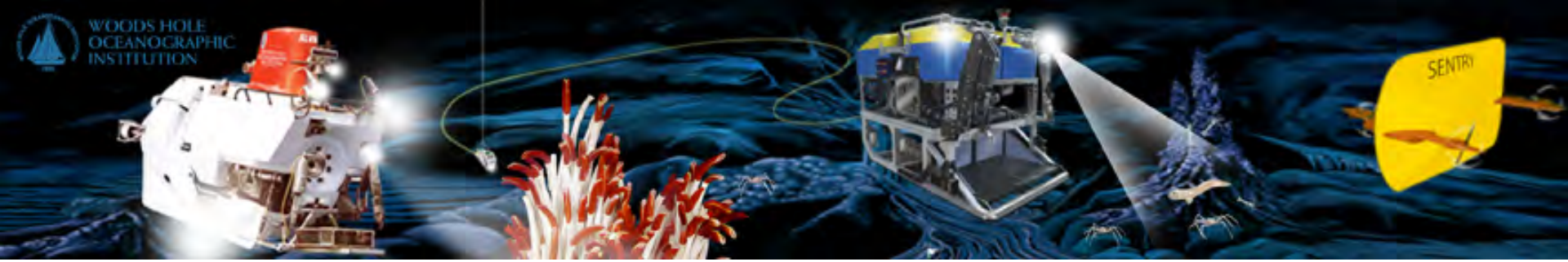

Data Management Update

Vicki Ferrini

IEDA Data Facility

Lamont-Doherty Earth Observatory

IEDA
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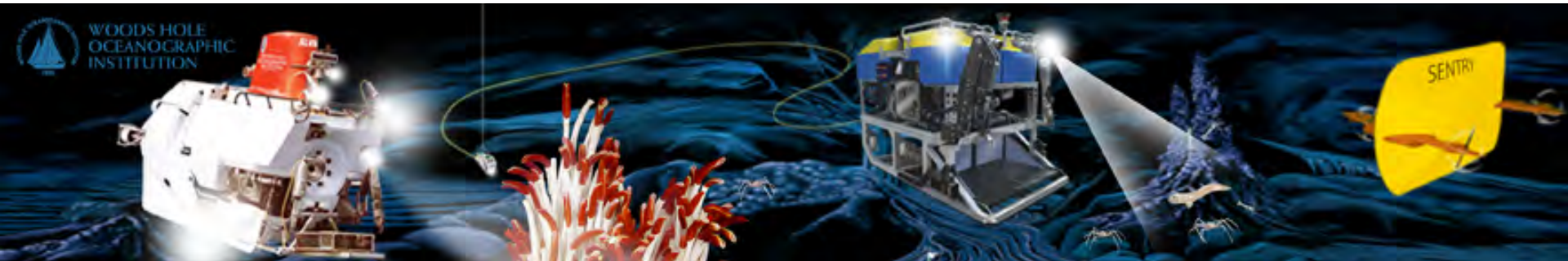
EARTH DATA ALLIANCE

MGDS
marine-geo.org

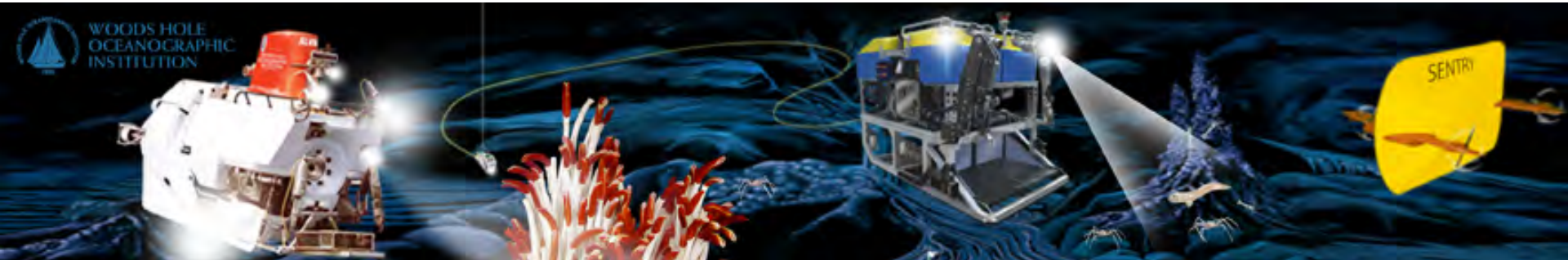
NDSF Data Transfer to MGDS

- Pilot Data Transfer Project Successful (2013-2015)
  - Sensor Data + Metadata
  - Honor proprietary holds (≤ 2 yrs per NSF policy)
- Status: NDSF currently standardizing and refining data organization
  - Simplify access for PIs (data distro)
  - Facilitate programmatic data ingestion
  - Automate metadata assembly



