Kingdom of Morocco

Ministry of Energy, Mines, Water and Environment
National Meteorological Direction

Moroccan Marine Forecasting Service Activities

Mohamed EL HOU
Marine forecaster
MMFS Activities

Introduction
Organization
Activities
Introduction

State Mission of National Marine Meteorological Service

Contribute to the security of property and persons at sea by providing a meteorological assistance to the different users
Introduction

Institutional functions

• Provide the marine meteorological assistance covering national responsibility coasts
• Improve forecasting methods in marine meteorological field
• Meet new needs of customers
• Represent the Moroccan weather service inside national and international bodies (JCOMM,..).
• Assure contact with any national or international organization interested in oceanography and marine meteorology
Organization

National Meteorological Direction

National Center of Meteorological Production

Marine Meteorological Service

- Production Unit
- Development Unit
- Climatology Unit

5 Regional Meteorological Directions

Production Services

- Marine Meteorological Units

Training course on Marine Forecasting for Gulf of Guinea & North Atlantic Region
3 – 7 March 2014, Dakar- Yoff, Senegal
Organisation

Marine Meteorology Service

**Production**
- Watch and Alert
- Development of marine forecasts bulletins
- Phone assistance

**Development**
- Implementation and monitoring of waves numerical models
- Creation of tools to help forecasters

**Climatology**
- Data archiving
- Development of specific studies
- Publication of tides directories

Training course on Marine Forecasting for Gulf of Guinea & North Atlantic Region
3 – 7 March 2014, Dakar- Yoff, Senegal
Activities

**Computing tool:**
SYNERGIE Station

**Access** all meteorological data, interact in real time, and display relevant information.

**Combine** observations, satellite data, radar images, and model outputs.
Activities

Observations

Ships Datas

Bouys Datas

SAT Datas

Training course on Marine Forecasting for Gulf of Guinea & North Atlantic Region
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Activities

**Modeling tools**: Numerical Prediction models

- **Weather models:**
  - **ALBACHIR** up to 72 hours, spatial resolution= 10Km
  - **NORAF** up to 72 hours, spatial resolution= 18Km (Nested Models)
NORAF Domain

ALBACHIR Domain

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Activities

**Modeling tools:** Numerical Prediction models

- **Waves models:**
  - **WW3** ver 2.22
  - **SWAN** 40.81
- Model of oil transport **MOTHY**
- Model outputs from international meteorological centers: Météo-France, ECMWF, UKMet Office.
Training course on Marine Forecasting
3 – 7 March 2014, Dakar-Yoff, Senegal
Journées d’information pour les cadres de TMSA
DMN, 14-15 janvier 2010

SWAN– different areas
Activities

*Alerts
*Coastal fishing Bulletin twice/day

Moroccan coasts length= 3500KM

THE COASTAL STRIP (20 Nautical Miles) ASSISTANCE
Activities

Alerts monitoring

Strong Wind
By convention, the mean wind velocity is averaged over 10 minutes and measured at a height of 10 meters. It is expressed on the Beaufort scale.

The warning is sent when the average wind speed is ≥ 8 (gale)
Activities

Alerts monitoring

Hazardous sea
The significant height is a statistical value, it corresponds to the average height of the third (33%) highest waves, all components combined.

The warning is sent when:

Hs ≥ 3m (Gibraltar Strait & Mediterranean)
Hs ≥ 4m (atlantic coasts)
Activities

High Seas Forecasts twice/day

SOLAS convention

11 Areas of METAREA II
2 Areas of METAREA III

Activities

High Seas Forecasts twice/day

SOLAS convention

11 Areas of METAREA II
2 Areas of METAREA III
Activities

Marine Assistance during Pollution Accidents

Moroccan National Weather Service is a member of the National Commission: “National Emergency Plan for Pollution”
Activities

Assistance for the Search And Rescue At Sea Operations

NWS a member of the National Committee: "National Search and Rescue at Sea Plan"
Activities

Specific Assistance:
Private customers= Near-Shore activities

*Models inputs
*Forecasts Text Bulletins
*Climatic studies (Models Archived data)
*Tides directories
Thank you

for your attention