……providing weather and climate information for sustainable development and safety of lives…

SATELLITE PROGRAMME IN NIGERIA

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Nigerian Meteorological Agency

OUTLINE OF THE PRESENTATION

1	INTRODUCTION
2	SATELLITE IMAGES
3	SOCIO-ECONOMIC BENEFITS
4	CONCLUSION

INTRODUCTION

- **National Space Research and Development Agency (NASRDA) is the national space agency of Nigeria**
- **It is a part of the Federal Ministry of Science and Technology**
- **it is overseen by the National Council of Space Science Technology**
- **The Agency is based in the Federal Capital Territory, Abuja where the ground receiving station is located**
- **Nigeria has cooperation in space technology with the United Kingdom, China, Ukraine and Russia.**

Introduction

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President inaugurates the National Space Council

A major milestone in the implementation of the Nigerian Space Programme was achieved with the inauguration of the National Space Council by his Excellency, Dr. Goodluck Ebele Jonathan, GCFR, on the 11th of June 2013 at the Presidential Villa, Abuja.

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INTRODUCTION

The focus areas of the National Space Programme (NSP) include:

- **Basic Space Science and Technology:** To provide the understanding of how the universe works and what its impact is on the world. This will enable us to lay the foundation for deriving maximum benefits from the nation's participation in the space enterprise.

- **Remote Sensing:** To help Nigerians understand and manage our environment and natural resources using space-acquired information. This technology will enable us to better understand our land, air and water resources and their associated problems.

INTRODUCTION

- **Satellite Meteorology:** To study atmospheric and weather sciences using satellite data to facilitate the effective management of our environment.

- **Communication and Information Technology:** To provide efficient and reliable telecommunications services for Nigeria in order to enhance the growth of the industrial, commercial and administrative sectors of the economy.

Other Interest area:

Defence and Security. To establish a Defence Space Command for defence, intelligence, security and law enforcement services

TYPES OF SATELLITES

- **NigeriaSat-1:** The first Nigerian satellite was built by a United Kingdom-based satellite technology company, Surrey Space Technology Limited. The satellite was launched by Kosmos-3M rocket from Russian Plesetsk spaceport on 27 September 2003. The satellite was part of the world-wide Disaster Monitoring Constellation (DMC) System

Primary objectives of the satellite:

- to give early warning signals of environmental disaster;
- to help detect and control desertification in the northern part of Nigeria;
- to assist in demographic planning;
- to establish the relationship between vectors and the environment that breeds malaria and to give early warning signals on future outbreaks of meningitis using remote sensing technology;
- to provide the technology needed to bring education to all parts of the country through distant learning; and
- to aid in conflict resolution and border disputes by mapping out state and International borders.

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TYPES OF SATELLITES

- NigComSat-1, a Nigerian satellite ordered and built in China in 2004, was Nigeria's second satellite and Africa's first communication satellite. It was launched on 13 May 2007, aboard a Chinese Long March 3B carrier rocket, from the Xichang Satellite Launch Centre in China.

- However, on 11 November 2008, NigComSat-1 failed in orbit after running out of power due to an anomaly in its solar array.

- On 19 December 2011, a new Nigerian communications satellite NigComSat-1R was launched into orbit by China in Xichang.

TYPES OF SATELLITES

- NigeriaSat-2 and NigeriaSat-X, Nigeria's third and fourth satellites, were built as a high-resolution earth satellite by SSTL for DMC system. The NigeriaSat-2 was launched into orbit by Ukrainian Dnepr rocket from a Yasny military base in Russia on 17 August 2011

