

NOAA OGC Service Shared Hosting Environment

NOAA Environmental Data Management
Virtual Workshop 2013

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What?

Some background on the project...

**A way for NOAA geospatial data
producers to publish OGC standards-
compliant
web services,**

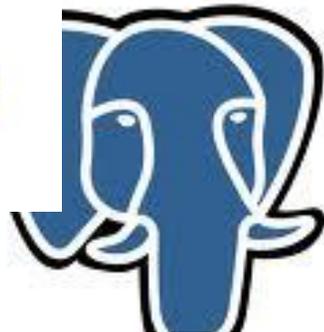
**without having to manage
IT infrastructure themselves.**



GeoServer

PostGIS

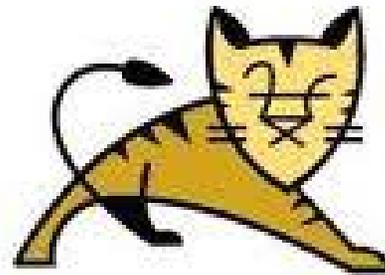
APACHE
HTTP SERVER



PostgreSQL



Post



Apache
Tomcat

debian

Who?

Who should use this system?

- **small offices with limited budget**
 - **no IT resources available**
- **have a @noaa.gov email address**

Low barrier to entry

Where?

<http://services.ogc.noaa.gov>

(not very exciting, that's just a URL)



GEO EXPLORER



GEOSPATIAL PLATFORM

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Welcome to the **Geospatial Platform**

The Geospatial Platform provides shared and trusted geospatial data, services, and applications for use by government agencies, their partners and the public.

Featured Map:
NOAA Weather Radar and Weather ...

Featured Maps Collaborate in Groups Build Your Own Map

Explore featured maps and apps from all levels of government. Work in public and private groups with others who share your interests and ideas. Create a map you can view anywhere on any device and share with anyone.

About the Geospatial Platform

Federal agencies and their partners collect and manage large amounts of geospatial data - but these data are often not easily found when needed or accessible in useful forms. The Geospatial Platform provides ready access to federally maintained geospatial data, services and applications. The content of all datasets and services demarcated with the Data.gov globe icon have been verified by the Agency to be consistent with Federal privacy, national security, and information quality policies. As an additional service to our users, we also provide access to data from our partners across State, Tribal, Regional and local governments as well as non-governmental organizations.

fgdc



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DATA CATALOG

Organizations Interactive Datasets

Note that only datasets marked as "Federal" are subject to the U.S. Federal Government and Data.gov's Data Policy. Non-federal participants (e.g., universities, organizations, and tribal, state, and local governments) maintain their own data policies. It is important that users understand the data policies of participating entities in order to best utilize these datasets. A description of this catalog and information about the datasets presented and associated metrics is available here

Filter by location Clear

Enter location... Search datasets...

73,647 datasets found Order by: Last Modified

NOAA NCCOS: New England Red Tide Research Federal

National Oceanic and Atmospheric Administration, Department of Commerce — Alexandrium blooms are one of several algal bloom types often called "red tides," but more correctly referred to as Harmful Algal Blooms (HABs). Alexandrium...

Assessment of Existing Information for Atlantic Coastal Fish Habitat Partnership (ACFHP) Federal

National Oceanic and Atmospheric Administration, Department of Commerce — The ACFHP database consist of three primary data tables, joined within SQL Server, a relational DBMS: 1. The Bibliographic table provides information on over 500...

Dataset Type: Clear All
geospatial (66127)
Show More Dataset Type

Tags: Clear All



esri®

Why?

**What capabilities relevant to NOAA does
this open source software stack offer?**

- **how are your customers looking to access your data?**

- **if it includes:**

OGC WMS



OGC WFS



KML

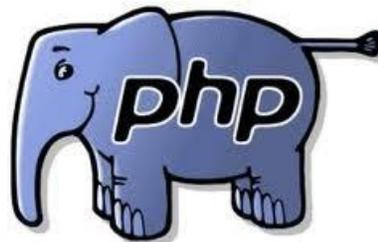
**(for proprietary services, such as
ESRI REST web services, other options exist)**

GeoServer Offers:

- **scriptable data upload via HTTP/REST**



bash.



