



iMarine Data Services SDG 14.4

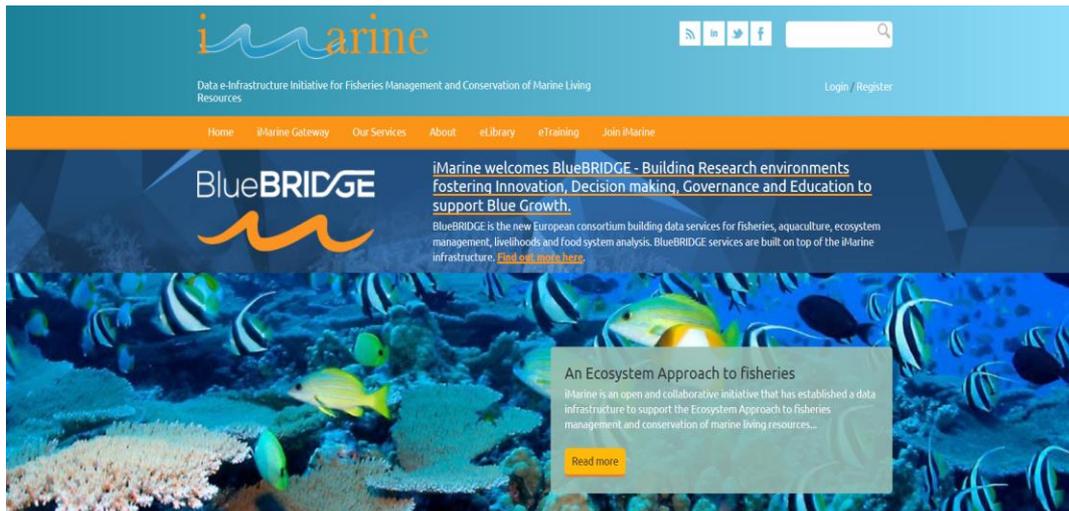
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Institution: FAO of the UN - iMarine

Session: 8 - 11:35
Day of presentation: 8 12 2016



In 1533, a **narwhal tusk cost** almost 6 times as much as **Michelangelo** was paid to paint the ceiling of the **Sistine Chapel**

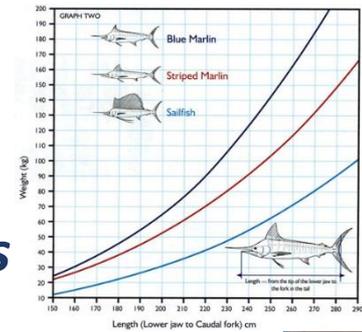
SDG 14.4 target	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
14.4.1	Proportion of fish stocks within biologically sustainable levels
14.2	By 2020, sustainably manage and protect marine and coastal ecosystems
14.5	By 2020, conserve at least 10 per cent of coastal and marine areas
14.a	Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries



iMarine: e-Infrastructure

BlueBRIDGE: Data services





*i*Marine services – Virtual labs and communities

- **Global Record of Stocks and Fisheries, (SDG 14.4.1)**

- Show status and trend of regional and global stocks and fisheries
- Responsible consumer practices by supporting certification (14.b)

- **Regional Databases (SDG 14.4.1)**

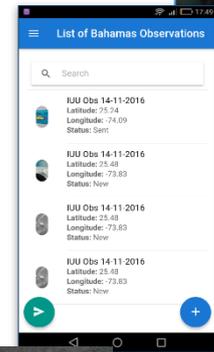
- Support Stock Assessment; data collation, harmonization and Analysis (CMSY, SS3,VPA,...)
- But also mobile data collection, portals, map display
- For example (test) http://vps282167.ovh.net/ocpudev/cmsy_reports/

- **Aquaculture detection (SDG 14.4 & 14.2)**

- Semi-automated identification from satellite imagery
- Combined with a vegetation classification (mangrove, padi, fishpond)

- **Assessment of Marine Areas; LME, MPA, EEZ (SDG 14.a)**

- Data access services for fisheries, biodiversity, habitats
- Analysis services; plot, review and compare maps, compute intersections