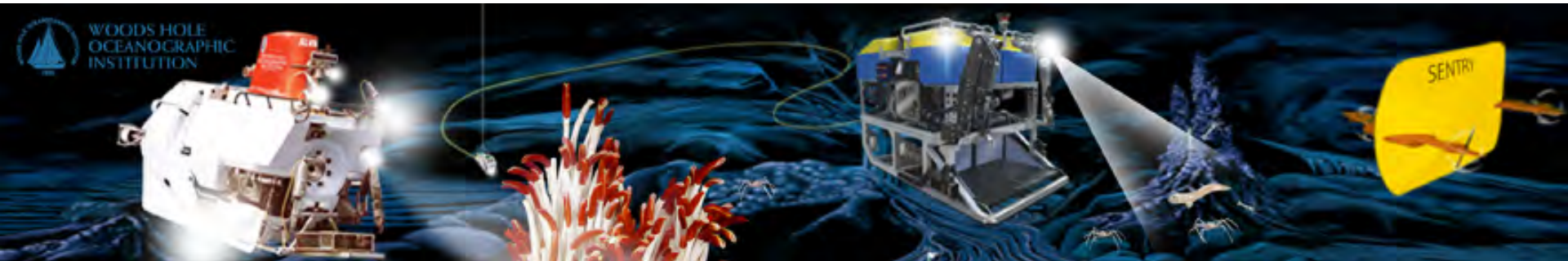
EarthCube Integrative Activity

- *Interdisciplinary Earth Data Alliance as a Model for Integrating EarthCube Technology Resources and Engaging the Broad Community*
  - Funded: Summer 2015
  - Partner Workshop: Fall 2015
- NDSF Components
  - Enhance Dive Metadata
  - Deploy Web Services for NDSF
    - Dive metadata service
    - Web Service for expanding access to Virtual Van/FrameGrabber



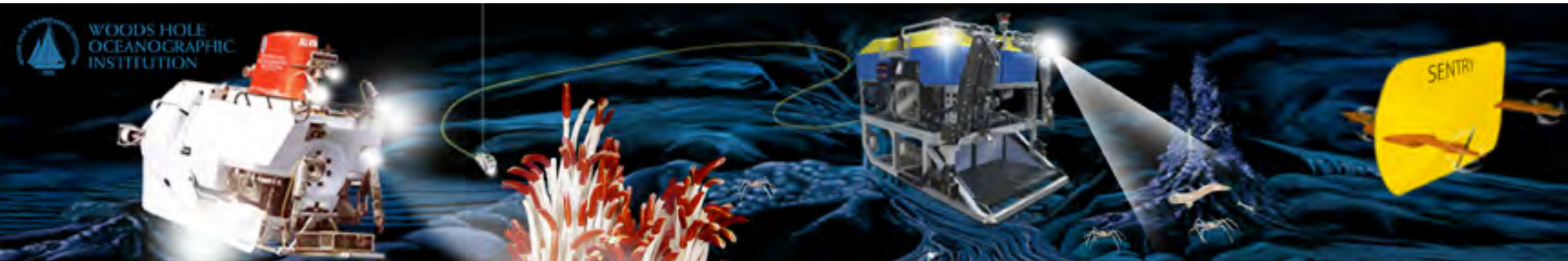
Web Services

- Queryable Service to return data/metadata
- Standards-compliant (incl. GeoWS)
- Several output formats (ASCII, GeoJSON, XML, SHP)
- Enable Broad access
  - Programmatic Access
  - Simple User Access
  - Web Service-Driven User Interfaces (UIs)



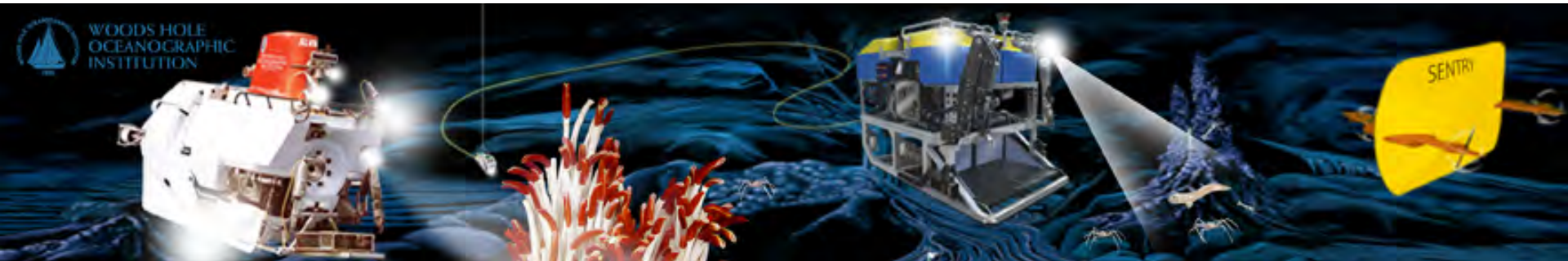
NDSF Dive Metadata Web Service: Goals

- Improve access to NDSF metadata across all vehicles
- Standardize metadata for vehicles
  - Ensure metadata meets needs of user community (individual scientists + downstream data systems)
- Provide easy mechanism for NDSF to update metadata catalog



NDSF Dive Metadata Web Service: Status

- Harvested available NDSF Dive metadata
  - Alvin metadata export
  - Jason2 + Legacy Vehicles (spreadsheet)
  - No modification of input data – displayed as provided
- Developed initial schema, ingestion tools, service and search UI
- *Next steps: Review, Refine, Release*



NDSF Dive Metadata Web Service

Description | URL Builder

Description

The NDSF Dive Metadata Service provides access to information about dives by various NDSF vehicles, including Jason II, Alvin, ABE, and legacy vehicles. Metadata can be returned in CSV, GML, GeoJSON, or Shapefile formats. This is a GeoWS compliant service.

