

OBIS DATA ACCESS

PIETER PROVOOST
OBIS DATA MANAGER

MAPPER

Ocean Biogeographic Information System

HOME ABOUT MAPPER DATA MANUAL COMMUNITY GOVERNANCE SPONSOR LIBRARY CONTACT

Data Search

Update map | Show results Options

Taxa

Mola mola X

Click to search & browse taxa

Datasets

Click to search & browse datasets

Region

Date & Season

Oceanography

Taxa Search

Scientific name begins with enter taxon name (> 4 letters for live search)

Taxonomic Tree

- Cetaceaniformes
- Salmoniformes
- Scorpaeniformes
- Siluriformes
- Stephanobercyiformes
- Stomiiformes
- Synbranchiformes
- Syngnathiformes
- Teleostei
- Tetraodontiformes
 - Aracanidae
 - Balistidae
 - Diodontidae
 - Molidae
 - Masturus
 - Mola
- Mola mola
- Mola ramsayi
- Orthagoriscus - invalid
- Orthagoriscus - invalid
- Ranzania
- Monacanthidae
- Ostraciidae
- Tetraodontidae
- Triacanthidae
- Triacanthodidae
- Tridontidae
- Zeiformes
- Actinopterygii
- Coelacanthi
- Dipneusti
- Elasmobranchii

Taxon Information

Summary Data sources Links

Scientific name Mola mola
Authority (Linnaeus, 1758)
Rank Species
Common names Giant sunfish (English)
Headfish (English)
Mola ocean sunfish (English)
Moonfish (English)
Ocean Sunfish (English)
ocean sunfish (English)
sun-fish (English)
sunfish (French)

OBIS Taxon ID 472375
WoRMS AphiaID 127405
ITIS TSN 173414
Geographic coverage -179 -52.200007629395,178.100006103516 64.2000045776367
Temporal coverage 1758-07-02 - 2015-11-17
#records this rank 11,261

Environmental Information

Bottom depth	-868 - 5,555	m
Sample depth	0 - 2,450	m
Temperature	3.126 - 27.163	°C
Nitrate	0.328 - 39.141	umol/l
Salinity	30.653 - 38.101	PPS
Oxygen	1.078 - 7.729	ml/l
Phosphate	0.045 - 2.682	umol/l
Silicate	0.889 - 25.837	umol/l



