

# Streamlined arrangement for sharing fishery statistics

# Streamlined arrangements among CWP agencies

- \* through various formalized initiatives, including the Statlant format (since the 70s),
- \* between FAO and Eurostat (since the 80s),
- \* FAO and Tuna RFMOs (since late 1990s),
- \* FAO and SEAFDEC (since 2007).
- \* further works to enlarge these kind of agreements to:
  - \* other institutions such as OECD
  - \* Regional Fishing Bodies (e.g. COREP, FCWC, RECOFI, WECAFC, ... ).

# FAO's vision for Streamline reporting mechanism of fishery statistics develops into six main lines of activity

1. Alignment of calendars,
2. Consistency in concepts, standards and definitions,
3. "One data provision for several uses" by Member countries,
4. Improved accessibility through harmonized published formats,
5. Active collaboration for gaps and discrepancies analysis, and
6. Transparency through systematic processing and documentation of sources.

Eventually these points should be sealed as part of formal data sharing agreements among agencies.

This may represent additional challenges for the institutions, but their added values measured in terms of improved quality can be incommensurably beneficial to the whole community



Food and Agriculture  
Organization of the  
United Nations

# The FIRMS partnership

What it can offer: the FIRMS system, the data sharing services, the multi-scale networking dimension



<http://firms.fao.org>

Technical workshop on global harmonization of Tuna fisheries statistics  
FAO Rome, Italy, 19-22 March 2018



# Outline

- \* About the FIRMS partnership
- \* Target audience
- \* Data coverage
- \* Stocks/Fisheries reporting status in the Pacific
- \* FIRMS Governance
- \* Marine Resource & Fishery inventories and fact sheets
- \* FIRMS 10 years after - Directions for fulfilling the next 10 years ambition
  - \* Minimum data requirements
  - \* Traffic light approach
  - \* FIRMS Stocks & Fisheries Map Viewer
  - \* Global Record for Stocks and Fisheries
  - \* FIRMS & the Sustainable Development Goals (SDGs)
- \* Key messages

# About the Partnership

- ❖ **14 intergovernmental organizations / 19 RFBs** subscribed the Partnership Arrangement providing for international cooperation in the development and maintenance of FIRMS



Food and Agriculture Organization  
of the United Nations



International Council for  
the Exploration of the Sea  
Conseil International pour  
l'Exploration de la Mer

ICESCIEM



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*Provide access to a wide range of high-quality information on the global monitoring and management of fishery marine resources.*

# FIRMS target audience and value proposition

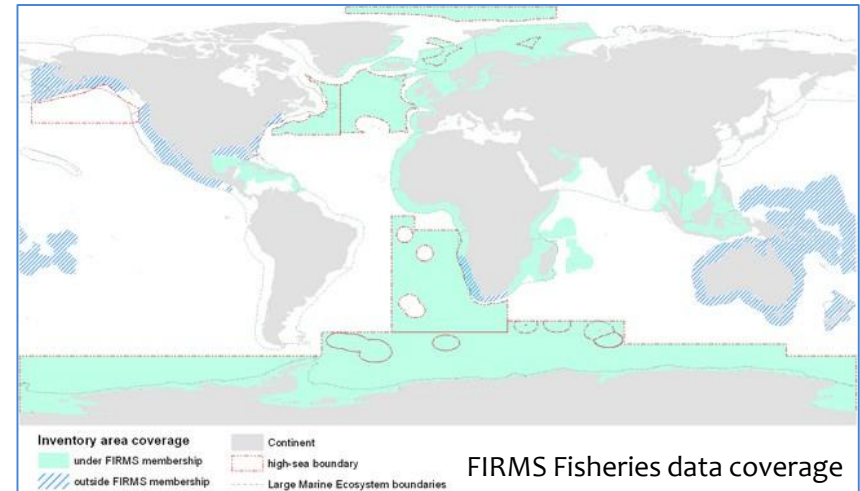
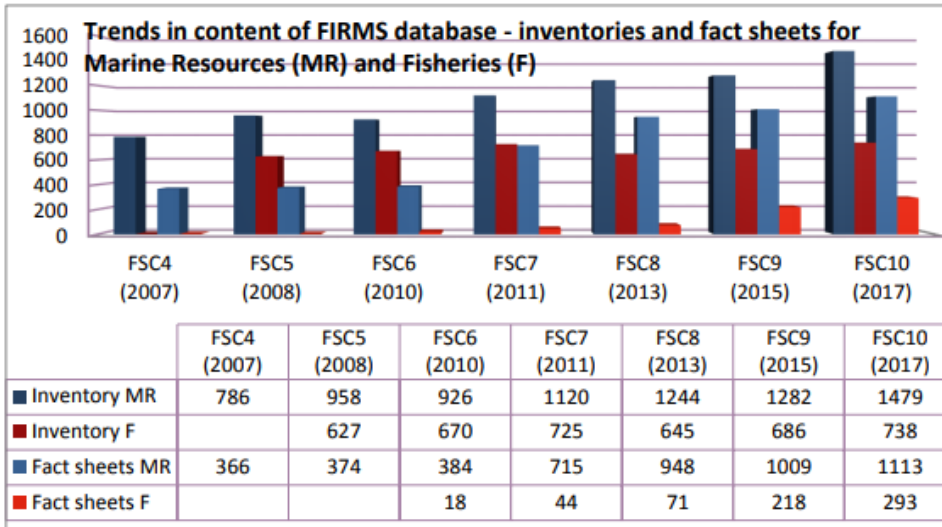
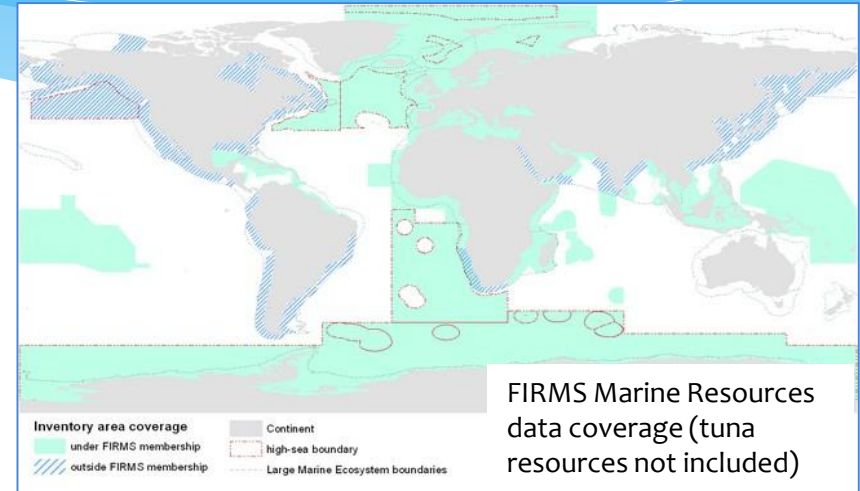
## RFBs:

- \* to increase visibility beyond their area of competence
- \* to provide a dissemination capacity when no other dissemination mechanism exists
- \* to foster information exchange in context where data sharing is a sensitive issue or would require long learning curve
- \* to be functional to needs of Fishery Management Plans
- \* regional dashboard of indicators for the State of environment
- \* **National agencies** of governments dealing with fisheries reporting
- \* **Analysts and instruments** (e.g. SDG14) working on global monitoring of state of fishery resources
- \* **NGOs** promoting sustainable fisheries and promoting progress in fisheries management (FIPs), including through traceability of fish products
- \* **Stakeholders** (e.g. fishermen associations) and **General public**, to whom fishery data should be made available in more immediate and easy ways

# FIRMS Data coverage

FIRMS is reporting on **Marine Resources** and **Fisheries**

- \* Published inventory of **1479** stocks and **738** fisheries
- \* Published status reports for about **600** stocks and **250** fisheries
- \* Identified records with no published status:
  - \* ~ 900 stocks
  - \* ~ 500 fisheries



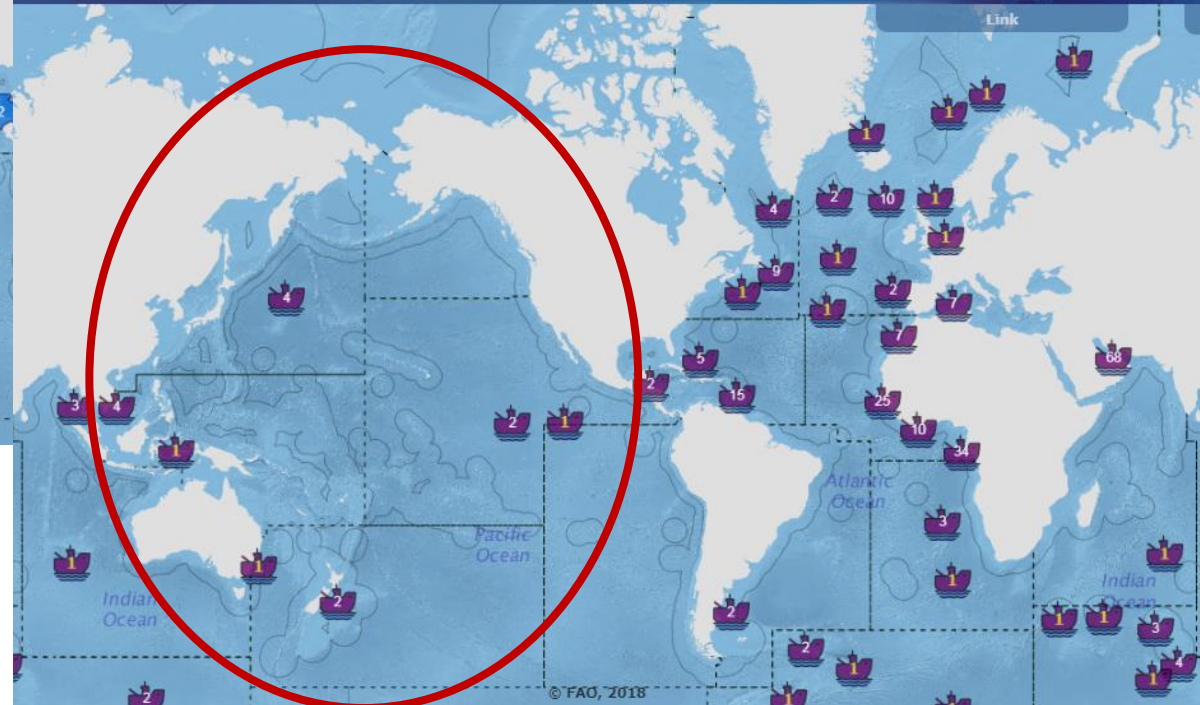


# Stocks/Fisheries reporting status in the Pacific

Organization | **FIRMS** Fisheries and Resources Monitoring System | **Stocks and Fisheries Map Viewer**  
Browse the status of stocks and fisheries inventoried by the FIRMS partners



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Browse the status of stocks and fisheries inventoried by the FIRMS partners



# FIRMS Governance <sup>(1)</sup>

**FIRMS Steering Committee (FSC)** is constituted by representatives of the Partners: one member nominated by each partner, including FAO in its capacity of partner. The FSC technical and Administrative responsibilities are described in the Article 5 of the FIRMS Partnership Arrangement. The FSC's Rules of procedures were adopted at the launching meeting of FIRMS (Rome, February 2004) as [Attachment 5](#).