Global Record of Stocks and Fisheries (GRSF) (SDG 14.4.1)

With the objectives to

- **Show the status and trend** of regional and global stocks and fisheries
- **Support responsible consumer practices** by supporting certification
 - Combine the knowledge of 3 organizations (FAO-FiRMS, RAM, and SFP) in a dynamic on-line knowledge base
 - Create a platform (VRE) to match and merge core information related to stocks, but also ancillary information such as socio-economic context
 - Develop a collaboration to create a rich information platform for stock and fisheries related information



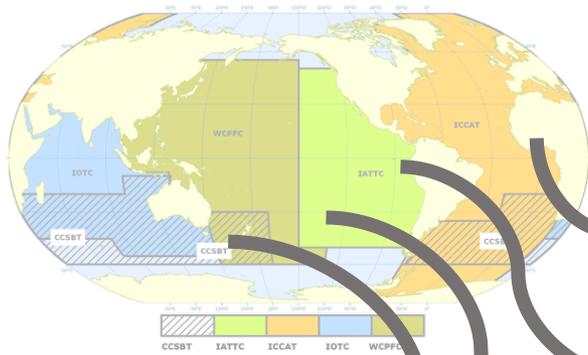
Global Tuna Atlas SDG14.1

An iMarine data-flow; from fishnet to internet

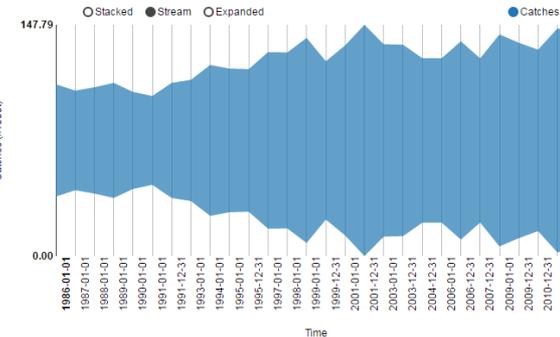
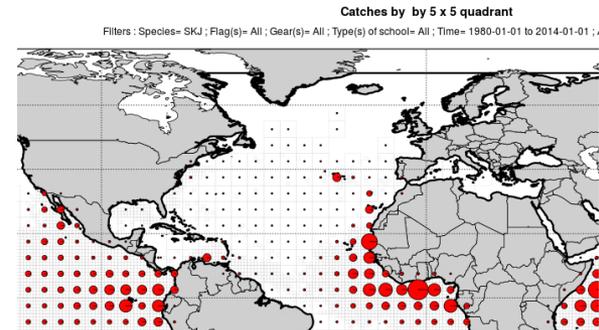
Collate global public tRFMO data

Integrate and harmonize

Publish locally and in 'your' website



Year	Q1	Q2	Q3	Q4	Total
1985	1000	1200	1100	1300	4600
1986	1100	1300	1200	1400	5000
1987	1200	1400	1300	1500	5400
1988	1300	1500	1400	1600	5800
1989	1400	1600	1500	1700	6200
1990	1500	1700	1600	1800	6600
1991	1600	1800	1700	1900	7000
1992	1700	1900	1800	2000	7400
1993	1800	2000	1900	2100	7800
1994	1900	2100	2000	2200	8200
1995	2000	2200	2100	2300	8600
1996	2100	2300	2200	2400	9000
1997	2200	2400	2300	2500	9400
1998	2300	2500	2400	2600	9800
1999	2400	2600	2500	2700	10200
2000	2500	2700	2600	2800	10600
2001	2600	2800	2700	2900	11000
2002	2700	2900	2800	3000	11400
2003	2800	3000	2900	3100	11800
2004	2900	3100	3000	3200	12200
2005	3000	3200	3100	3300	12600
2006	3100	3300	3200	3400	13000
2007	3200	3400	3300	3500	13400
2008	3300	3500	3400	3600	13800
2009	3400	3600	3500	3700	14200
2010	3500	3700	3600	3800	14600



