

National Space Research and Development Agency

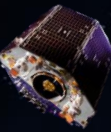
# THE UNSPIDER REGIONAL SUPPORT OFFICE AND DISASTER MANAGEMENT IN NIGERIA

By

**Dr. Godstime James**

**A Presentation to UN-SPIDER / ZFL Regional Virtual Expert Meeting for Southern  
Africa "Space-based Solutions for Disaster Risk Management and Emergency  
Response"**

13-15 July 2021



## PRESENTATION OUTLINE

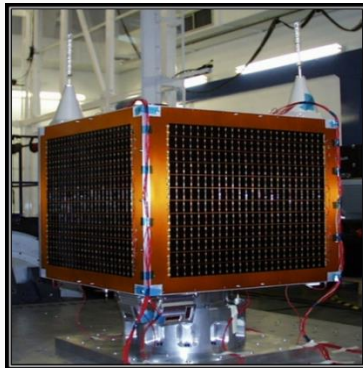
- 🌐 Introduction.
- 🌐 Activities of the Regional Support Office in Nigeria.
  - 🌐 West and Central Africa
  - 🌐 Nigeria



## INTRODUCTION

### Satellite Missions

The National Space Research and Development Agency has launched a total of 6 satellites namely:



Nigeriasat-1 (2003)



NigComSat (2007)



Nigeriasat-2 (2011)



NigeriaSat-X (2011)



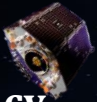
NIGCOMSAT -1R (2011)



Nigeria EduSat-1 (2017)







# INTRODUCTION

## LAUNCH OF NIGERIASAT-X

- Launched on 17<sup>th</sup> August 2011.
- Built by Nigerian Engineers and Scientists.

Ground Receiving Station for N-2 and N-X  
at NASRDA



NigeriaSat-X Image over Oakland, New Zealand



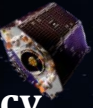


## INTRODUCTION

### UN-SPIDER RSO IN NIGERIA

- The RSO in Nigeria was established in 2008 and Hosted by NASRDA.
- Formal Cooperation Agreement was signed on the 4<sup>th</sup> of June 2009, between the United Nations Office for Outer Space Affairs and NASRDA.





## **Activities in West And Central African Countries**







## Technical Support to West and Central African Countries

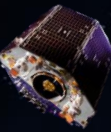
➤ Encouraged African countries to signify interest in establishing NFP in their country:

- ✓ Nigeria
- ✓ Ghana
- ✓ Togo
- ✓ Senegal
- ✓ **Cameroon**

➤ Technical Advisory Mission to Togo from 13<sup>th</sup> to 17<sup>th</sup> July 2009.

➤ Technical Advisory Mission to Cameroon from 5<sup>th</sup> to 10<sup>th</sup> June 2011.





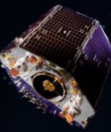
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## Technical Support to West and Central African Countries

- ✓ The RSO participated in UN-SPIDER Technical Advisory Mission to Cape Verde.
- ✓ 28<sup>th</sup> July to 3<sup>rd</sup> August 2012.







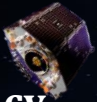
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## Technical Support to West and Central African Countries

- UNSPIDER Institutional Strengthening Mission to Cameroon from 15<sup>th</sup> to 19<sup>th</sup> July 2019.