**FIRMS Secretariat** is provided by FAO. The responsibilities of the Secretariat are described in the Article 3 of the FIRMS Partnership Arrangement.

**FIRMS Technical working group** The general mandate of the FIRMS technical working group is to consider technical issues and make recommendations on matters of a purely technical nature. This working group convened by the Secretariat will work through correspondence and hold a meeting, if necessary.

# FIRMS Governance (2)

## Partnership Arrangement

FIRMS is operated under a Partnership Arrangement which was launched in February 2004 upon signature of the Arrangement by the first five FIRMS Partners.

The **FIRMS Partnership Arrangement** specifies the rights and obligations of the Partners and the rules driving the partnership.

## Annex 2

Outline and detailed arrangements on the nature of information and the conditions under which it is made available under this partnership arrangement, including any institutional collaborations and additional entitlements that a partner may wish to include



**Partnership Arrangement  
providing for international cooperation  
in the development and maintenance of the  
Fisheries Resources Monitoring System (FIRMS)**

**PREAMBLE**

**WHEREAS** the Code of Conduct for Responsible Fisheries:

- provides guidance which may be used where appropriate in the formulation of international agreements and other legal instruments, both binding and voluntary;
- calls for the promotion of international cooperation and coordination in all matters related to fisheries, including information gathering and data exchange, and fisheries research, management and development; and
- recognises that the special requirements of developing countries in implementing the Code need to be taken into account.

**RECOGNIZING** that partnerships between international and national institutions will assist in meeting the objectives of the Code of Conduct for Responsible Fisheries, including the implementation of International Plans of Action approved by the Committee of Fisheries of the Food and Agriculture Organization of the United Nations (FAO) and the FAO Strategy for Improving Information on Status and Trends of Capture Fisheries.

**RECOGNIZING ALSO** that such partnerships may occur at many levels, including

- global and regional fisheries organisations and arrangements (Regional Fishery Bodies);
- national agencies and research institutions; and
- global and regional network partners providing complementary information.

**NOTING** that international and national fisheries institutions have a wide variety of mandates and responsibilities, which may change over time, and that Partnerships should be in accordance with such mandates and responsibilities and adapt to new and changing institutions as appropriate. Also noting that the Regional Fishery Bodies have the capacity to disseminate information on the status of fisheries and fish stocks to their member countries for that purpose.

**TAKING INTO CONSIDERATION** the (Note: ...)  
exchange of letters concerning these recommendations  
from the partners to this arrangement.

# FIRMS Governance (3)

## Example of Annex 2 - ICCAT

Table A2.1. List of stocks and resources for reporting under the FIRMS partnership arrangement between the ICCAT and FAO. All stocks are of the "highly migratory" type.

RESOURCE	STOCKS (Units)	Comments
Yellowfin tuna in the Atlantic	1) Atlantic YFT	A single report for the stock and resource
Bigeye tuna in the Atlantic	1) Atlantic BFT	A single report for the stock and resource
Skipjack in the Atlantic	1) Eastern Atlantic SKJ 2) Western Atlantic SKJ	Two different reports, one for each stock
Albacore in the Atlantic and Mediterranean Sea	1) Northern Atlantic ALB 2) Southern Atlantic ALB 3) Mediterranean ALB	Three different reports, one for each stock
Bluefin tuna in the Atlantic and Mediterranean Sea	1) Western Atlantic BFT 2) Eastern Atlantic and Mediterranean BFT	Two different reports, one for each stock
Blue marlin in the Atlantic	1) Atlantic BUM	A single report for the stock and resource
White marlin in the Atlantic	1) Atlantic WHM	A single report for the stock and resource
Sailfish (and spearfish) in the Atlantic	1) Western Atlantic SAI 1) Eastern Atlantic SAI	Two different reports, one for each stock
Swordfish in the Atlantic and Mediterranean Sea	1) Northern Atlantic SWO 2) Southern Atlantic SWO 3) Mediterranean SWO	Three different reports, one for each stock
Blue shark in the Atlantic	1) North Atlantic BSH 2) South Atlantic BSH	Two different reports, one for each stock
Shortfin mako in the Atlantic	1) North Atlantic SMA	A single report for the stock
Porbeagle in the Atlantic and Mediterranean Sea	1) Northwestern Atlantic POR 2) Northeastern Atlantic and Mediterranean POR 3) Southwestern Atlantic POR	Three different reports, one for each stock

Total Resources: 13. Total management units (stocks): 22.

**Annex 2 to the  
Partnership Arrangement between the  
International Commission for the Conservation of Atlantic Tunas (ICCAT) and the  
Food and Agriculture Organization of the United Nations**

**Information to be contributed to FIGIS-FIRMS  
by the International Commission for the Conservation of Atlantic Tunas (ICCAT)**

Created: February 2004

Modified: December 2011

1. Summaries of resource status ("Species Executive Summaries")
  - Types of information to be contributed
  - Scope of information to be contributed
  - Standards to be used in this Partnership Agreement
2. Metadata and information management
  - Methods of collection and processing.
  - Bibliographical sources
  - Ownership and responsibilities
  - Processing methods.
  - Transmission protocols and dissemination channels
3. Data and information security
4. Collaborative institutions
5. Additional entitlements





# FIRMS Governance (4)

## Example of Annex 2 - CCSBT

### 1. Data and Statistical Information

The material to be provided to FIGIS-FIRMS by the CCSBT will include:

- a. a resource and fact sheet containing information on the structure of the southern bluefin tuna fishery and the current assessment of the stock's status.
- b. nominal global catch of southern bluefin tuna by year and major fishing nations.
- c. nominal catch (and effort) data of southern bluefin tuna, by major fishing nation, month and 5° square for longline, and 1° square for each other gear type<sup>1</sup>.