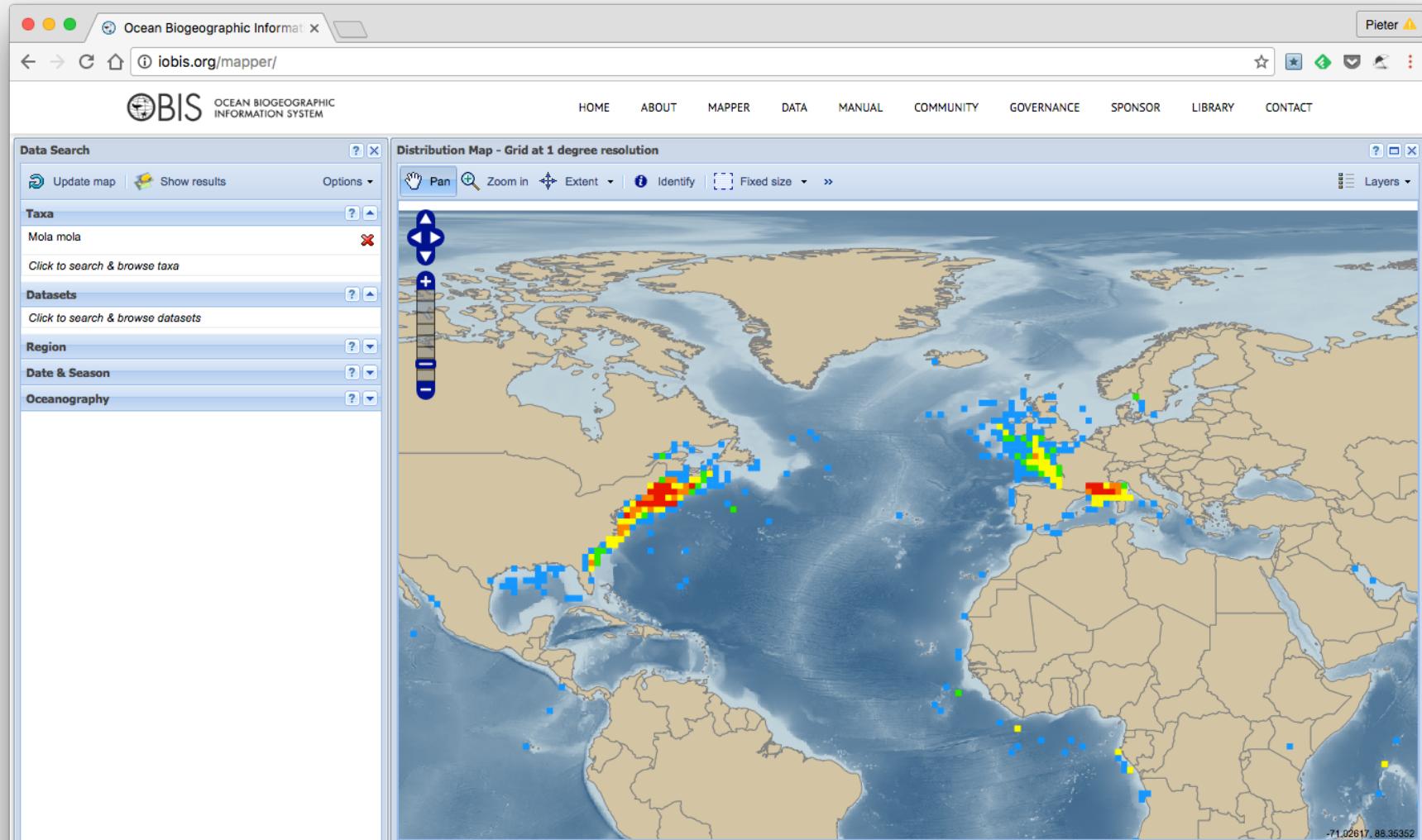
IOBIS

in f

S

GRAPHIC INFORMATION SYSTEM

MAPPER



IOBIS

in f t You

S

GRAPHIC INFORMATION SYSTEM

MAPPER

Ocean Biogeographic Information System

HOME ABOUT MAPPER DATA MANUAL COMMUNITY GOVERNANCE SPONSOR LIBRARY CONTACT

Data Search

Update map | Show results Options

Taxa

Mola mola X

Click to search & browse taxa

Datasets

Click to search & browse datasets

Region

Date & Season

Dates -

Months Click to edit

Oceanography

Distribution Map - Grid at 1 degree resolution

Show results

Records Taxa Datasets Graph Download

Scientific	Author	Dataset	Date	Lat	Lon
Mola mola	(Linnaeus, 1758)	Angolan Trawl Survey Data	1986-02-13	-8.616666667	13.01333333
Mola mola	(Linnaeus, 1758)	Atlantic Reference Centre Museum of C	39.0166666	-56.1583	
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2001-07-02	-32.75	114.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2000-07-02	-22.25	113.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-29.75	158.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2001-07-02	-26.25	153.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2000-07-02	-28.25	156.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2000-07-02	-28.25	154.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2001-07-02	-28.75	155.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2000-07-02	-32.75	114.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-27.25	158.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2001-07-02	-30.75	156.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-24.75	154.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-35.25	151.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-28.25	112.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-25.75	157.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2001-07-02	-36.75	151.75
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2000-07-02	-30.75	153.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-31.75	153.25
Mola mola	(Linnaeus, 1758)	Bureau of Rural Sciences, Commercial I	2002-07-02	-36.75	150.75

Page 1 of 113 | Records 1 - 100 / 11261 | Show all attributes | Feedback



MAPPER

The screenshot shows the iOBIS Mapper interface. At the top, there's a navigation bar with links for HOME, ABOUT, MAPPER, DATA, MANUAL, COMMUNITY, GOVERNANCE, SPONSOR, LIBRARY, and CONTACT. A user profile 'Pieter' is visible on the right.

The main area is titled 'Distribution Map - Grid at 1 degree resolution'. It features a 'Show results' section with tabs for Records, Taxa, Datasets, Graph, and Download (which is selected). Below this, there are sections for Data Type (Summary, Points, Graph), Data Format (CSV, WFS, WMS, KML), and Download Status (instructions to allow pop-ups).

On the left, there's a 'Data Search' sidebar with sections for Taxa (listing 'Mola mola'), Datasets, Region, Date & Season (with dropdown menus for Dates and Months), and Oceanography.



IOBIS

in f t You Tube

S

GRAPHIC INFORMATION SYSTEM

GEOSERVER

GeoServer: Layers Pieter

obis.org/geoserver/web/?wicket:bookmarkablePage=:org.geoserver.web.data.layer.LayerPage

GeoServer

Layers

Manage the layers being published by GeoServer

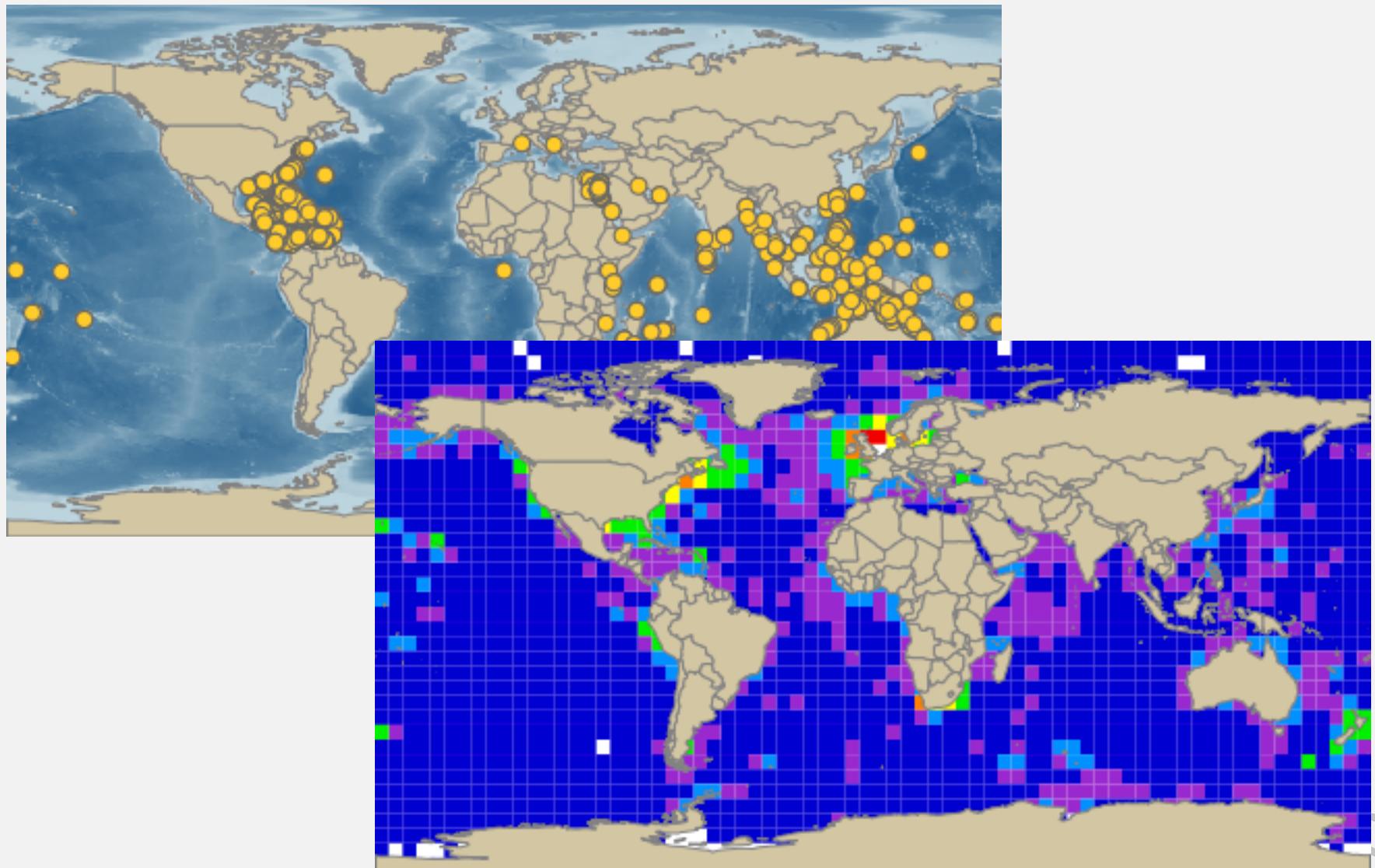
Add a new resource | Remove selected resources

