



World Meteorological Organization

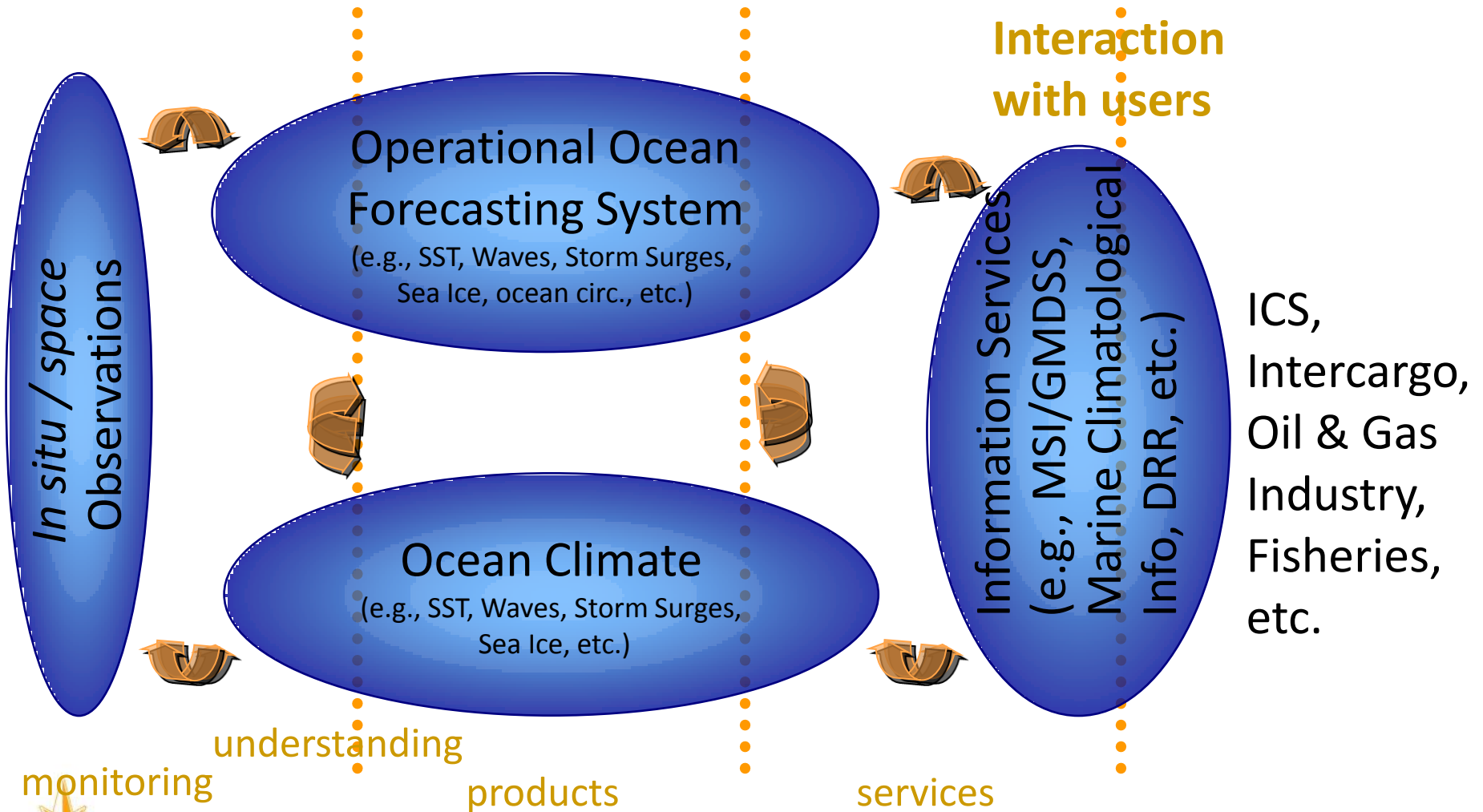
Weather • Climate • Water

# WMO Liaison Report

Boram Lee  
(WMO Marine Meteorology and Oceanography)

