Creating the Resilience Community in GeoPlatform

Presenter: Jeanné le Roux
Affiliation: NASA IMPACT
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The GeoPlatform.gov portfolio model provides support for multiple geospatial objects including datasets, services, layers, maps and galleries.

- Related objects can be linked in GeoPlatform

GeoPlatform also supports communities; designed to be a “multi-agency workspace for sharing data and information about topical or event based occurrences of national and regional significance”.

- This presentation will describe the process of creating the Resilience Community in GeoPlatform and subsequent best practices/lessons learned.
• Included the launch of a climate-focused section of Data.gov (data.gov/climate) on March 19, 2014

• Data collection composed of approximately 700 freely available federal datasets curated by subject matter experts into 9 thematic areas

• NASA was appointed as the lead agency in developing the Climate Data Initiative web presence

• NASA continues to maintain the collection and provide periodic updates as needed
  - See Ramachandran et al. 2016 in Computers & Geosciences
Data are increasingly served through a variety of web services (e.g., Esri REST, OGC, OPeNDAP)

>>> Hundreds of services were curated into the CDI collection, but Data.gov does not highlight services as a concept (hidden in metadata)

>>> In order to expose the CDI collection to a new and growing user community, IMPACT has partnered with GeoPlatform to develop the Resilience Community.

• The Resilience community serves as an interactive, topically-focused web portal that further promotes and shares CDI web content, and provides access to CDI datasets, services, maps, and other tools relevant to global resilience and change.
Building a Community in GeoPlatform

Step 1:
Request to create a community:
https://www.geoplatform.gov/resources/communities/

REQUEST A COMMUNITY
If you need a place to collaborate between multiple agencies on a topic of interest, then use the form below to request a GeoPlatform Community Space.

Community Request Form
Step 2: Identify objects to include in your community (datasets, services, layers, etc.)

- Bring objects into your GeoPlatform Community
  - Manually using Object Editor
  - Via an automated harvest source set up in collaboration with GeoPlatform
- Link related objects using Object Editor (e.g. identify related services, layers, maps etc.)
Resilience Community Objects

- ISO 19139 metadata records for each CDI dataset were imported from Data.gov into GeoPlatform.
- Resilience Community curators used GeoPlatform’s portfolio curation tool, **Object Editor**, to establish a network of linked portfolio objects (datasets, services, layers, etc.)
- The most critical curatorial step was the tagging of objects with the CDI theme tags.
  - The tags are registered in the GeoPlatform as SKOS concepts and aid users in filtering the collection.
GeoPlatform’s unique applications, such as the GeoPlatform Map Viewer, allows users to create stunning maps and tools to share amongst their colleagues using Resilience community data.

Objects can be tagged with other keywords and taxonomies, such as the Global Change Master Directory (GCMD), increasing discoverability among different user topics.

35 datasets in the Resilience community overlap with the National Geospatial Data Asset (NGDA) Portfolio as part of the FGDC.

‘Related Resources’ for each object can be curated to include relevant assets, including similar datasets.

Figure 4: Drought and rainfall conditions across the conterminous United States.
Step 3: Build a community web presence using WordPress
Resilience Community Website: Homepage

Home page displays the 9 CDI thematic areas
Resilience Community Website: Ecosystem Vulnerability Theme

Each theme has a landing page that links to further resources including tools, web content, maps, datasets & services.

Explore more Ecosystem Vulnerability resources here:

Datasets

Services

As climate continues to change, the biosphere is becoming more susceptible to environmental change. Those changes are disrupting natural ecosystem services, altering ecosystems, and placing strain on natural resource management strategies. As new and adaptive strategies are being formed in order to maintain ecological balance within ecosystems, many species and communities are altering their individual characteristics, their geographic ranges, and the timing of their natural biological events.

