

# GENERATION OF FLOOD MAPS AND DRAINAGE BASIN OF UMUEZE ANAM

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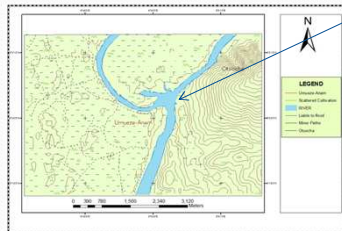
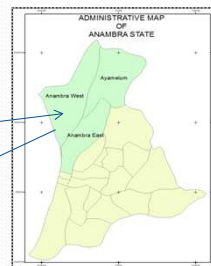
6-10 May, Abuja, Nigeria

"Environment for Sustainability"



## Introduction

### STUDY AREA



THE AREA LIES WITHIN  
LATITUDE 6°21'16"N;  
6°18'48"N LONGITUDE  
6°48'6"E AND  
6°51'36"E



## Introduction cont'd..

Umueze Anam is located between longitude 6°48'60"E; 6°51'36"E and latitude 6°21'16"N; 6°18'48"N.

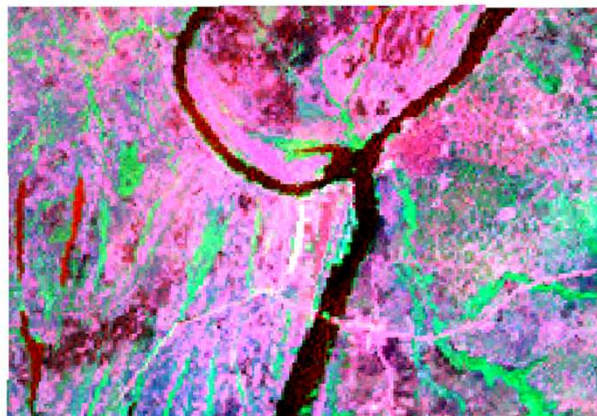
It is bounded on the east by Anambra (Omanbala) River that runs southwards to its tributary in the River Niger at Ukwubili (west) and Onitsha (east).

On the north it is bounded by the Ezichi River. Further east of Anambra River, are Aguleri, Umuoba Anam, Umueri (all collectively referred to as Otuocha), and Nsugbe;

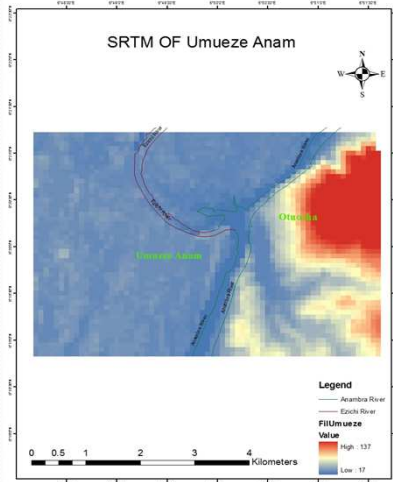
At the south easternmost end is Onitsha. On the northern border, is Iyiora Anam, while Mmiata Anam is on the northwest.