<< << 1 2 >> >> Results 1 to 25 (out of 26 items) Search

Type	Workspace	Store	Layer Name	Enabled?	Native SRS
OBIS	OBIS Schema v2	summaries	✓	EPSG:4326	
OBIS	OBIS Schema v2	drs_with_woa	✓	EPSG:4326	
OBIS	OBIS Schema v2	mpa	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid4	✓	EPSG:4326	
OBIS	OBIS Schema v2	mwhs	✓	EPSG:4326	
OBIS	OBIS Schema v2	points_ex	✓	EPSG:4326	
OBIS	OBIS Schema v2	dist_sp_res	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid3	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid1	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid5	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid2	✓	EPSG:4326	
OBIS	OBIS Schema v2	ih0	✓	EPSG:4326	
OBIS	OBIS Schema v2	lme66	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid6	✓	EPSG:4326	
OBIS	OBIS Schema v2	lme	✓	EPSG:4326	
OBIS	OBIS Schema v2	hexgrid	✓	EPSG:4326	
OBIS	OBIS Schema v2	eezs	✓	EPSG:4326	
OBIS	OBIS Schema v2	meow	✓	EPSG:4326	
OBIS	OBIS Schema v2	dist_sp	✓	EPSG:4326	
OBIS	GEBCO_relief	GEBCO_relief	✓	EPSG:4326	
OBIS	GEBCO	GEBCO	✓	EPSG:4326	
Background	Background	WMB	✓	EPSG:4326	
Background	Background	Longhurst_v4_Color	✓	EPSG:4326	
Background	Background	country	✓	EPSG:4326	

S GRAPHIC INFORMATION SYSTEM

GEOSERVER



API

- Documentation: <https://github.com/iobis/api-docs>
- Occurrences

```
http://api.iobis.org/occurrence?  
year=2005&scientificname=Cetacea
```



The screenshot shows a web browser window with the URL `api.iobis.org/occurrence?year=2005&scientificname=Cetacea`. The page displays a JSON response. The JSON object has a single result entry:

```
{  
  count: 22218,  
  offset: 0,  
  limit: 2000,  
  lastpage: false,  
  results: [  
    - {  
        id: 14333,  
        decimalLongitude: -69.9445877075195,  
        decimalLatitude: 43.051689147949205,  
        eventDate: "2005-07-11 01:42:36",  
        institutionCode: "GoMA",  
        collectionCode: "Platts Bank Aerial Survey",  
        catalogNumber: "996.00",  
        individualCount: 1,  
        datasetName: "Aerial survey of upper trophic level predators on PLatts Bank, Gulf of Maine",  
        phylum: "Chordata",  
        order: "Cetartiodactyla",  
        family: "Balaenopteridae",  
        genus: "Balaenoptera",  
        scientificName: "Balaenoptera acutorostrata",  
        originalScientificName: "Balaenoptera acutorostrata",  
        results[0].decimalLongitude  
      }  
  ]  
}
```

API

- Checklists

```
http://api.iobis.org/checklist?  
year=2005&scientificname=Cetacea
```

```
http://api.iobis.org/checklist?resourceid=3013
```

- Datasets

```
http://api.iobis.org/resource?scientificname=Mola
```

```
http://api.iobis.org/resource/3013
```

R PACKAGE

- <https://github.com/iobis/robis>

The screenshot shows the GitHub repository page for 'iobis / robis'. The repository name is 'robis' and it is described as 'R client for the OBIS API'. Key statistics shown include 59 commits, 1 branch, 0 releases, 3 contributors, and an MIT license. The commit history lists several changes made by 'pieterprovoost' over the past year, including better request logging, deprecated taxa, and changes to README files.