Example HTTP POST:

[https://services.ogc.noaa.gov/geoserver/rest/
workspaces/my_workspace/datastores/postgis/file.shp](https://services.ogc.noaa.gov/geoserver/rest/workspaces/my_workspace/datastores/postgis/file.shp)

GeoServer Offers:

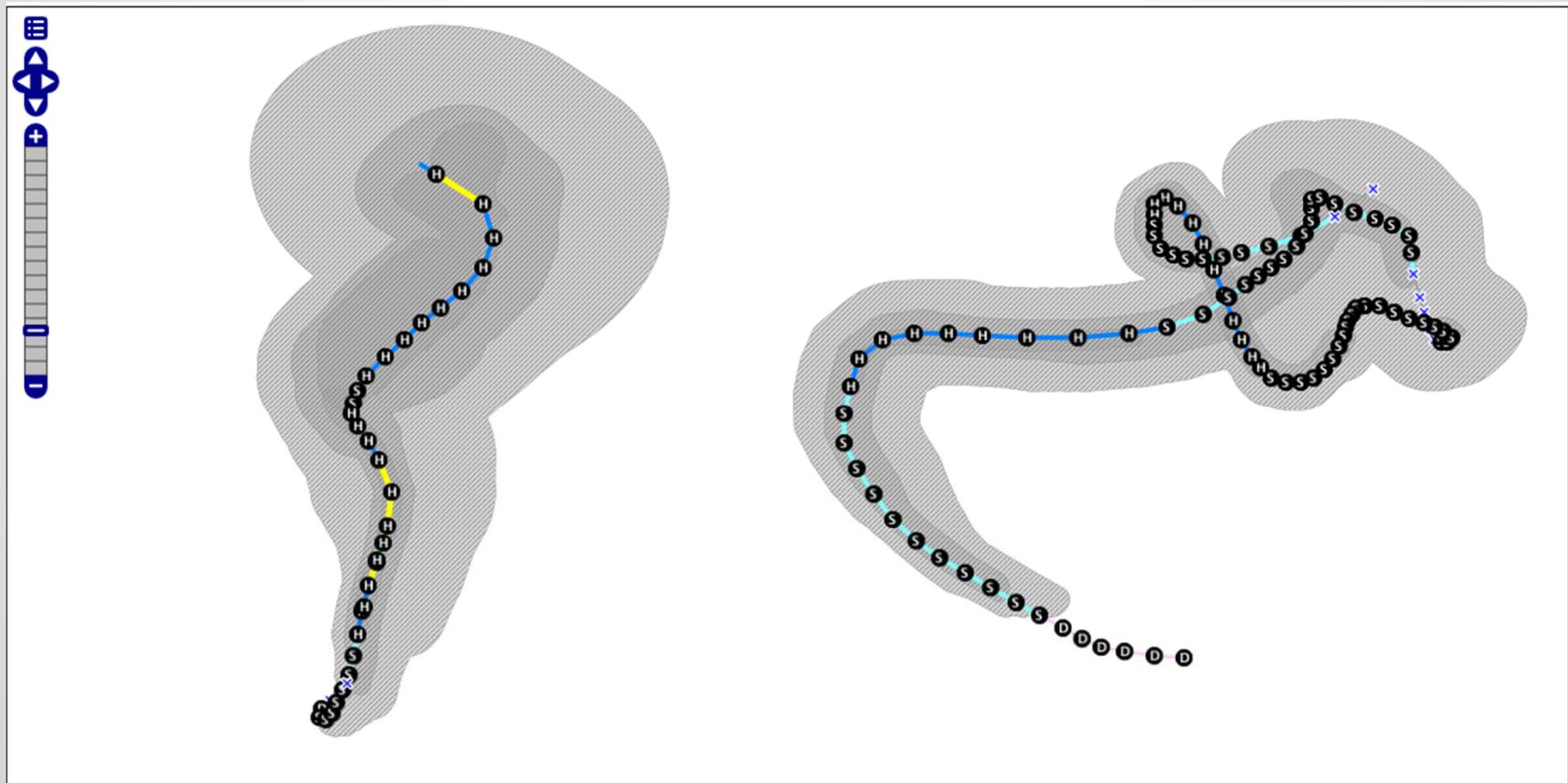
- **flexibility of parameterized SQL view layers**

```
select * from nhc_best_track.nhc_prelim_besttrack_track as track where  
cast("YEAR" AS char(10)) ~* E'^%year%'  
and cast("STORMNUM" AS char(10)) ~* E'^%stormnum%\\s+'  
and "BASIN" ~* E'%basin%'  
and "LASTMOD_DATE" = (select max("LASTMOD_DATE") from  
nhc_best_track.nhc_prelim_besttrack_track where track."STORMID" = "STORMID")  
order by "YEAR" desc, "STORMNUM" desc, "BASIN" desc
```