The CCSBT has mandated responsibility for the management and conservation of southern bluefin tuna and the information supplied will be for this species only. There is a shared responsibility with the IOTC but it is agreed that the CCSBT will have primary responsibility. Where relevant, the CCSBT will coordinate data provision to FIGIS/FIRMS with the IOTC.

Where relevant, links to scientific reports and the data section of the CCSBT website will be provided.

The information provided will, wherever possible, conform to the Information Management Policy of the FCS.

### 2. Metadata and Information Management

The source of the data supplied will be summary data supplied from the fisheries of CCSBT members; information provided by cooperating non-members directly to the CCSBT; estimates from catch monitoring programs conducted at cooperating non-member ports; and other sources where appropriate.

The bibliographical source for the CCSBT resource and fact sheet will be the CCSBT Scientific Committee.

The information for a specific year will be provided within 6 months of the CCSBT's annual meeting following that year. In practice, this is usually within 16 months of the conclusion of the specific year.

The FIGIS-FIRMS system will identify the material provided as being the property of the CCSBT.

### 3. Data and Information Security

As the source information will be in the public domain, there are no confidentiality requirements.

### 4. Collaborative Institutions

There are no collaborative institutions involved.

## Annex 2

### Information to be Contributed to FIGIS-FIRMS by the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

1. Data and Statistical Information
2. Metadata and Information Management
3. Data and information security
4. Collaborative institutions



# FIRMS Products

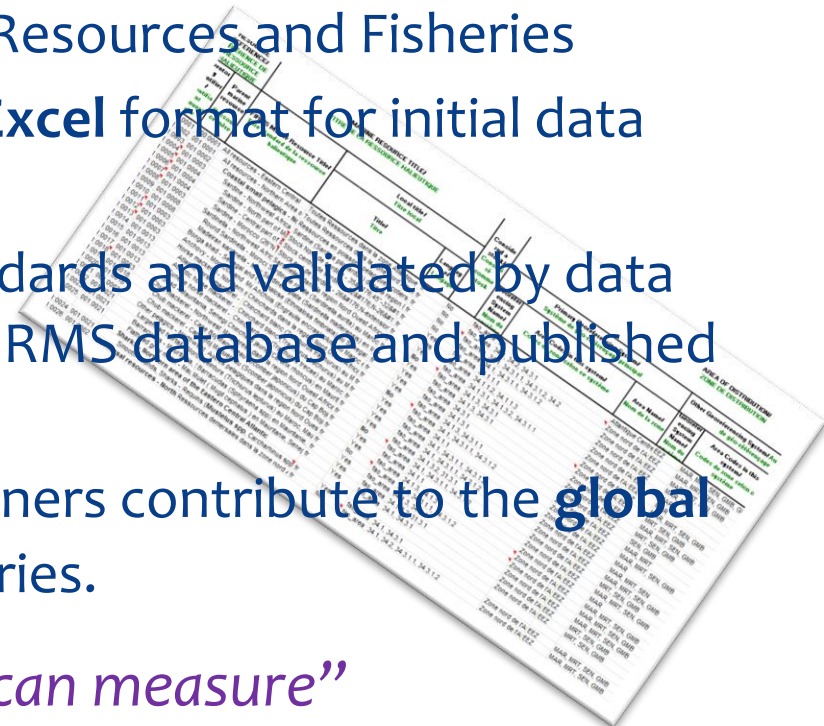
- \* Marine Resource & Fishery Inventories (Excel)
- \* Standards and guidelines
- \* Fact Sheets
- \* Search interfaces
- \* Map viewer
- \* Web services

The collage displays several key outputs from the FIRMS system:

- Marine Resource & Fishery Inventories (Excel):** A large spreadsheet showing columns for Collection ID, Inventory ID, Data Owner, FIRMS File, Lang, XML, HTML, and various status indicators.
- Stocks and Fisheries Map Viewer:** A world map with blue markers indicating the locations of fisheries monitored by FIRMS.
- Pecheries Fiche documentaire:** A French document titled 'Rapports des pêcheries du COPACE 2011 Côte d'Ivoire Artisanal gillnet fishery', detailing artisanal gillnet fishing in Côte d'Ivoire.
- Marine Resource Fact Sheet:** A fact sheet for 'Sardinellas - Cote d'Ivoire, Ghana, Togo and Benin', providing status of stocks and resources for the year 2000.
- Exploitation Rate and Abundance Level Matrix:** A 2x2 matrix with 'Exploitation Rate' on the y-axis (High, Moderate, No or low, Uncertain) and 'Abundance Level' on the x-axis (Pre-exploitation, Intermediate, Low, Depleted).

# FIRMS Marine Resource & Fishery inventories

- \* Inventories constitute the **backbone** of the FIRMS knowledge base. Inventories provide the complete picture from which to **assess** current level of knowledge
- \* Marine Resources and Fisheries are inventoried for **reporting purpose**
- \* To capture **status and trends** of Marine Resources and Fisheries
- \* The inventory is implemented using an **Excel** format for initial data input
- \* Once harmonized according FIRMS standards and validated by data owners, information is stored into the FIRMS database and published as **fact sheets**
- \* Through their data inputs in FIRMS, partners contribute to the **global inventory** of marine resources and fisheries.



The image shows a tilted view of an Excel spreadsheet. The spreadsheet contains a large table with multiple columns and rows of data. The columns include various identifiers, species names, and numerical values. The data appears to be organized into sections, possibly representing different marine resources or fisheries. The spreadsheet is used to illustrate the data input format for the FIRMS inventory.

*“You manage what you can measure”*



# FIRMS Marine Resource & Fishery inventories

\* One input many outputs: fact sheets, maps, publications, etc.

