

Introducing the Global Elevation Data Testing Facility 2 (GEDTF2)

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Abstract

This paper introduces the Global Elevation Data Testing Facility 2 (GEDTF2), an enhanced and expanded database of airport runways for assessing the vertical accuracy of Digital Elevation Models (DEMs). Building on the original GEDTF, the new version includes approximately 14,000 runways worldwide, with improved global coverage and the addition of longitudinal elevation profiles along runway centre lines. GEDTF2 is based on the premise that reliable DEM validation requires flat, homogeneous reference surfaces. Runways meet these criteria due to their minimal slope, uniform construction, well-defined geometry, and publicly available specifications, thereby reducing target-induced error in DEM accuracy assessment. Implemented in PostgreSQL, GEDTF2 provides a practical and scalable framework for global elevation data validation. In addition to DEM assessment, the database offers potential for benchmarking optical and radar remote sensing data. The facility is intended to be freely accessible and to support consistent, reproducible evaluation of geospatial datasets.

Keywords: DEM, Runways, GEDTF2, Elevation Benchmark