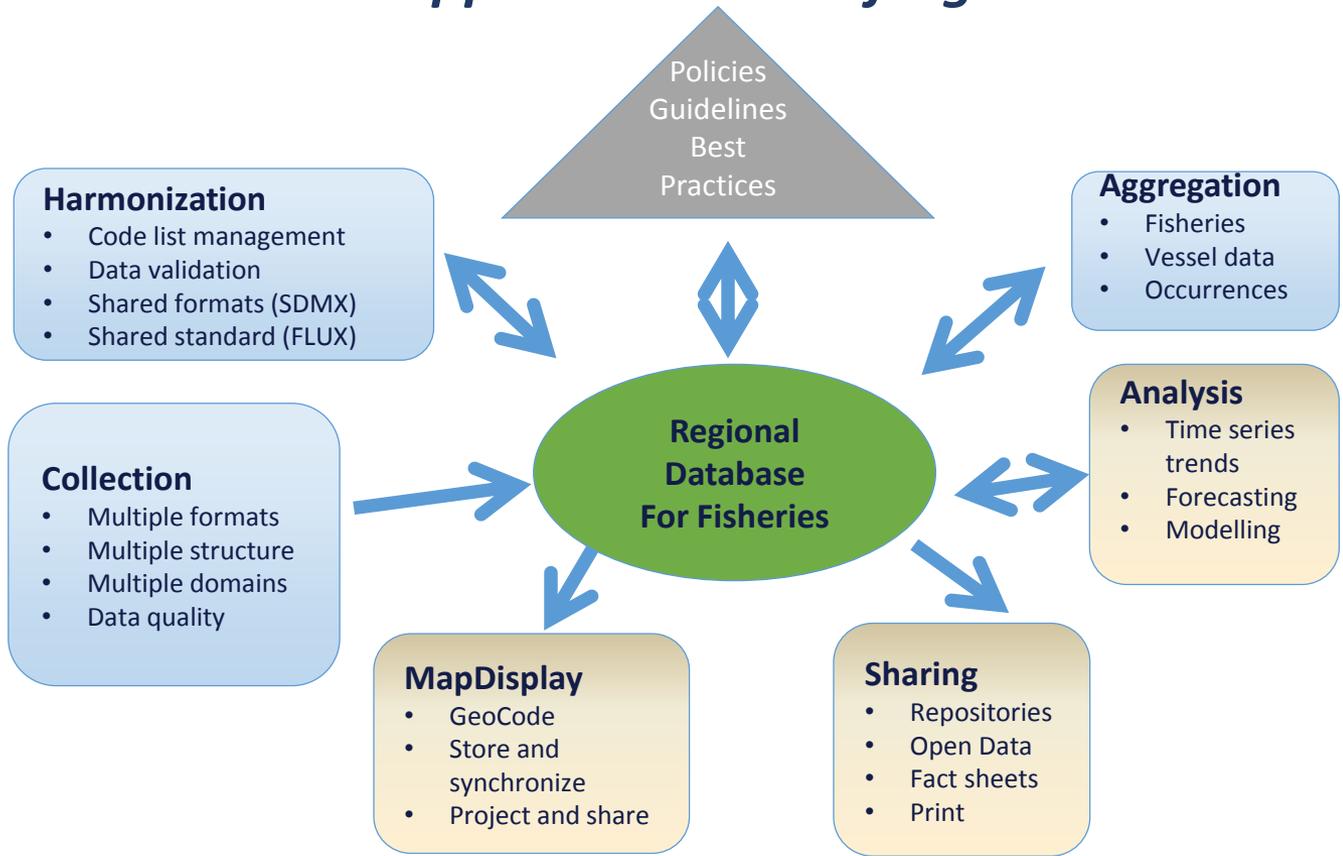
[From sites to sharing /BlueBridge/Tuna Atlas/](#)