REFERENCE / RÉFÉRENCE DE LA RESSOURCE / RESOURCE	MARINE RESOURCE TITLE / TITRE DE LA RESSOURCE MARIÈRE / MARINE	Country and stock / Pays et stock	Primary Stocking System / Système de gisement primaire	Other Stocking System / Autre système de gisement
10001 001 0001	All resources - Eastern Central / Toutes Ressources dans la zone Atlantique E	No	No	No
10002 001 0002	All resources - Northern Area / Toutes Ressources dans la zone Nord Atlant	No	No	No
10003 001 0003	Coastal small pelagic - No Resources en poissons pélagiques côtiers E	No	No	No
10004 001 0004	Sardine - Northwest Africa / Sardine (Clupea pinnatus) dans la région E	No	No	No
10005 001 0005	Sardine - North part of AS Stock nord de sardine - 35M4170.45-32M4170	Yes	No	No
10006 001 0006	Sardine - Centre part of AS Stock centre de sardine - 32M4170.45-20M4170	Yes	No	No
10007 001 0007	Sardine - Morocco (M) Stock sud de sardine - 30M4170.45-20M4170	Yes	No	No
10008 001 0008	Sardine - Northwest Africa Sardines dans la région Nord Ouest Africa E	No	No	No
10009 001 0009	Round Sardine - North Sardine zone (Sardinella aurata) au Maroc E	Yes	No	No
10010 001 0010	Madras sardine - West Sardine zone (Sardinella maderensis) en E	Yes	No	No
10011 001 0011	Bogue west - Senegal and E (Sardinella sardinella) au Senegal E	Yes	No	No
10012 001 0012	Androy - Morocco and M Androy (Sardinella maderensis) au Maroc E	Yes	No	No
10013 001 0013	Atlantic horse mackerel - Chanchard blanc (Trachurus trachurus) au M	Yes	No	No
10014 001 0014	Atlantic horse mackerel - Chanchard noir (Trachurus trachurus) au M	Yes	No	No
10015 001 0015	Curlew horse mackerel - Chanchard jaune (Trachurus trachurus) au M	Yes	No	No
10016 001 0016	Clup macadem - Northwest Macadem dans la région Nord Ouest Africa E	No	No	No
10017 001 0017	Clup macadem - Cap de Cap Macadem (Scomber japonicus) au Cap de Cap	Yes	No	No
10018 001 0018	Other pelagic - Northwest Autres pélagiques dans la région Nord Ouest E	No	No	No
10019 001 0019	Largemouth tarpon - Atlantic Tarpon (Megalops atlanticus) au Maroc E	Yes	No	No
10020 001 0020	Sharks - Northern area of the Eastern Central Atlantic	Yes	No	No
10021 001 0021	Demersal resources - North Resources demersales dans la zone nord E	No	No	No

**Marine Resource Fact Sheet**  
 Status of stocks and resources 2001  
**Caribbean spiny lobster - Los Testigos and La Blanquilla Islands, Margarita Island**  
 Caribbean spiny lobster - Between 11.38021° N and 11.82365° N and 63.11774° E and 64.60745° E, Los Testigos and La Blanquilla Islands, Margarita Island  
 Owned by Food and Agriculture Organization (FAO) - Mire

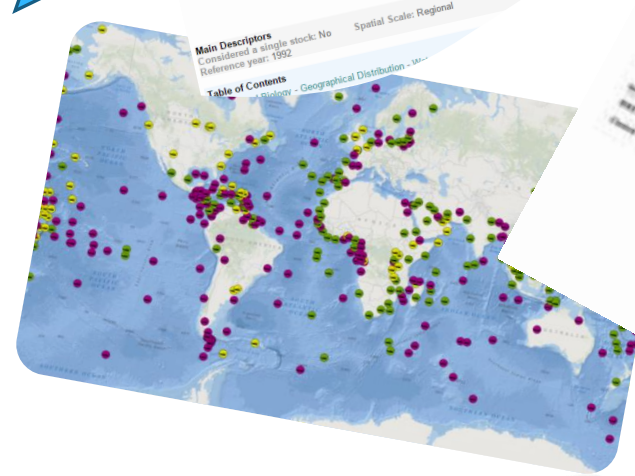
Locate in inventory <+>

Geographic extent of Caribbean spiny lobster - Los Testigos and La Blanquilla Islands, Margarita Island

Related observations

Species:  
*Parulius argus*

FAO Names: en - Caribbean spiny lobster, fr - Langouste blanche, es - Langosta común del Caribe



FAO Fisheries and Aquaculture Statistics  
 Fisheries and Aquaculture Statistics  
 Fisheries and Aquaculture Statistics  
 Fisheries and Aquaculture Statistics

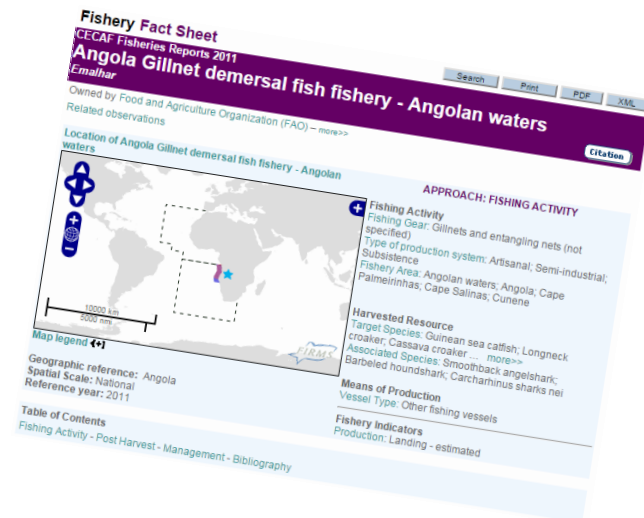
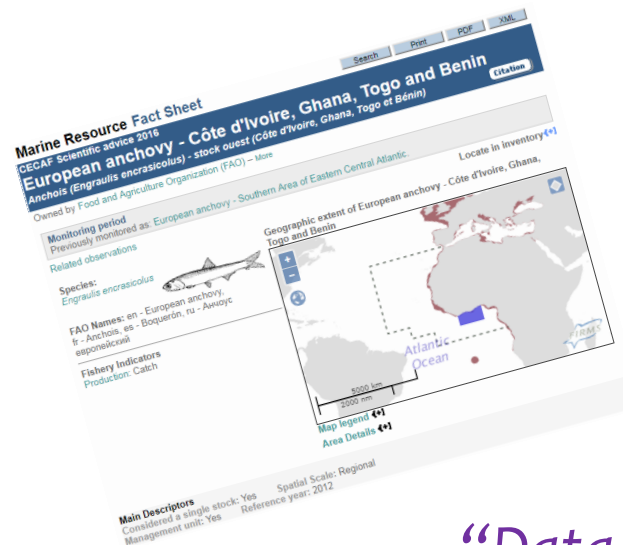
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# FIRMS Marine Resource & Fishery fact sheets