File	Description	Time Ago
R	better request logging	3 days ago
man	deprecated taxa and added nodeid	9 days ago
tests	deprecated taxa and added nodeid	9 days ago
.Rbuildignore	travis	10 months ago
.gitignore	first commit	11 months ago
.travis.yml	coveralls	10 months ago
DESCRIPTION	fix for hadley/httr#330	6 months ago
LICENSE.md	Create LICENSE.md	3 days ago
NAMESPACE	deprecated taxa and added nodeid	9 days ago
README.md	deprecated taxa and added nodeid	9 days ago
robis.Rproj	changed name to robis	10 months ago
README.md		

R PACKAGE

- Installation

```
install.packages("devtools")
devtools::install_github("iobis/robis")
require(robis)
```

- Help

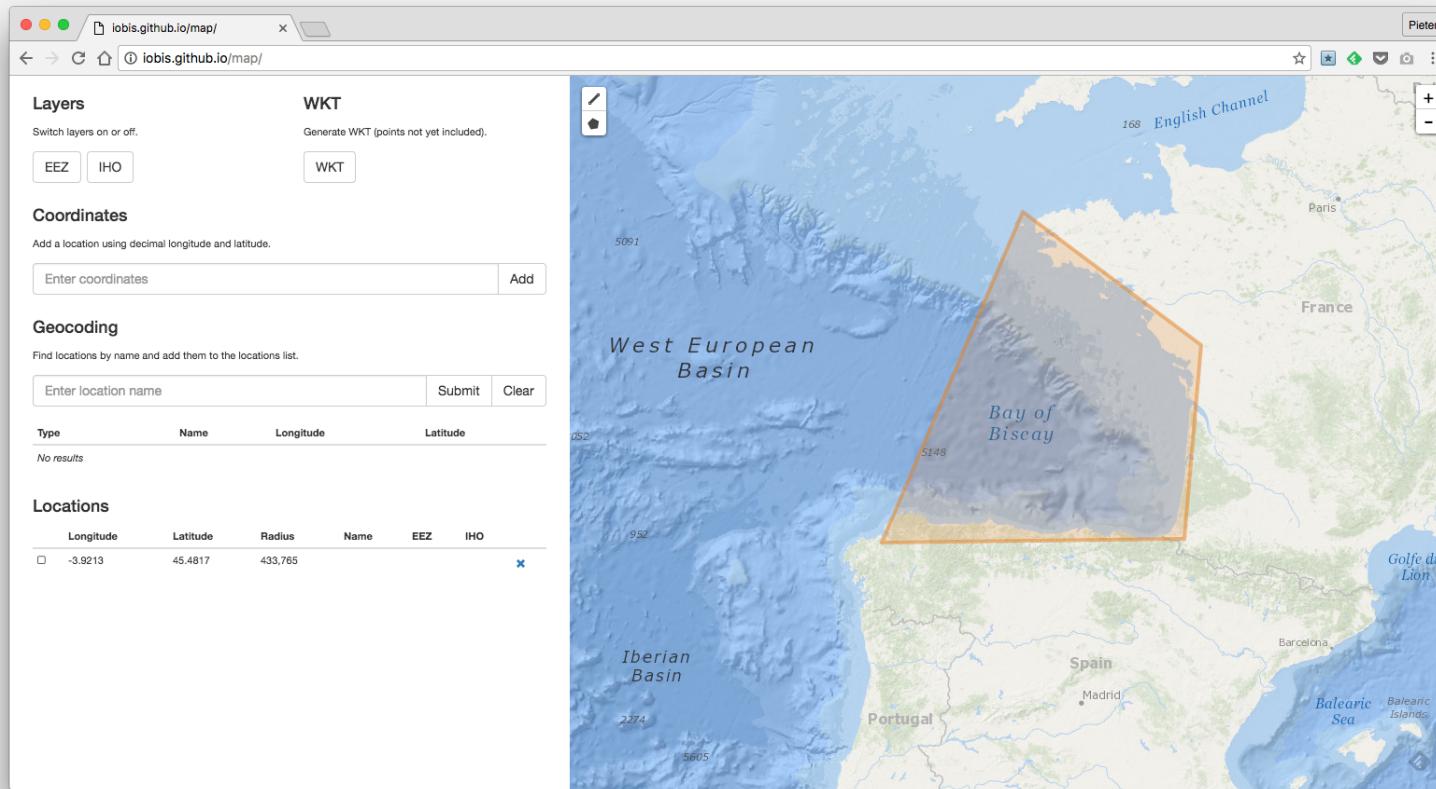
```
?robis
```

- Occurrences

```
> data <- occurrence("Abra alba")
Retrieved 33188 records of 33188 (100%)
```

R PACKAGE

- Spatial queries
 - WKT: https://en.wikipedia.org/wiki/Well-known_text
 - <http://iobis.github.io/map>