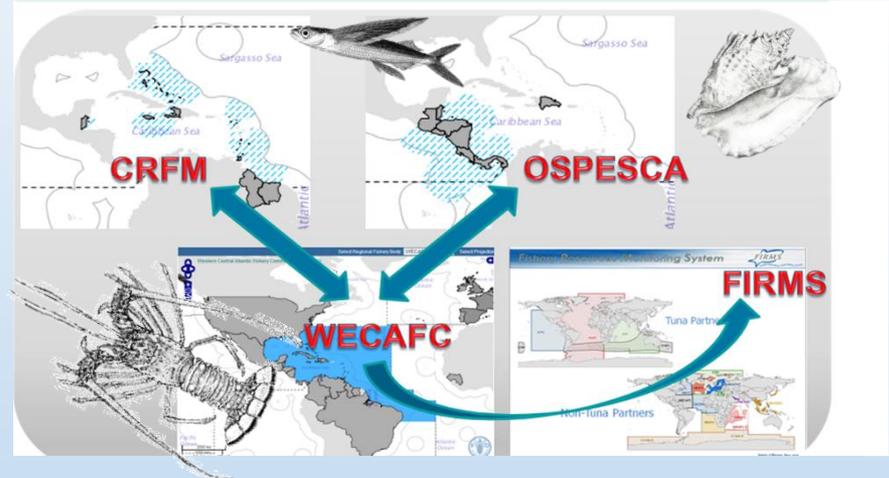


The iMarine Regional Database approach reduces fragmentation

- Not for a specific region
- But a generic DB
- With local data
- And global services

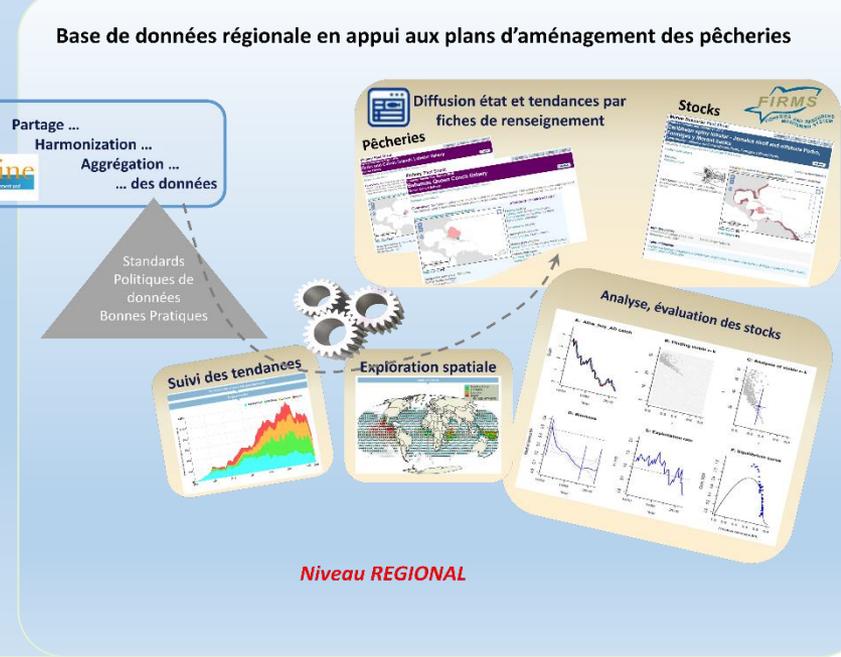
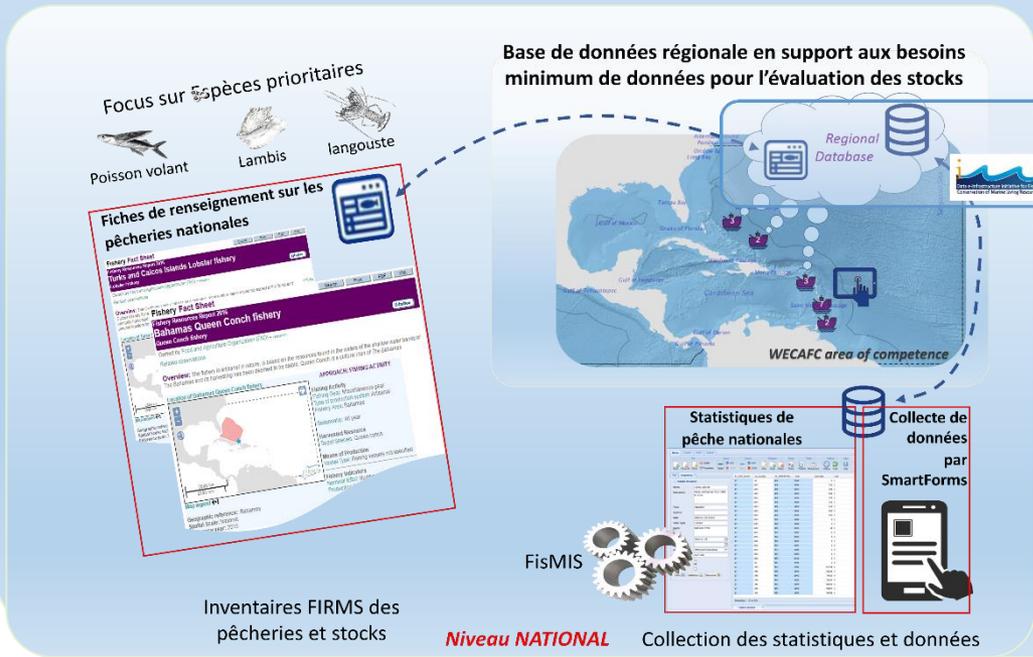


