ZAMBIA’S EXPERIENCES ON THE GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) APPLICATION IN REMOTE SENSING.

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INTRODUCTION

- ZAMBIA, 08 AND 18 DEG. SOUTH OF EQUATOR AND 22 AND 34 DEG. EAST OF GREENWICH MERIDIAN.

- SINCE 1967, ZAMBIA METEOROLOGICAL DEPARTMENT (ZMD) UNDER MINISTRY OF COMMUNICATION AND TRANSPORT PROVIDES EARLY WARNING AND ALERTS OF ADVERSE WEATHER AMONG OTHERS.

- PRODUCTS AND SERVICES:-- DAILY, WEEKLY AND MONTHLY WEATHER FORECASTS, REPORTS AND UPDATES BOTH ON ELECTRONIC MEDIA AND TABLOIDS.
MAIN OBJECTIVE

• TO SHOW HOW GNSS TECHNOLOGY HAS BEEN USED TO SIGNIFICANTLY REDUCE LOSS OF LIFE AND PROPERTY IN ZAMBIA.

• IN PARTICULAR THE PAPER DISPLAYS SEVERAL NOAA AND METEOSAT REMOTE SENSED PRODUCTS USED IN DISASTER MANAGEMENT.
METHODOLOGY

• NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) SATELLITE SERIES AND GEOSTATIONARY METEOROLOGICAL SATELLITE (METEOSAT) OBSERVATIONS, ANALYSIS AND VISUAL INTERPRETATIONS.
REMOTE-SENSING UNIT (ZMD)

- METEOSAT
  - CCD DATA
- STATIONS
  - G/RAINFALL
- DBMS
  - PRODUCTS
    - 10 D/RAINFALL
    - NR DAYS
    - CUMULATIVE R DEPARTURES
    - NDVI
    - FLOOD MAPS
- NOAA AVRR
- HOMEPAGE BULLETIN
- USERS
- RESEARCH
- CD ROM ARCHIVE
RESULTS AND DISCUSSION

• SEA SURFACE TEMPERATURE (SST) MAP.

• NORMALISED DIFFERENCE VEGETATION INDEX (NDVI) MAP.

• SATELLITE IMAGE OF CYCLONE TRACKING.

• SUPPORT SATELLITE DATA FOR RISK AND DAMAGE ASSESSMENT, DETECTION, AND MONITORING.
SEA SURFACE TEMPERATURE

BY MONITORING, ABLE TO WARN THE PUBLIC AND RELEVANT AUTHORITIES ON THE IMPENDING REDUCTION OR SURPLUSES IN RAINFALL PERFORMANCE
NORMALIZED DIFFERENCE VEGETATION INDEX (NDVI) MAPS

ABLE TO BOTH ASSES THE AGRICULTURAL PRODUCTION POTENTIAL AND ANALYSIS OF VULNERABILITY TO FOOD INSECURITY
SATellite IMAGE OF CYCLONE TRACKING.

Tropical cyclone
‘Bonita’
In 1996
Western part of Zambia during 2001/2002 Season

The Barotse flood plains in Western Zambia. Large flooded areas are also visible in the headlands of the Zambezi catchment inside Eastern Angola. Other wetlands in Zambia and at the tip of the Caprivi Strip are also visible.
RECOMMENDATIONS

• RS, GIS, GPS AND IMAGE PROCESSING BE INCLUDED IN ICT STRATEGIC PLANS OF DEVELOPING COUNTRIES.

• WMO DAY, 23RD MARCH, SHOULD BE USED TO EDUCATE, TRAIN AND CREATE AWARENESS OF GNSS TECHNOLOGY AMONG THE PUBLIC, MANAGERS, POLICY AND DECISION MAKERS AMONG MEMBER COUNTRIES.
CONCLUSION

• GNSS TECHNOLOGY IS FOR A WIDE RANGE OF SECTORS.

• GNSS TECHNOLOGY IS FOR DISASTER MANAGEMENT, ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT.

• GNSS TECHNOLOGY IS COST EFFECTIVE, CONVINIENT AND RELIABLE.
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