R PACKAGE

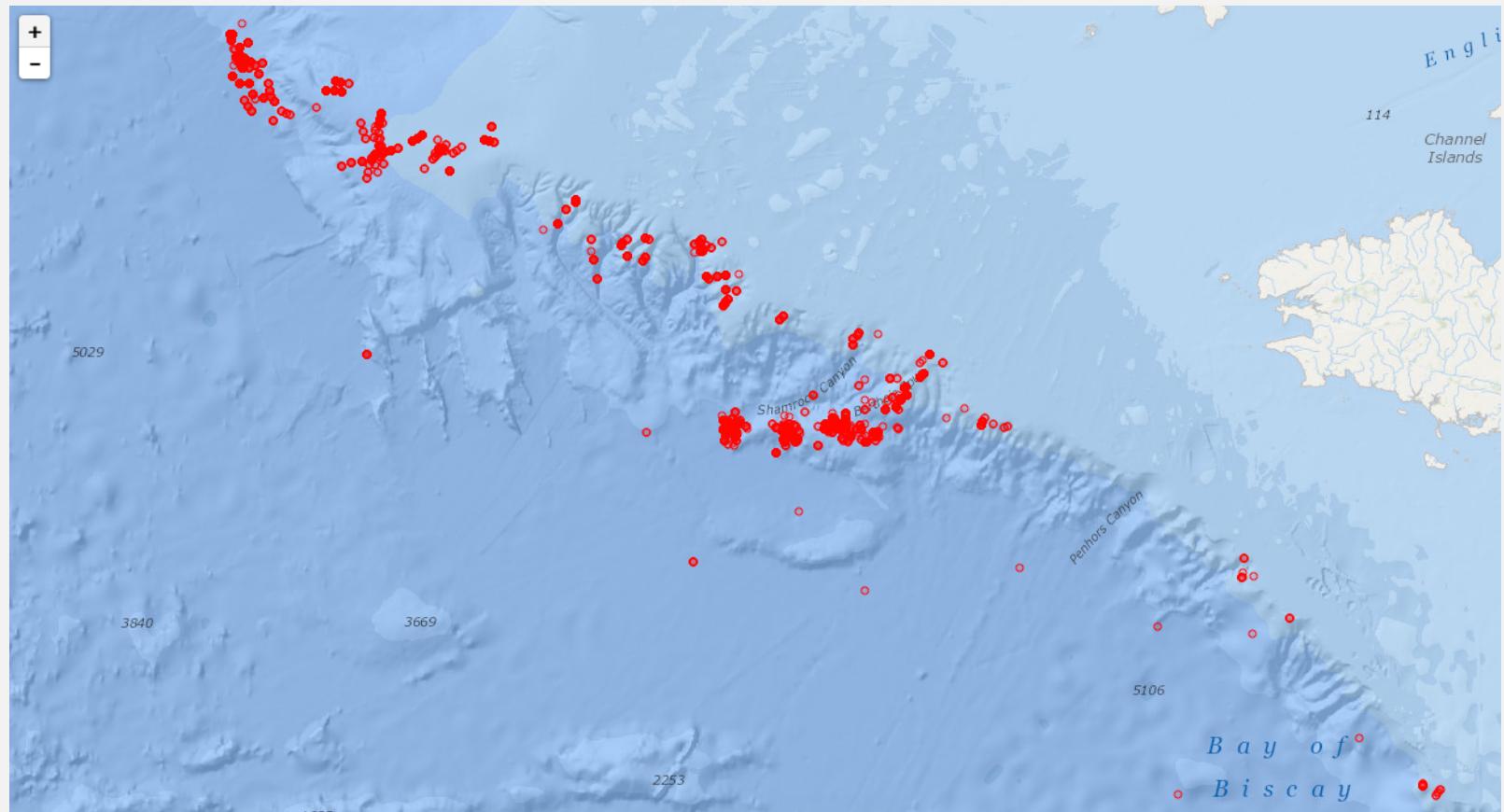
- Spatial queries

```
arthropoda <- occurrence("Arthropoda", geometry = "POLYGON  
((-14.19434 50.05008, -14.39209 48.04871, -2.76855  
44.32385, -2.06543 45.49095, -5.84473 47.73932, -14.19434  
50.05008)))")
```



R PACKAGE

- Spatial queries



R PACKAGE

- Checklists

```
require(robis)

data <- occurrence("Cnidaria", startdepth = 1000, geometry
= "POLYGON ((-33.92578 40.46367, -33.81592 28.38174, -
21.53320 28.32372, -22.39014 40.61395, -33.92578
40.46367))")
leafletmap(data)

taxa <- checklist("Cnidaria", startdepth = 1000, geometry
= "POLYGON ((-33.92578 40.46367, -33.81592 28.38174, -
21.53320 28.32372, -22.39014 40.61395, -33.92578
40.46367))")
```

R PACKAGE

- Checklists

RStudio

Project: (None)

test.R * taxa *

Filter

	id	valid_id	parent_id	rank_name	tname	tauthor
1	395571	395571	695224	Species	Abyla trigona	Quoy & Gaimard,
2	395612	395612	736983	Species	Abyssopathes lyra	(Brook, 1889)
3	395651	395651	395650	Species	Acanella arbuscula	(Johnson, 1862)
4	395941	395941	695247	Species	Acanthogorgia armata	Verrill, 1878
5	398126	398126	695313	Species	Actinoscyphia aurelia	(Stephenson, 191
6	398234	398234	748410	Genus	Adamsia	Forbes, 1840
7	398748	398748	398744	Species	Aqalma okeni	Eschscholtz. 182!

Showing 1 to 8 of 206 entries

Console ~/

```
>
> data <- occurrence("Cnidaria", startdepth = 1000, geometry = "POLYGON ((-33.92578 40.46367, -33.81592 28.38174, -21.53320 28.32372, -22.39014 40.61395, -33.92578 40.46367))")
Retrieved 2336 records of 2336 (100%)
> leafletmap(data)
> taxa <- checklist("Cnidaria", startdepth = 1000, geometry = "POLYGON ((-33.92578 40.46367, -33.81592 28.38174, -21.53320 28.32372, -22.39014 40.61395, -33.92578 40.46367))")
Retrieved 206 records of 206 (100%)
> View(taxa)
> |
```

Environment History

Import Dataset List

Global Environment

Data

- data 2336 obs. of 46 variables
- taxa 206 obs. of 15 variables

Files Plots Packages Help Viewer

Zoom Export

OCEAN

Atlantic Ridge Iberian Basin Canary

Leaflet | Tiles © Esri — Sources: GEBCO, NOAA, CHS, OSU, UNH, CSUMB, National Geographic, DeLorme, NAVTEQ, and Esri

DATA VISUALIZATION

R PACKAGE: QUALITY FLAGS

```
require(dplyr)
require(robris)
require(leaflet)

data <- occurrence("Acipenser oxyrinchus")
data <- data %>% mutate(score = qcflags(qc, c(28)))

pal <- colorNumeric(colorRamp(c("#cc3300", "#99cc00")),
                      domain = range(data$score))

leaflet() %>%
  addProviderTiles("CartoDB.DarkMatter") %>%
  addCircleMarkers(
    data = data %>%
      select(lat = decimalLatitude, lng = decimalLongitude),
    radius = 3,
    weight = 0,
    color = pal(data$score),
    fillOpacity = 1)
```

