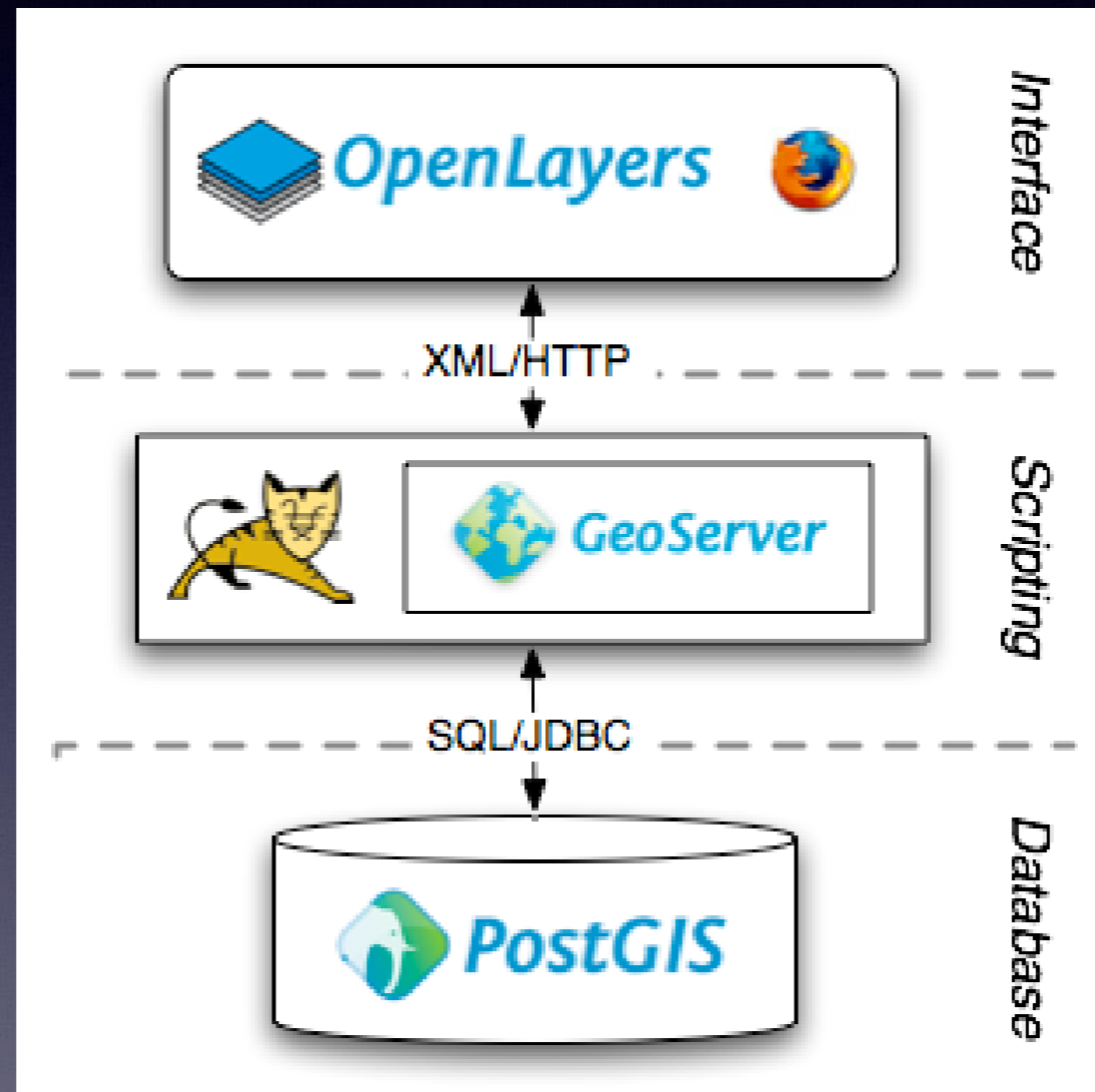


# Tips and tricks for handling big spatial data and its visualisation

Santosh Gaikwad - OSGeo-India Chapter

# Web Mapping Architecture



# Case Study

Marine Data Portal at British  