Usage

Image Request Base URL

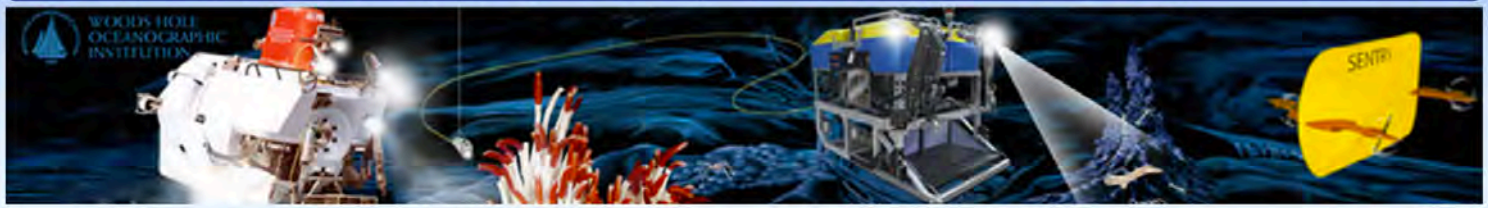
```
http://www.marine-geo.org/services/ndsf_metadata.php?
```

Examples

```
http://www.marine-geo.org/services/ndsf_metadata.php?minlon=-45&minlat=-90&maxlon=45&maxlat=90&vehicle=Alvin
http://www.marine-geo.org/services/ndsf_metadata.php?vehicle=Jason2&format=geojson
```

Query Parameters

name	example	description
minlon	-10.0	The easternmost longitude.
maxlon	10.0	The westernmost longitude.
minlat	-10.0	The southernmost latitude.
maxlat	10.0	The northernmost latitude.
starttime	1980-10-29	Include dives only after this time.
endtime	2015-11-15	Include dives only before this time.
cruise_id	AT11-06	Include dives only from this cruise.
vehicle	Alvin	Include dives by this vehicle only.
dive_id	J2-093	Retrieve the metadata for a specific dive with the given ID.
feature	transect	Search for dives exploring a feature containing the given string.
format	geojson	Return results in this format. Valid formats are csv, xml, geojson, and shapezip.
download	false	Download data instead of displaying in the browser.



NDSF Dive Metadata Search

Read about the NDSF Dive Metadata Web Service

List | Map

Vehicle: ALVIN
Cruise ID: All
Feature (search string): e.g. Biotransect
Minimum Longitude:
Minimum Latitude:
Maximum Longitude:
Maximum Latitude:
Start Date: e.g. 1980-01-01
End Date: e.g. 2015-12-31

Search | View Map

Download Results as: GeoJSON

Cruise ID	Vessel	Chief Scientists	Dive ID	Vehicle	Feature	Longitude	Latitude	Dive Start	D S
All118-12		K. SMITH LEVIN	1815	ALVIN	Magellan Rise	-176.88333333333333	7.05	1987-03-16 06:15:00	
All118-12		K. SMITH LEVIN	1816	ALVIN	Magellan Rise	-176.86666666666667	7.066666666666666	1987-03-17	