R PACKAGE: QUALITY FLAGS



R PACKAGE: QUALITY FLAGS

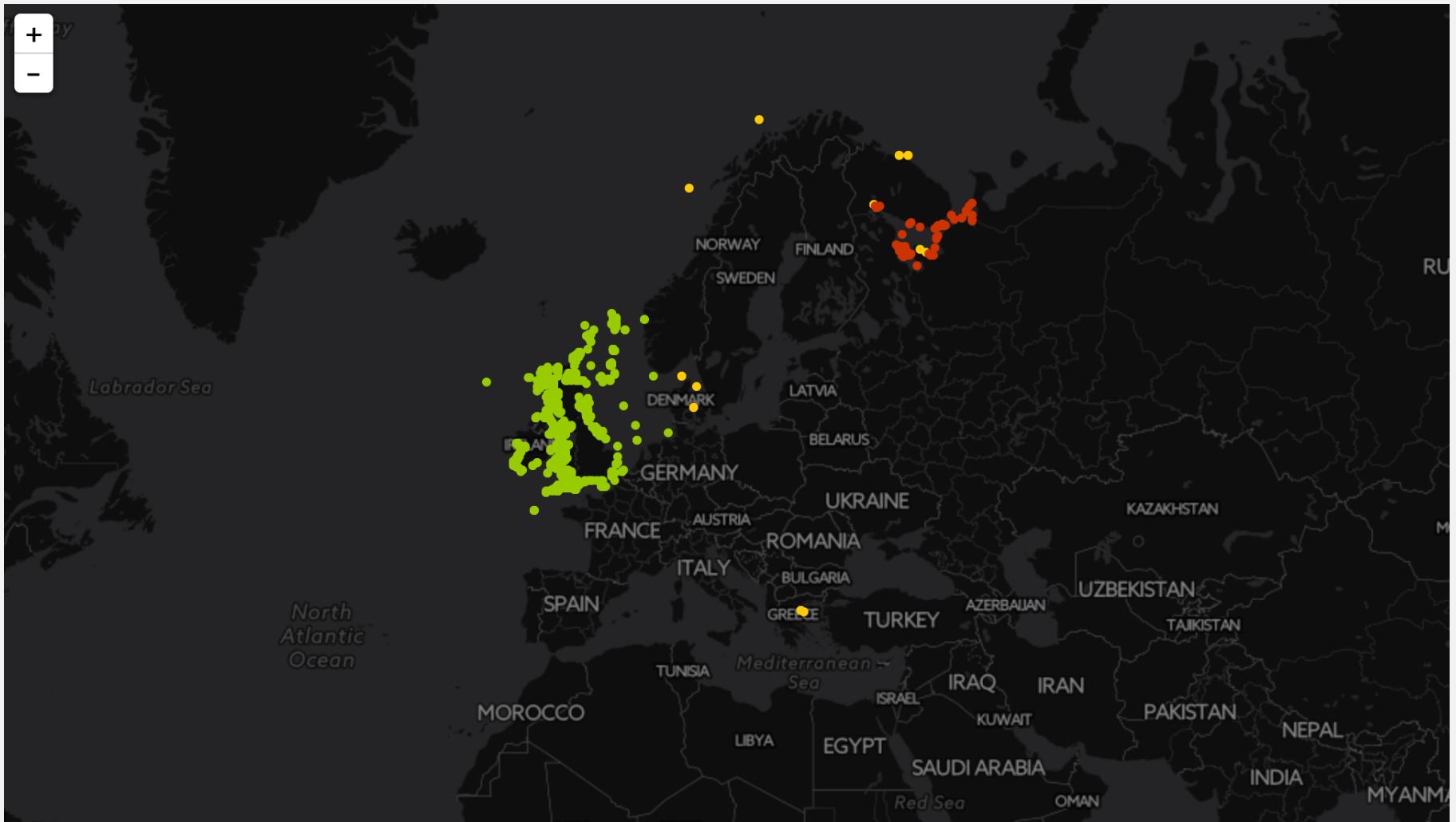
```
require(dplyr)
require(robis)
require(leaflet)

data <- occurrence("Verruca stroemii")
data <- data %>% mutate(score = qcflags(qc, c(24, 28)))

pal <- colorNumeric(colorRamp(c("#cc3300", "#99cc00")),
                      domain = range(data$score))

...
...
```