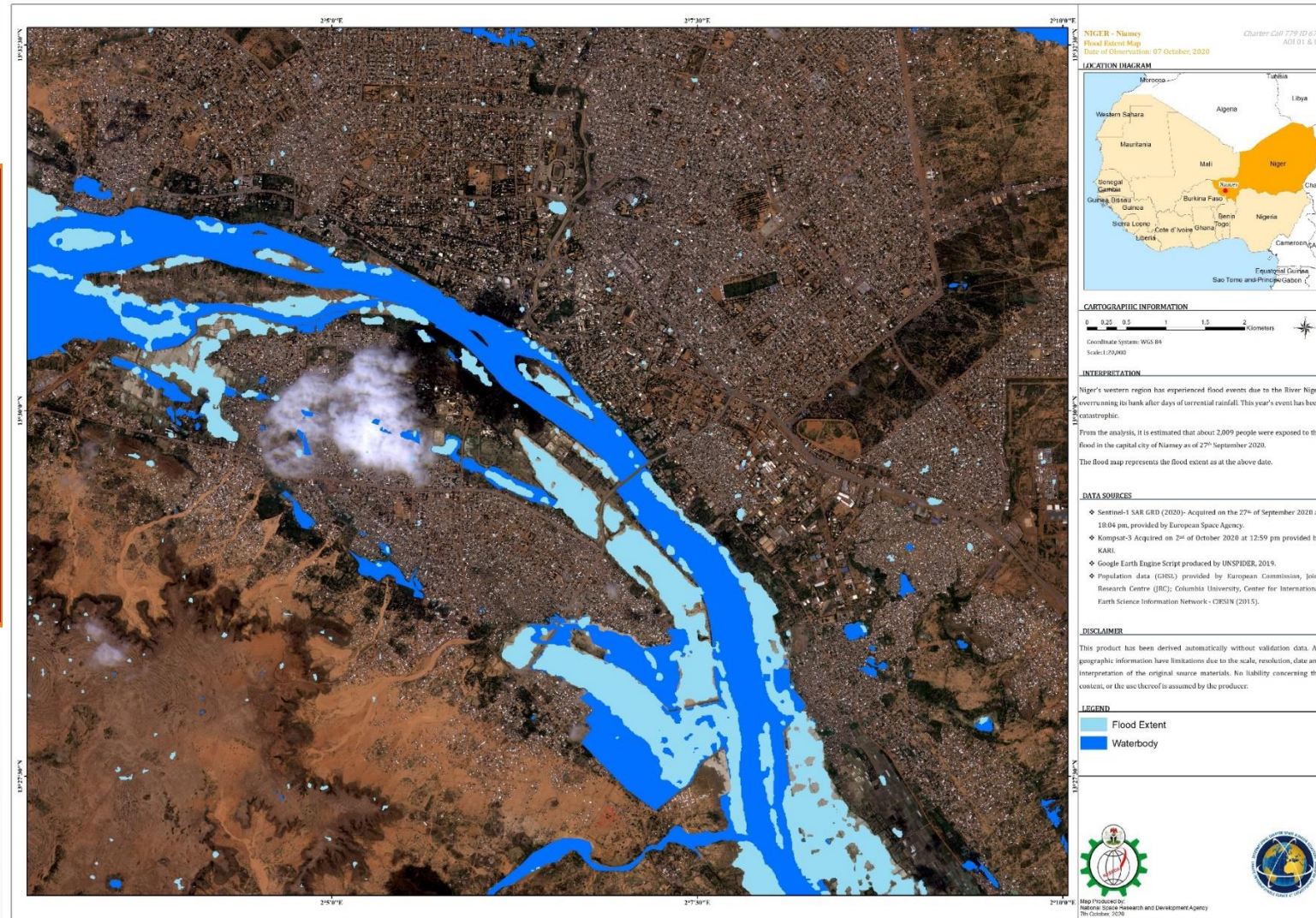




## Technical Support to West and Central African Countries

### Niamey

Value Addition for  
Call 779, Niger  
Floods:  
International  
Charter: Space and  
Major Disasters.  
September-October  
2020