List | Map

Vehicle: All

Cruise ID: All

Feature (search string): e.g. Biotransect

Minimum Longitude

Minimum Latitude

Maximum Longitude

Maximum Latitude

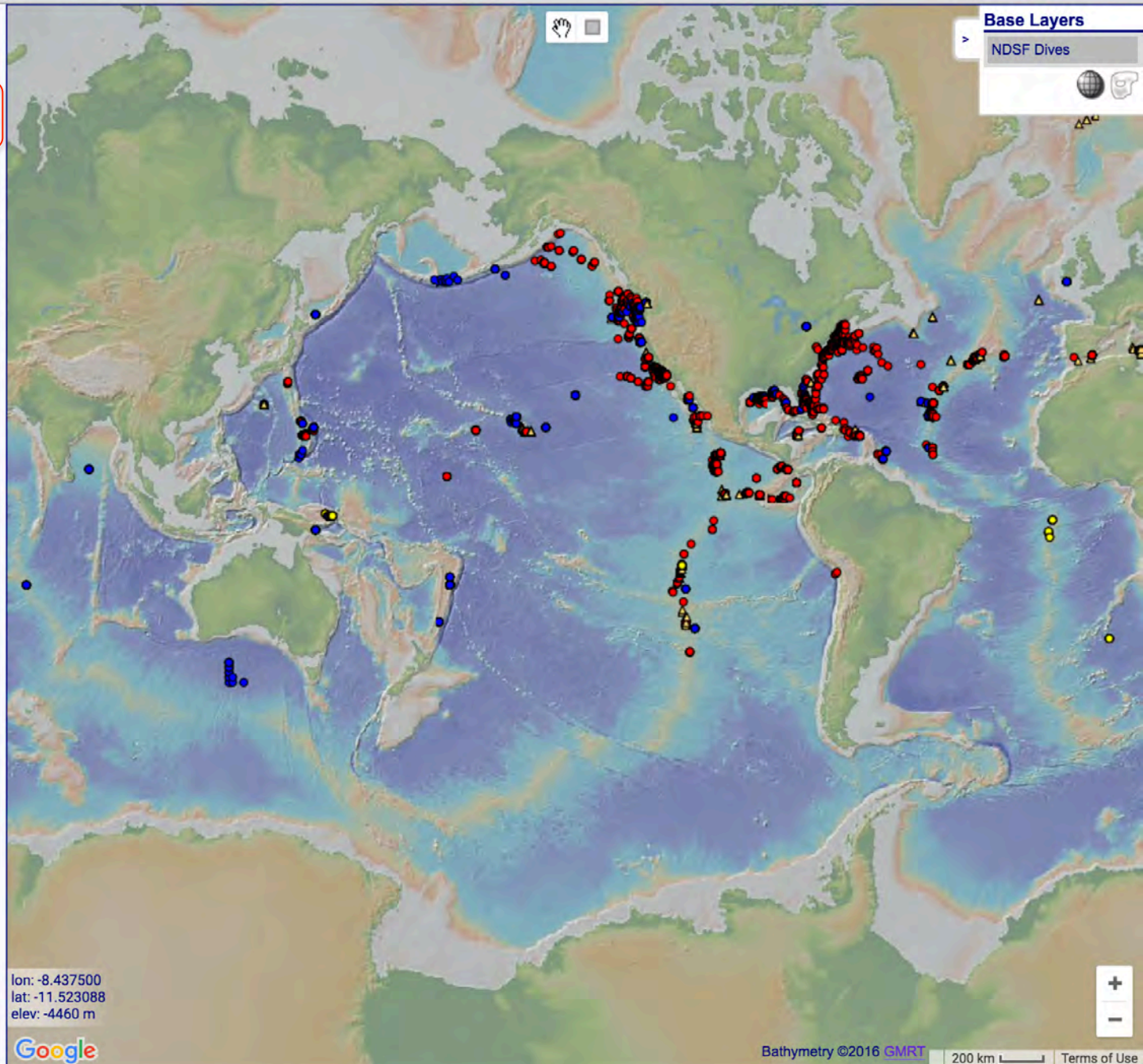
Start Date: e.g. 1980-01-01

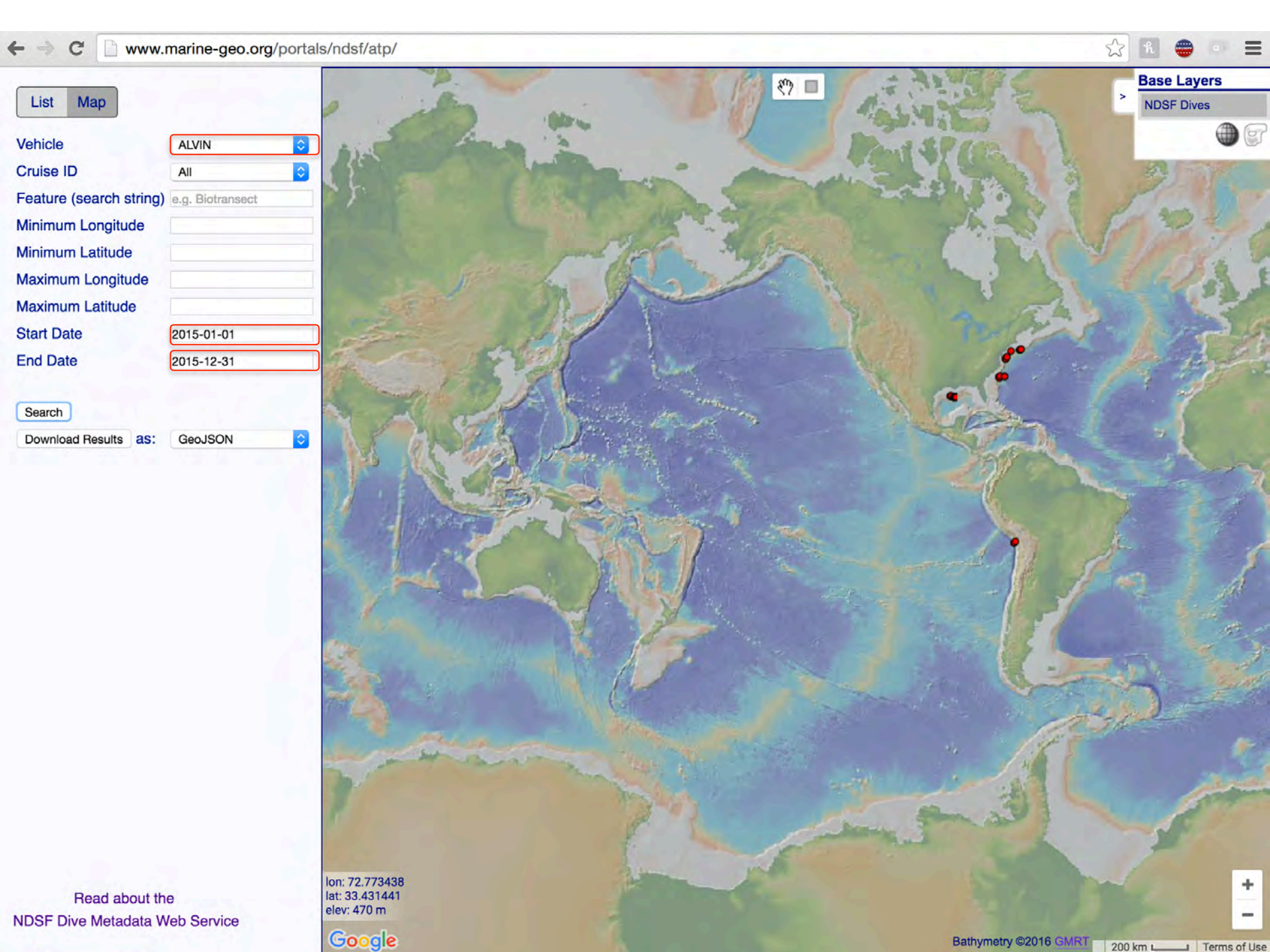
End Date: e.g. 2015-12-31

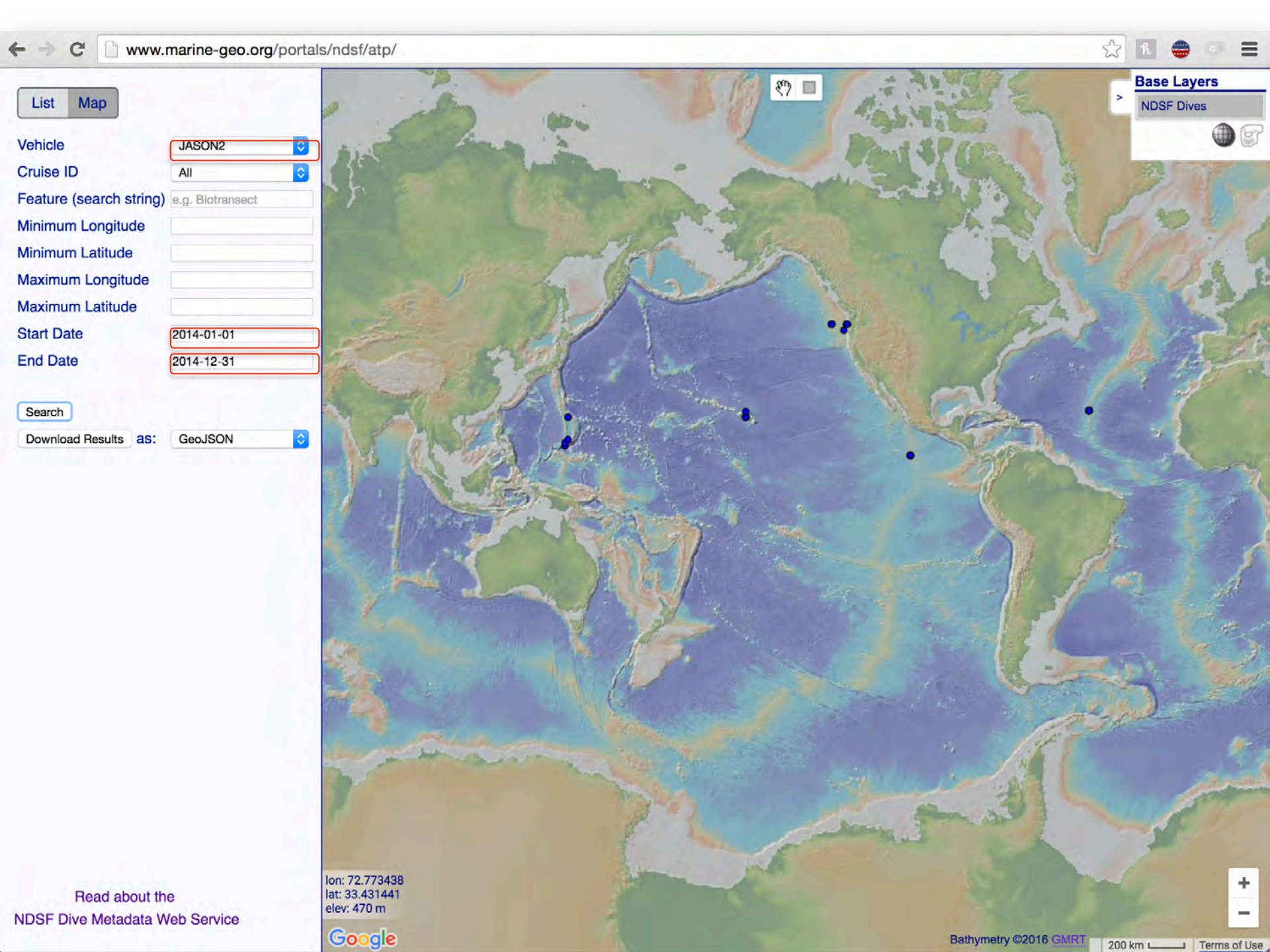
Search

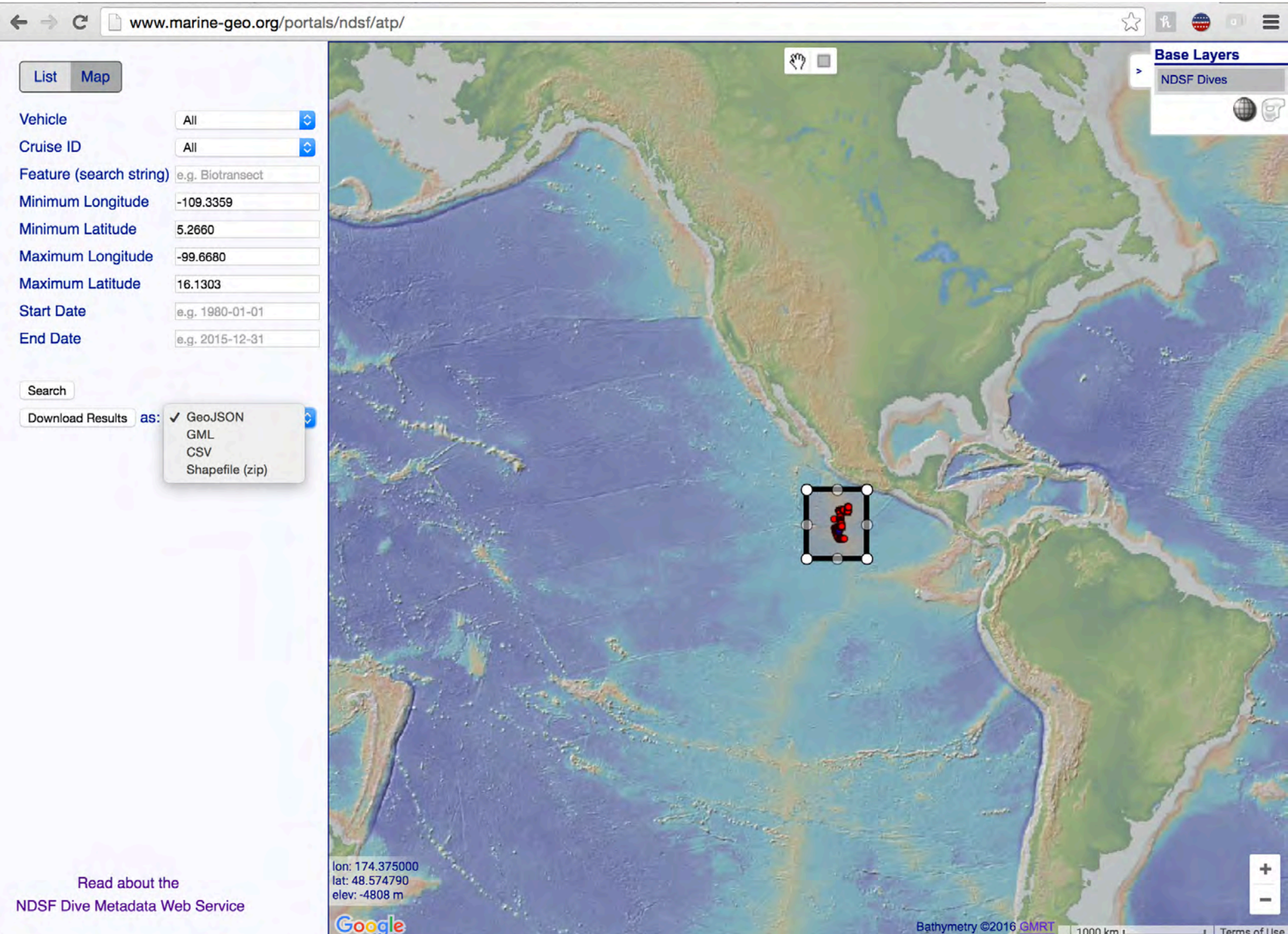
Download Results as: GeoJSON

Read about the
NDSF Dive Metadata Web Service



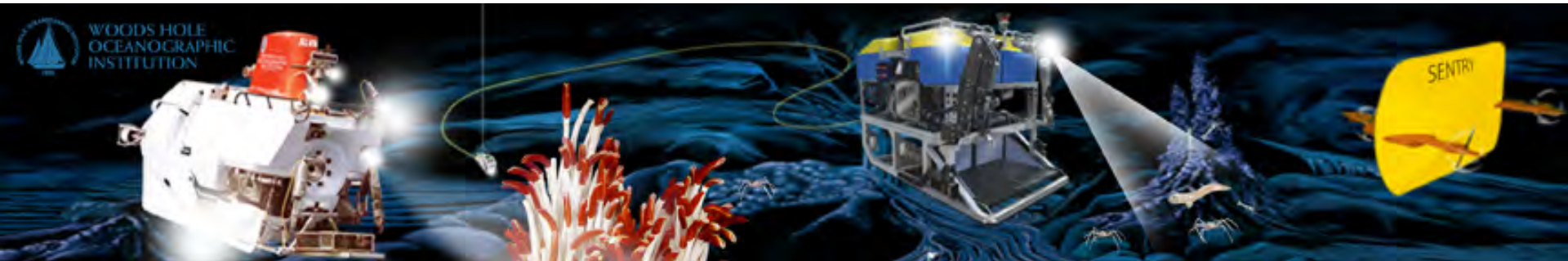

www.marine-geo.org/portals/ndsf/atp/
List
Map
Vehicle
ALVIN
Cruise ID
All
Feature (search string)