- \* Examples of fact sheets
  - \* [CCSBT - Southern Bluefin tuna](#)
  - \* [IATTC - Swordfish - Northeastern Pacific](#)
  - \* [NAFO - Atlantic Cod - Flemish Cap](#)
  - \* [CECAF - Angola : Gillnet demersal fish fishery - Angolan waters](#)
  - \* [SEAFO - South East Atlantic SEAFO High seas fisheries](#)



“Data tell, stories sell”

# Content production workflow

- \* Multiple options are available to submit data to FIRMS:
  - \* **Content Management System** (online editing of fact sheets) CCSBT
  - \* **Word-to-XML converter tool** IATTC, ICCAT, NAFO, NEAFC, SEAFO, FAO
  - \* **Excel-to-XML converter tool** CECAF, GFCM, IOTC, WECAFC, SWIOFC
  - \* **Dynamic harvesting from Web Services** (semi-automated procedure) - ICES

*Choose the workflow option that better fit your needs, considering:*

- *Amount of data (number of stocks/fisheries)*
- *Extent of the reports (full content vs. minimum data requirement focused on status of fishery resources)*
- *Staff resources available*
- *IT capacity*
- *Frequency of updates*

....

# FIRMS 10 years after

## Directions for fulfilling the next 10 years ambition

- \* **Minimum data requirements** to facilitate reporting to FIRMS
- \* **FIRMS maps viewer**, and other on-line services
- \* Dashboard of stock status indicators for the region – **traffic light approach**
- \* **Global Record for Stocks and Fisheries:** towards
  - \* supporting a live SDG 14.4.1 indicator “Proportion of fish stocks within biologically sustainable levels”
  - \* use of FIRMS stocks and fisheries references for **traceability** purpose (also contribute to support 14.6.1 “Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing”)

*Cost-effective solutions for enhancing benefits and returns on investments*

# Minimum data requirements

- \* Towards mechanisms ensuring reporting timeliness
- \* Mainstream the FIRMS reporting flow with Partner's established reporting procedures

FIRMS REFERENCE RÉFÉRENCE DE LA RESSOURCE SÉLECTEUR	MARINE RESOURCE TITLE TITRE DE LA RESSOURCE HALIÉUTIQUE			Country Pays État	Area of Distribution ZONE DE DISTRIBUTION	
	FIRMS Marine Resource Title Titre standard de la ressource halieutique	Local title Titre local	Language Langage		Primary Generalising System Système de généralisation principal	Other Generalising System Autre système de généralisation
1001 001001	All resources - Eastern Central	Toutes Ressources dans la zone Atlantique	fr	Mar_ame_34	Atlantique Centre/EZ	MAAR, WRT, SEN, GMB, G
1002 001001	All resources - Northern Area	Toutes Ressources dans la zone Nord Atlant	fr	Mar_ame_34.1, 34.2, 34.3.1	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1002 001002	Coastal small pelagic - No Resources en poissons pélagiques côtiers		fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2, 34.2	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1004 001003	Sardine - Northwest Africa	Sardine (Sardinia pilchardus) dans la région I	fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT
1005 001004	Sardine - North part of EEZ	Stock nord de sardine - 328470 (N-32847) fr	fr	Mar_ame_34.1.1.1	Zone nord de la EEZ	MAAR
1006 001004	Sardine - Centre part of EEZ	Stock centre de sardine - 328470 (N-32847) fr	fr	Mar_ame_34.1.1.2, 34.1.1.3	Zone nord de la EEZ	MAAR
1007 001004	Sardine - Southwest (SW) EEZ	Stock sud de sardine - 328470 (N-32847) fr	fr	Mar_ame_34.1.1.1, 34.1.1.2, 34.3.1.1	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1008 001003	Sardines - Northwest Afric	Sardines dans la région Nord Ouest Africa	fr	Mar_ame_34.1.1, 34.3.1	Zone nord de la EEZ	WRT, SEN, GMB
1009 001008	Round Sardines - North	Sardines rondes (Sardinella aurata) au Maroc	fr	Mar_ame_34.1.1, 34.3.1	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1010 001008	Sardines sardinella - West	Sardines dans (Sardinella maderensis) en fr	fr	Mar_ame_34.3.1	Zone nord de la EEZ	WRT, SEN, GMB
1011 001003	Bonga shad - Senegal and	Sardinella sardinella au Sénégal	fr	Mar_ame_34.1.1.1	Zone nord de la EEZ	SEN, GMB
1012 001003	Anchovy - Morocco and	Anchovy (Engraulis encrasicolus) au Maroc	fr	Mar_ame_34.1.1, 34.3.1.1	Zone nord de la EEZ	MAAR, WRT
1017 001003	Horse mackerel - Northern	Chanchard dans la région Nord Ouest Africa	fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1014 001013	Atlantic horse mackerel -	Chanchard blanc (Trachurus trachurus) au SE	fr	Mar_ame_34.1	Zone nord de la EEZ	MAAR
1015 001013	Atlantic horse mackerel -	Chanchard blanc (Trachurus trachurus) au SE	fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT, SEN
1016 001013	Cape horse mackerel -	Chanchard noir (Trachurus trachurus) au Maroc	fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1017 001013	Said - Mauritania	Sengou Chanchard jaune (Caranx rhonurus) en Mauritanie	fr	Mar_ame_34.1.1.2, 31.1.1	Zone nord de la EEZ	WRT, SEN, GMB
1018 001003	Club mackerel - Northwest	Maquereau dans la région Nord Ouest Africa	fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1019 001018	Club mackerel - Cape	Maquereau (Scomber japonicus) du Cap-Rég	fr	Mar_ame_34.1	Zone nord de la EEZ	MAAR
1020 001018	Club mackerel - Cape	Maquereau (Scomber japonicus) du Cap-Rég	fr	Mar_ame_34.1, 34.3.1.1	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1021 001003	Other pelagic - Northwest	Autres pélagiques dans la région Nord Ouest	fr	Mar_ame_34.1, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1022 001021	Largemouth barramundi	Moroc Centre (Trichurus leucurus) au Maroc, Mar	fr	Mar_ame_34.1.1, 34.3.1	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1022 001021	Barramundi - Mauritania	Barramundi (Trichurus leucurus) en Mauritanie	fr	Mar_ame_34.1.1.2, 31.1.1	Zone nord de la EEZ	WRT, SEN, GMB
1025 001021	Flathead grey mullet - West	Mulet (Mugil cephalus) en Mauritanie, Senegal	fr	Mar_ame_34.1, 34.3.1	Zone nord de la EEZ	WRT, SEN, GMB
1024 001021	Demersal resources - North	Ressources demersales dans la zone nord	fr	Mar_ame_34.1, 34.3.1	Zone nord de la EEZ	MAAR, WRT, SEN, GMB
1025 001021	Demersal resources - North	Ressources demersales dans la zone nord	fr	Mar_ame_34.1, 34.2, 34.3.1.1, 34.3.1.2	Zone nord de la EEZ	MAAR, WRT, SEN, GMB




