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Activities and plans of the GGOS Focus Area Unified Height System

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The Global Geodetic Observing System (GGOS) of the International Association of Geodesy (IAG), providing precise geodetic infrastructure and expertise for monitoring the System Earth, promotes the standardization of height systems worldwide. The GGOS Focus Area "Unified Height System" (GGOS-FA-UHS, formerly Theme 1) was established at the 2010 GGOS Planning Meeting (February 1 - 3, Miami, Florida, USA) to lead and coordinate these efforts. Starting point was the results delivered by the IAG Inter-Commission Project 1.2 "Vertical Reference Frames" (IAG ICP1.2 VRF), which was operative from 2003 to 2011. During the 2011-2015 term, different discussions focussed on the best possible definition of a global unified vertical reference system resulted in the IAG resolution for the "Definition and realization of an International Height Reference System (IHRIS)" that was approved during the 2015 General Assembly of the International Union of Geodesy and Geophysics (IUGG) in Prague, Czech Republic. The immediate objectives of the GGOS-FA-UHS are (1) to outline detailed standards, conventions, and guidelines to make the IAG Resolution applicable, and (2) to establish the realization of the IHRIS, i.e., the International Height Reference Frame (IHRF). This contribution summarizes the main achievements of the GGOS-FA-UHS and provides a review of the open questions that need to be resolved in the near future.