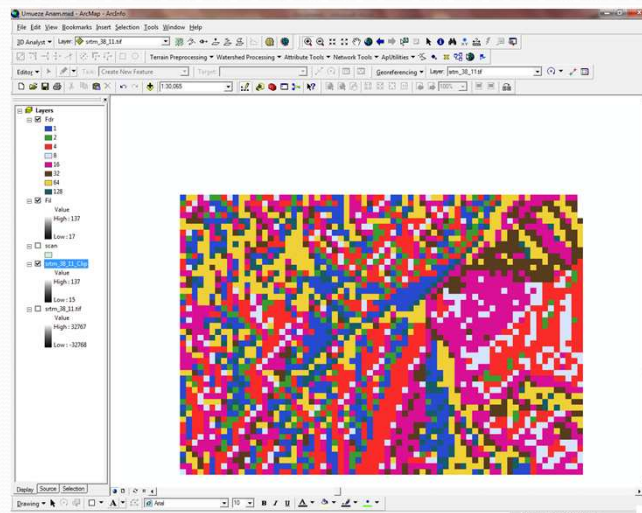
## LANDSAT IMAGERY OF UMUEZE ANAM

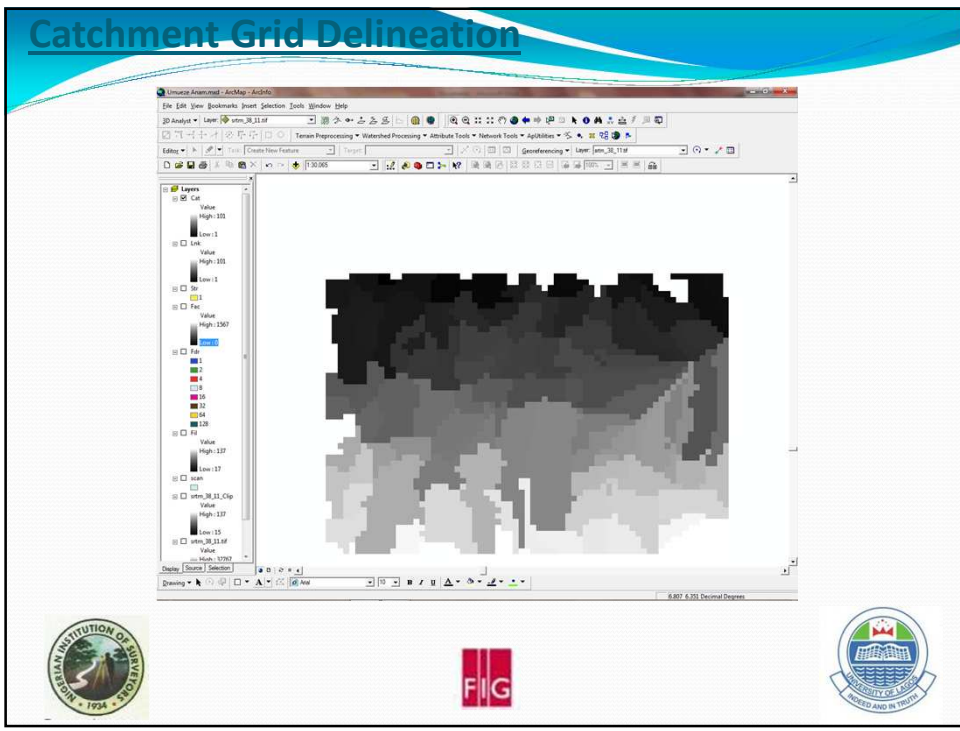
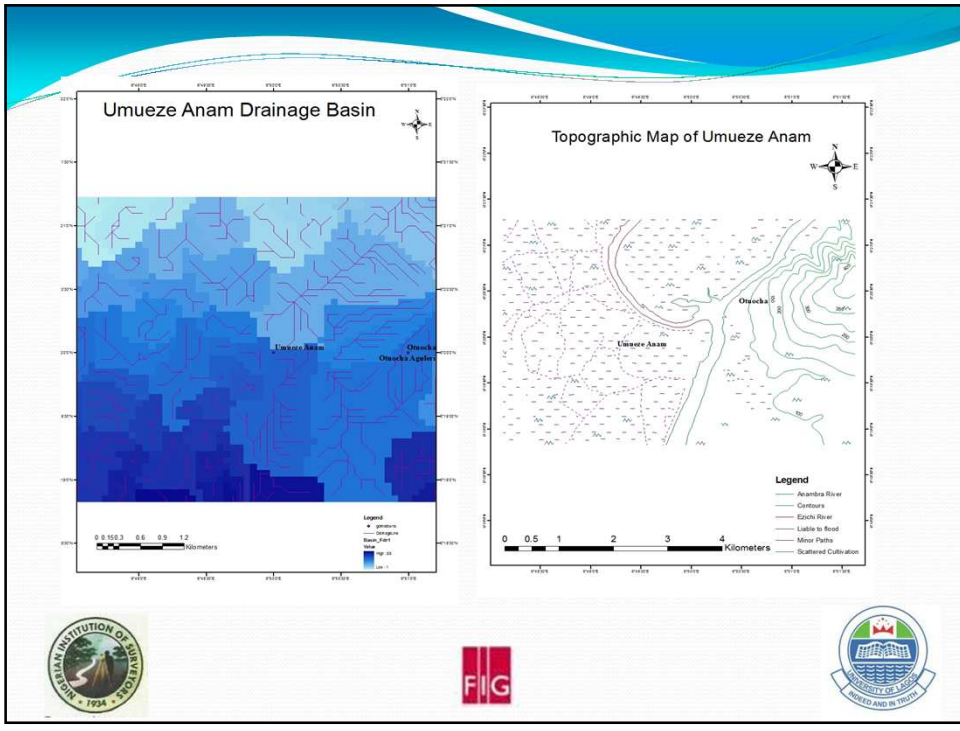