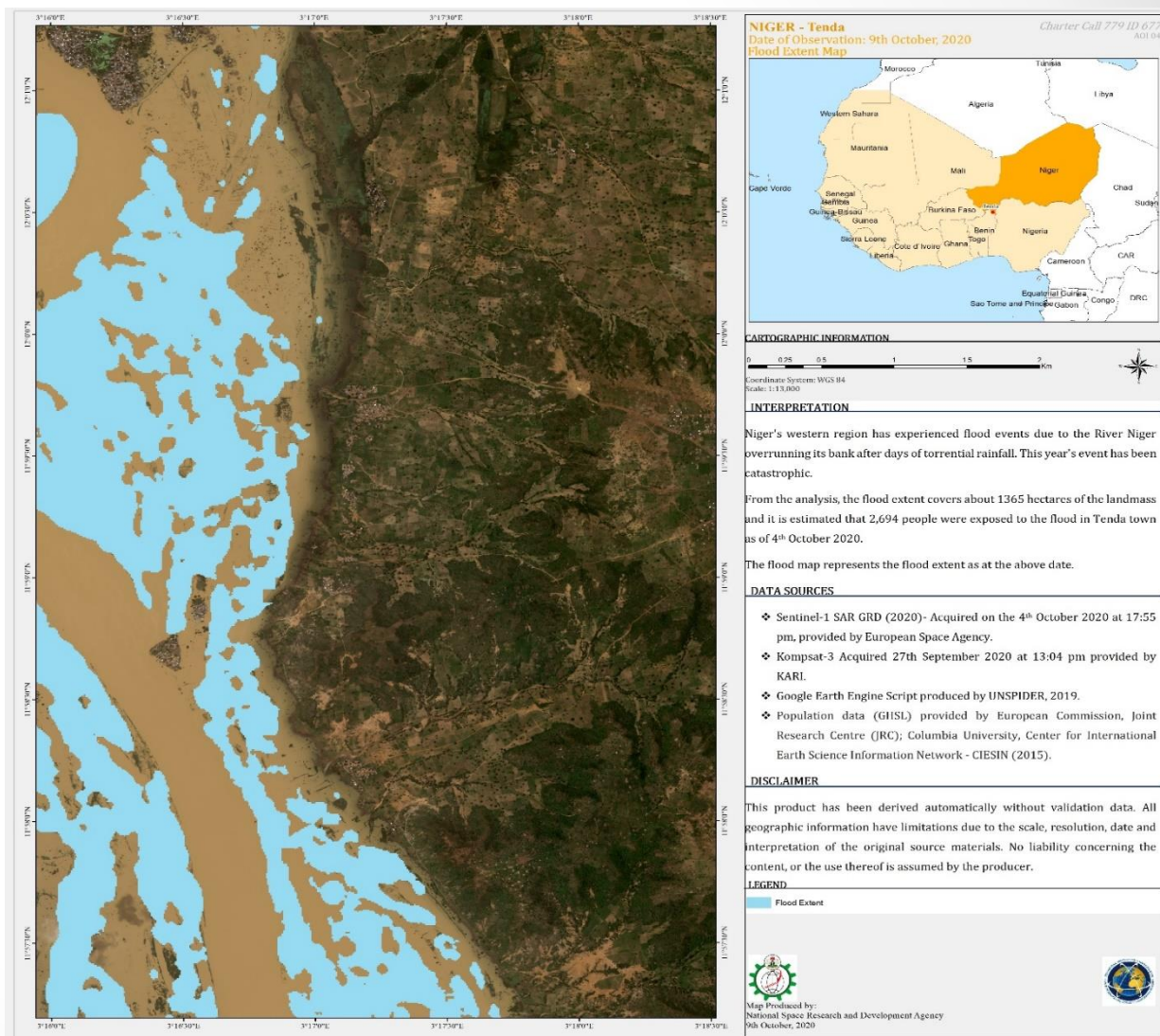




## Technical Support to West and Central African Countries

Tenda

Value Addition for  
Call 779, Niger Floods:  
International Charter:  
Space and Major  
Disasters. September-  
October 2020

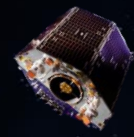






## Activities in Nigeria





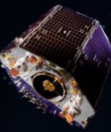
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## Disasters in Nigeria



**National Emergency Management Agency**





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## Technical Advisory Mission

Mission was conducted from 13-17 June 2011 in Abuja

- The mission team consisted of the following experts:
- David Stevens, Jörg Szarzynski, Michael Leitgab (UN-SPIDER);
- Isi Ikhuoria, Seyi Fabiyi, Gabriel Yusuf (RECTAS)
- Ishiaku Muhammed (WMO, Nigeria)
- Alhassan Nuhu and Justine ..... (NEMA/UN-SPIDER NFP)
- Godstime James ( NASRDA/UN-SPIDER RSO)