e.g. Biotransect
Minimum Longitude
Minimum Latitude
Maximum Longitude
Maximum Latitude
Start Date
2015-01-01
End Date
2015-12-31
Search
Download Results
as:
GeoJSON
Read about the
NDSF Dive Metadata Web Service
Base Layers
NDSF Dives
lon: 72.773438
lat: 33.431441
elev: 470 m
Google
Bathymetry ©2016 GMRT
200 km
Terms of Use


www.marine-geo.org/portals/ndsf/atp/
List
Map
Vehicle
JASON2
Cruise ID
All
Feature (search string)
e.g. Biotransect
Minimum Longitude
Minimum Latitude
Maximum Longitude
Maximum Latitude
Start Date
2014-01-01
End Date
2014-12-31
Search
Download Results
as:
GeoJSON
Read about the
NDSF Dive Metadata Web Service
Base Layers
NDSF Dives
lon: 72.773438
lat: 33.431441
elev: 470 m
Google
Bathymetry ©2016 GMRT
200 km
Terms of Use


www.marine-geo.org/portals/ndsf/atp/
List
Map
Vehicle
All
Cruise ID
All
Feature (search string)
e.g. Biotransect
Minimum Longitude
-109.3359
Minimum Latitude
5.2660
Maximum Longitude
-99.6680
Maximum Latitude
16.1303
Start Date
e.g. 1980-01-01
End Date
e.g. 2015-12-31
Search
Download Results
as:
GeoJSON
GML
CSV
Shapefile (zip)
Read about the
NDSF Dive Metadata Web Service
Base Layers
NDSF Dives
lon: 174.375000
lat: 48.574790
elev: -4808 m
Google
Bathymetry ©2016 GMRT