Source: Chapter 7 of the Fourth National Climate Assessment

All life on Earth, including humans, depends on the services that ecosystems provide, including food and materials, protection from extreme events, improved quality of water and air, and a wide range of cultural and aesthetic values. Such services are lost or compromised when the ecosystems that provide them cease to function effectively. Healthy ecosystems have two primary components: the species that live within them, and the interactions among species and between species and their environment. Biodiversity and ecosystem services are intrinsically linked: biodiversity contributes to the processes that underpin ecosystem services; biodiversity can serve as an ecosystem service in and of itself (for example, genetic resources for drug development); and biodiversity constitutes an ecosystem good that is directly valued by humans (for example, appreciation for variety in its own right). Significant environmental change, such as climate change, poses risks to species, ecosystems, and the services that humans rely on. Consequently, identifying measures to minimize, cope with, or respond to the negative impacts of climate change is necessary to reduce biodiversity loss and to sustain ecosystem services (Source: Chapter 7 of the Fourth National Climate Assessment).

There are various changes happening in ecosystems, impacting plants, animals, and humans. Some of the most intense changes include changes in phenology or timing of biological events, changes in geographic range, and
Clicking on ‘Services’ takes the user to a list of Resilience Community Services tagged with the ‘Ecosystem Vulnerability’ theme.
Service Example

GeoPlatform.gov Performance Dashboard

SERVICE: WETLANDS (MAPSERVER)


ONLINE | COMPLIANT | LAST SCORE 98.25/100 | TRENDING | DAYS ONLINE 365 days

DETAILS

US Fish and Wildlife Service Wetlands data. Due to the quantity and complexity of the wetlands data the wetlands only display at 1:200,000 scale and greater. For display of generalized wetlands data at smaller scales use the Wetlands_Raster layer.

Service Type: Esri REST Map Service
Service Url: https://www.fws.gov/wetlands/arcgis/rest/services/Wetlands/MapServer
Identifiers: ngp:91be6543-3528-4935-9b0b-b3315f26535b
http://www.geoplatform.gov/id/service/1be03b0a214b8226727211e9b9c378a21

THemes (7)
- Biodiversity
- Water
- Ecosystem Vulnerability
- Water - Inland Theme
- Arctic
- Atmospheric, Earth and Ocean Sciences
- Land Cover and Land Use

KEYWORDS
- DR4407
- NGDA
- Surface water
- bogs
- Deepwater habitats
- marshes
- fens
- Hydrography
- Wetlands
- Swamps
### Lessons Learned | Best Practices

(1) Resources to consider for creating/maintaining a GeoPlatform Community:

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
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| Data Analysts/ Curators (2x)                       | ● Maintains objects in GeoPlatform (makes sure datasets are up to date, ensures correct tagging of objects, metadata up to standard, etc.)  
                                      ● WordPress maintenance (fixing hyperlinks, etc.)                                                                                                      |
| Subject Matter Expert (SME) (optional)             | ● Serves as the authority for determining community website content  
                                      ○ In the case of the Resilience Community, SME’s decided which datasets to include in the CDI                                                                                        |
| Web Developer (optional)                           | ● May be beneficial if a high level of customization is desired in WordPress                                                                                                                                  |
Lessons Learned | Best Practices

(2) Active participation in GeoPlatform updates

• GeoPlatform.gov undergoes quarterly updates
  • new widgets, plug-ins, features, bug fixes

• Important to participate in beta testing before each release to make sure your community content is working properly
  • Important to understand plugins used by your site in case they are affected by updates
  • Important to understand how new tools/plug-ins work so they can be integrated into your site

• GeoPlatform solicits feedback on new features & updates
GeoPlatform has a feature called the **Performance Dashboard**, that tests all of the services registered to GeoPlatform.

- Driven by the [FGDC Service Status Checker](#); a web service used to test and validate geospatial web map services.

Currently unable to subset Resilience Community services in the Performance Dashboard

- **Solution:** Recommend registering a service feed directly with the FGDC Status Checker
- Create an [ATOM feed](#) with a master list of all of the services in your community

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**Lessons Learned | Best Practices**

(3) Utilize the FGDC Service Status Checker
(4) Maintain an offline inventory of objects in your community

- GeoPlatform users/admins can update datasets in Object Editor
  - Tags can get accidentally dropped in the process
- GeoPlatform users may add community specific tags to objects outside of the community
  - E.g. Users can tag any object as ‘Resilience Community’ - this needs to be monitored
- Currently working with GeoPlatform to implement additional restrictions & improve tag maintenance

The offline inventory can be referred to in case content gets altered.
Thank you!

Questions?

Contact: jeanne.leroux@nsstc.uah.edu