Antarctic Survey (BAS),  
Cambridge, UK

# Marine Data Portal - Video # 1

Banner

Home **Search** Cruise Elements Devices People

Search Map Events

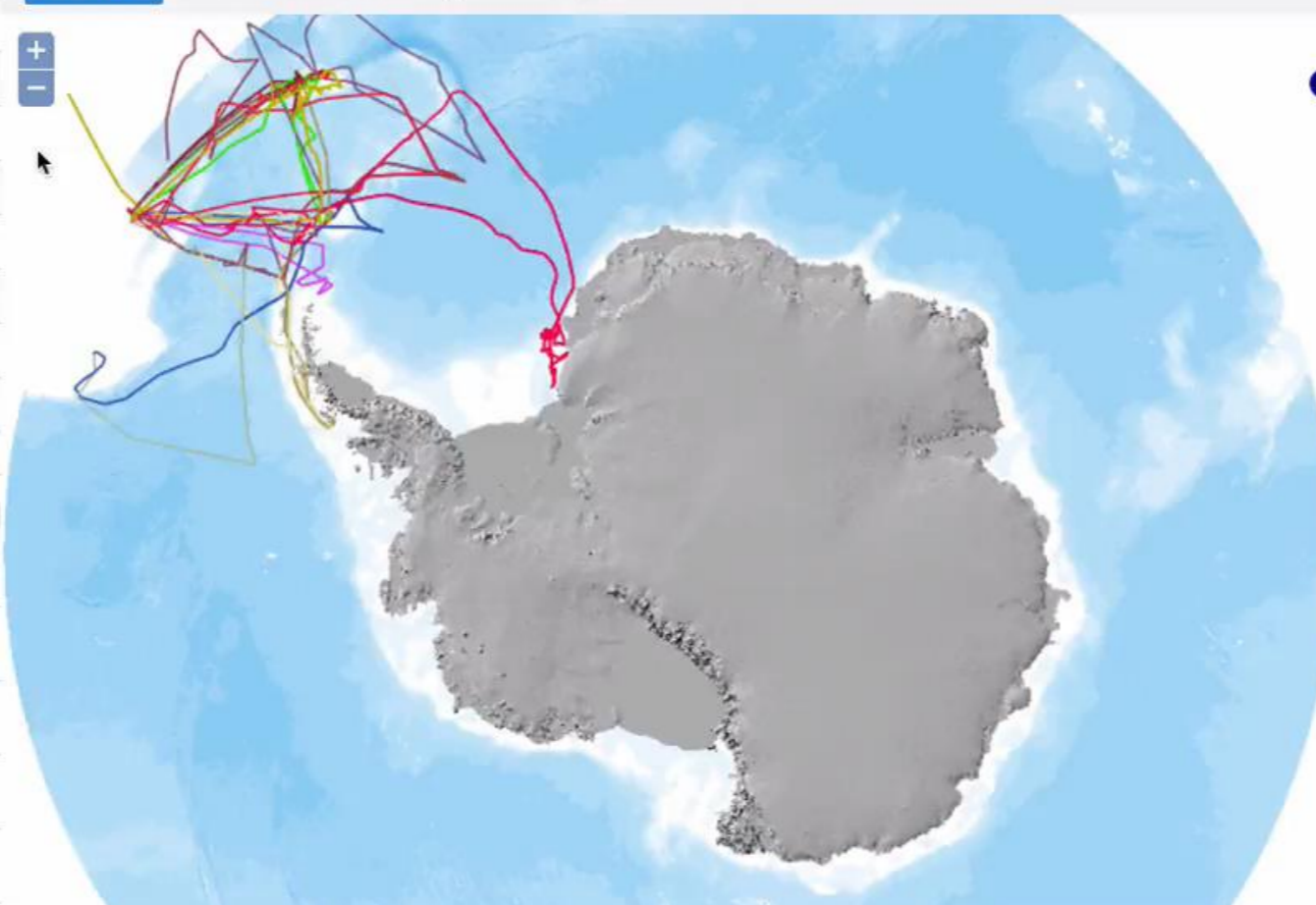
Platform 1981-11-2 2014-07-1

Search:

Total Platforms: 11

<input type="checkbox"/>	Platform Name
<input type="checkbox"/>	1 Bransfield
<input type="checkbox"/>	2 Charles Darwin
<input type="checkbox"/>	3 Discovery
<input type="checkbox"/>	4 Endurance
<input type="checkbox"/>	5 Ernest Shackleton
<input type="checkbox"/>	6 James Clark Ross
<input type="checkbox"/>	7 James Cook
<input type="checkbox"/>	8 John Biscoe
<input type="checkbox"/>	9 Polar Duke

Antartica Arctic South Georgia Full earth



Page 1 of 1

Cruise Elements Devices People Project

	Platform	Cruise element	Start Datetime	Fi
1	RRS Ja...		1981-11-24 18:...	19
2	RRS Ja...		1981-11-24 18:...	19
3	RRS Ja...		1981-11-25 04:...	19
4	RRS Ja...		1981-11-25 04:...	19
5	RRS Ja...		1981-11-25 12:...	19
6	RRS Ja...		1981-11-25 12:...	19
7	RRS Ja...		1981-11-25 18:...	19
8	RRS Ja...		1981-11-25 18:...	19
9	RRS Ja...		1981-11-25 23:...	
10	RRS Ja...		1981-11-25 23:...	
11	RRS Ja...		1981-11-26 08:...	19
12	RRS Ja...		1981-11-26 08:...	19
13	RRS Ja...		1981-11-27 05:...	19
14	RRS Ja...		1981-11-27 05:...	19
15	RRS Ja...		1981-11-27 15:...	19