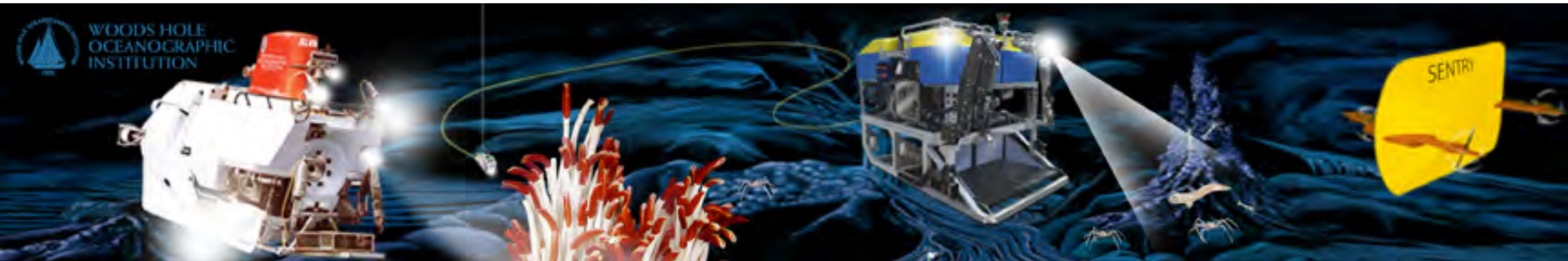
NDSF FrameGrabs Web Service: Goals

- Enable rapid searching across ALL Alvin FrameGrabber & Jason Virtual Van events based on:
  - Event text
  - Location & Date
  - Dive ID
  - Vehicle



NDSF FrameGrabs Web Service: Status

- Harvested all metadata from 4dgeo site
  - Images still reside on WHOI server
  - Created "dive track" from event positions
- Developed initial schema, ingestion tools, service and search UI
- Developed UI for reviewing results
- *Next steps: Review, Refine, Release*



NDSF Framegrab Web Service

Description | URL Builder

Description

The NDSF Framegrab Service provides access to metadata and images (framegrabs) captured by NDSF marine vehicles, primarily Alvin and Jason II. Results can be filtered with a number of query parameters, and returned in CSV, GML, GeoJSON, or Shapefile formats. This is a GeoWS compliant service.

Usage

Image Request Base URL

```
http://www.marine-geo.org/services/framegrabs.php?
```

Examples

```
http://www.marine-geo.org/services/framegrabs.php?minlon=-45&minlat=-90&maxlon=45&maxlat=90&vehicle_name=Alvin
http://www.marine-geo.org/services/framegrabs.php?vehicle_name=Jason-II&format=geojson
```

Query Parameters

name	example	description
minlon	-10.0	The easternmost longitude.
maxlon	10.0	The westernmost longitude.
minlat	-10.0	The southernmost latitude.
maxlat	10.0	The northernmost latitude.
starttime	1980-10-29	Include framegrabs only after this time.
endtime	2015-11-15	Include framegrabs only before this time.
cruise_id	AT11-06	Include framegrabs from this cruise.
vehicle_name	Alvin	Include dives by this vehicle only.
dive_name	J2-093	Retrieve the framegrabs from this dive only.
feature_name	transect	Search for dive features containing this string, and return all associated framegrabs.
event_text	Seadata1	Search for event text containing this string.
format	geojson	Return results in this format. Valid formats are csv, xml, geojson, and shapezip.
download	false	Download data instead of displaying in the browser.

NDSF Framegrab Search

Search millions of images captured by NDSF vehicles

Read about the NDSF Framegrab Web Service

Vehicle	All
Cruise ID	All
Dive Name	3866
Feature (search string)	e.g. Biotransect
Event Text	e.g. Sample
Minimum Longitude	
Minimum Latitude	
Maximum Longitude	
Maximum Latitude	
Start Date	e.g. 1980-01-01
End Date	e.g. 2015-12-31

Search | View in photobrowser

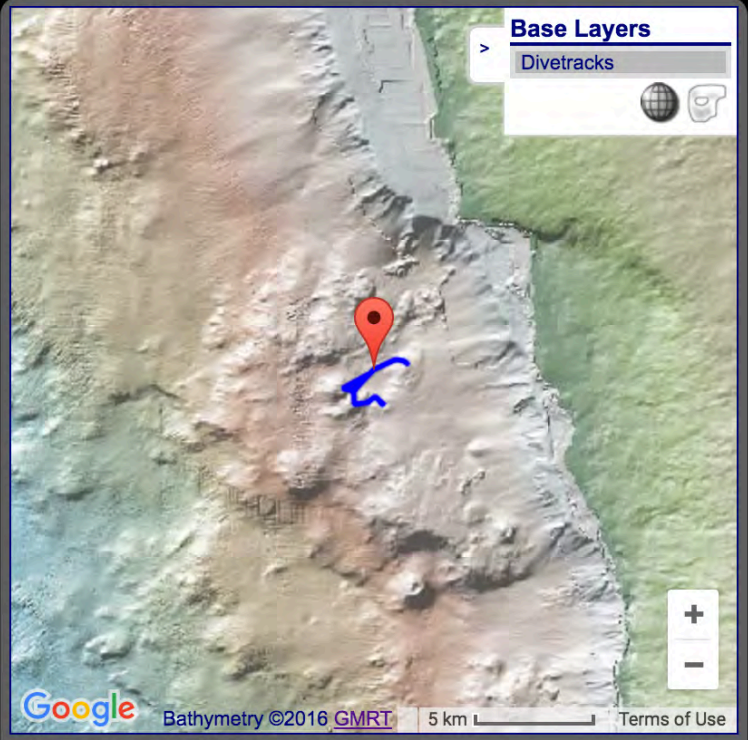
Download Results as: GeoJSON

Result Count: 70 *(max: 1000)*

View in Photobrowser	Cruise ID	Dive Name	Vehicle Name	Feature Name	Dive Start	Dive End	Longitude	Latitude	DAQ Type	Time	Local x	Lo
View	AT07-34	3866	ALVIN	Mid-atlantic Ridge	2003-05-01 14:02:53-	2003-05-01 14:37:55-	-42.118711	30.12398	ASNAP	2003/05/01 18:03:23	6233.205	10

Feedback

JASON II Dive J2-013 TN151 (Hawaii 2002)



