

Sentinel-1 SAR Observations in the Research on Land Use Status, Change and Impacts in Vietnam, Cambodia and Laos

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Sentinel-1 SAR data from the ESA Copernicus Programme provided extensive coverage and were obtained to conduct the research on Land Use Status, Change and Impacts in Vietnam, Cambodia and Lao. The SAR data were acquired in the Interferometric Wideswath (IW) mode over a swath of 250 km with a high resolution of 5m x 20m. These include data from both ascending and descending orbits, and both co-polarized and cross-polarized backscatters. In the SAR data processing at JPL, the processor accounts for backscatter calibration, terrain correction, and noise filtering. The SAR processor can achieve an accurate geolocation that was validated by JPL using accurate WorldView 3 data (< 1-m resolution) and field work in Los Angeles (California) and Green Bay (Wisconsin). There SAR products include SAR backscatter images obtained from co-polarized and cross-polarized backscatter data geolocated in kmz format that can be readily opened with Google Earth (e.g., Figure 1).

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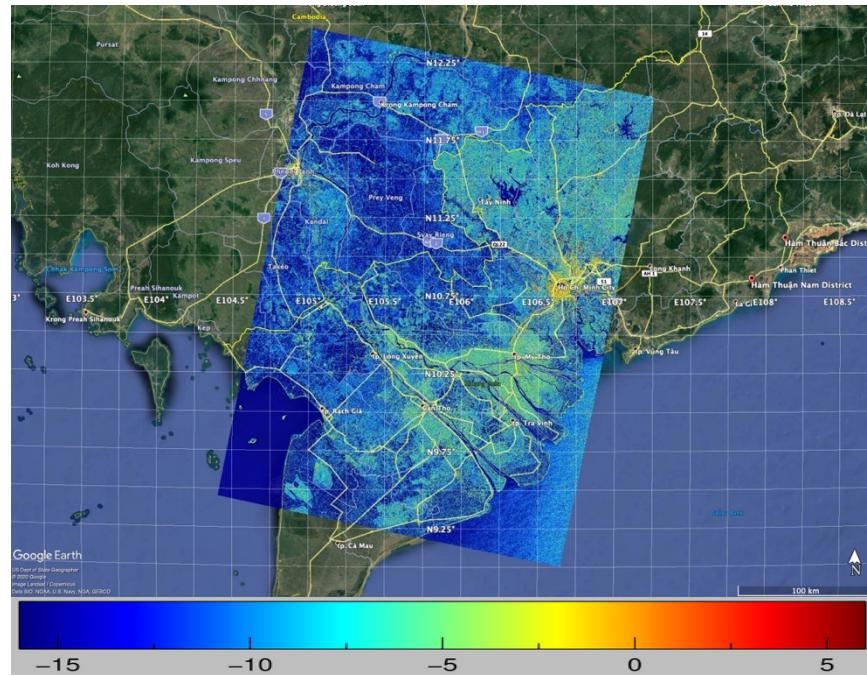


Figure 1. Sentinel-1A SAR vertical co-polarization (VV) image in Vietnam and Cambodia on 1 February 2020. The color scale is in decibel (dB).