Page 1 of 2874

Event Selection Clear Event Selection

Draw bbox Clear bbox

# Marine Data Portal - Video # 2

Banner

Home **Search** Cruise Elements Devices People

Search **Map** Events

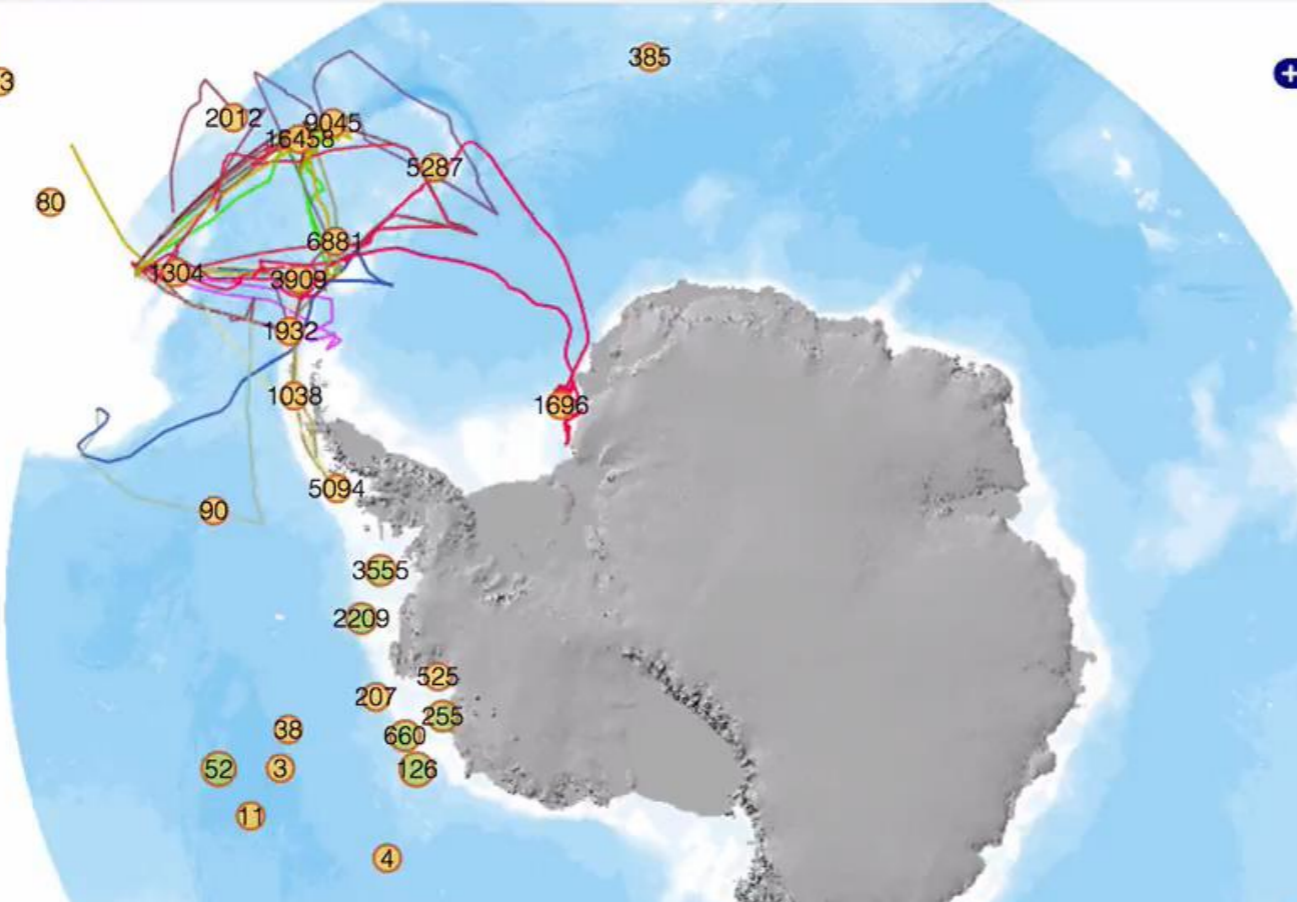
Platform  1981-11-2 2014-07-1

Search:

Total Platforms: 11

<input type="checkbox"/>	Platform Name
<input type="checkbox"/>	1 Bransfield
<input type="checkbox"/>	2 Charles Darwin
<input type="checkbox"/>	3 Discovery
<input type="checkbox"/>	4 Endurance
<input type="checkbox"/>	5 Ernest Shackleton
<input type="checkbox"/>	6 James Clark Ross
<input type="checkbox"/>	7 James Cook
<input type="checkbox"/>	8 John Biscoe
<input type="checkbox"/>	9 Polar Duke

Antartica Arctic South Georgia Full earth



Page 1 of 1

Cruise Elements Devices People Project

	Platform	Cruise element	Start Datetime	Fi
1	RRS Ja...		1981-11-24 18:...	19
2	RRS Ja...		1981-11-24 18:...	19
3	RRS Ja...		1981-11-25 04:...	19
4	RRS Ja...		1981-11-25 04:...	19
5	RRS Ja...		1981-11-25 12:...	19
6	RRS Ja...		1981-11-25 12:...	19
7	RRS Ja...		1981-11-25 18:...	19
8	RRS Ja...		1981-11-25 18:...	19
9	RRS Ja...		1981-11-25 23:...	19
10	RRS Ja...		1981-11-25 23:...	19
11	RRS Ja...		1981-11-26 08:...	19
12	RRS Ja...		1981-11-26 08:...	19
13	RRS Ja...		1981-11-27 05:...	19
14	RRS Ja...		1981-11-27 05:...	19
15	RRS Ja...		1981-11-27 15:...	19

Page 1 of 2874

Event Selection Clear Event Selection

Draw bbox Clear bbox

# Issues

1. Cruise Path generation and its visualisation
2. Visualisation of events
3. Displaying cruise path in various projections such as antarctic, arctic, south georgia and full map

# Data

- Oracle database containing non spatial and spatial data
- Spatial data : GPS points per second for cruise path
- Data Volume: 65 years data
- Can PostgreSQL handle it?
- Data Migration - GeoKettle

# Cruise Path

- Generation of Cruise path using PostGIS spatial function
- Minute wise Cruise path WMS generation using GeoServer's SQL view



# Events

## Cluster Strategy :

- K-means point clustering at back end
- Front end OL clustering

Thank You