

Masterclass on Satellite Radar Altimetry – Monitoring Water Levels for Climate and Disaster Resilience; 18 November 2025; Islamabad, Pakistan

As part of ICAST-2025, ISNET organized a specialized Masterclass on Satellite Radar Altimetry, delivered by Dr. Stefano Vignudelli, Senior Scientist at the National Research Council of Italy (CNR-IBF). The session highlighted the critical role of space-based altimetry in measuring surface level changes over oceans and inland waters, with direct relevance to climate change adaptation and disaster risk management.

The Masterclass provided a comprehensive overview of radar altimetry principles and operational applications, covering:

- Fundamentals of satellite radar altimetry and measurement techniques
- Overview of major altimetry missions, including TOPEX/Poseidon, Jason series, and Sentinel-6
- Data processing approaches for coastal zones and inland water bodies
- Applications in sea level rise assessment, flood monitoring, and climate hazard analysis

Through applied examples and case studies, the session demonstrated how satellite altimetry supports evidence-based policymaking and enhances national capacities in water resource management and climate resilience. The interactive discussions underscored ISNET's commitment to promoting advanced space technologies for socio-economic development and strengthening Member States' readiness to address emerging environmental challenges.