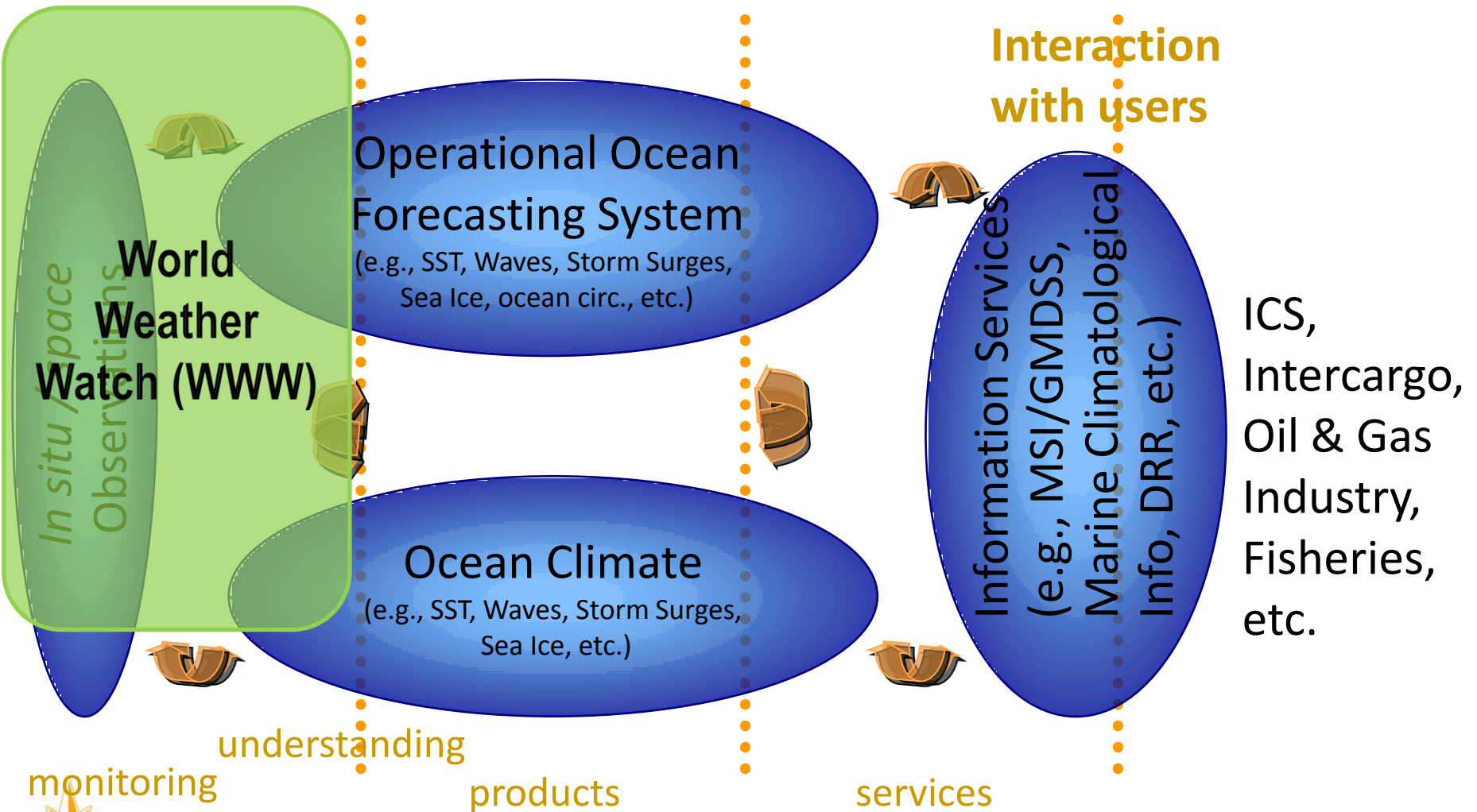
# WMO and MetOcean Affairs

<http://www.wmo.int/Oceans>



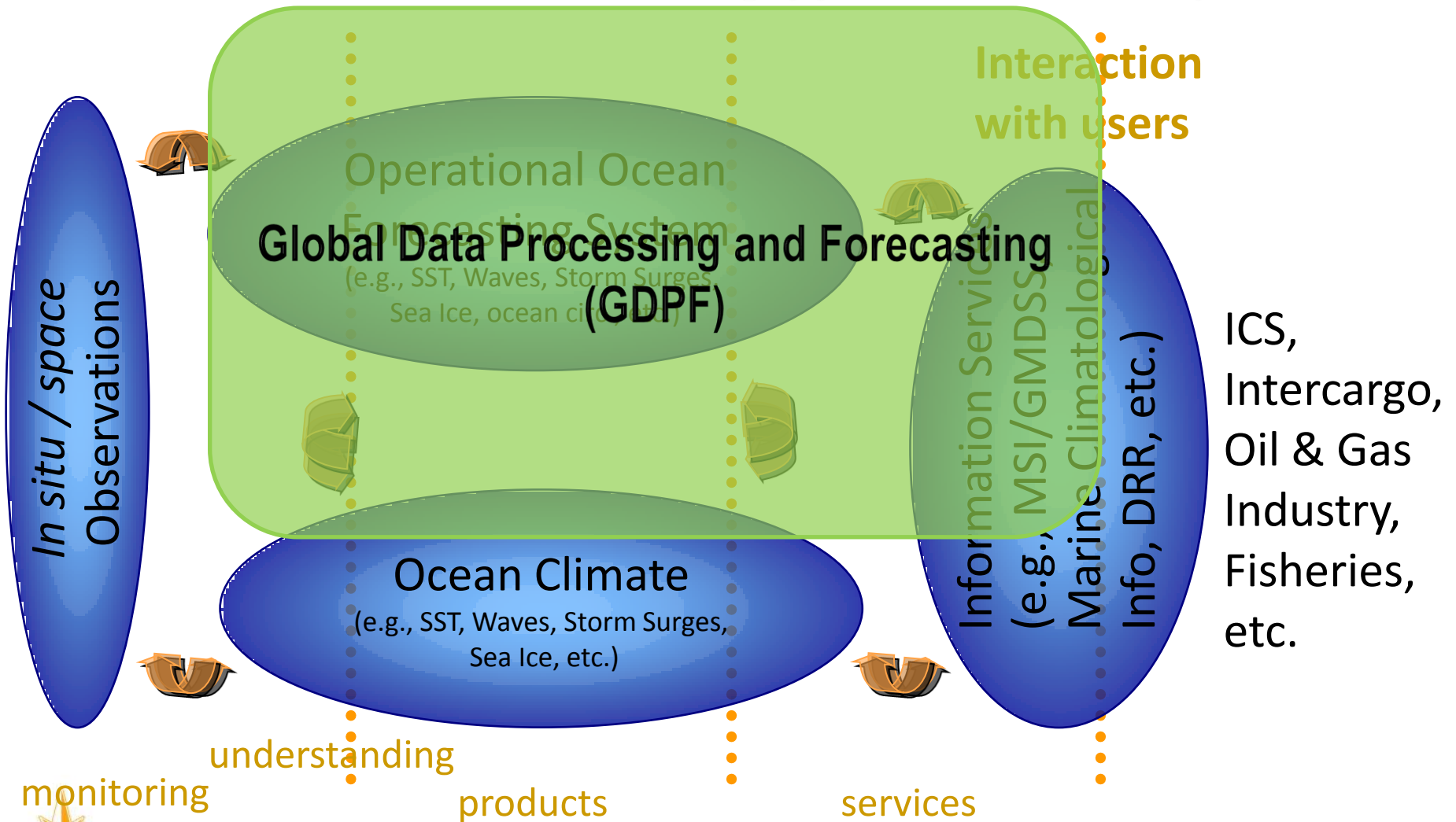