# Traffic light approach



**Albacore - North Atlantic**

Reporting Year: 2016

Reported by International Commission for the Conservation of Atlantic Tunas (ICCAT)



**Main Descriptors**  
 Considered a single stock: **Yes**  
 Spatial Scale: **Sub-Regional**  
 Management unit: **Yes**  
 Reference year: **2014**

State & Trend Descriptors		
	Partner	FIRMS
Exploitation rate	F2014/FMSY = 0.54 range (0.35-0.72)	No or low fishing mortality 
Abundance level	B2015/BMSY = 1.36 range (1.05-1.78)	Intermediate abundance 

**Biological State and Trend**













State & Trend Descriptors		
	Partner	FIRMS
Exploitation rate	None-Low Fishing Mortality	No or low fishing mortality
Abundance level	Depleted Stock Size	Depleted



Traffic light approach

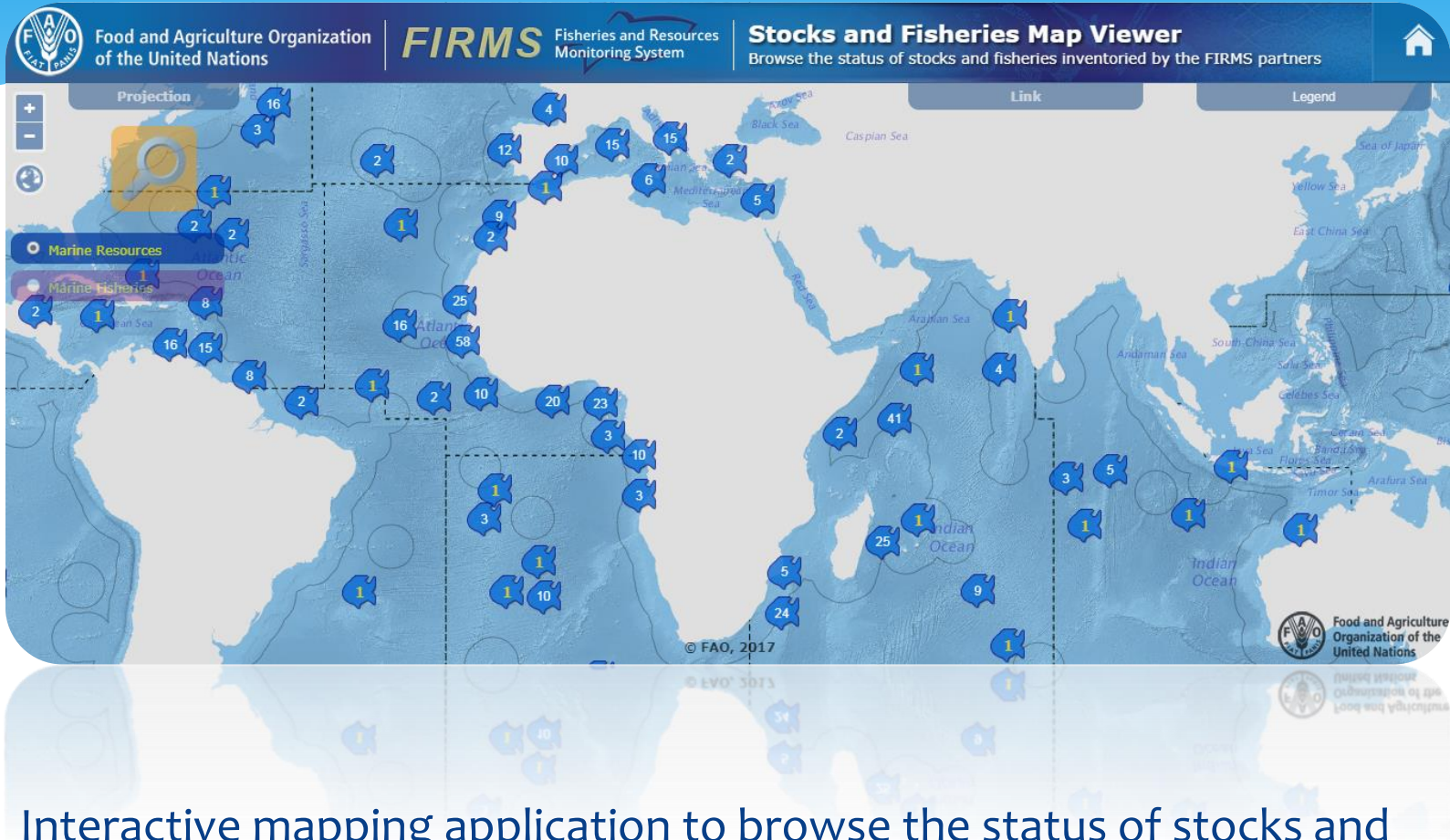


Overfished	
Not Overfished	

High fishing mortality				
Moderate fishing mortality				
No or low fishing mortality				
	Pre-exploitation biomass or high abundance	Intermediate abundance	Low abundance	Depleted



# FIRMS Stocks & Fisheries Map Viewer



Interactive mapping application to browse the status of stocks and fisheries inventoried by the FIRMS partners

# Global Record for Stocks and Fisheries

Comprehensive and shared global reference set of  
stocks and fisheries records

(a component of the BlueBRIDGE project – EU Horizon 2020)

- Fisheries and Resources Monitoring System (FIRMS)
- RAM Legacy Stock Assessment Database
- FishSource



*A pilot will be released on April 2018*

# Global Record for Stocks and Fisheries (GRSF)

a component of the BlueBRIDGE project – EU Horizon 2020

Comprehensive and transparent inventory of stocks and fisheries records across multiple data providers

*Expected to boost stocks and fisheries status and trend monitoring and promises to stimulate responsible consumer practices*

Business cases, offering key **services** to:

- ☒ Stakeholders involved in global/regional/national **state of stocks indicators – SDG monitoring indicators**
- ☒ Public and private actors involved in **eco-labelling, traceability and sustainable fisheries**

A proposed global standard for Unique Identifiers of stocks and fisheries

- ☒ **Universally Unique Identifier** - Machine readable - to respond to whatever global IT standard
- ☒ **Semantic Identifier** - Human readable - with standard codes and labels

Standard coding system for:


- Stocks **<Species> + <Assessment Area(s)>**
- Fisheries **<Species> + <Fishing Area(s)> + <Management Entity(ies)> + <Geartype> + <Flag State>**

Example of semantic identifier, and of its full label

asfis:COD + fao:21.3.M + grsf-org:INT:NAFO + isscfg:03.12 + iso3:LTU

Gadus morhua - Atlantic, Northwest/21.3.M - Northwest Atlantic Fisheries Organization (NAFO) -