WMS Request Params:

../nhc/wms?viewparams=year:(2012|2013)

../nhc/wms?viewparams=year:2012;stormnum:(14|18)



Scale = 1 : 24M

-82.92038, 30.81740

GeoServer Offers:

- **Complex symbology capability with OGC Styled Layer Descriptor (SLD) language**

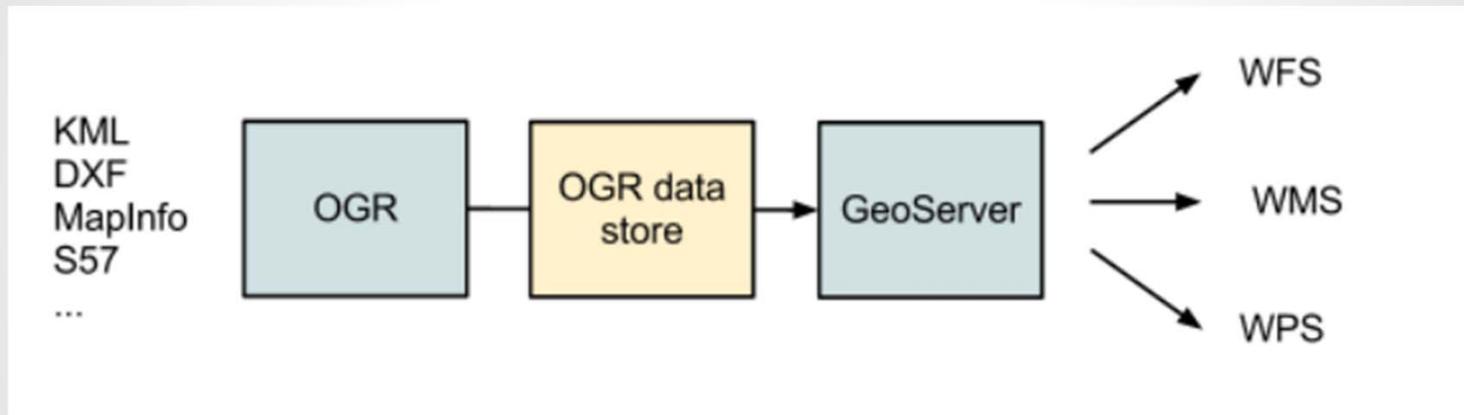
develop rule-based symbology

**use WMS params to select attribute to
base symbology from (dynamic)**

**symbology capability more comparable to
Arc than Google Maps Engine**

GeoServer Offers:

