sci-wms

IOOS RA DMAC
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A brief history

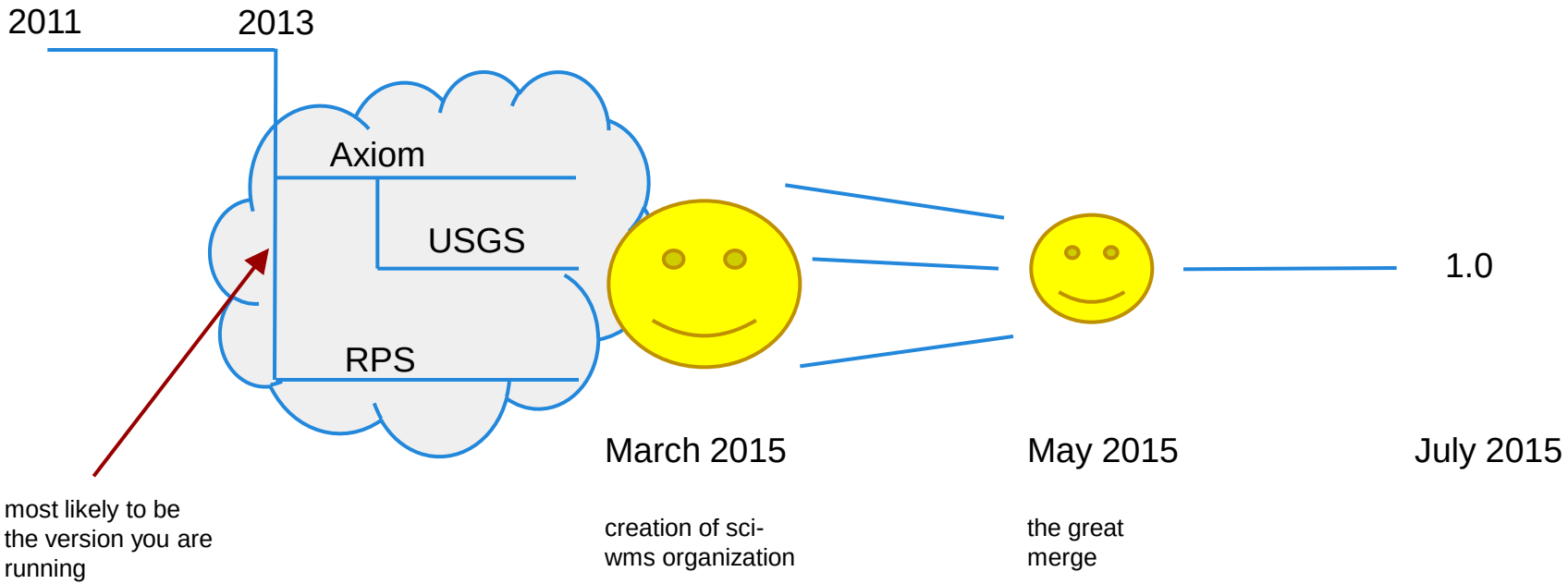
SURA Modeling Testbed

How can we visualize FVCOM/SELFE/ADCIRC (unstructured grid) data?

commit 6d85c1e7d364c249b76a255236b1a3c77079d8d1
Author: unknown <ACrosby@.ASA.local>
Date: Mon Oct 10 09:28:55 2011 -0400

Initial Commit of the fvcom unstructured server

A brief history



Improvements from 2013

- Projection support (RPS)
- Friendly interface (RPS/Axiom)
- Quickly add new datasets (RPS)
- Quickly visualize/troubleshoot datasets (RPS)
- REST endpoints to manage datasets (USGS)
- Rendering performance (RPS)
- Integration of access libraries (RPS/USGS)
- Style refactor (Axiom)
  - No more “contours_average_jet_0.13_5.60_None_node”
  - Simply “contours_jet” (similar to ncWMS)
- Easily extendable to new datasets (Axiom)
- Abstraction for easier growth - new visualization types (RPS/Axiom)
- Docker (Axiom)

Dataset Types

- Unstructured grids via pyugrid
  - fvcom
  - adcirc
  - selfe
  - delft3d
- SGRID via pysgrid (soon)
  - roms
  - pom
- Regular / rectilinear grids (soon after that)
  - satellite

Implementing a Dataset type

Subclass Dataset and implement required methods:

1. def **getmap**(self, layer, request)
2. def **getlegendgraphic**(self, layer, request)
3. def **getfeatureinfo**(self, layer, request)
4. def **wgs84_bounds**(self, layer)
5. def **depths**(self, layer)
6. def **times**(self, layer)
7. def **has_cache**(self)
8. def **update_cache**(self, force=False)
9. def **clear_cache**(self)
10. def **humanize**(self)

Example UnstructuredGrid dataset class: http://bit.ly/1LK1bJL

Visualization types

- Contours / Filled Contours
- Barbs / Vectors
- Rendering every gridcell (soon)
- ?

Implementing a Visualization Type

- Not as easy to add as a Dataset type, but possible!
- Tied closely with the type of Dataset

1. Implement your visualization here and return an HttpResponse (image, etc)

1. Add a case for your new viz type on each DatasetType that you want to support. Example.

Looking forward

- Support ncWMS specific extensions
  - logscale / missing value color / number of contours
  - http://www.resc.rdg.ac.uk/trac/ncWMS/wiki/WmsExtensions
- Support ncWMS GetMetadata requests (a la Godiva2)
- Documentation (what's that?)
- Support datasets that are NOT in WGS84 coordinates
- More