NAFO area of competence - Single boat bottom otter trawls - Lithuania



Species: *Gadus morhua*  
Species code: COD  
Fishing Area: FAO 21.3.M  
Management Authority: Northwest Atlantic Fisheries Organization (NAFO)  
Jurisdiction: NAFO area of competence  
Fishing Gear: Single boat bottom otter trawls  
Fishing Gear code: 03.12  
Flag State: Lithuania  
Flag State Code: LTU  
ID: asfis:COD + fao:21.3.M + grsf-org:INT:NAFO + isscfg:03.12 + iso3:LTU  
UUID: <http://.../b99fd03e-709e-3139-9f5d-133df0b103fd>

The main technical challenge is the harmonization of the different existing standards (international, regional and national) from different data sources with the aim to build unique identifiers for stocks and fisheries.

Many stakeholders from industry, NGOs, technology companies, etc. believe the success of technology companies to develop seafood traceability solutions to meet the future global demand is based on standardized fishery identifiers.



# FIRMS & the Sustainable Development Goals

- ❖ **FIRMS, as a global reporting tool on fisheries and resources status & trends, is expected to be instrumental to the SDG 14**  
“Conserve and sustainably use the oceans, seas and marine resources for sustainable development”

- ❖ “In particular can provide the RFBs’ backbone to support a live monitoring of Indicator 14.4.1 **“Proportion of fish stocks within biologically sustainable levels”**, for which FAO/FI is responsible

- \* **14.4**

*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.*



# Key messages

- \* **FIRMS is a partnership** of intergovernmental fisheries organizations with competence for resource assessment and conservation.
- \* **Provides** decision-and others with high-quality, authoritative information on global marine fisheries resources.
- \* **Enables** decisions makers with information to develop informed *fisheries and marine resource* policies in accordance with the Code of Conduct for Responsible Fisheries.
- \* **Information Dissemination:** presented in synthesized “*Fact Sheets*” and “*State of Resources Summaries*”.
- \* **Transparency and ownership:** Fact Sheets sourced with a partner’s relevant links, providing transparent traceability, and when validated by the partner, they may also include related references and observations from other sources.

# Key messages

- \* FIRMS as a mature framework for **global reporting tool** on fisheries and resources **status & trends**
- \* FIRMS as a **shared reporting & web-dissemination system**  
as well as a **data collation & sharing mechanism**
- \* FIRMS contribute to **evidence-based decision making**

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Merci

Thank You

Благодарю

¡Muchas Gracias!