



Mapping and Monitoring Lakes and Reservoirs with Satellite Observations

Tuesdays, February 9, 16, & 23, 2021

10:00-11:30 or 16:00-17:30 EST (UTC-5)

This training focuses on introducing remote sensing observations for monitoring the water level of lakes; a critical surface water component affecting the residential, economical, and recreational sectors in the area. Recent observations of lake bathymetry based on remote sensing observations will also be presented.

Part 1: Overview of Remote Sensing Observations for Monitoring Water Extent, Water Level Height, and Bathymetry in Lakes and Reservoirs

- Introduction to relevant satellites and sensors for monitoring lakes and reservoirs
- Overview and applications of remote sensing-based data sets to facilitate lake and reservoir management
- Data acquisition for global surface water derived from optical data in Google Earth Engine

Part 2: Introduction and Demonstration of Water Level Height Data for Lakes and Reservoirs Using Radar Altimetry

- Overview of methodology for deriving lake level heights using satellite altimetry data
- Data acquisition of global lake levels derived from satellite altimetry data
- Case study of inter-annual and seasonal variations in lake and reservoir level height

Part 3: Introduction and Demonstration of Water Level Height and Bathymetry Data for Lakes and Reservoirs Using Laser Altimetry

- Overview of methodology for using remote sensing observations to obtain bathymetry of water bodies
- Data acquisition of bathymetry data for global water bodies
- Case Study: Mapping Bathymetry for Lakes and Reservoirs with Icesat-2



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