R PACKAGE: QUALITY FLAGS

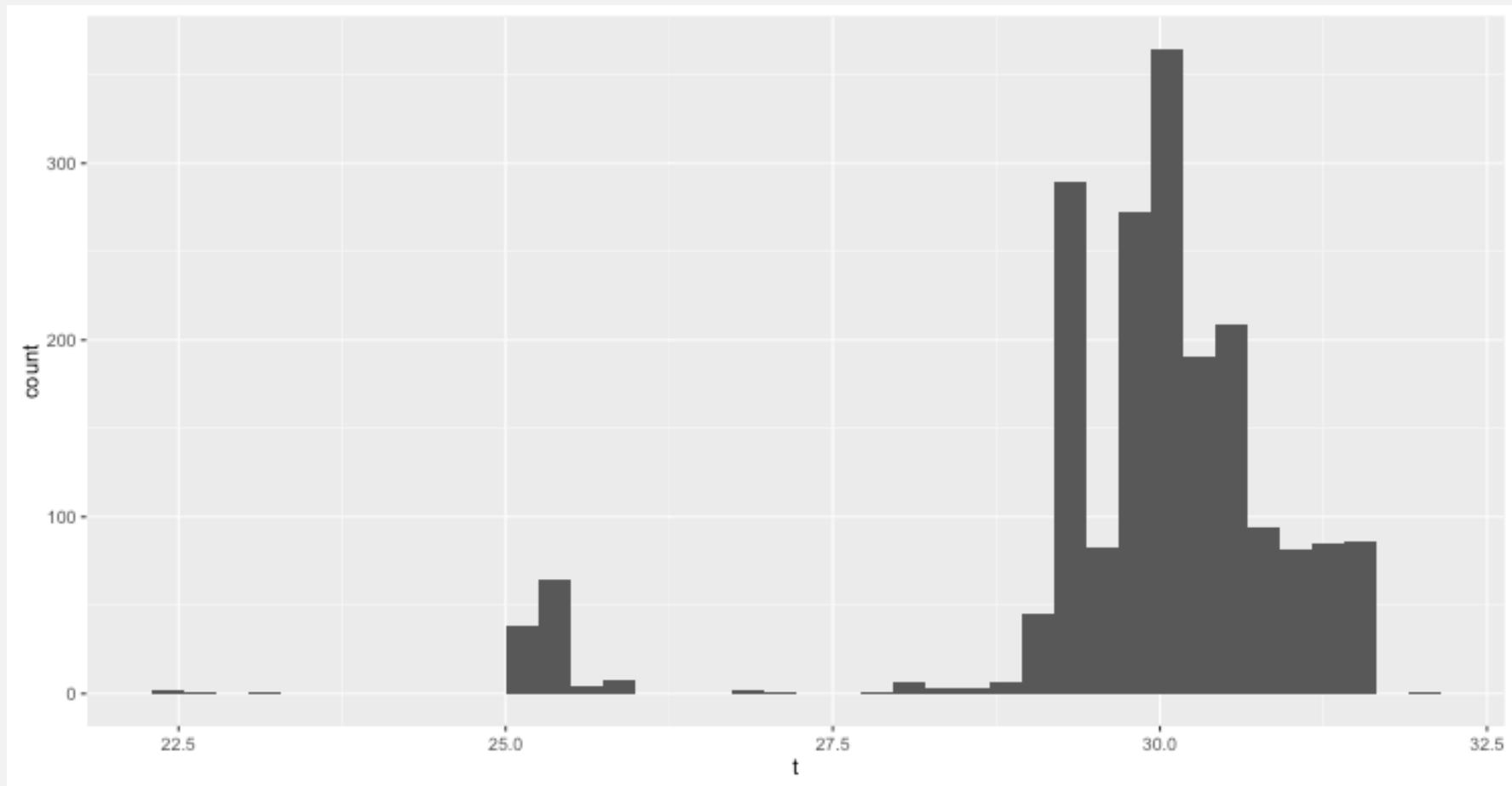


R PACKAGE: GEOTIFF/NETCDF

```
require(raster)

r <- raster("MYD28M_2016-09-01_rgb_3600x1800.TIFF")
plot(r)
r <- raster("A20162452016274.L3m_MO_SST_sst_4km.nc")
plot(r)
data <- occurrence("Millepora alcicornis")
coords <- data %>% select(decimalLongitude, decimalLatitude)
data$t <- extract(r, coords)
ggplot() + geom_histogram(data = data, aes(x = t), bins = 40)
```

