approach

• Modernize high-priority data and metadata
  – Update data and metadata to meet standards and best practices
  – Copy data from tape to disk or cloud to support access

• Improve data infrastructure in a secure, user-centered way
  – Improve rankings so most relevant data listed first (think Google)
  – Improve “facets” to allow filtering of results (think Amazon)
  – Support data visualization to enhance search experience (think Netflix)
  – Improve performance and stability of interface to meet user expectations
  – Enable user registration to support ratings, save searches, etc.

• Release software incrementally for internal stakeholder review and external testing
OneStop Recent Highlights

- **OneStop user interface** and supporting API now operational and in “soft launch” period (not this URL will change)
- Professional usability testing to commence this summer
- **OneStop** data and metadata “readiness” criteria improved iteratively and now well established
- Seven data groupings consisting of hundreds of data collections now improved, progress continues on others
- **OneStop** central storage system operational and supporting movement of data from tape to disk for better access
- Release 1 of Metadata Tools successfully demonstrated with initial import, export, and validate functions, and configurable human editing interface
<table>
<thead>
<tr>
<th>Readiness Metric</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO Compliant Collection-level Metadata</td>
<td>Every collection level record in the data group has an ISO compliant metadata record.</td>
</tr>
<tr>
<td>ISO Completeness Collection-level Rubric V2</td>
<td>Every collection level record in the data group shall have a completeness score of at least 90%.</td>
</tr>
<tr>
<td>OneStop Collection-level Readiness Rubric</td>
<td>Browse graphic, GCMD science keywords, ...</td>
</tr>
<tr>
<td>Standardized metadata exists for each granule or is embedded within each granule</td>
<td>ACDD and CF conventions for embedded metadata</td>
</tr>
<tr>
<td>Granule metadata contains OneStop-required content</td>
<td>Follows ISOLite granule template (<a href="#">granule metadata spec</a>)</td>
</tr>
<tr>
<td>Machine Independent Data File Format</td>
<td>Each granule is formatted in a machine readable format, such as netCDF</td>
</tr>
<tr>
<td>Each granule is accessible via a URL</td>
<td>Minimally, direct download https/ftps but prefer interoperable services (USGEO Common Framework)</td>
</tr>
<tr>
<td>Data Stewardship Maturity Matrix (<a href="#">DSMM</a>)</td>
<td>Assessment is complete and documented in collection-level metadata record</td>
</tr>
<tr>
<td>Product Maturity Matrix (PMM)</td>
<td>Optional. If PMM exists, then document results in collection level metadata</td>
</tr>
</tbody>
</table>
## OneStop Key Milestones

<table>
<thead>
<tr>
<th>Milestones</th>
<th>Estimated Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Initiation</td>
<td>Completed, Q4 FY15</td>
</tr>
<tr>
<td>Project Charter</td>
<td>Completed, 10/1/2015</td>
</tr>
<tr>
<td>2 Data Groups Made OneStop-ready</td>
<td>Completed, 6/30/2016</td>
</tr>
<tr>
<td>5 Data Groups Made OneStop-ready</td>
<td>Completed, 9/30/2016</td>
</tr>
<tr>
<td>Software Release -- Beta Version</td>
<td>Completed, 12/6/2016</td>
</tr>
<tr>
<td>Software Release -- Version 1.0</td>
<td>Completed, 4/18/2017</td>
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<tr>
<td>10 Data Groups Made OneStop-ready</td>
<td>3/31/2017</td>
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<tr>
<td>Independent Evaluation Report</td>
<td>8/15/2017</td>
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<tr>
<td>Software Release -- Version 1.1</td>
<td>6/28/2017</td>
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<tr>
<td>15 Data Groups Made OneStop-ready</td>
<td>9/29/2017</td>
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<tr>
<td>Software Release -- Version 1.2</td>
<td>9/29/2017</td>
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</tbody>
</table>

- **Completion imminent**
- **Updated due to vendor availability**
### “OneStop Ready” Data Group Status

<table>
<thead>
<tr>
<th>Data Group</th>
<th>Percent Ready</th>
<th>Collection Metadata</th>
<th>Granule Metadata</th>
<th>Data Formats</th>
<th>Data Access</th>
<th>DSMM</th>
<th>PMM (optional)</th>
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<tbody>
<tr>
<td>Digital Elevation Models</td>
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<td>90%</td>
<td>100%</td>
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<td>100%</td>
<td>89%</td>
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<tr>
<td>CO-OPS NWLON PORTS</td>
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<td>89%</td>
<td>100%</td>
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<td>100%</td>
<td>90%</td>
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<tr>
<td>World Ocean Atlas 2013</td>
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<tr>
<td>Group for High Resolution SST</td>
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<td>NOAA Climate Data Records</td>
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<td>COAPS SAMOS</td>
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<td>NEXRAD Level 2 and 3</td>
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<td>50%</td>
<td>98%</td>
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<td>Reformatted Legacy GOES GVAR data</td>
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<td>100%</td>
<td>40%</td>
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<td>20%</td>
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<tr>
<td>S-NPP/JPSS</td>
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<td>80%</td>
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<td>100%</td>
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<tr>
<td>Water Column Sonar Data</td>
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<td>ESSA images</td>
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<td>15%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>40%</td>
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</tr>
</tbody>
</table>

Version 1.0 readiness status, as of 04 May 2017
Like the *OneStop* discovery user interface, metadata tools built on APIs as well.
OneStop User Interface Demo

Please provide feedback at: http://tinyurl.com/onestop-v1-0
Kenneth S. Casey, PhD
Deputy Director, Data Stewardship Division
National Centers for Environmental Information (NCEI)
1315 East-West Hwy.
Silver Spring, MD 20910-3282

Kenneth.Casey@noaa.gov
301-713-4849 (Office)

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Backups
OneStop User Interface

OneStop UI...
- User-centric
- Proactive
- ...

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OneStop User Interface

OneStop UI...
- User-centric
- Proactive
- Highly visual
- Facets/Filters
- ...

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OneStop User Interface

OneStop UI...
- User-centric
- Proactive
- Highly visual
- Facets/Filters
- Summary descriptions
- Ratings
- Related items (soon)

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OneStop User Interface

- User-centric
- Proactive
- Highly visual
- Facets/Filters
- Summary descriptions
- Ratings
- Related items (soon)
- Integrated granule search
- Standards.usa.gov

Please provide feedback at: http://tinyurl.com/onestop-v1-0