- **Primary objectives of the satellite:**

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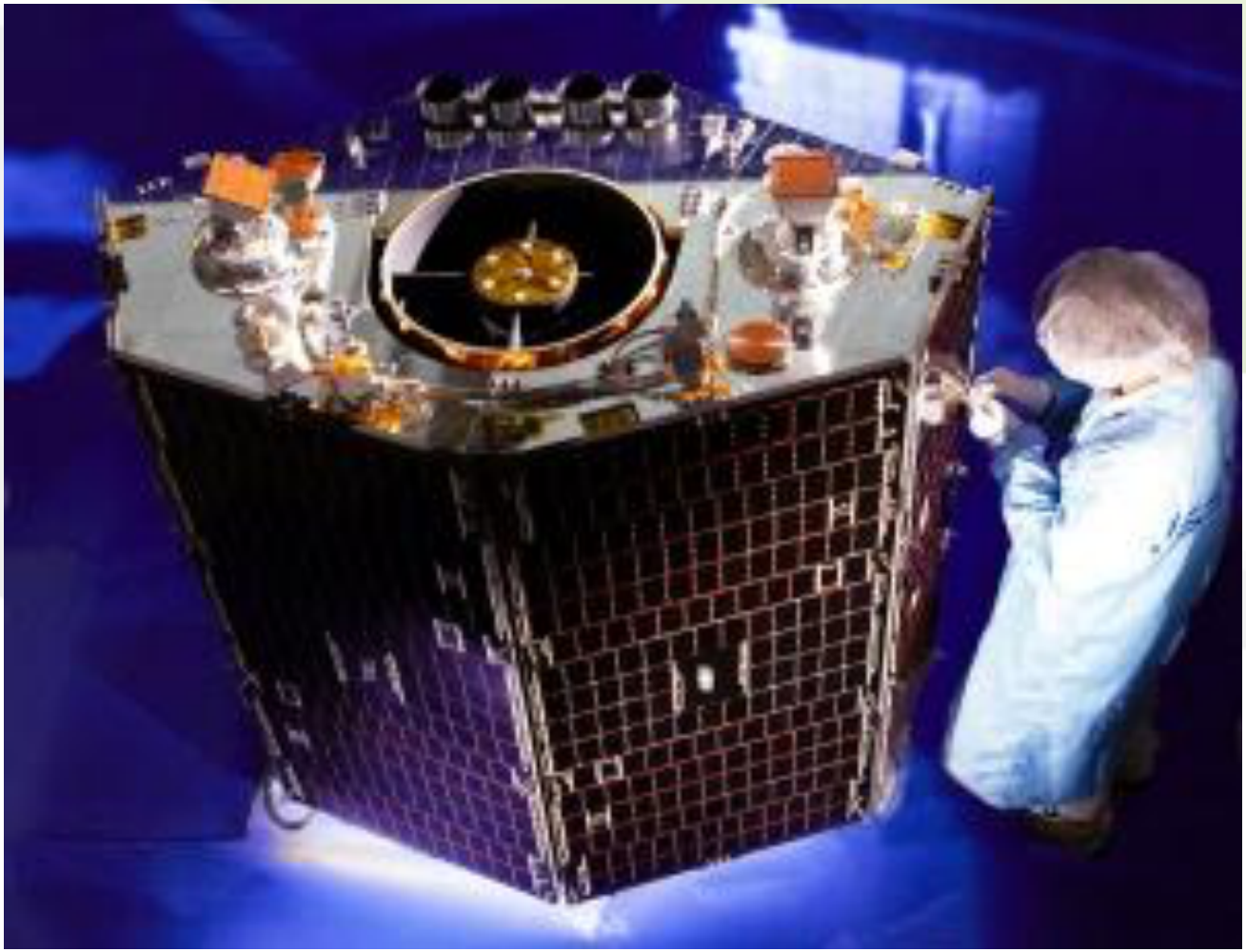
TYPES OF SATELLITES



NigeriaSat-2 launched in 2011

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TYPES OF SATELLITES

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Nigerian engineer at Rutherford Appleton Laboratories

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Space Technology by Nigerian Engineers