## Introduction cont'd..



## Flow Direction





## Drainage Line Processing

## Triangulated Irregular Network

**Legend**

**TIN**

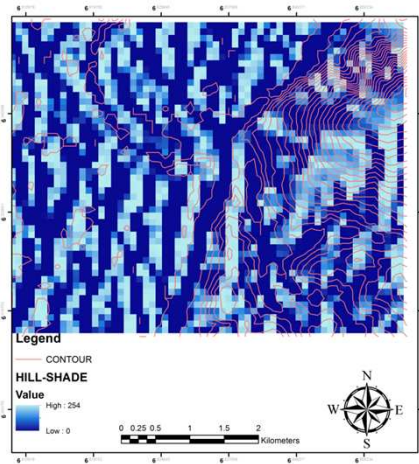
**Edge type**

— Hard Edge

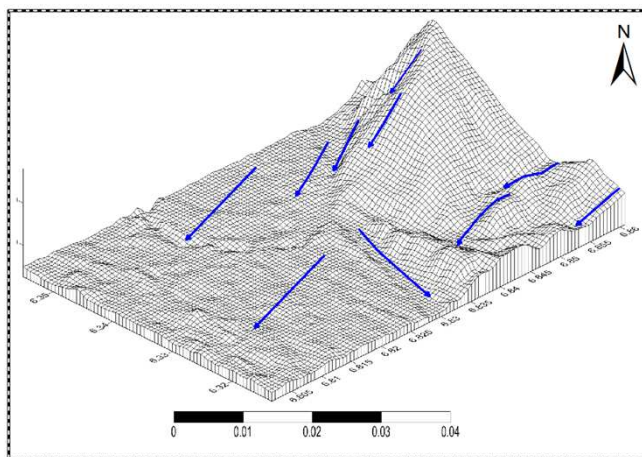
**Elevation**

126.111 - 140
98.333 - 112.222
84.444 - 98.333
70.556 - 84.444
56.667 - 70.556
42.778 - 56.667
28.889 - 42.778
15 - 28.889