Location: Hawaiian Islands Seafloor Depth: 1434.429m

Time (UTC)	2002/10/27 19:12:42
Event Text	TAKING SAMPLE #9
Event Type	TXT
DAQ Type	EVT

Navigation	
Position	155.983922°W 19.43056519°N (JAS2)
Local XY	1688.652m (X), 1538.079m (Y)
Roll	-0.81°
Pitch	-14.13°
Heading	76.29°
Vehicle Depth	1431.459m
Altitude	2.97m (JAS)
Local Origin	

Read about the NDSF Framegrab Web Service

ALVIN Dive 3866 AT07-34 (Lost City)

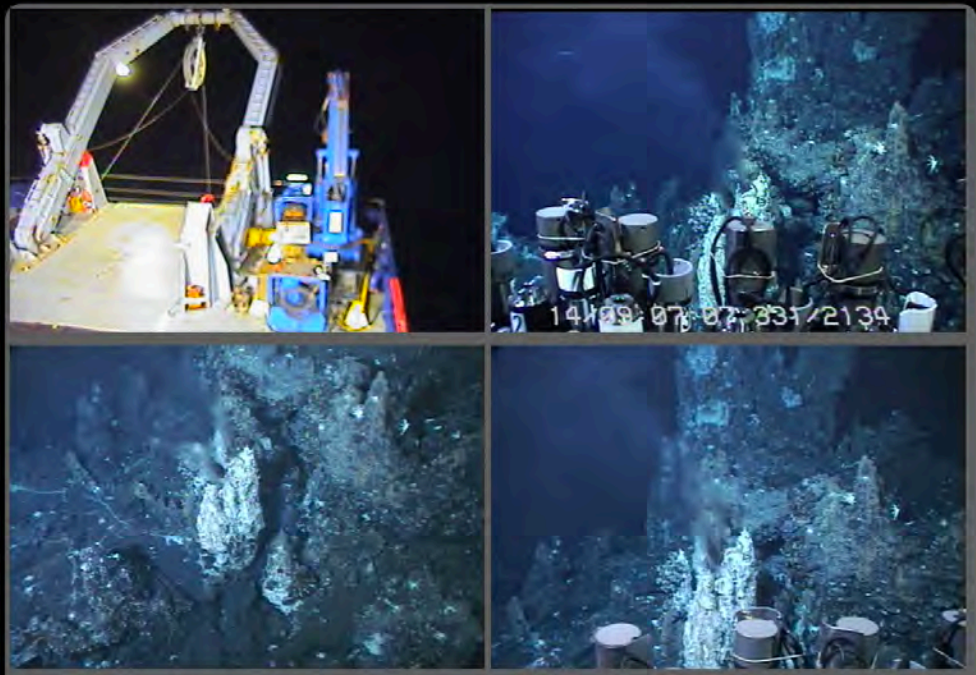
Location: Mid-Atlantic Ridge Seafloor Depth: 806.379m

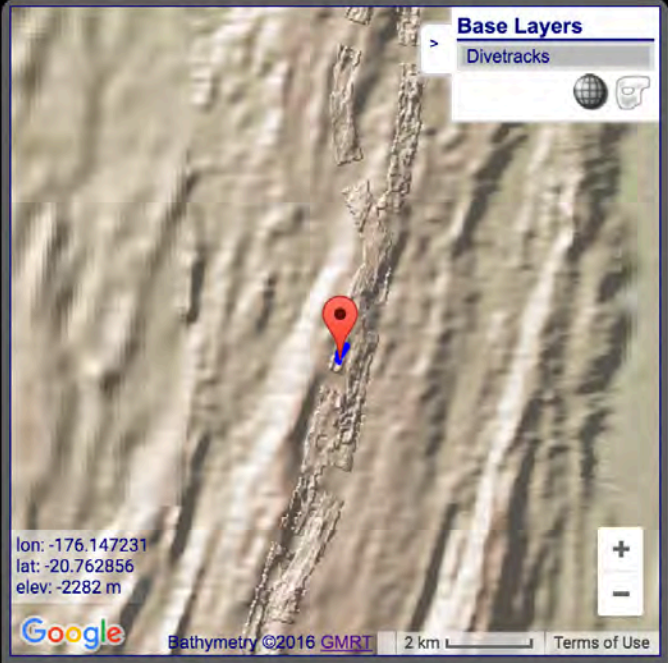
Time (UTC)	2003/05/01 18:13:54
Event Text	
Event Type	
DAQ Type	ASNAP

Navigation	
Position	42.11871°W 30.12398°N (PWHANA)
Local XY	6233.288m (X), 10048.144m (Y)
Roll	-2.056°
Pitch	-2.683°
Heading	235.223°
Vehicle Depth	800.979m
Altitude	5.4m
Local Origin	

Read about the NDSF Framegrab Web Service

JASON II Dive J2-129 TUIM05MV (Laubasin_2005)





Location: Lau Basin Seafloor Depth: 2136.393m

Time (UTC)	2005/04/14 09:07:06
Event Text	
Event Type	
DAQ Type	ASNAP

Navigation	
Position	176.19287305000003°W 20.76606441°S (RNV.JAS2.LBL.v1)
Original Position	7684.696°E 7450.112°N (JAS2)
Local XY	7680.96m (X), 7447.3m (Y)
Original Local XY	7684.696m (X), 7450.112m (Y)
Roll	2.21°
Pitch	-6.06°
Heading	331.15°
Vehicle Depth	2134.28m
Altitude	2.113m
Local Origin	
Original Nav Source	JAS2

Read about the NDSF Framegrab Web Service

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Questions?