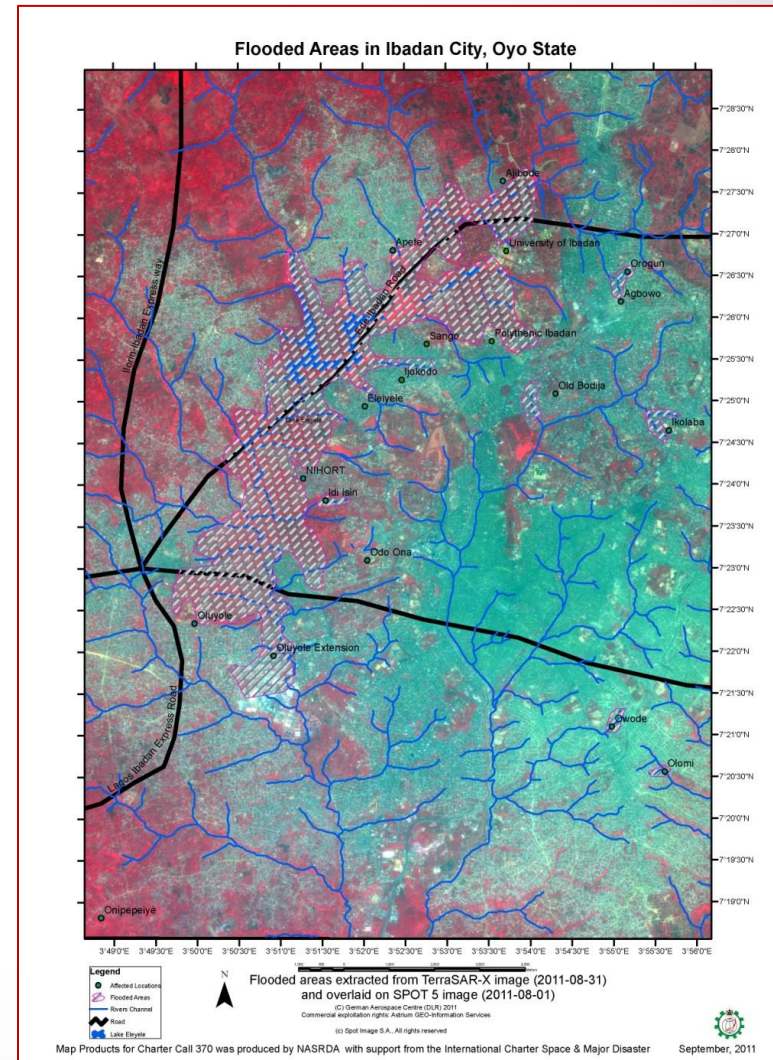
## Response to Floods in Sokoto 2010

- The RSO Collaborated with the Nigerian National Emergency Management Agency (NEMA) during disaster response activities in Sokoto State in 2010.
  - ⚙ The International Charter was activated by NEMA (AU)
  - ⚙ 4 Radar Imageries were provided by CSA from RADARSAT-2 through the Charter
  - ⚙ UN-SPIDER RSO
    - ⚙ Visited the flood location and collected GPS data
    - ⚙ Processed and interpreted the Radar imagery
    - ⚙ Further Image interpretation was done by RECTAS (the PM).



## Response to Flood in Ibadan 2011

- NEMA activated the International Charter Space and Major Disaster on the 29<sup>th</sup> of August 2011. (Charter Call 370 ).
- A project manager was appointed from the NASRDA to process the images that were received.
- Data supplied by the Charter
  - ✓ TerraSAR – 2011/08/31
  - ✓ RadarSat – 1 & 2 - 2003/12/28 and 2011/08/31
  - ✓ Spot Image – 2011/08/01 and 2011/07/19
  - ✓ Envisat - 2005/01/04, 2009/09/02, 2010/06/09, 2010/05/21 and 2010/09/22.
- Images were processed and results sent to NEMA.