# WMO and MetOcean Affairs

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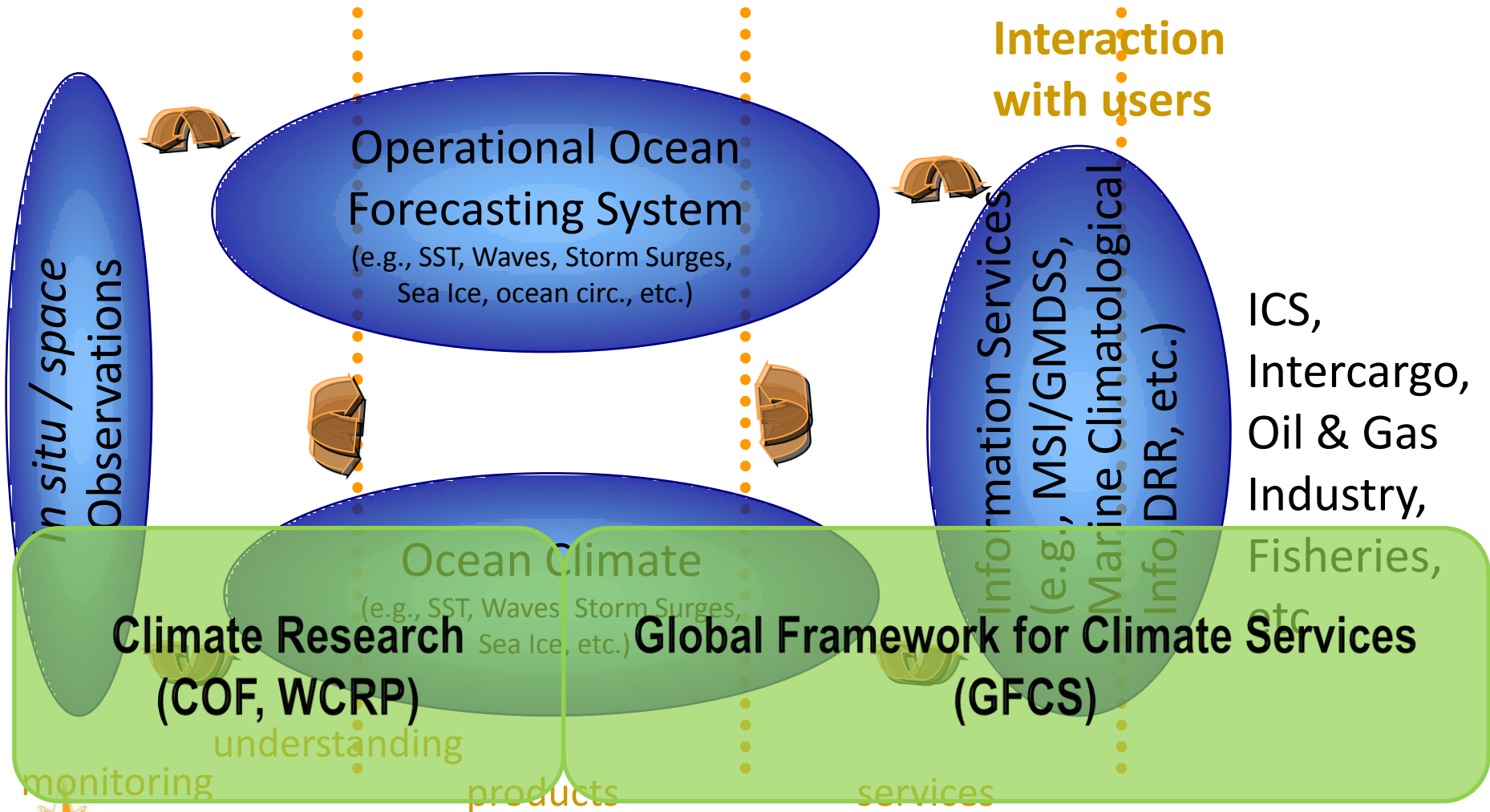
# WMO and MetOcean Affairs