WECAFC-FIRMS Regional Database In support to Stock Assessment and Regional Fishery Management Plans (SDG14.4.1)

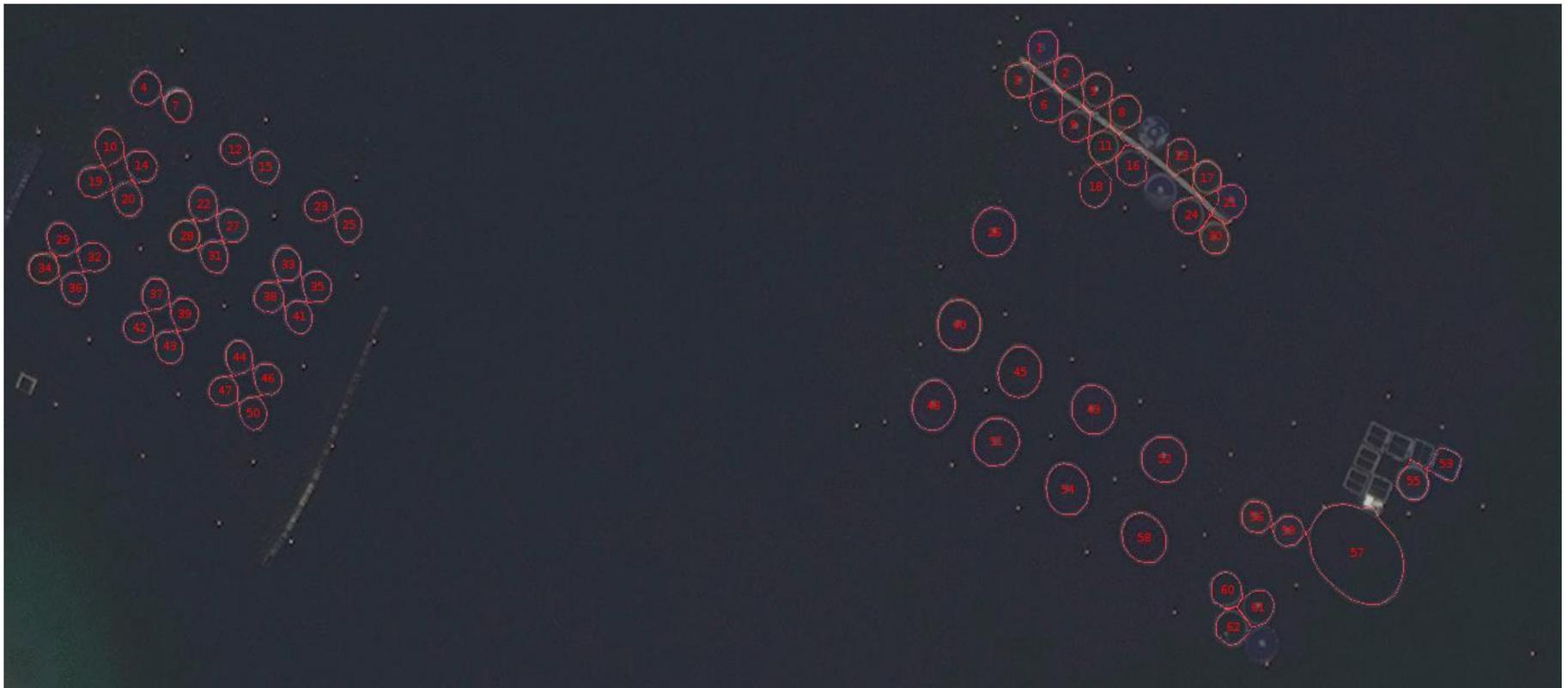


iMarine and BlueBRIDGE enable:

- WECAFC RDB Capacity development
- Services for stock assessment
- FIRMS dissemination
- State of stocks to CLME+ DSS on
- State of Marine Environment



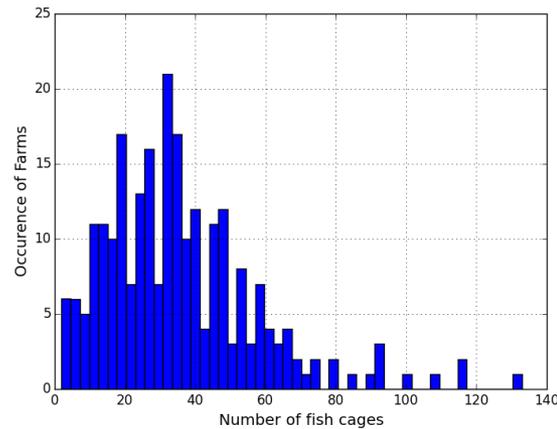
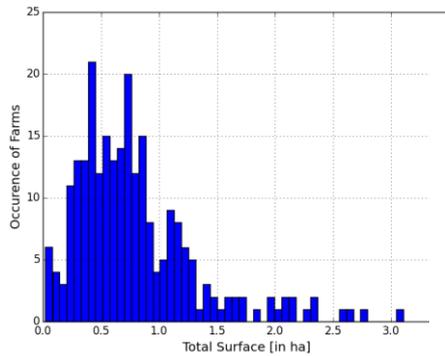
The iMarine platform for Aquaculture Inventories (SDG 14.2 & SDG 14.5)



The iMarine platform for Aquaculture Inventories

semi-automated identification based on satellite imagery (with CLS)

- Detect aquaculture structures
- Using free optical image analysis
- To facilitate environmental monitoring
- And spatial planning





iMarine - to support marine spatial planning (SDG 14.a)

- Analyze the features of a marine managed area (e.g. LME, MPA, EEZ) using standard and relevant environmental and human use data layers stored in BlueBRIDGE or as WMS (Biophysical, Environmental, Species occurrence)
- Create a platform (VRE) to produce easily accessible regional maps and information products
- Develop a baseline set of indicators against [Aichi target 11](#)
“By 2020 [...] **10 per cent** of coastal and marine areas, **especially areas of particular importance for biodiversity and ecosystem services**, are protected [...]”



Assessment of Marine Areas (LME's, MPA's, EEZ) SDG's 14.2 & 5

Combine data on fisheries, biodiversity, habitats (with GRID Arendal, CLS)

This will be the **MPA** application by FAO and UNEP GRID-ARENDA. The application allows to carry out thematic analyses on Marine Protected Areas (MPAs), computing the composition of geomorphic features (surface) in Marine Protected Areas for a target region of interest (Exclusive Economic Zone - EEZ, or Ecoregion)

Exclusive Economic Zones

Bahamas Exclusive Economic Zone

Run Analysis

Base overlays

Geo selector (EEZ)

Geomorphic features

Shelf

Slope

Abyss

Hadal

Seamounts

Guyots

Canyons

Ridges

Plateaus

Spreading ridges

Rift valleys

Glacial troughs

Shelf valleys

Trenches

Terraces

Fans

Rises

Bridges

Compute something; e.g. coverage of habitats in MPA's

Results
Reports

MPA analysis performed in 0 seconds!