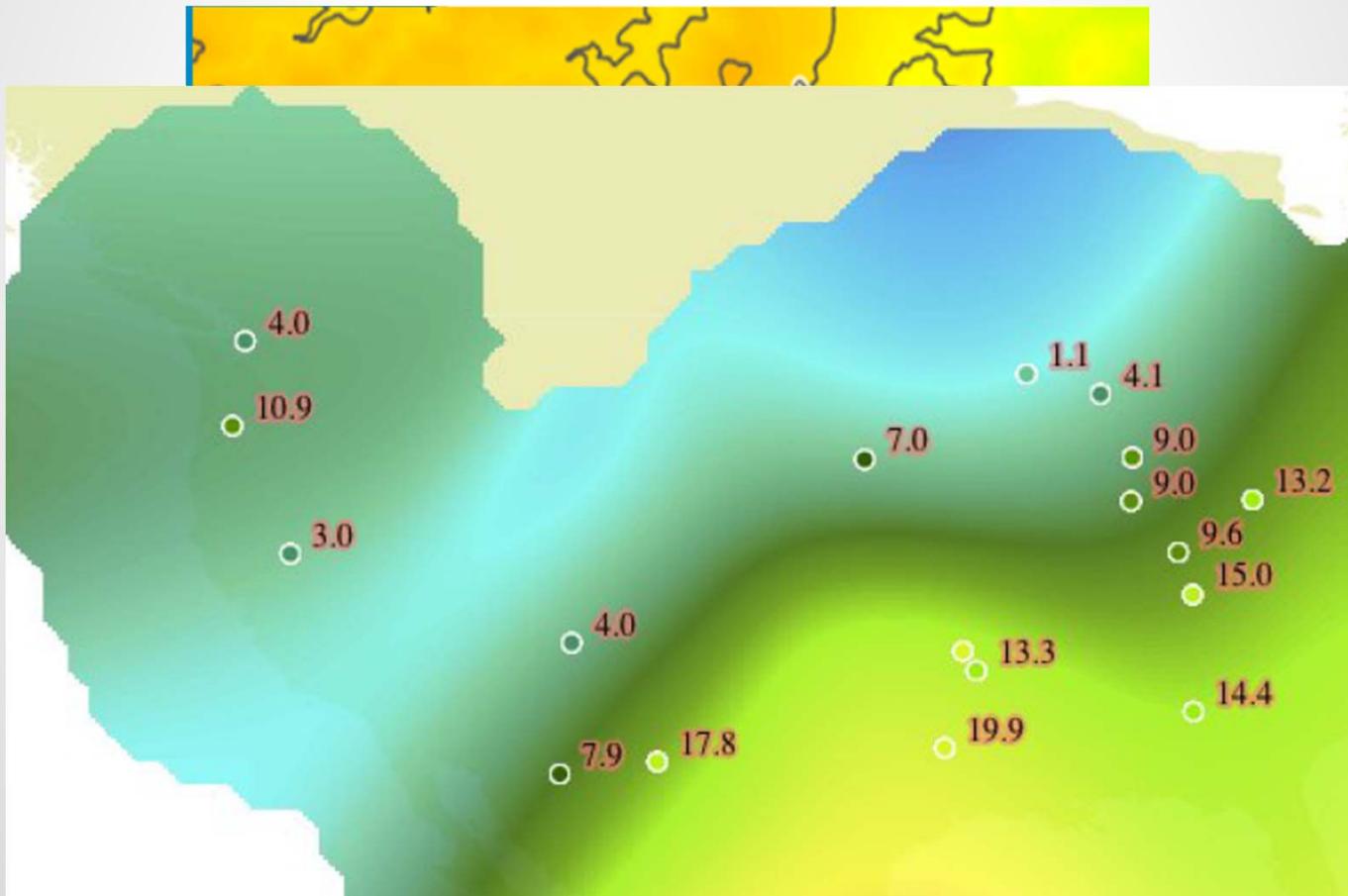
- **NEW! Experimental OGR Data Store**



suitable for small data sets (slower performance than native Java DS)

GeoServer Offers:

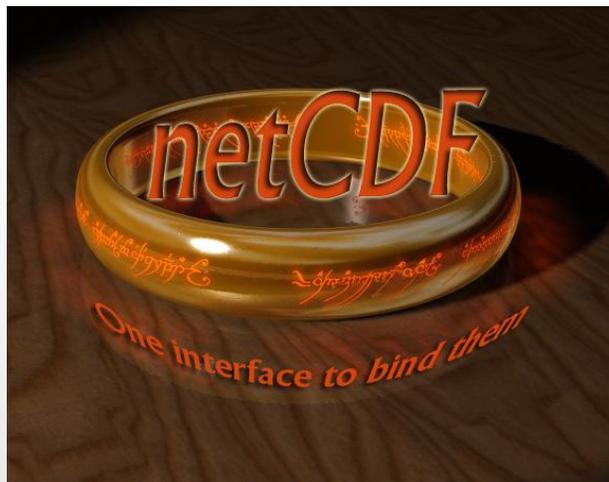
- rendering transformations for raster data sets



GeoServer Offers:

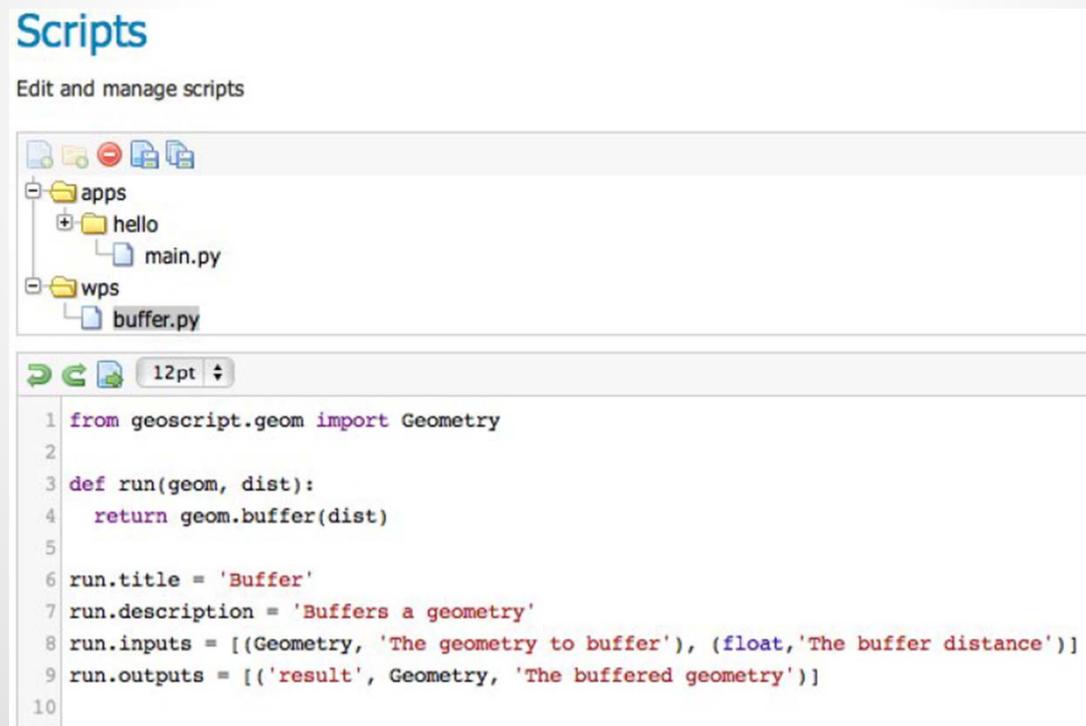
In version 2.4:

- **bundled CS-W service (compatibility with external data catalogs/search engines)**
 - **netCDF support**



GeoServer Offers:

