

**THE REPUBLIC**



**OF THE GAMBIA**

**DEPARTMENT OF WATER RESOURCES**

**7 Marina Parade, Banjul, The Gambia**

---

**PRESENTATION ON MARINE METEOROLOGY FOR THE FIFTH INTERNATIONAL  
PORT METEOROLOGICAL OFFICERS (PMO-5) WORKSHOP TO BE HELD IN VINA  
DEL MAR, CHILE FROM 20-24 JULY 2015.**

**BY MR. OMAR GAYE CHAM  
Met Assistant 1 / PMO**



Canoe and Ferry transport at the Banjul-Barra crossing point on the River Gambia

## 1. INTRODUCTION

### 1.1, SIZE:-

The Gambia is located in the geographical coordinates of 13.28°N and 16.34°W is the smallest country on the African continent. It has a total area of about 11,300sq .km<sup>2</sup> of which 10,000sq.km is land and 1,300sq.km is water. The country had a population estimated at 1,800,507 inhabitants in 2013 (source: GBOS (2013) population and housing census provisional results.

### 1.2, MARITIME CLAIM:-

Maritime claims include a contiguous zone of its 18 nautical miles and an exclusive economic zone (EEZ) of 200 nautical miles.

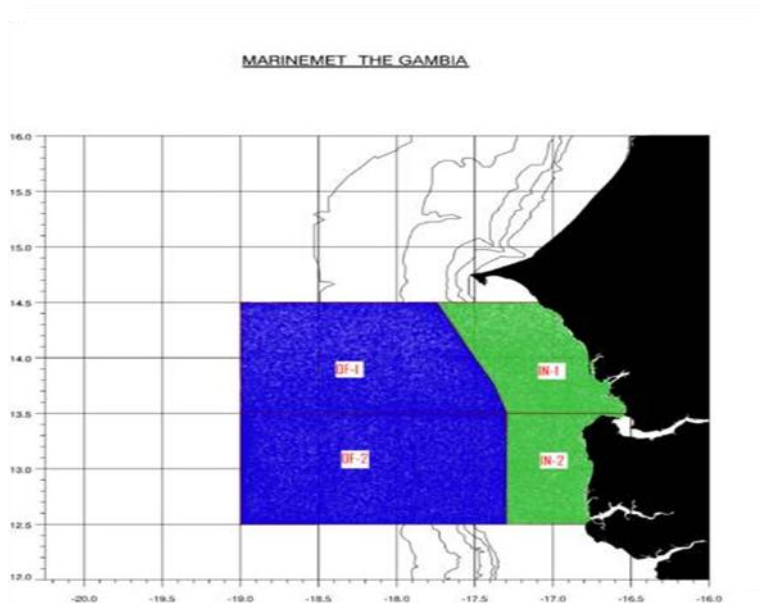
### 1.3, PHYSICAL SETTINGS:-

The Gambia has a total land boundary of 740km, all of which is shared with the Republic of Senegal.



Figure 1: Map of the Gambia

On its western boundary, the country has an open coastline of 80km long measured across the 11km wide mouth of the River Gambia estuary.



**Figure 2: Marine MetAreas of The Gambia**  
(Ref: Designed by Stafford 2010, of Central Forecast Office (CFO), for adoption by JCOMM)

The Gambia sits on flood plain of the Gambia River which is flanked by several and low hills with the highest elevation located somewhere in the eastern part of the country estimated to be 53 meters above mean sea level.

#### **1.4, CLIMATE:-**

The country is located in the Sahel belt characterised by a unimodal rainy season with high annual variability.

The average temperatures over the period 1981 to 2010 range from 18 degrees centigrade to 30 degrees centigrade during the dry season and 23degrees centigrade to 33degrees centigrade in the rainy season. Temperatures measurement over the past six decades reveals a moving trend of approximately 0.5degrees centigrade / decade (GOTG, 2007).

