

ESIP Summer 2012

Ignite talk

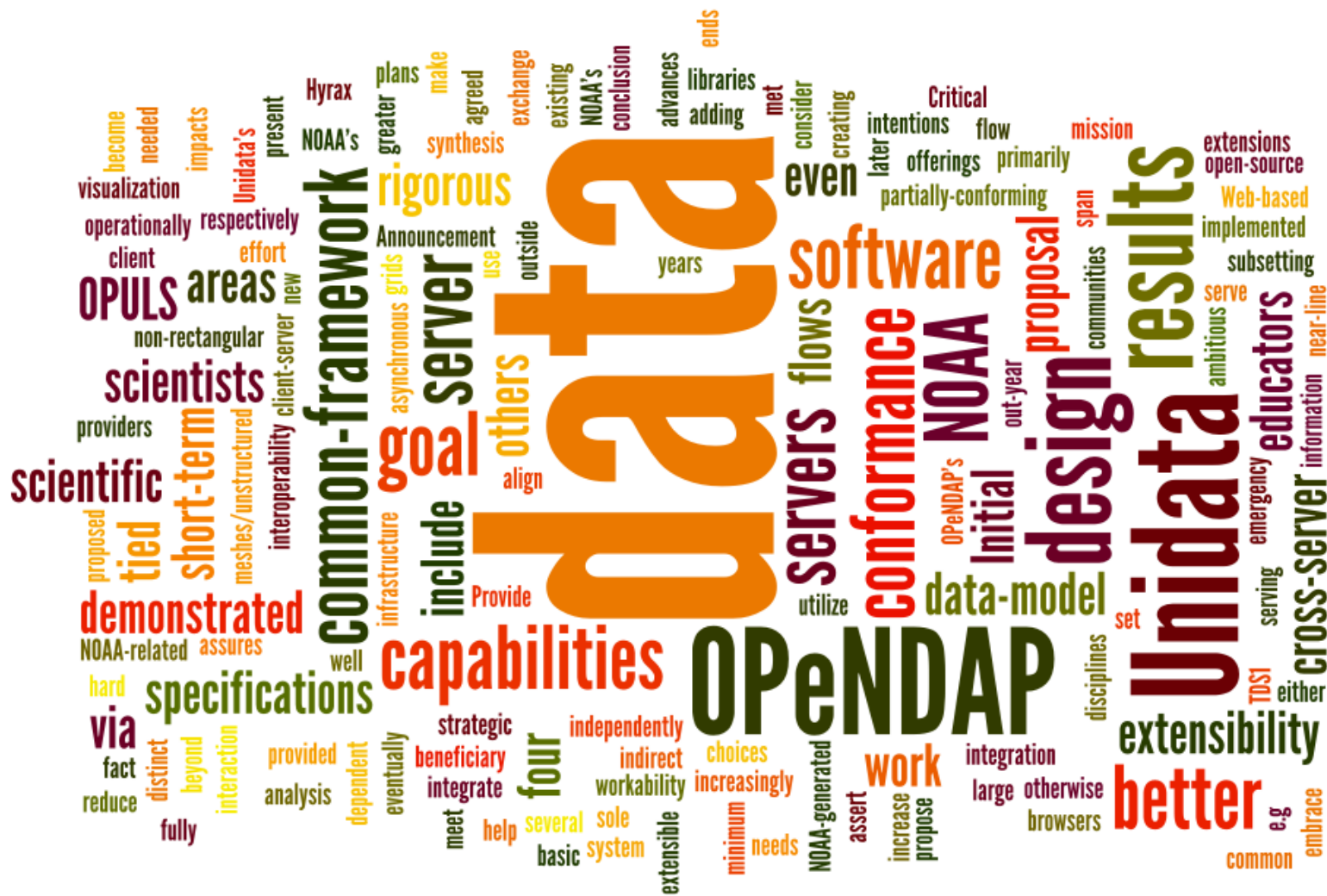
Author and Presenter: James Gallagher

OPULS

Town Hall

Thursday @ 3:30

OPeNDAP
Unidata
NOAA



data analysis
&
synthesis

data
web
&
your input

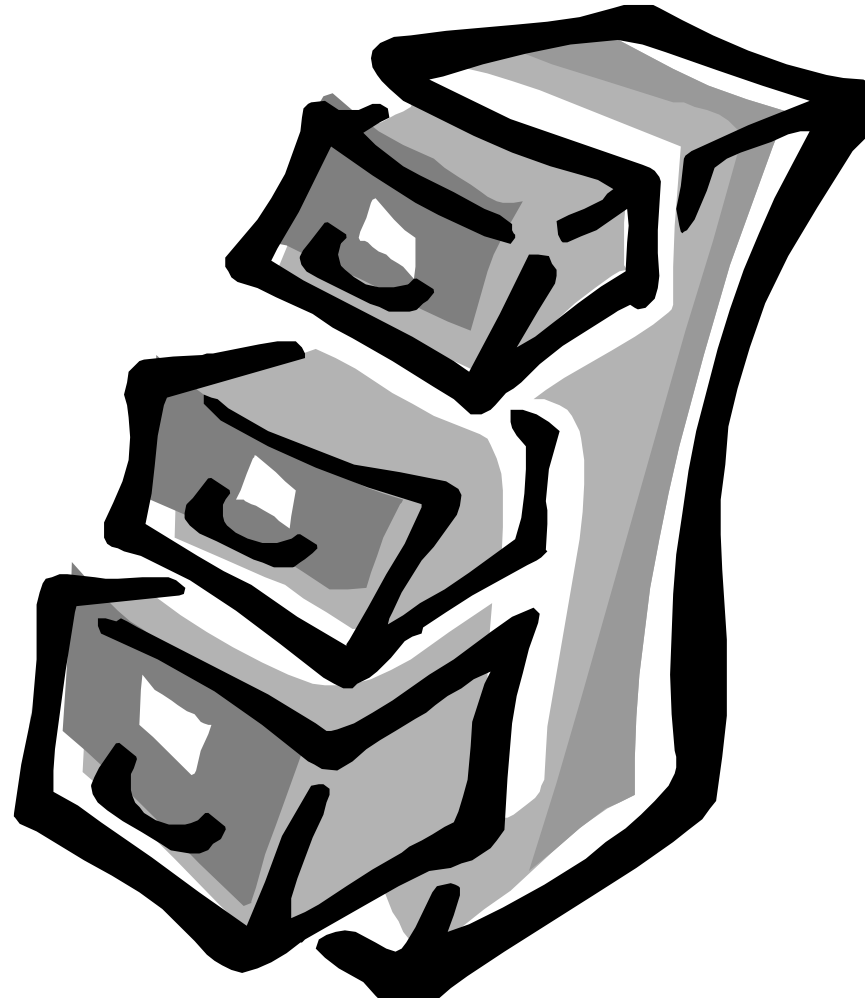
data model



DAP4



web services



Domain

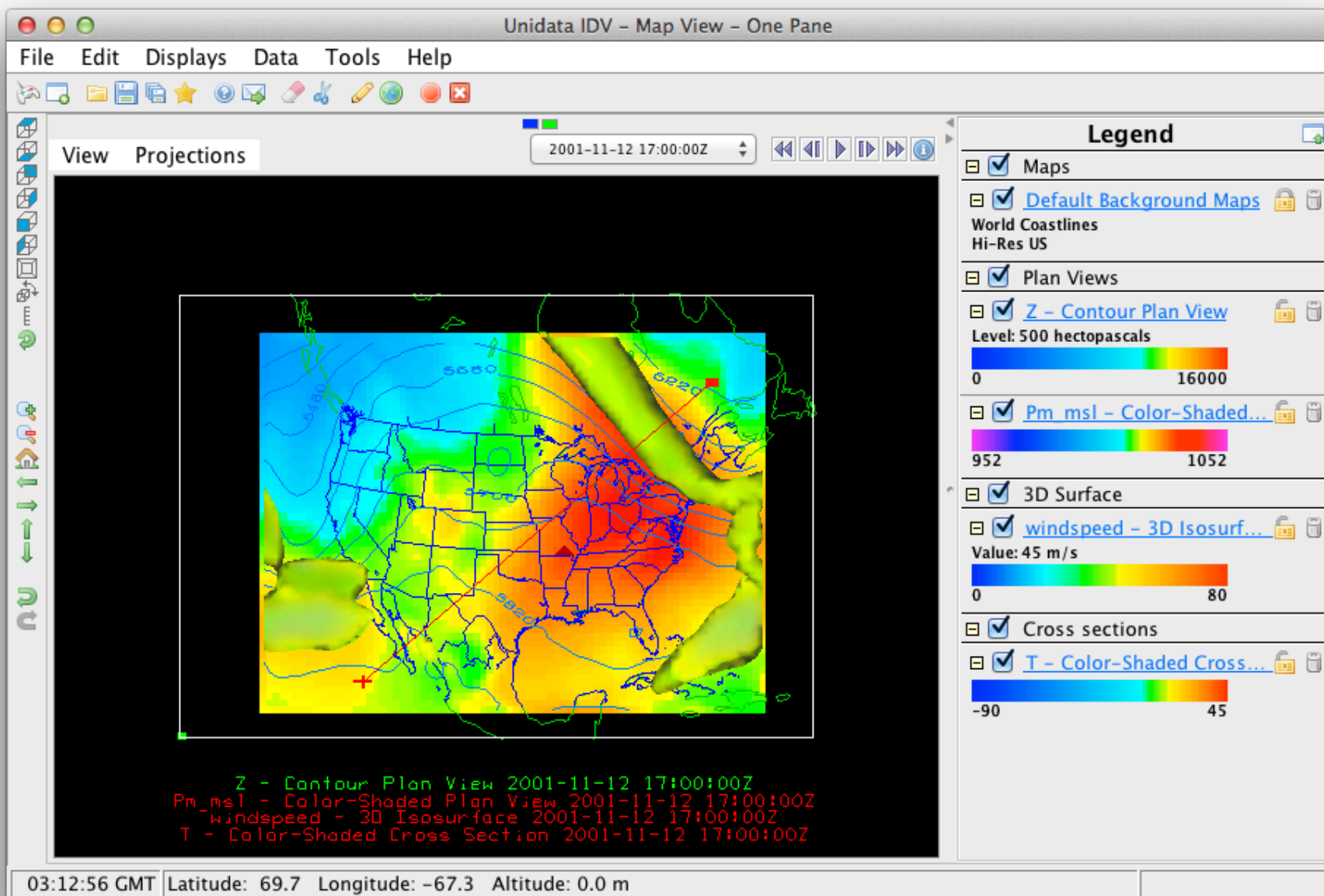
Neutral
Specific

Domain

Neutral
Specific

interoperability

layers



catalog
search
subscription

web services
ecosystem

server processing
(functions)

standardization
=
utility



Ugrid Demo: Enter constraints piecewise in boxes below

x constraints: **range between -71.6 and -63.0**

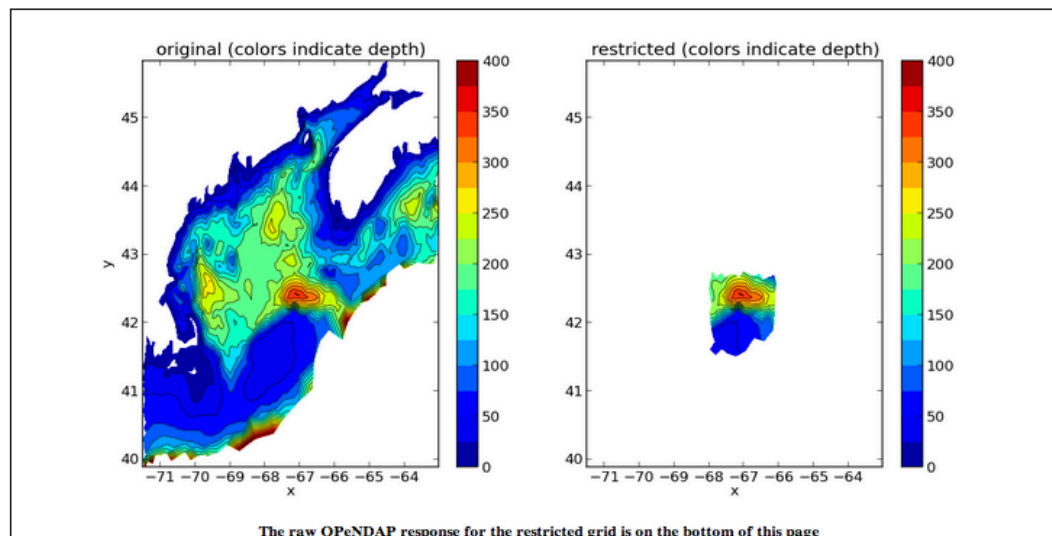
< X <

y constraints: **range between 39.89 and 45.84**

< Y <

nodedata(depth) constraints: **range between 3.0 and 484.8**

< nodedata <