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# WMO and MetOcean Affairs

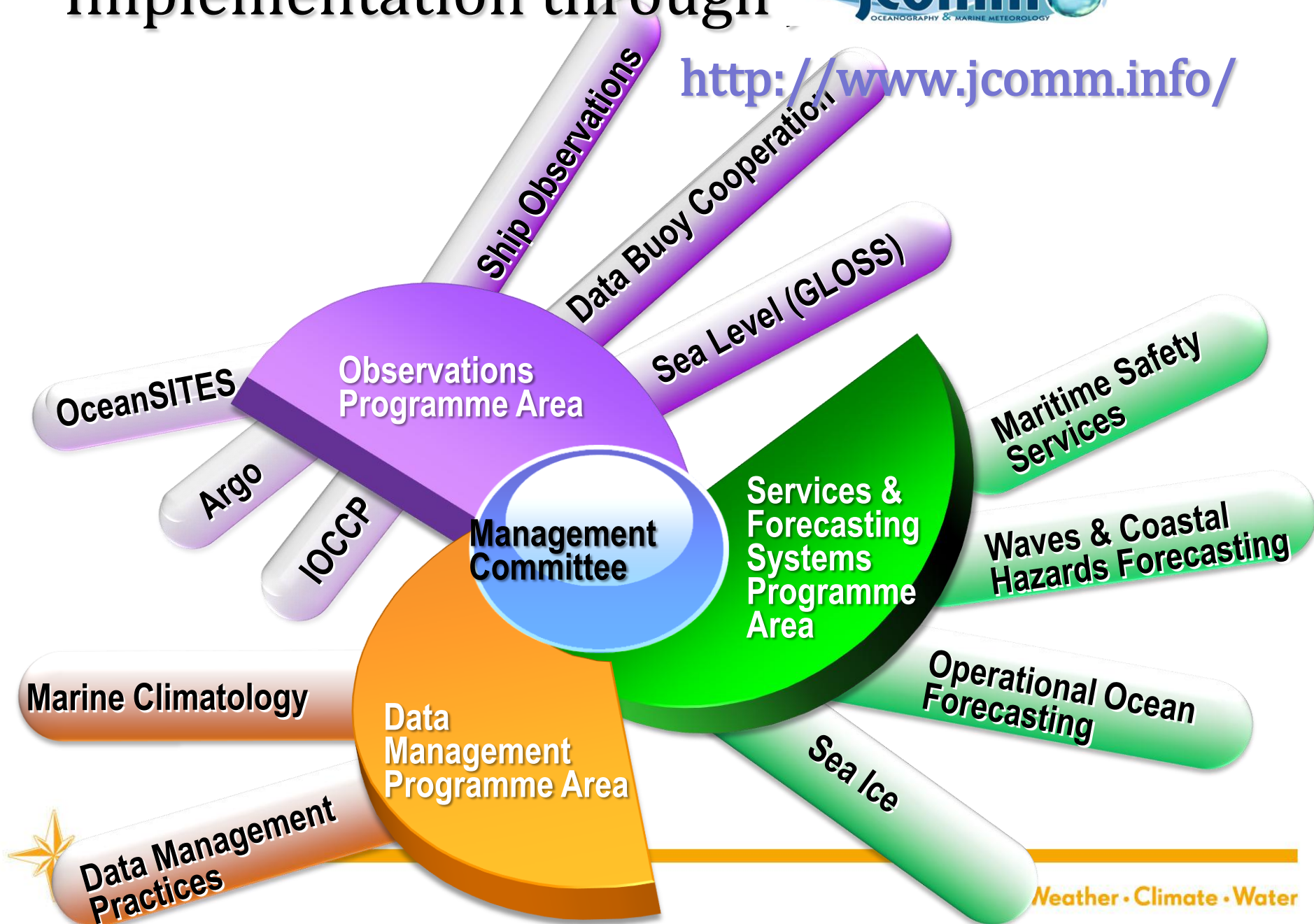
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# Implementation through



