D2 – Model Training Data Package v1

Deliverable Overview

Lead(s)	DLR
Contributor(s)	GFZ
Work Package	WP 2.1 (Data collation, pre-processing, curation: Amazon & Polar)
Stage	Foundation Stage (I)
Duration	PM 1 (05/2024) – PM 3 (07/2024; planned), PM 15 (07/2025; revised)
Dependencies	None
Outcome (Type)	Data, Report
Link	
Status	☐ To be done ☐ In progress ☒ Completed

Executive Summary

This document describes the synthetic aperture radar (SAR) and lidar data prepared and delivered for a first model run using the NASA Prithvi framework with the final objective of mapping forest height. The main purpose of this run is to test the capability of the framework to deal with data at different resolutions in order to preserve the maximum amount of information and gain useful insights for future 3D-ABC model development. All data have been reprojected from their original geographic coordinate system to the UTM system and tiling at the basis of the Harmonized Landsat and Sentinel-2 (HLS) data set. For the purpose of this test, six HLS tiles within the Amazon forest were considered. Their choice was made based on data availability.

Results

Data prepared and delivered over the selected HLS tiles:

- spaceborne TanDEM-X interferometric coherences, vertical wavenumber, incidence angles, and acquisition dates at 20 m and 30 m resolution,
- spaceborne GEDI lidar data at 25 m footprint diameter, and
- airborne lidar scanning data (Section 6 in the report) at 30 m resolution.