- **Scripting and Web Processing Service (WPS)**

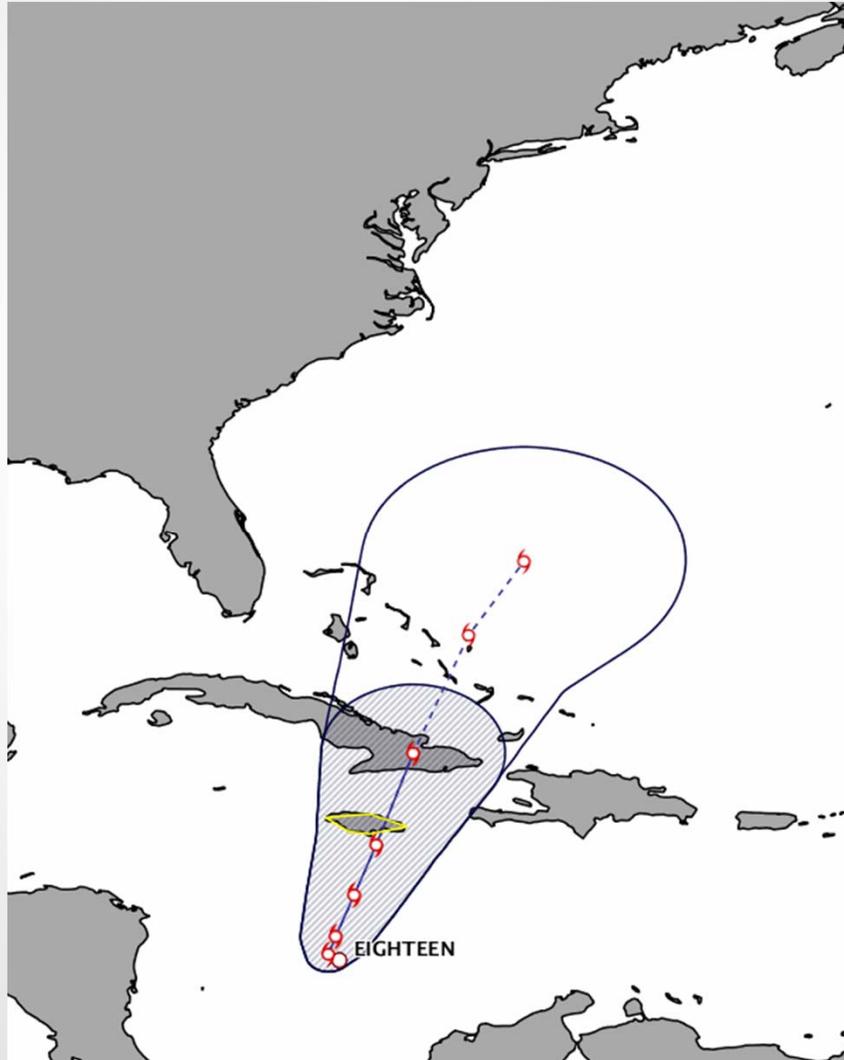


The screenshot displays the 'Scripts' management interface in GeoServer. At the top, the title 'Scripts' is shown in blue, followed by the subtitle 'Edit and manage scripts'. Below this is a file explorer showing a tree structure with folders 'apps' and 'wps'. The 'apps' folder contains a sub-folder 'hello' with a file 'main.py'. The 'wps' folder contains a file 'buffer.py'. Below the file explorer is a code editor with a toolbar showing a run button, a refresh button, and a font size dropdown set to '12pt'. The code editor contains the following Python script:

```
1 from geoscript.geom import Geometry
2
3 def run(geom, dist):
4     return geom.buffer(dist)
5
6 run.title = 'Buffer'
7 run.description = 'Buffers a geometry'
8 run.inputs = [(Geometry, 'The geometry to buffer'), (float, 'The buffer distance')]
9 run.outputs = [('result', Geometry, 'The buffered geometry')]
10
```

GeoServer Offers:

- **WMS animator (output animated GIFs via WMS)**



More information on the NOAA OGC Service Shared Hosting Project:

<https://sites.google.com/a/noaa.gov/noaa-open-source-gis/noaa-hpcc-shared-hosting>