R PACKAGE: GEOTIFF/NETCDF



QGIS

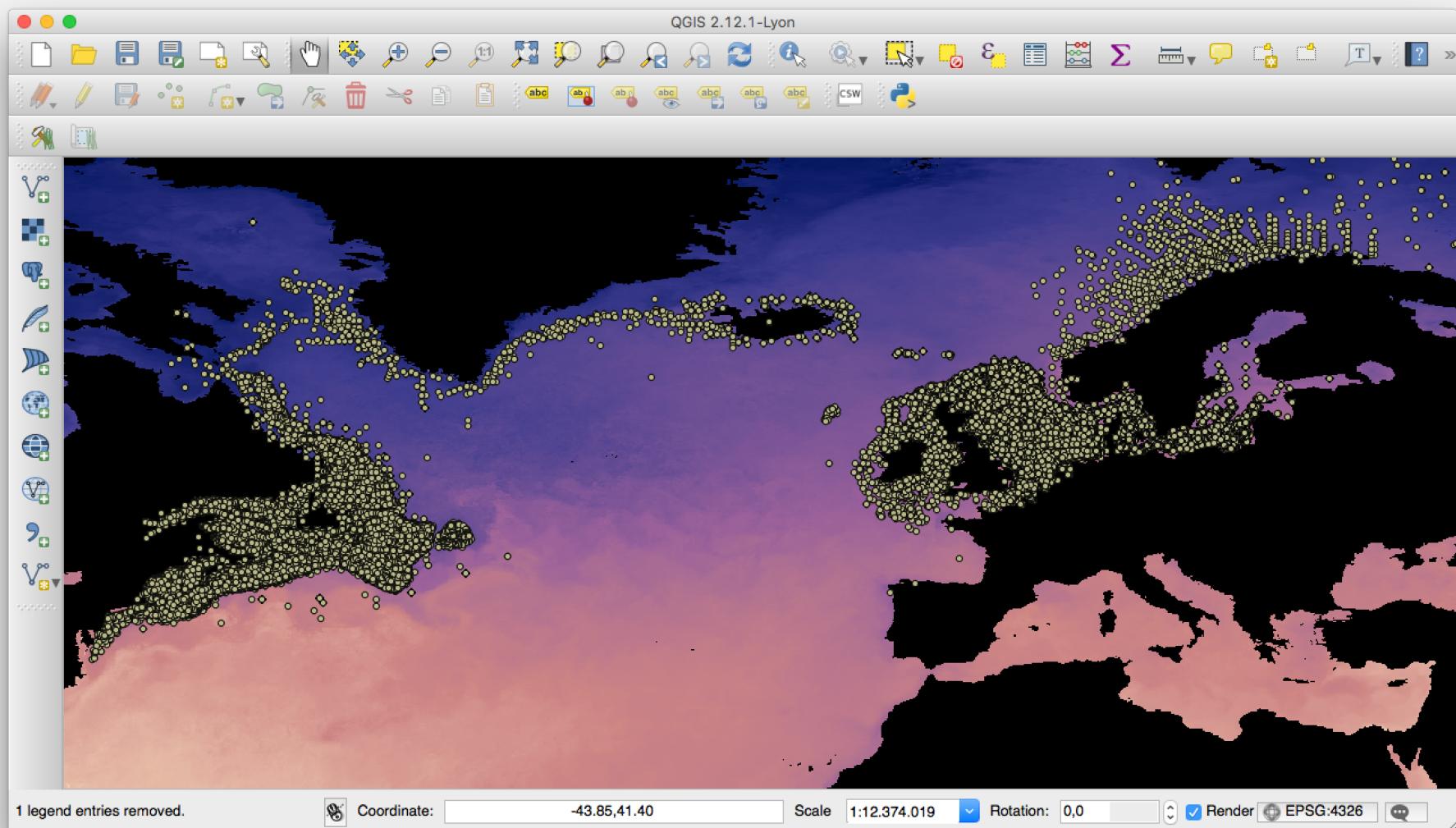
```
require(robis)
require(dplyr)

fields <- c("id",
           "decimalLongitude",
           "decimalLatitude",
           "depth",
           "yearcollected")

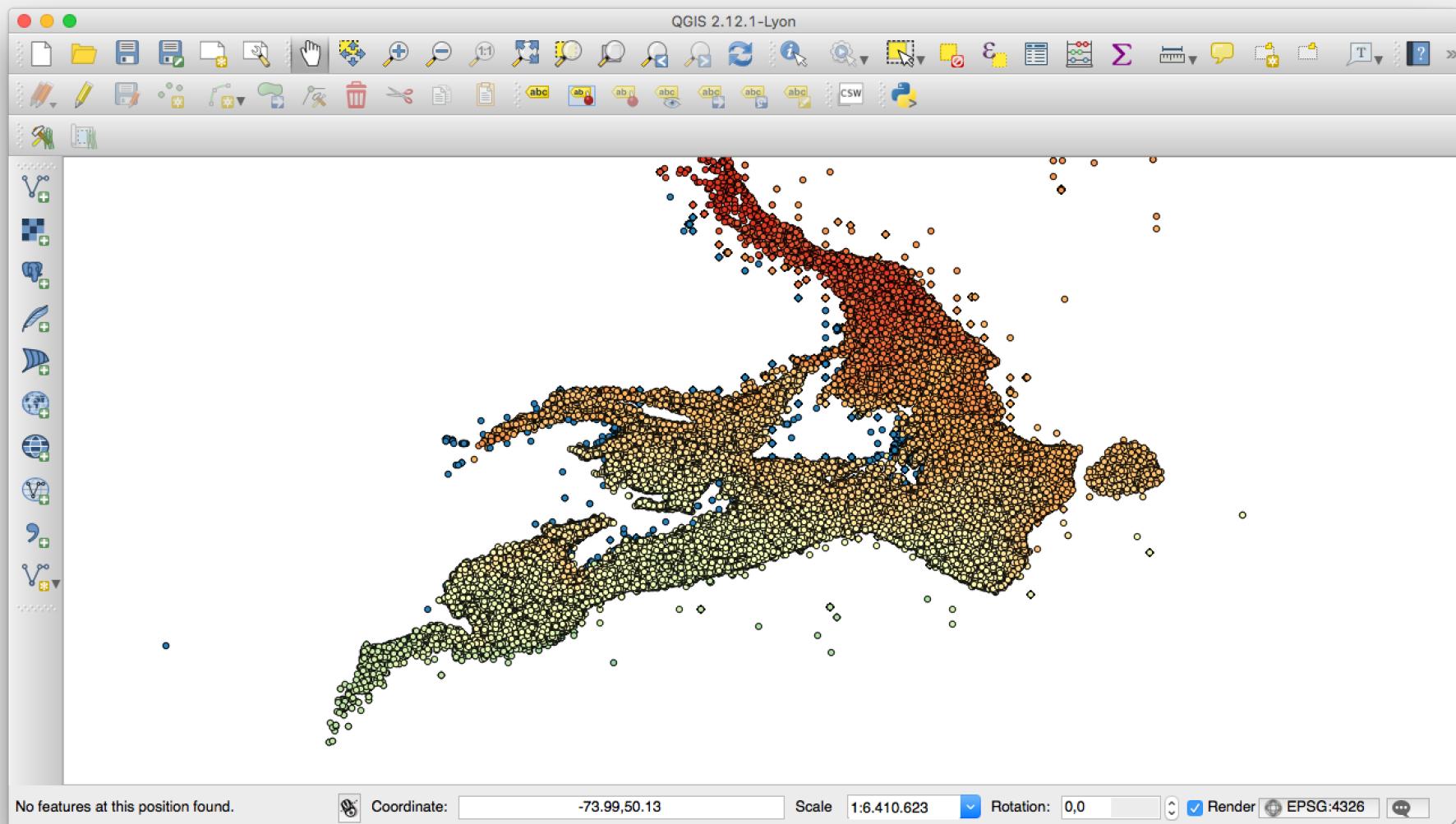
data <- occurrence("Gadus morhua", fields = fields)
write.csv(data, file = "gadus.csv", row.names = FALSE)

data <- occurrence("Millepora", fields = fields)
write.csv(data, file = "millepora.csv", row.names = FALSE)
```

QGIS



QGIS



QGIS

