

FOSS4G
Raleigh, North Carolina
May 3rd, 2016

HHypermap: Platform to Enable Geospatial Search

Ben Lewis
blewis@cga.harvard.edu



**Center for
Geographic Analysis**
Harvard University

<http://worldmap.harvard.edu>

Is there a geospatial web?

- Or is it really a haystack, since it is almost totally lacking in linkages between objects?
- Tim Berners Lee chose “World Wide Web” to emphasize that fact that in this global hypertext system anything could link to anything else.
- While web pages point to each other and create a web, geospatial datasets don't.
- Maybe that is why we don't have good search engines for geospatial data.

Problem

- Millions of geo-services exist a click away, but no good way to discover them.
- In the early days of the web it was hard to find a web page; this is how it is today most geo-data.

Toward a solution

- Funded by National Endowment for the Humanities
- Platform to create, maintain, and deploy a **global public registry** of web map services
- New visual UI to support **search by time and space**
- **Scales to millions, even billions** of objects
- **API** to enable any mapping system to find and bind to any layer

Caveats

- Early early ALPHA!

Live Demo

- Here is a video demo which covers some of the system for those who missed the talk:

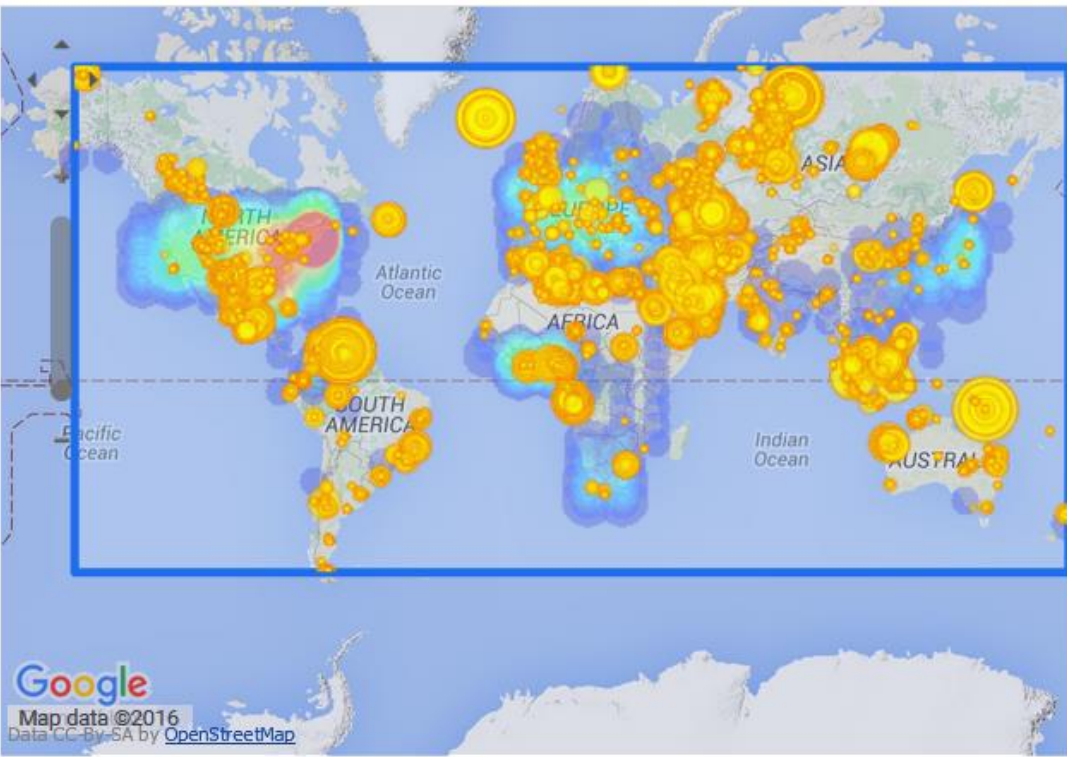
<http://www.gis.harvard.edu/services/project-consultation/project-resume/global-spatio-temporal-search-neh-funded-enhancements>

Search

SEARCH External Data Rectify Layer

Keyword Source All Layers **Search** **Reset**

from year to year



Title	Source	Date
Major World Watersheds	water.disco...	2006
Major World Watersheds	water.disco...	2006
657 Crude Oil Refineries - R...	Martin	2005
World Natural Gas Flaring m...	Martin	2013
Global Oil Pipelines	koneill	2008
World_Zoc	Title: World Natural Gas Flaring mu206 Source: Martin	
World Bou	Abstract: Worldwide natural gas flaring datasetFor m...	
Funders o	information and an up to date map visit Skytruth.org	
🔒 MCMa	recorded by the VIIRS instrument aboard NOAA's Su...	
🔒 MCMa	NPP satellite between 16 march and 31 october 2014	
🔒 MCMa	flares are visualis	
🔒 MCMa	Date: Detected	
🔒 MCMa	tracywarmi...	2011
🔒 MCMa	TracyWarmi...	2011
MCMa	TracyWarmi...	2011
Border Crossings	blewis	2007

Prev Next Showing 1-200 of 25713

No Layers Selected

Clear Selected **Add To Map**

Hypermap - quick history:

Started at Harvard CGA

- The CGA received a grant from NEH to build a comprehensive map service registry and:
 - developed 2D faceting in Lucene with David Smiley
 - developed heatmapping client prototype based on modified OpenGeoPortal (OGP)
 - ported Tom Kralidis's GeoHealthMap to Django for start of services orchestration
 - hired Terranodo to integrate prototype with WorldMap (old version of GeoNode) and implement MapProxy
 - continuing to harvest to build comprehensive inventory available via public API

Thank you to NEH

Thank you to the PIs

Peter Bol

Suzanne Blier

Here are some of the great open source projects we are building on:

- GeoHealthCheck
- Open Geoportal
- MapProxy
- Spatial Lucene
- pycsw
- GeoNode

Thank you software engineers

- Paolo Corti (lead developer at CGA)
- Jude Mwenda (developer at CGA)
- David Strohschein (developer at CGA)
- Ariel Nunez
- Simone Dalmasso
- David Smiley
- Tom Kralidis
- Guierromo Solano
- Steve McDonald
- Matt Bertrand

Thank you!

Ben Lewis

blewis@cga.harvard.edu