Figure 1. JASON 3 and Sentinel 3A locations on Chindwin River
• HEC RAS and HEC HMS model is setup for the Chindwin River basin in Myanmar (Figure 1)
• Ten Virtual stations on the river for Jason-3 and Sentinel-3A altimeters identified (Figure 1)
• Using SRTM DEM data, width-elevation and area-elevation relationships have been identified. The area represents the surface area for a 2km river reach at the virtual station (1 km upstream and 1 km downstream). See Figure 2 below.

Figure 2. Upper panel – river area (for a 2km reach – 1km upstream and 1 km downstream) and elevation relationship; Lower panel – river width and elevation relationship for a Jason-3 virtual station in Chindwin river. Derived using SRTM DEM data.

• Time series extracted for river width/area (calculated from Landsat) and river elevation (derived from width/area-elevation curve relationship from SRTM). See Figure 3.
NEXT STEPS:

- ADPC will use the time series and SRTM-based relationships in calibration/validation of HEC-RAS (and HEC HMS) models.
- ADPC will generate time series of shape files at the 10 virtual locations of river surface elevation as input for use in CNES SWOT simulator.
- CNES simulator will be run to generate SWOT like river heights and river surface area for the ten river locations.
- The SWOT like river heights/widths/area will be assimilated into HEC RAS for a) comparison b) impact on improvement of skill (with and without the array of altimeters/Landsat data) c) identify ways to best synergize SWOT mission data products (potentially for cal/val of the HEC RAS and HEC HMS model for the entire river system).
- ADPC expected to attend the SWOT Hackathon-2020 at University of Washington during May 26-29, 2020.