Earth Science Provenance Ontology (PROV-ES) **[1]**

Submitted by ctilmes on Fri, 2013-11-15 12:05 Wednesday, January 8, 2014 - 14:00 to 15:30
Event: Winter Meeting 2014 [2]
Session Type: Breakout [3]
Expertise Level: Intermediate [4]
Collaboration Area: Data Preservation [5]
Preservation and Stewardship [6]
Semantic Web [7]
Notes:
Notes from session

- Goal of provenance based work of any kind is transparency of work / derivations that led to research product

    - "Cake is baked, but we don't know the recipe"

Overview of PROV

- Documentation can be found: http://www.w3.org/TR/prov-overview/ [8]

- Standard (first order) terms: Activity, Agent(s)(human and software based)

- Predicates: wasAssociatedWith; startedAtTime,

- Expanded terms : Agent : person, organization, softwareAgent; Entity: collection, plan, bundle

PROV ES

Started as WG in 2013

Goals are: - better understand lineage and dependencies of ESDRs

- Provide an interoperable representation of prove for NASA EOS missions that adhere to the NASA Preservation Information Architecture

- Want to look broader than simply ESIP prospective

Motivation: One of the things T. Berners-Lee originally envisioned was a way to use provenance of web resources to understand and establish trust. PROV-ES wants to narrow scope and envision a way to use PROV for ES specific products (software, data, visualizations, publications, etch.)

Use cases: creating a dataset, using a data set, data set re-gridding across different instruments, Sea-level rise,

USE case exercises and mapping: [URL to google doc coming from Hook ?]

Preservation and Stewardship wiki (Will be updated soon) :
http://wiki.esipfed.org/index.php/Provenance_and_Context_Content_Standard [9]

Two approaches to extending PROV

Via Subclassing

- take baseline classes and subclass them in an ontological way
- leverage extended cocnepts for earth sicence dat systems
- retain ontological concepts
- could leverage rules / classifications to assert extended classes

Via Attributes

- does not retain hierarchy
- can reuse existing w3c prov tools …
- could leverage rules / classifications to assert attributes to extended classes

- The two approaches aren't necessarily mutually exclusive.

- An attribute approach though requires querying and searching.

- With sublcassing open world assumptions are preserved, and therefore inference is possible.

- Question for discussion : Which approach is right for the ES community?

- Currently, PROV operates as top-level ontology, with many very specific project level applications at project level. PROV – ES should is aiming slightly higher than application level for ES community.

Session Leads:

Name: Hook Hua [10]
Organization(s): Jet Propulsion Lab [11]

Name: Curt Tilmes [12]
Organization(s): NASA Goddard Space Flight Center [13] ,USGCRP [14]
Email: Curt.Tilmes@nasa.gov [15]

Accepted:

Source URL: https://commons.esipfed.org/node/1841

Links
[1] https://commons.esipfed.org/node/1841
[2] https://commons.esipfed.org/taxonomy/term/1029
[3] https://commons.esipfed.org/session-type/breakout
[4] https://commons.esipfed.org/taxonomy/term/261
[5] https://commons.esipfed.org/collaboration-area/data-preservation
[6] https://commons.esipfed.org/collaboration-area/preservation-and-stewardship
[7] https://commons.esipfed.org/collaboration-area/semantic-web
[8] http://www.w3.org/TR/prov-overview/
[9] http://wiki.esipfed.org/index.php/Provenance_and_Context_Content_Standard
[10] https://commons.esipfed.org/node/255
[11] https://commons.esipfed.org/taxonomy/term/197
[12] https://commons.esipfed.org/node/344
[13] https://commons.esipfed.org/taxonomy/term/246
[14] https://commons.esipfed.org/taxonomy/term/266

[15] mailto:Curt.Tilmes@nasa.gov