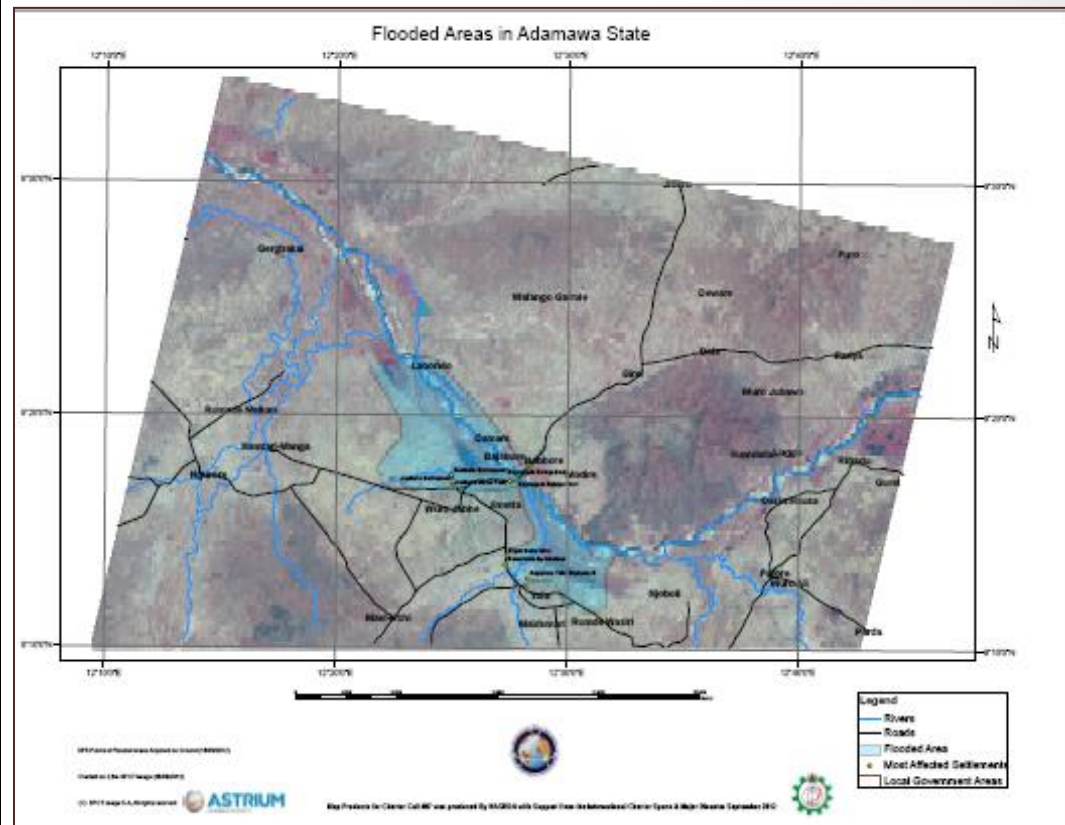


## Response to Flooding in Adamawa 2012

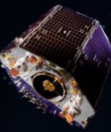
✓ The RSO participated in the development of maps from satellite imagery during the 2012 flood season in Nigeria.

✓ Archival Landsat data was used as baseline dataset while the International Charter: Space and Major disasters provided the assessment datasets.

✓ NEMA was very supportive in the fieldwork routine.