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Receivers

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Receivers

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Receivers

Space Technology for Socio-economic Benefits

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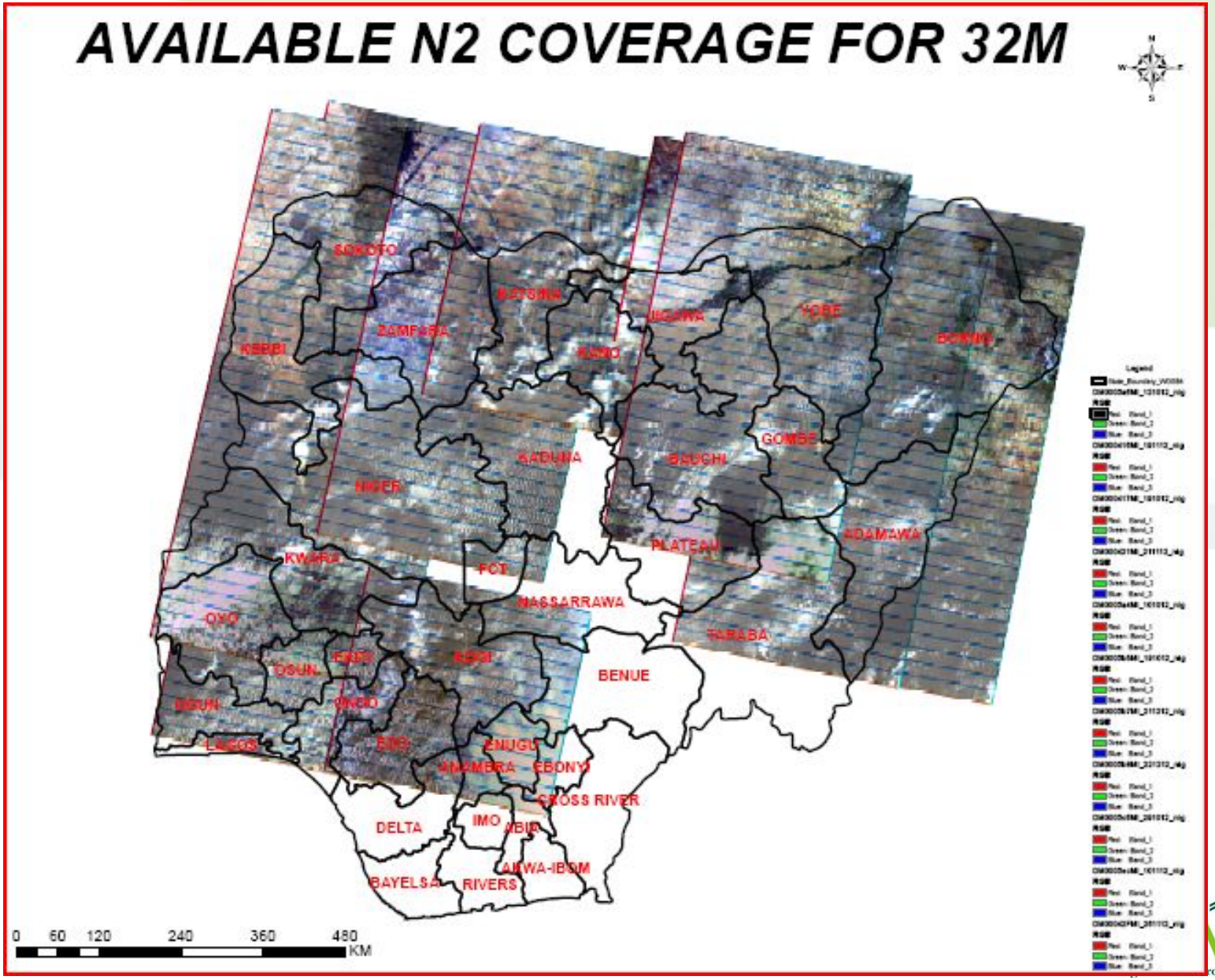
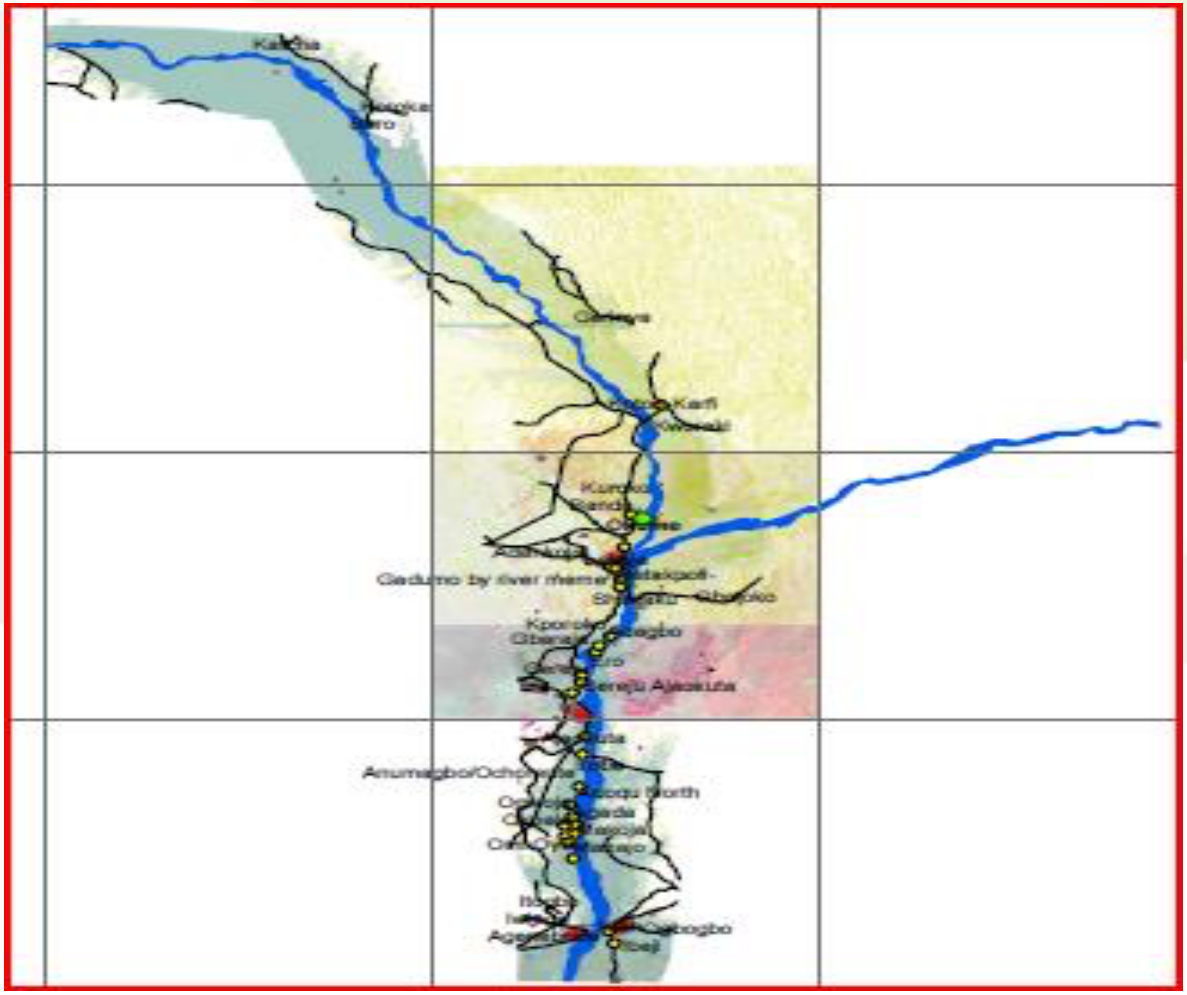
NigeriaSat-2 Images



