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AND AGROMETEOROLOGY

COURSE: **WMA 501: HYDRO-METEOROLOGICAL FORECASTING I**

WEIGHT: **2 UNITS**

MODULE

I. NATURE OF HYDRO-METEOROLOGICAL FORECASTING

- Nature & Objectives
- Types
- Scope
- Methods: Quantitative & Non-Quantitative

MODULE

II. STATISTICS IN HYDROMETEOROLOGICAL FORECASTING

- Types of Statistics: Inferential & Descriptive
- Benefits
- Areas of Application
- Problems

MODULE

III. HYDROMETEOROLOGICAL FORECASTING & PREDICTION

- Definitional Comments
- Similarities & Differences
- Procedure: Statistical & Non Statistical
- Limitations

MODULE

IV. HYDROMETEOROLOGICAL FORECASTING IN NIGERIA

- Nature of Hydrometeorological Forecasting in Nigeria
- Organizations Involved
- Problems
- Recent Developments

MODULE

V. REMOTE SENSING & GIS IN HYDROMETEOROLOGICAL FORECASTING

- Definitional Comments
- Concept of Remote Sensing & GIS
- Components
- Area of Application

LECTURE

VI CONSULTANCY IN HYDROMETEOROLOGICAL FORECASTING

- Nature of Consultancy Work
- Guidelines for Professional Practice & Fees
- Contacts Bidding and Execution
- Preparation of Technical Proposals and Reports
- Project Costing and Valuation
- Forecast Reports and Public Use

MODULE

VII APPLICATION AND USE OF HYDROMETEOROLOGICAL FORECAST REPORT

- Areas of Application
- Dissemination and Circulation
- Authenticity of Forecast Reports

MODULE

VIII HYDROMETEOROLOGICAL FORECASTS AND DISASTER MANAGEMENT

- Nature of Water Based Natural Disasters
- Importance of Meteorological Forecasts in Disaster Management
- Recent Development in Nigeria
- Problems of Hydrometeorological Forecasts and Disaster Management

NOTES

Hydrological Forecasting is a procedure and process by which hydrological elements such as run-off, river regime, can be studied and its outcome used in depicting the analysis and planning of water bodies in a particular place.

The whole gamut of hydrological forecasting is the used of numerical, descriptive and scientific techniques to describe possible state and properties of water bodies found in any given place. It seeks to predict and determine what the state of moving water bodies will within a given few years in the distant future.

Hydrological forecasting is relatively new in Nigeria even though its execution and application in the planning and management of water resources dates back to colonial period.

Its practice is hampered by poor data gathering of hydrometeorological parameters and limited recording stations that can adequately gather several types of hydro-meteorological and hydrological data.