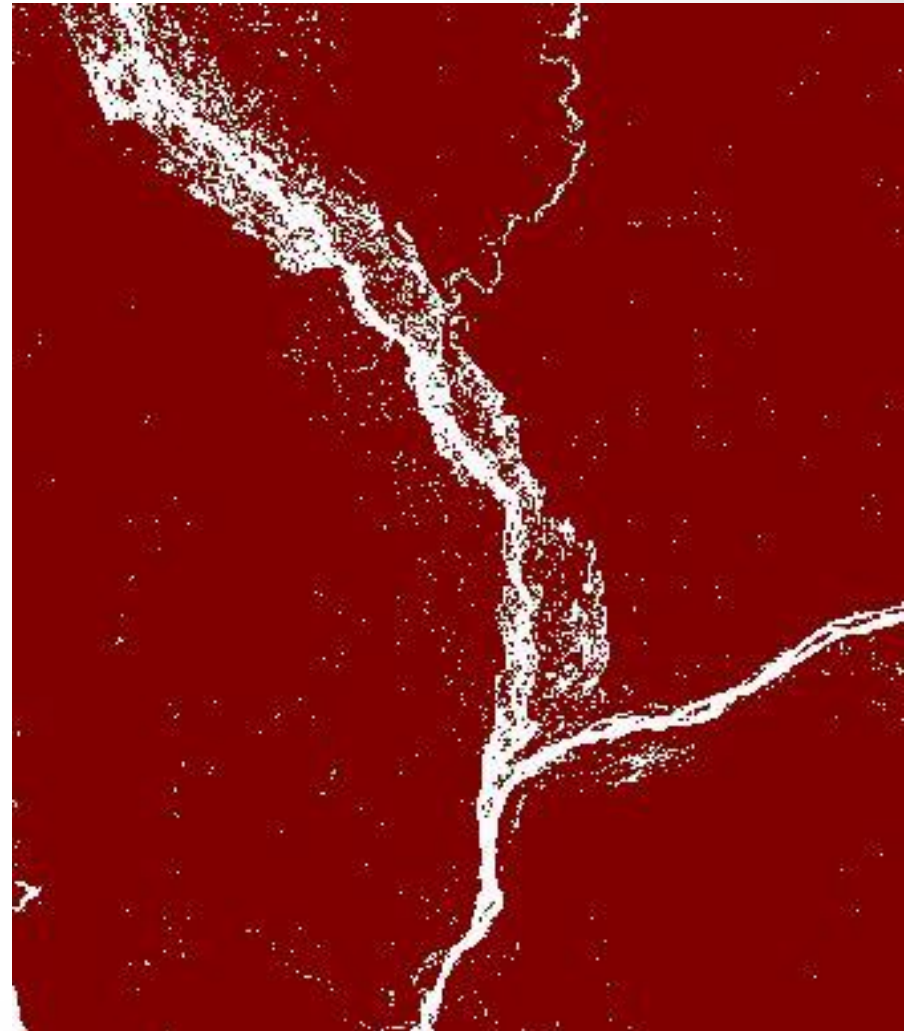
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## Response to Flood in 2018

➤ In 2018, Floods ravaged the country along the Rivers Niger and Benue Tributaries.

➤ The RSO in collaboration with UNSPIDER Bonn office provided the names of communities that were vulnerable to the flood incidence in:

- Anambra
- Edo
- Kebbi
- Kogi
- Kwara
- Niger State

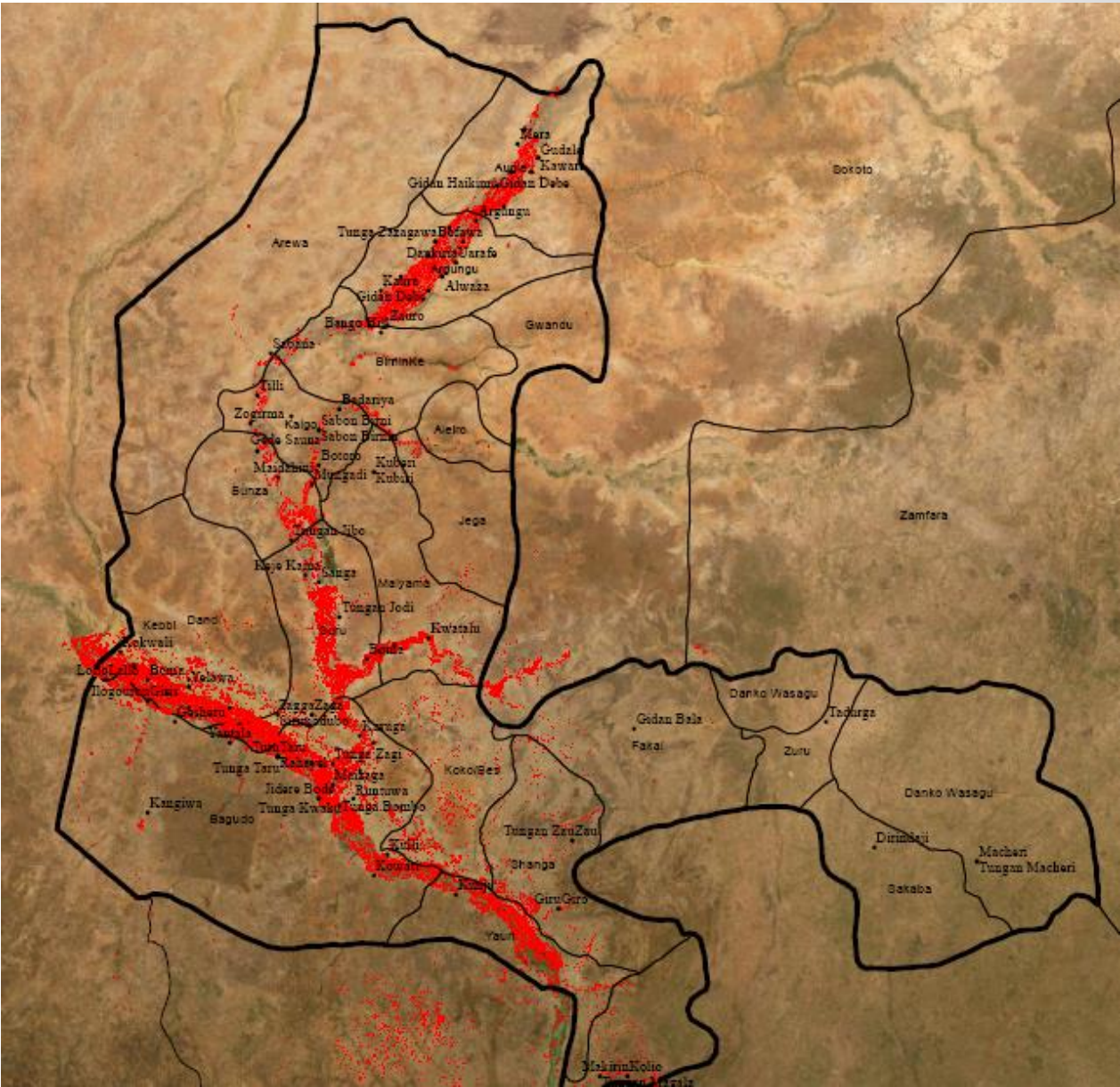
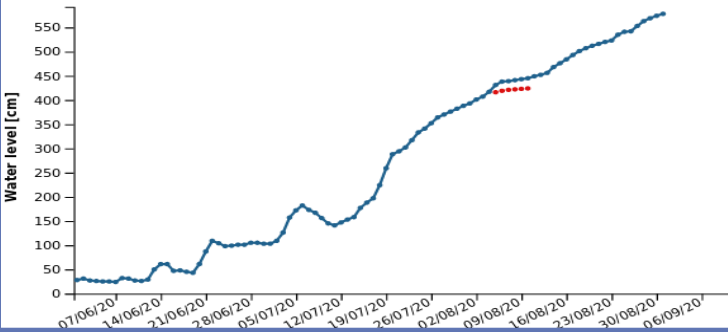




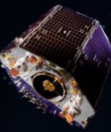
# Flood Map along River Niger

Nigeria experienced cross-border flooding in 2020, given it is downstream along the Niger River basin.

Station: Jidere Bode





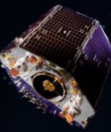


## Assessment of Environmental Sensitivity to Desertification 2016

- The RSO is implementing a project with focus on the assessment of environmental sensitivity to desertification in a Northern Nigeria state called Katsina.
- The Goal is to identify areas that are prone to desertification so that early warnings efforts as well as adequate Government policy can be developed.







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## Land Degradation Neutrality Target Setting Programme 2017

- The RSO participated in the working group for Setting Land Degradation Neutrality Target as well as the development of methodology for conducting assessment of Land degradation in Nigeria.





UN-SPIDER/NASDRA/NEMA/ZFL National Virtual Expert Meeting: "Space-based Solutions for Disaster Risk Management and Emergency Response in Nigeria"

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Juan Villagran De Leon ✎	"NWANNEKA IBEKWE ... ✎	mustiyandaki@gmail.c... ✎	"\Ojo B. C. from N... ✎	Alice Bourdet ✎	Abel EGBEJI, NOSDRA ✎
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Ganiyu Agbaje ✎

JIBRII\_DSA (Guest)

Godstime (NASRDA) (Guest)

Virtual National Expert Meeting On Space-based Solutions For Disaster Risk Management And Emergency Response In Nigeria From 13th To 15th April 2021





# Thank you

