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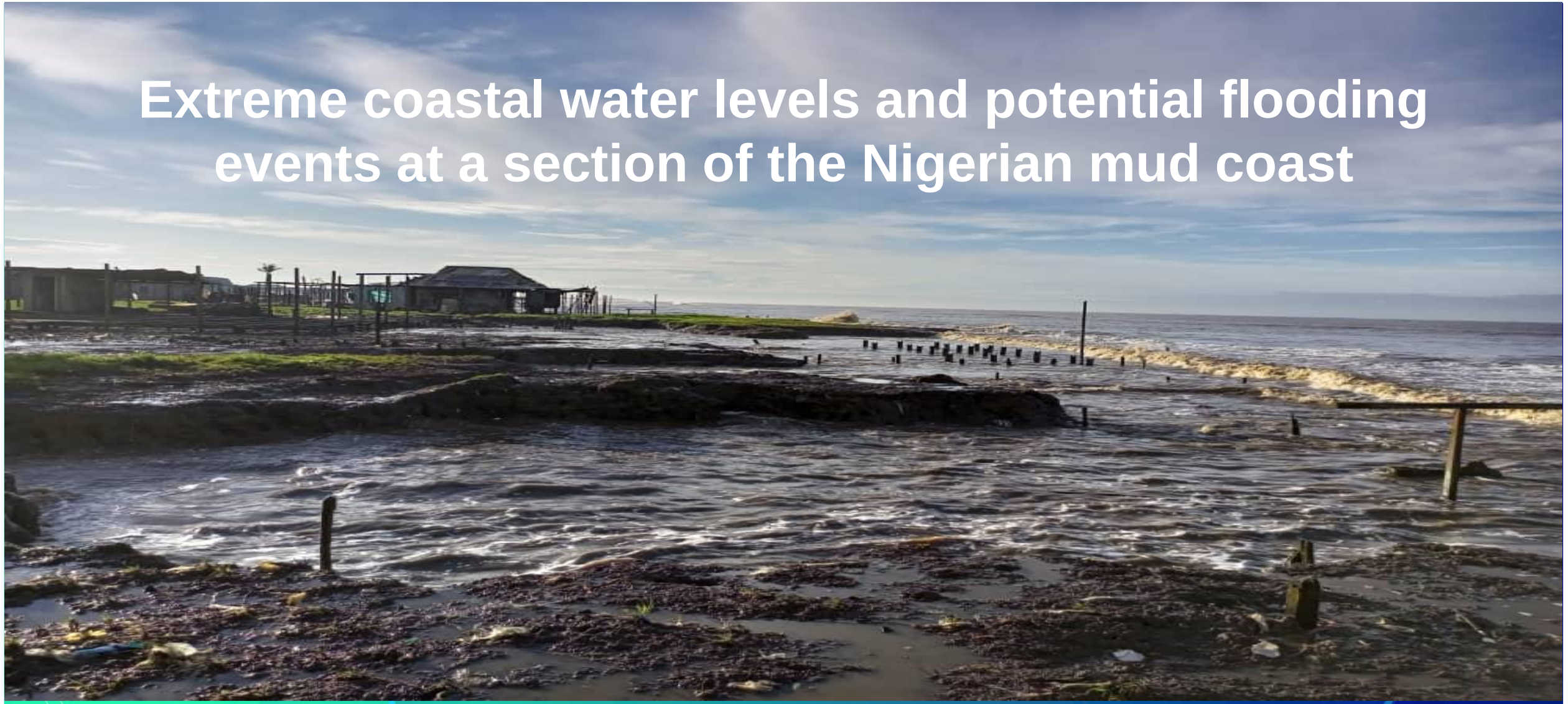
Expertise: coastal risks and hazards assessments (marine floodings, coastal erosion, land subsidence).

Extreme coastal water levels and potential flooding events at a section of the Nigerian mud coast



Application: Risk Management
Location: Ayetoro coastal community, Nigeria
Products: Pleiades Neo tri-stereo, MERIT

AIRBUS

Challenge

- The Ayetoro coastal community is the most densely settled portion of the Nigerian coast with clusters of first-line settlements aside from Lagos.
- The area is highly vulnerable to erosion and flooding caused by a combination of natural and anthropogenic factors.
- Ayetoro experiences perennial flooding and incessant ocean attack on the adjacent coastal community
- Understanding the vulnerability of coastal areas is crucial for:

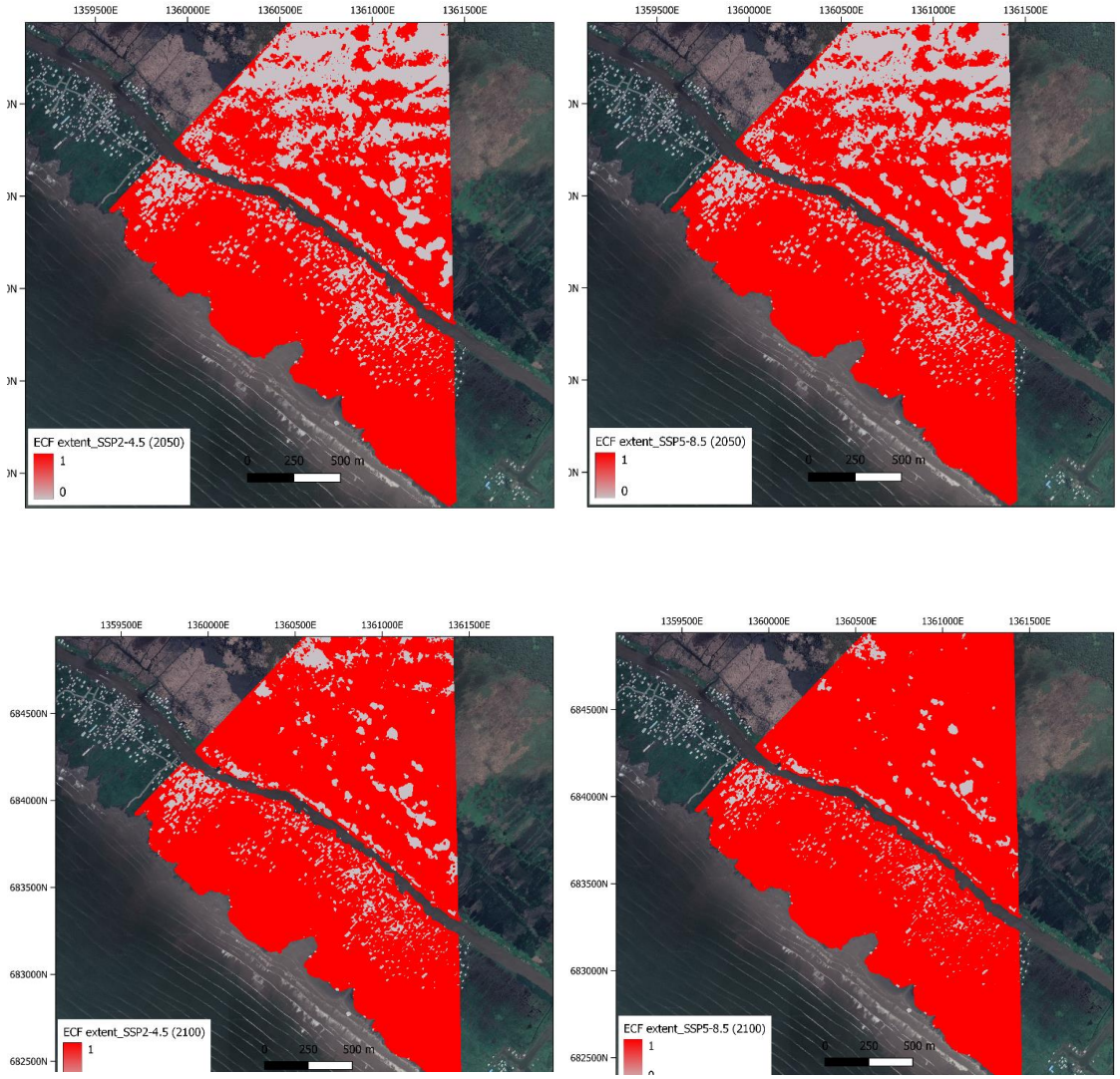
    - decision-making

    - protection of coastal communities and assets

Solutions & results

- Pléiades Neo tri-stereoscopic can be employed to assess a variety of coastal issues.
- Used here to determine the susceptibility to potential extreme coastal flooding in the study area.
- Pleiades Neo satellite-derived topography is derived and evaluated.

- **Pléiades Neo** satellite-derived topography used for**:**
- detecting areas that are largely below the hydrodynamic extreme levels;
- the potential extent of the extreme coastal flooding for different periods (2050 and 2100);
- mapped the flood-prone areas;
- areas that are potentially exposed to extreme coastal water levels



Benefits

- Pleiades Neo tri–stereo images are useful for satellite-derived topography at very high resolution, especially in the context of climate change and increasing anthropic pressure on the coastal fringe. It:
- helps scientists and managers who are tasked with the coastal risks; and
- helps to prioritize management efforts that need to be undertaken to minimize risks or mitigate possible consequences