FLOOD DISASTER MANAGEMENT



2012 flood disaster management through the production of before and after flood maps of the most affected area along river Niger and Benue

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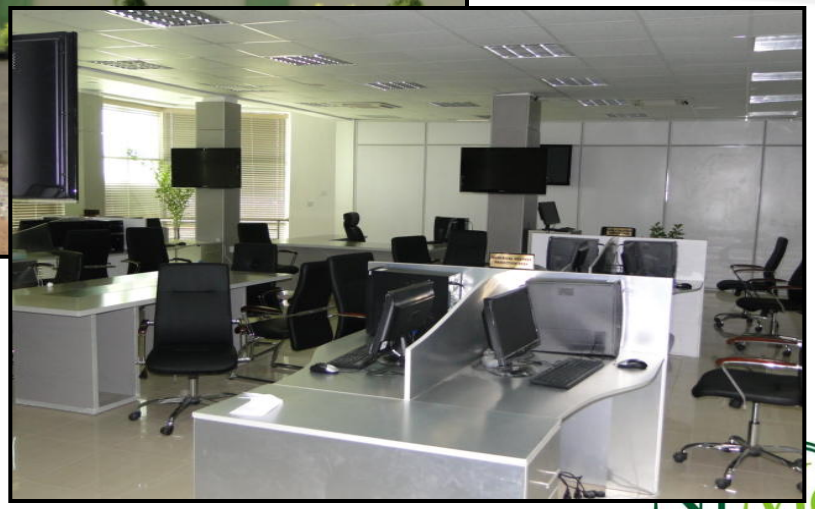
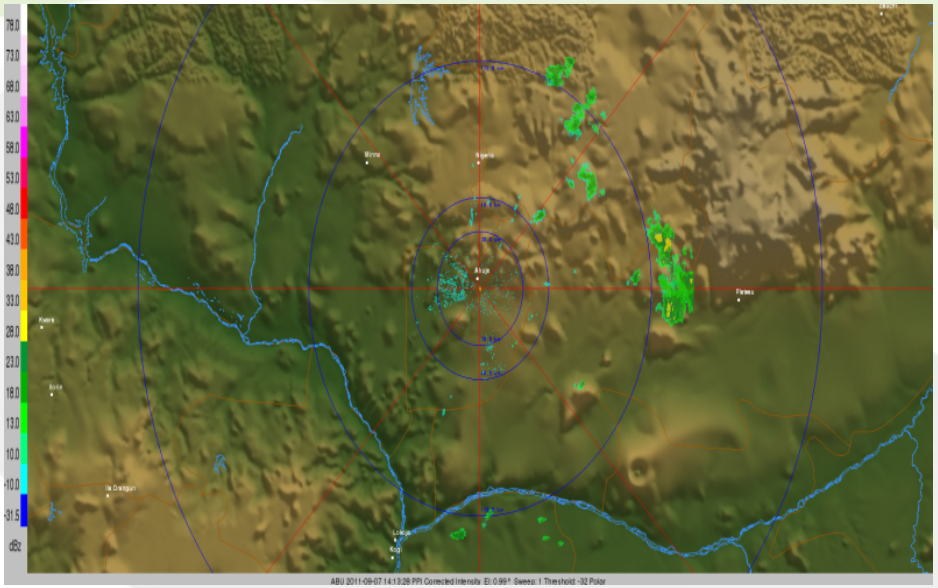
RADAR