Search:

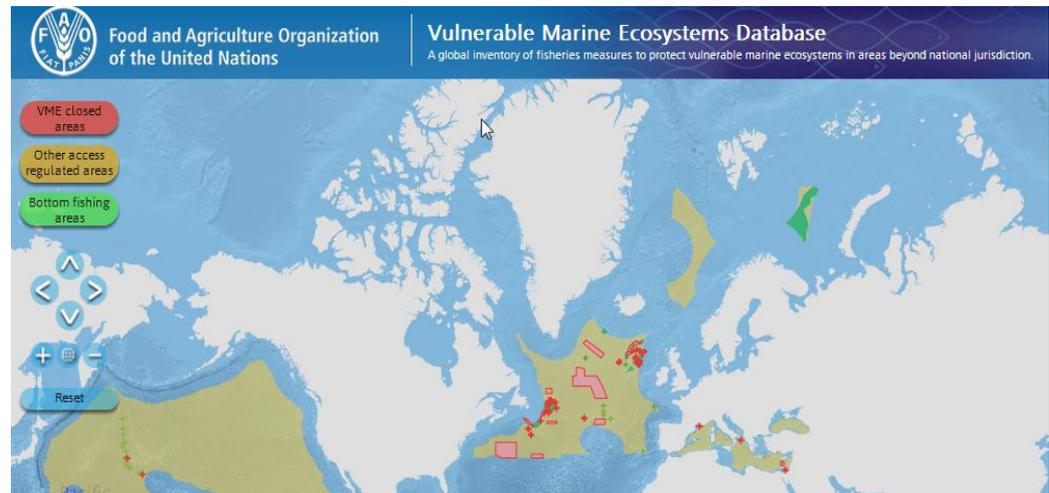
Name	Type	Surface	Shelf	Slope	Abyss	Hadal	Seamounts	Guyots	Canyons	Ridges	Plateaus	Spreading ridges	Rift valleys	Glacial troughs	Shelf valleys	Trenches
Bahamas Exclusive Economic Zone	EEZ	598965767854.92	113516523317.92	100943603802.97	382043054055.2	0	4767163394.53	0	19014722754.68	14275144315.18	42012247495.82	0	0	0	0	0
All MPAs	MPA	4032636969.13	2892985797.32	253037261.11	0	0	0	0	0	0	0	0	0	0	0	0
Pelican Cays Land And Sea Park	MPA	8757492.78	8757492.78	0	0	0	0	0	0	0	0	0	0	0	0	0
Peterson Cay National Park	MPA	6829.05	6829.05	0	0	0	0	0	0	0	0	0	0	0	0	0
Conception Island National Park	MPA	102415053.01	97025652.3	0	0	0	0	0	0	0	0	0	0	0	0	0
Exuma Cays Land & Sea Park	MPA	584539639.83	498027144.48	75993847.88	0	0	0	0	0	0	0	0	0	0	0	0
Inagua National Park	MPA	24253924.19	4089467.38	1320273.8	0	0	0	0	0	0	0	0	0	0	0	0

Showing 1 to 19 of 19 entries



The iMarine platform for geospatial and time aware fact-sheets

- **Fact Sheet 'Geo'Editor**
 - Collaborative fact sheets
 - Spatial boundaries editing
 - User management
 - Review features
 - Time aware
 - Drop a portlet in 'your' site



- FAO infrastructure hosts the VME-DB [website](#) and ALL Private data





Links

[VME-DB](#)

Example [report](#)

See a VRE? info@bluebridge-vres.eu

Want access to VREs? i-marine.d4science.org

More information on BlueBRIDGE? www.bluebridge-vres.eu

If want to join us at future events? www.bluebridge-vres.eu/events

Real time updates from BlueBRIDGE? www.twitter.com/bluebridgevres

See you in [Brussels](#) ??