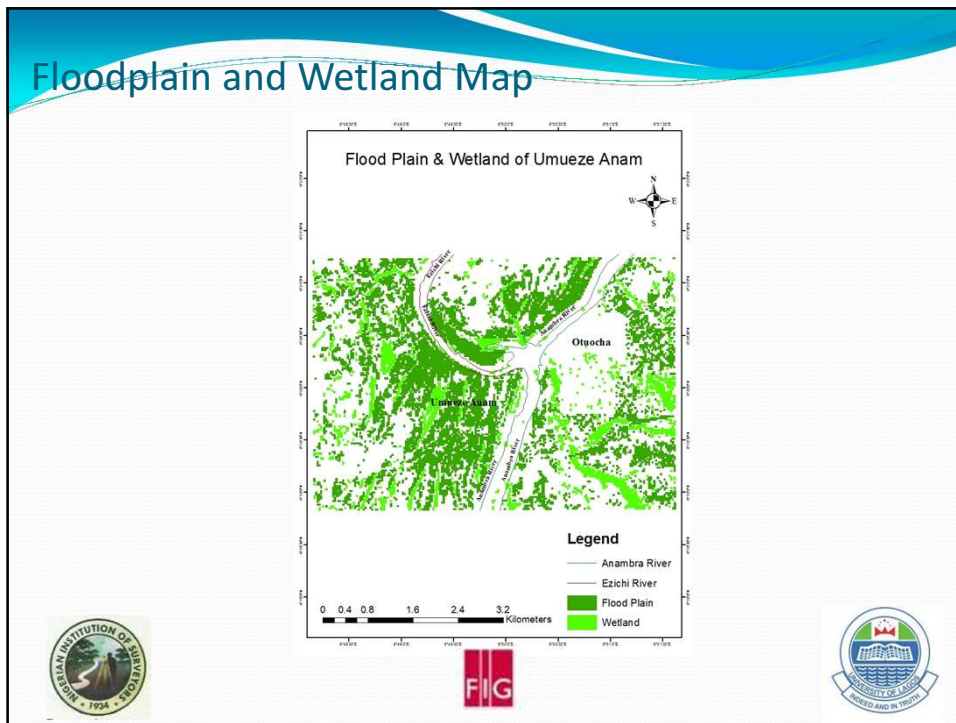
## Hill-Shade with Contour Map



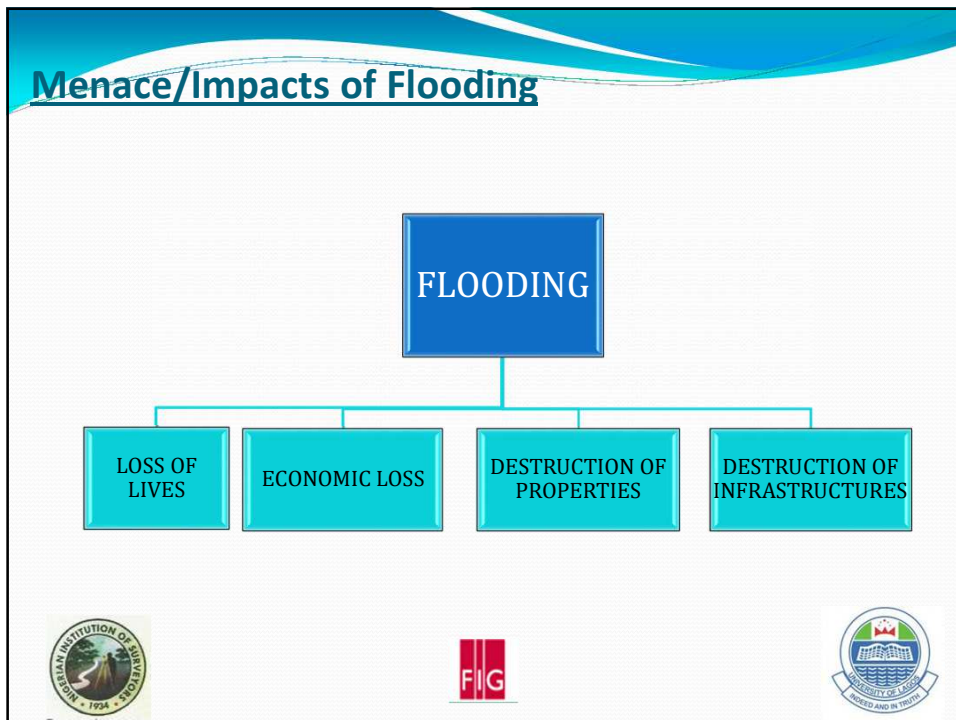
## Perspective View of Krigged and Flow Model



## Floodplain and Wetland Map



## Menace/Impacts of Flooding



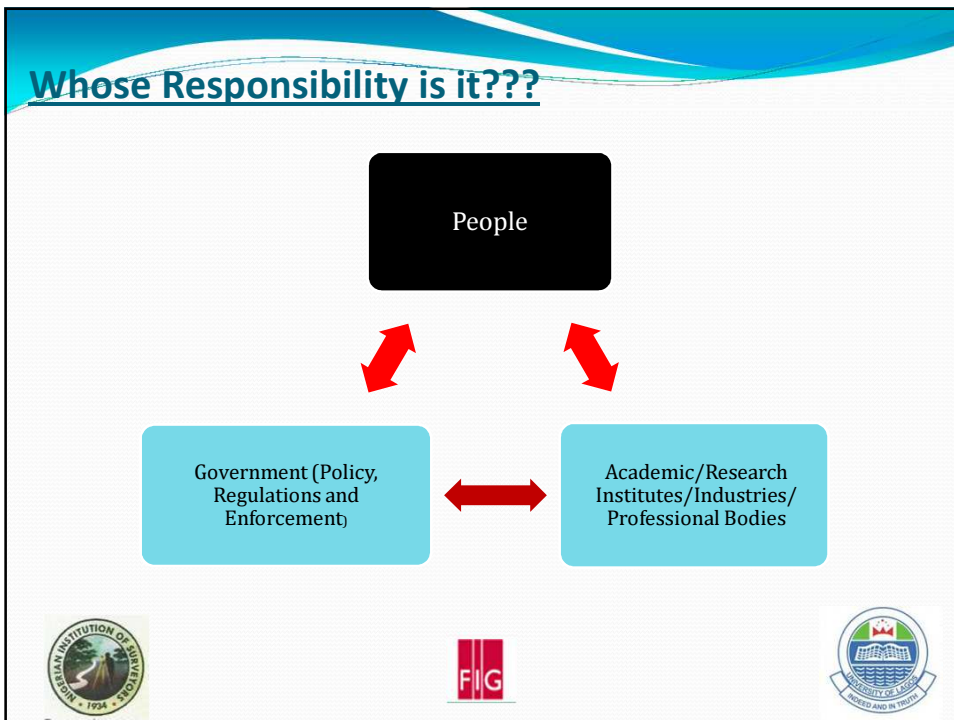
### Menace/Impacts of Flooding



The slide features three photographs illustrating the impact of flooding. The top-left photo shows a narrow street completely submerged in brown water, with buildings on either side. The top-right photo shows a residential area with water reaching the windows of houses. The bottom-center photo shows a large, multi-story building partially submerged in water, with a log floating in the foreground.



Logos for the Asian Institute of Services, FIG, and the University of Baguio are positioned at the bottom of the slide.





## CONCLUSION AND RECOMMENDATION

- In the study, topographic data was used to model flood kinematics in Umueze Anam and environs.
- Result revealed flow direction of flood water in the area. This has shown that the numerical terrain descriptor method is effective in modeling flood water motions.

The following recommendations are hereby put forward:

- Drainage should be put in place to take up flood water from the surface to avoid spread during raining season.
- Validation should be carried out for the rain-fed flood water motions modelled in Umueze Anam especially in the wet season.



**THANK YOU!!!**