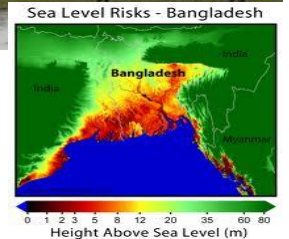
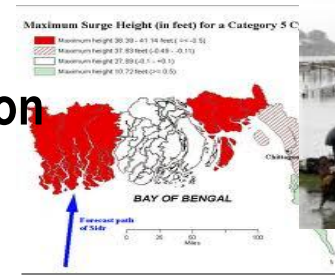
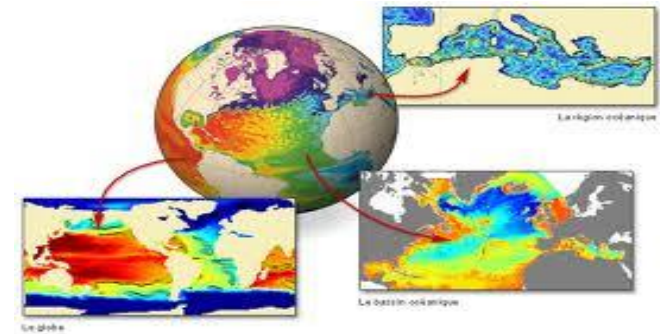
<http://www.jcomm.info/>





# Marine Services

- Enhanced efforts for **operational ocean forecasting system** development  
(global ocean forecasting - SST, waves, currents, etc.  
- and verification / evaluation)
- Strengthen technical supports for **coastal services & disaster risk reduction**  
(Coastal Inundation Forecasting)
- Maritime Safety** and sea ice, as core of metocean services  
(GMDSS support through WWMIWS)



# WWMIWS implementation

<http://weather.gmdss.org>





# WWMIWS implementation

| MET Area | Issuing Services (Preparation Service)                | Met Area Co-ordinators |
|----------|---|------------------------|
| I        | United Kingdom  | United Kingdom         |
| II       | France  | France                 |
| III      | Greece (France)                                       | Greece                 |
| IV       | USA (Canada for Hudson Bay)                           | USA                    |
| V        | Brasil  | Brasil                 |
| VI       | Argentina   | Argentina              |
| VII      | South Africa  | South Africa           |
| VIII - N | India   | Mauritius              |
| VIII - S | Mauritius ; La Reuin/France ; Australia (TC warnings) |                        |
| IX       | Pakistan  | Pakistan               |
| X        | Australia (Fiji, NZ)                                  | Australia              |
| XI       | China ; Japan (China, Australia for south of Eq.)     | Japan                  |
| XII      | USA   | USA                    |
| XIII     | Russian Federation                                    | Russian Federation     |
| XIV      | New Zeland (Fiji)                                     | New Zealand            |
| XV       | Chile   | Chile                  |
| XVI      | USA (Peru request)                                    | USA                    |
| XVII     | Canada (USA for north coast of Alaska)                | Canada                 |
| XVIII    | Canada (Denmark)                                      | Canada                 |
| XIX      | Norway  | Norway                 |
| XX       | Russian Federation                                    | Russian Federation     |
| XXI      | Russian Federation                                    | Russian Federation     |



# WWMIWS implementation

- New & improved products
  - International collaboration for consistent products
  - Update WMO Manual/Guidelines
  - Fine-tune products & service levels based on user feedback & performance measurements

## METAREAs marine forecast example:

FQCN01 CWNT 181500

SECURITE.

FORECASTS FOR METAREA XVII NORTH OF 75N ISSUED BY ENVIRONMENT CANADA AT 1500 UTC TUE 18 OCT 2011. NEXT SCHEDULED FORECASTS AT 0300 UTC WED.

VLD 18/15Z-20/03Z,  
WND(KT), VIS(MM) ABOVE 1 UNL IND, FOG IMPL VIS BELOW 1, WVS(M).

WARNINGS.

CU3, NORTH PRINCE PATRICK, MCCLURE: GALE.

SYNOPSIS.

18/15Z DPN LOW 998 MB AT 70N 135W.

19/15Z LOW 988 MB AT 75N 120W.

ICE EDGE FM 7830N 12000W TO 8100N 16900W. ICE NE OF EDGE.

FORECASTS.

CT1, CT2:

WNG: NIL.

LGT. 18/21Z SE15. 19/12Z SW25. 19/18Z W15.  
18/21Z-19/12Z PTH-FG. 19/12Z-19/18Z 1 MIST.  
1L. 19/00Z 1-2. 19/12Z 2-3. 19/18Z 1.

CT4:

NIL.

LGT. 18/21Z SE15. 19/15Z SW25. 19/21Z W15.  
18/21Z-19/15Z PTH-FG. 19/15Z-19/21Z 1 MIST.  
1L. 19/00Z 1-2. 19/15Z 2-3. 19/21Z 1.

SOUTH PRINCE PATRICK, PRINCE PATRICK:

NIL.

LGT. 19/

18/21Z-1

1L. 19/0

NORTH PR

GALE.