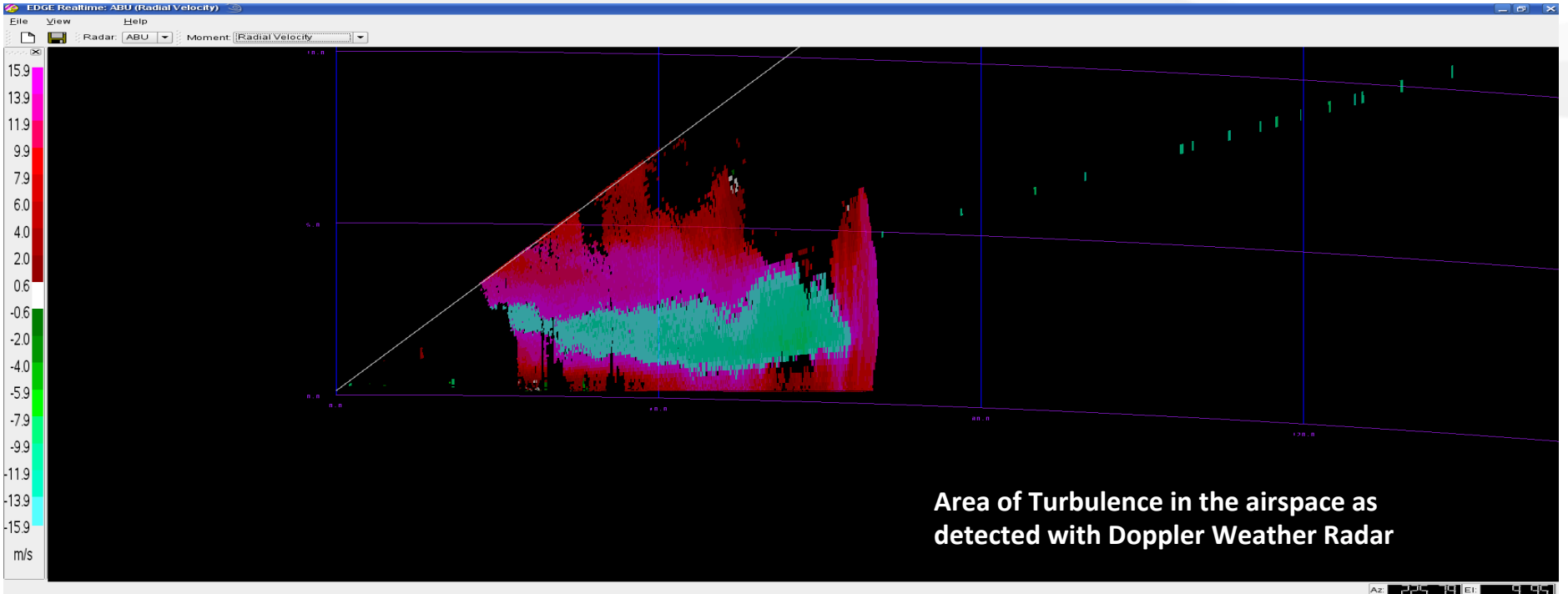


Central Forecast Office, Abuja (Compliant with WMO Standard)

Radar



Doppler Weather Radar in Abuja



Area of Turbulence in the airspace as detected with Doppler Weather Radar


Thanks for your attention