The raw OPeNDAP response for the restricted grid is on the bottom of this page

OPeNDAP is effective at serving structured grids over the internet, but has no native support for unstructured grids. Using the GridField library, we implemented a Hyrax server-side function for arbitrary subsetting of server side data. Data is stored on the server as a netCDF file in the UGRID netCDF conventions. The request is handled by the hyrax server, the arguments are passed to the server-side function, and the gridfields library is invoked to apply the subsetting operation. The result is encoded as a netcdf file and returned to the client who creates the bottom visualization.

[Architecture of the demo](#)

Raw opendap response for the restricted grid:

[http://ec2-174-129-186-110.compute-1.amazonaws.com:8088/opendap/data/nc/test4.nc.nc?ugrid_restrict\(0,"Y>41.5&Y<42.75&X>-68.0&X<-66.0"\)](http://ec2-174-129-186-110.compute-1.amazonaws.com:8088/opendap/data/nc/test4.nc.nc?ugrid_restrict(0,\)



A word cloud centered around the text "DAP4 OPULS processing". The words are arranged in a circular pattern, with "DAP4" and "web" in the center. "OPULS" and "processing" are the largest words, forming the main structure. Other words include "seeking know", "protocol suite", "based", "input", "community", "part", "server", "experience", "functions", and "services". The colors range from dark green to bright orange and red.

seeking know
protocol suite
based
DAP4
web
functions
services
OPULS
processing
input
community
part
server
experience



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seeking know
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Town Hall

Rm 227

Thursday @ 3:30