LGT. 18/

18/21Z-1

1L. 19/0

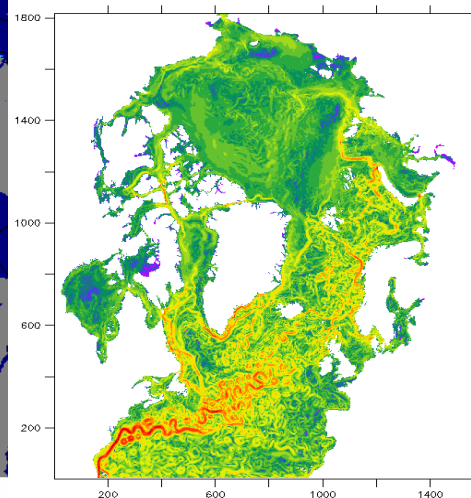
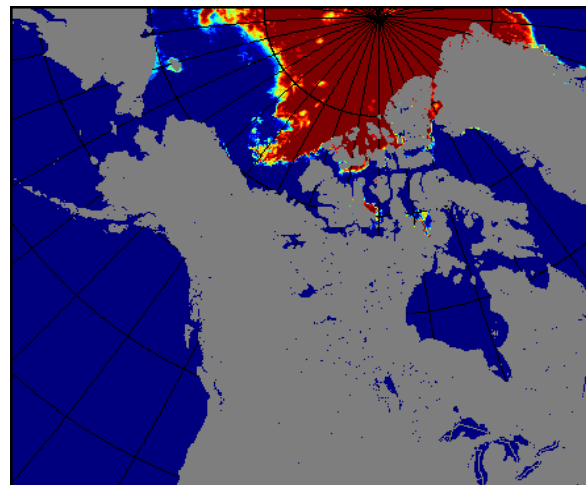
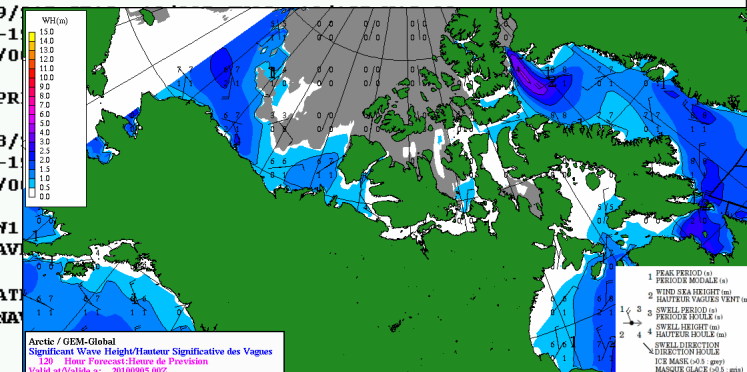
CV2, CW1

FORECASTS HAVE

ALL OTHER WAT

FORECASTS UNAV

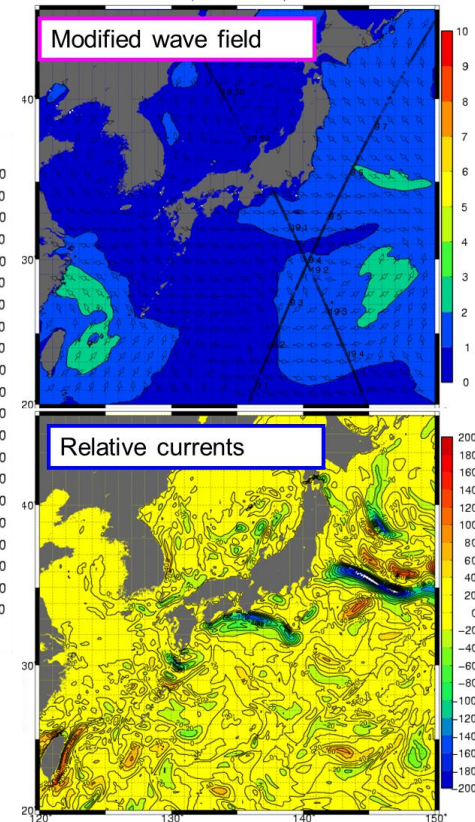
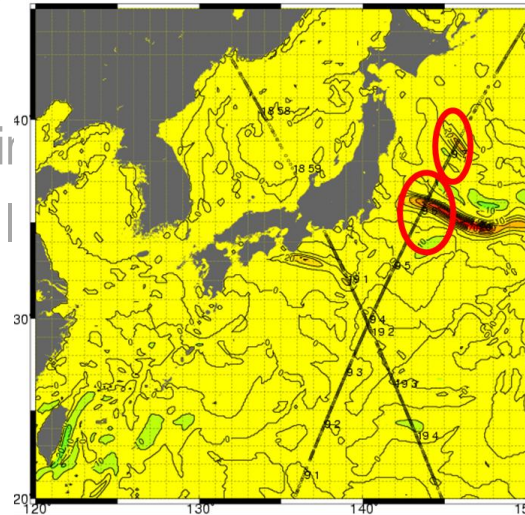
END