#### **2.0, NATIONAL ECONOMY:-**

The Gambia is classified as one of the Least Developed Countries (LDCs) in the world. According to the countries Human Development Index (HDI) score, the

United Nation Development Program (UNDP) human report 2011(HDI) ranks the Gambia at 168 out of 187 countries. The Gambia has a liberal, market based economy characterised by traditional subsistence Agriculture, re- export trade built around Banjul Port which is identified to have the characteristics of a natural harbour with low import duties and a significant tourism industry.

### **3.0, NATIONAL INSTITUTIONAL PARTNERSHIP:-**

The national Meteorological Service has over the past years developed institutional partnership with stakeholders in Marine Operations such as:

- The Gambia Ports Authority
- The Gambia Fire & Emergency Services
- The National Navy
- The Gambia Marine Services
- The Department of Fisheries
- The Fisher folks and also
- Users of Marine Meteorological data and information for leisure such as tourism and sports

It is in this effort that the National Meteorological Services has acquired and installed a remote tide gauge and an Automatic Weather Station (AWS) at the Banjul Port with funding and technical support by the Spanish Government through World Meteorological Organization (WMO).



**Figure 3: Automatic weather/climate observing station at the Banjul Harbor**

#### **4.0, SERVICES PROVIDED FOR MARINE OPERATION:-**

The Gambia National Meteorological Service provides the following services for safe Marine Operations:

- Daily public weather forecast and marine forecast (Shipping and fishing) both on national television, through e-mails, the Ministry web site, also direct information and data transmission by telephone contacts with users and stakeholders.
- Essential met- ocean elements provided to users and stakeholders include the following:
  - Wind direction and speed
  - State of the Sea(significant wave height & direction)
  - Expected weather tide (high/low and period or time of the day)
  - Horizontal Visibility

#### **5.0, FEEDBACK FROM USERS / STAKEHOLDERS:-**

With contact persons designated by users/stakeholders, regular feedbacks are obtained in order to ascertain timeliness of receipt and beneficial use of information and data provided by the National Meteorological Services. Such feedbacks are used to address any arising challenges for improvement of the National Marine Meteorological Services delivery.

#### **6.0, CHALLENGES ACQUISITION OF MARINE DATA THROUGH VOLUNTARY OBSERVING SHIP (VOS):-**

Although efforts have intensified to obtain Marine Meteorological data and information through Voluntary Observing Ships, the problem of installation equipment on ocean going vessels have continued to pose difficulty.

Local shipping agents such as the **MEASK LINE, DELMAS SHIPPING** etc have been approached on several occasions to install the autonomous buoy

equipment on the deck of their vessels have not yield positive results and regular observed Marine Meteorological information have not been forth coming from users or stakeholders.

#### **7. 0, SUGGESTION / WAYFORWARD:-**

- There is urgent need to strengthen mechanism for the easy free flow of Marine Meteorological information and data by creation and strengthening regional receiving stations of Marine Meteorological data and dissemination of these data to World Meteorological Organization (WMO) member states especially Least Develop Countries (LDCs) for use in their forecast preparations.
- Support Least Develop Countries (LDCs) to have the necessary capabilities of Marine Meteorological Data.
- Support the acquisition and installation of Remote Tide Gauge and Automatic Weather Stations (AWS) on coastlines of Least Develop Countries (LDCs) with coast mouth of more than 10km wide ( e.g for the Gambia one Automatic Weather Station (AWS) at **BUNIADU** on the North Bank Region of the country which is north of the mouth of river Gambia; also at **KARTONG** on the Western Coast Region which is at the South most position of the mouth of the river Gambia.
- Support the acquisition and installation of Met-Ocean Moored Buoy of sore the coast of the Least Develop Countries (LDCs).
- Provisions of adequate training to download information from Automatic Weather Stations (AWS), carry out analyses of data and perform all maintenance of Automatic Weather Stations (AWS) with the provision of spares and consumables.
- Availability of storage facilities of data and information in Least Develop Countries (LDCs) for research purposes.
- Quarterly review of Marine Meteorological data and information undertakes by regional association to ascertain the effectiveness of the data dissemination / acquisition system proposed above for Least Develop Countries (LDCs).

Thank you for your kind attention

---