North America Valid Date Valide: 20100924 18Z  
Forecast (h) Prévision: 0

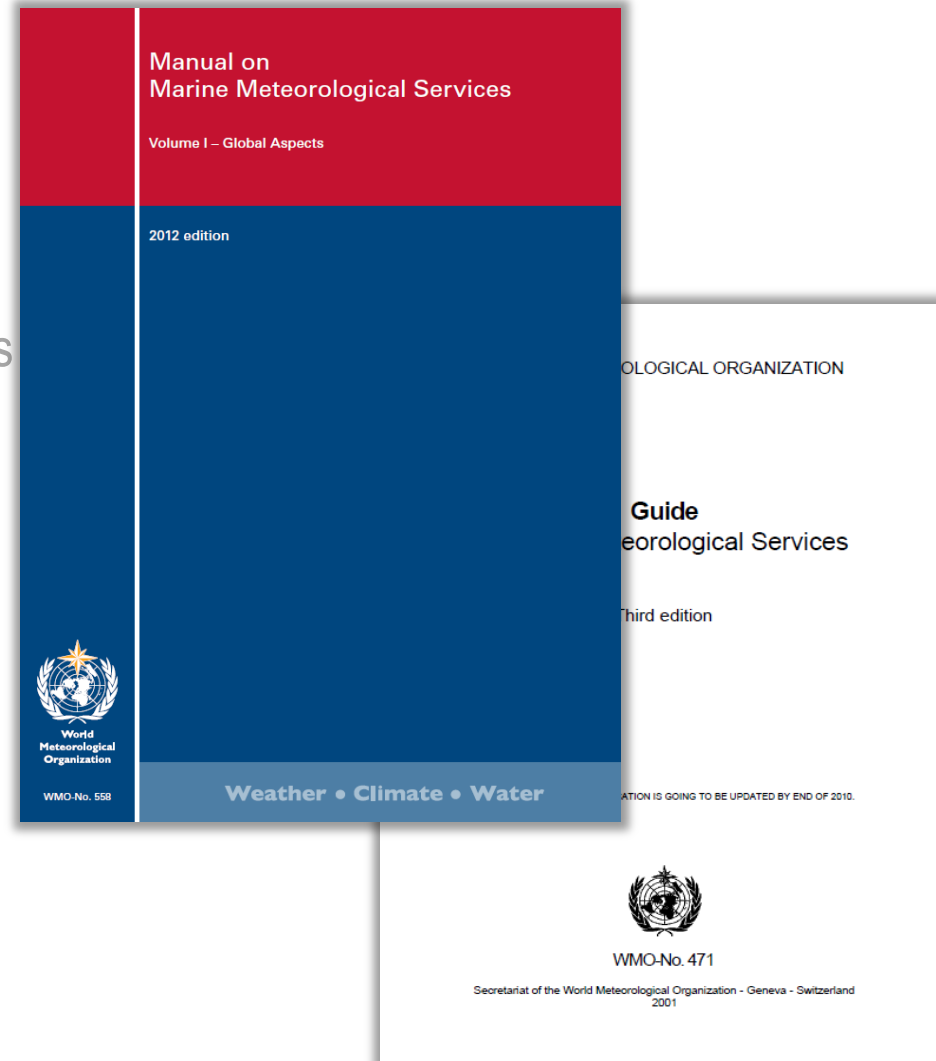
# WWMIWS implementation

- New & improved products
  - International collaboration for consistent products
  - Update WMO Manual/Guidelines
  - Fine-tune products & service based on user feedback & performance measurements
- White paper on complex sea states and associated information services (January'14)
- Required standards for format/dissemination
- User consultation



# WWMIWS implementation

- New & improved products
  - International collaboration for consistent products
  - Update WMO Manual/Guidelines
  - Fine-tune products & service levels based on user feedback & performance measurements
- Addenda in preparation (for end/2013)
- Review of overall structure of WMO-No.558, WMO-No.471



# WWMIWS implementation

- New & improved products
  - International collaboration for consistent products
  - Update WMO Manual/Guidelines
  - Fine-tune products & service levels based on user feedback & performance measurements
- Marine Meteorological Monitoring Survey (MMMS)
- MSI Self Assessment (by METAREA Coordinators)

The screenshot shows the 'Marine Meteorological Monitoring Survey' (MMMS) web interface. The page header includes the WMO and IOC logos, the JCOMM logo, and navigation links: Calendar, People & Teams, Publications, and Login. A search bar is located in the top right corner. The main content area features a banner for the 'Marine Meteorological Monitoring Survey' with a link to 'Download the Preliminary Summary Report'. Below this, a section titled 'To Masters, Deck Officers, Skippers, Sailors, icebreaking services and other marine users:' provides information about the survey's purpose and a link to 'Download the questionnaire in PDF'. The survey form itself is titled '1. Basic Information' and includes a progress bar showing 9% completion. The form fields include: Ship's Name, Call Sign, Country of registry, Voyage from, Voyage to, and Size and length of the vessel. Below these fields, there is a section for '2. Type of activity(ies)' with checkboxes for: containers ships / cargo, Ferry, Cruising, Fishing, Recreational, Icebreaking, Cargo, and Research. An 'Exit this survey' button is located in the top right corner of the form area.





# Quality Management Approach for MSI

- Special emphasis of the WMO on service delivery, including climate services, within a sound Quality Management Framework (QMF)
- Ensuring the competence of all staff / development and implementation of a quality management system (QMS)  
(ISO 9001 QMS – competence, training and awareness)
- ad hoc Task Team on Marine Competency Requirements  
(TT-MCR; <http://www.jcomm.info/TT-MCR>)
- ... to develop a draft of an **internationally acceptable competency framework for marine meteorological (& oceanographic) services**
- ... to review and propose update for training-associated parts of Manuals/Guides (WMO-No.558, WMO-No.471)



## Draft MWF competence framework

- Proposed competencies:
  - Analyse and monitor continuously the weather situation

Observations and forecasts of weather parameters and significant weather phenomena are continuously monitored to determine the need for issuance, cancellation or amendment/update of forecasts and warnings according to documented thresholds and regulations.
  - Forecast marine weather phenomena and parameters

Forecasts of meteorological parameters and phenomena are prepared and issued in accordance with documented requirements, priorities and deadlines.
  - Warn of hazardous phenomena

Warnings are issued in a timely manner when hazardous conditions are expected to reach documented threshold values and as appropriate, amended according to documented criteria.



# Draft MWF competence framework

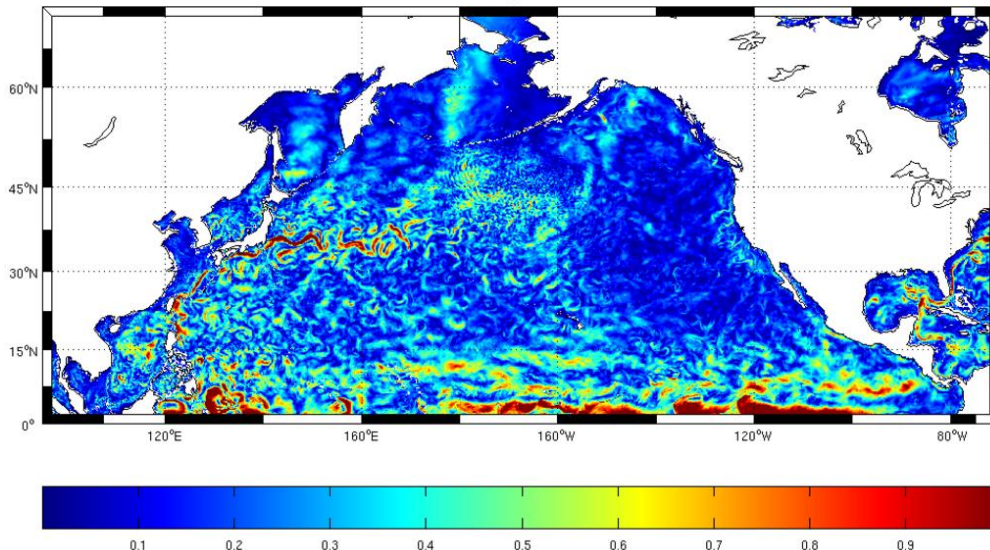
- Proposed competencies:
  - **Ensure the quality of meteorological information and services**  
Marine weather forecasts, warnings and related products are provided within a quality management framework.
  - **Communicate meteorological information to internal and external users**  
Marine weather forecasts and warnings are effectively communicated to user communities.
  - **Regional variations**  
A clear understanding of the regional variations applicable to adjacent areas of forecast and warning responsibility.



# Improved Support for Marine Environmental Emergency Responses

- Existing Marine Pollution Emergency Response Support System (MPERSS) as recommended practice
- Plans for future improvement for international coordination & extension of support capabilities (proposal by 2015)

North Pacific Horizontal Current (m/s) 20100819 n00 layer 1  
NCEP/EMC/MMA8 20-Aug-2010 max: 3.37 min: 0.00



The image displays two documents related to marine environmental emergency responses. The top document is a screenshot of the MPERSS (Marine Pollution Emergency Response Support System) website. The website header includes the logos of WMO, IOC, and JCOMM, and the title "MPERSS Marine Pollution Emergency Response Support System for the high seas". The main content area features a world map with regions labeled by MPI area (I to XVI) and a list of links for various services and data. The bottom document is the cover of the "Joint Radiation Emergency Management Plan of the International Organizations", dated 2010. The cover is blue and white, with the title in large letters. It is jointly sponsored by the European Commission, EuroPol, FAO, IAEA, INTERPOL, IMO, OECD/NEA, PANG, UNEP, UN/ODA, UN/OSHA, UN/OSHA, WHO, and WMO. The cover also mentions "IN CO-OPERATION WITH ICAO, UNSCEAR" and "DATE EFFECTIVE: 1 JANUARY 2010".



**World  
Meteorological  
Organization**

Weather • Climate • Water

# Thank you

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