Earth Gravity Model (EGM)

21 June 2023

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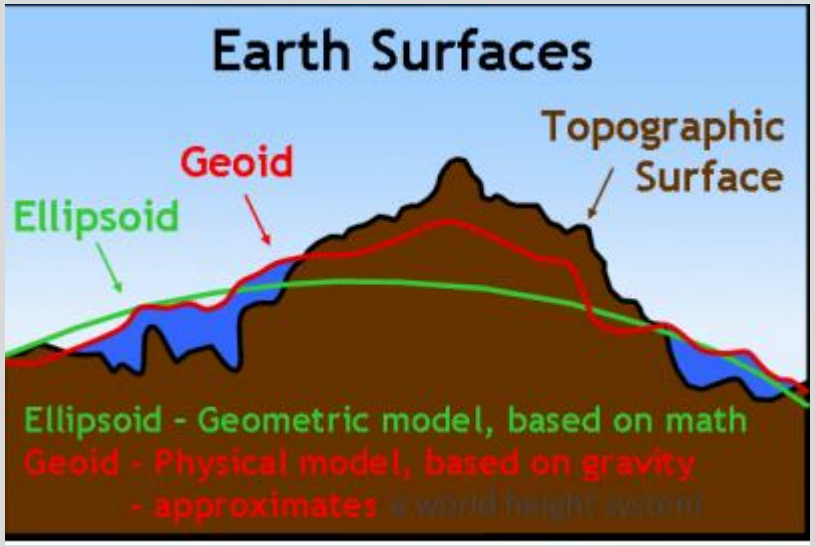
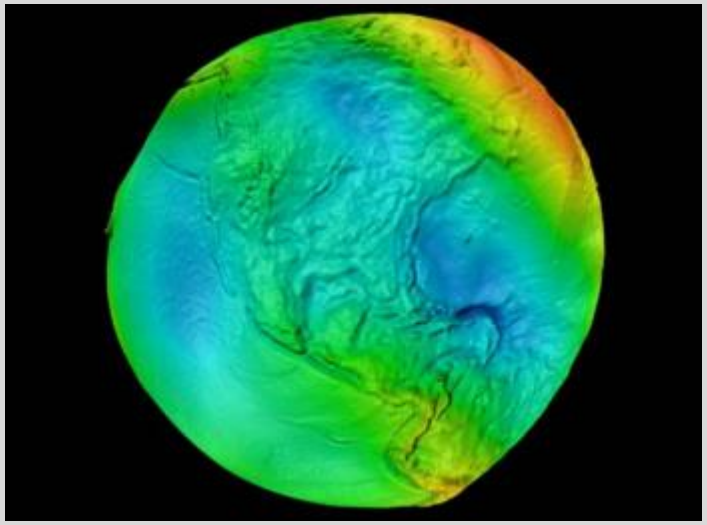
The Geoid –Basis for global Mean Sea Level





Geoid Accuracy (vertical)

Earth Gravity Model 1996 (EGM96)	0.5 - 1 m 30 minute resolution
Earth Gravity Model 2008 (EGM08)	0.15 cm RMS 5 minute resolution

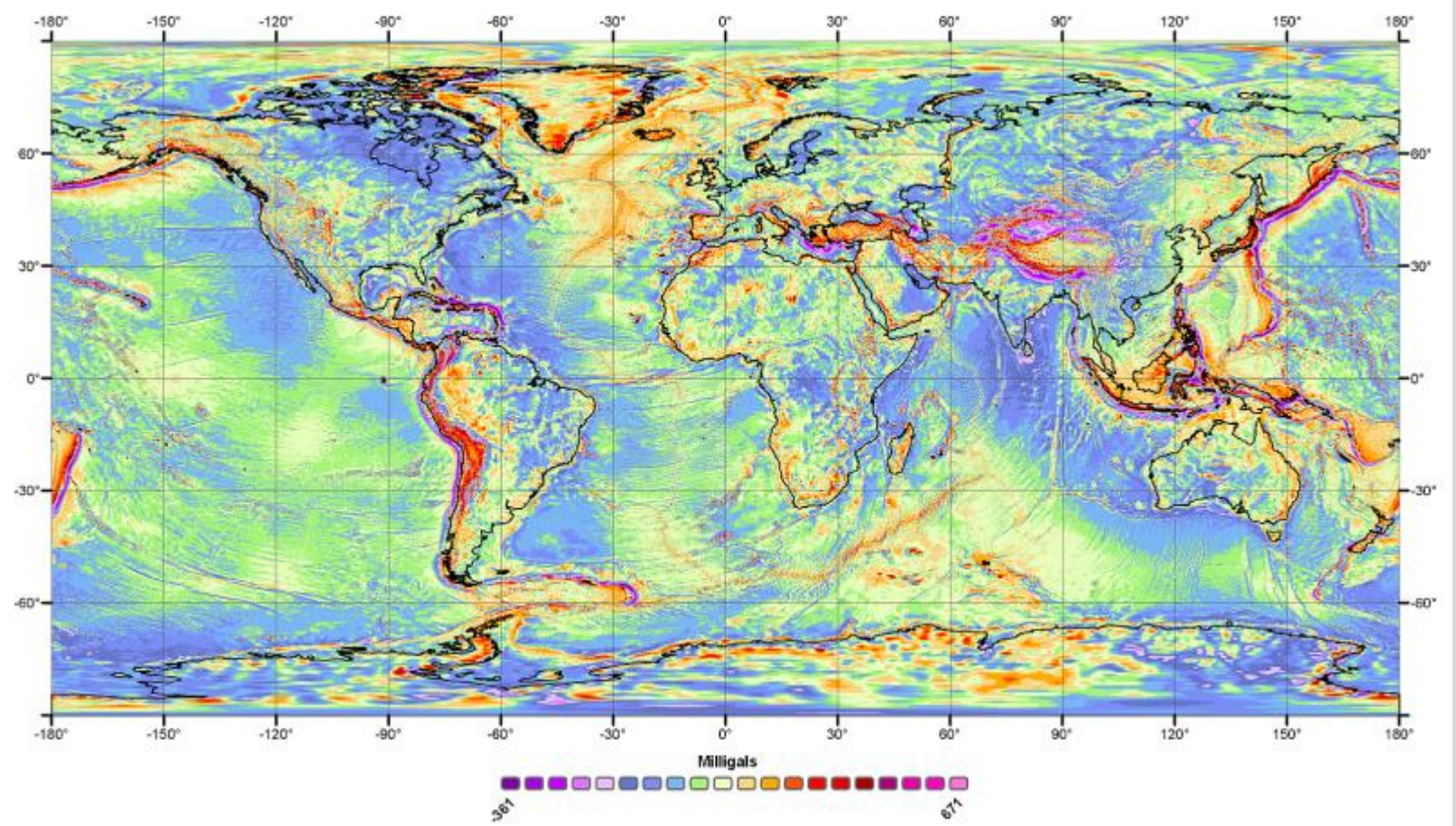
States Responsibility – Annex 15 – 1.2.2 Vertical reference System

1.2.2.2 The Earth Gravitational Model — 1996 (EGM-96) shall be used as the global gravity model for international air navigation.

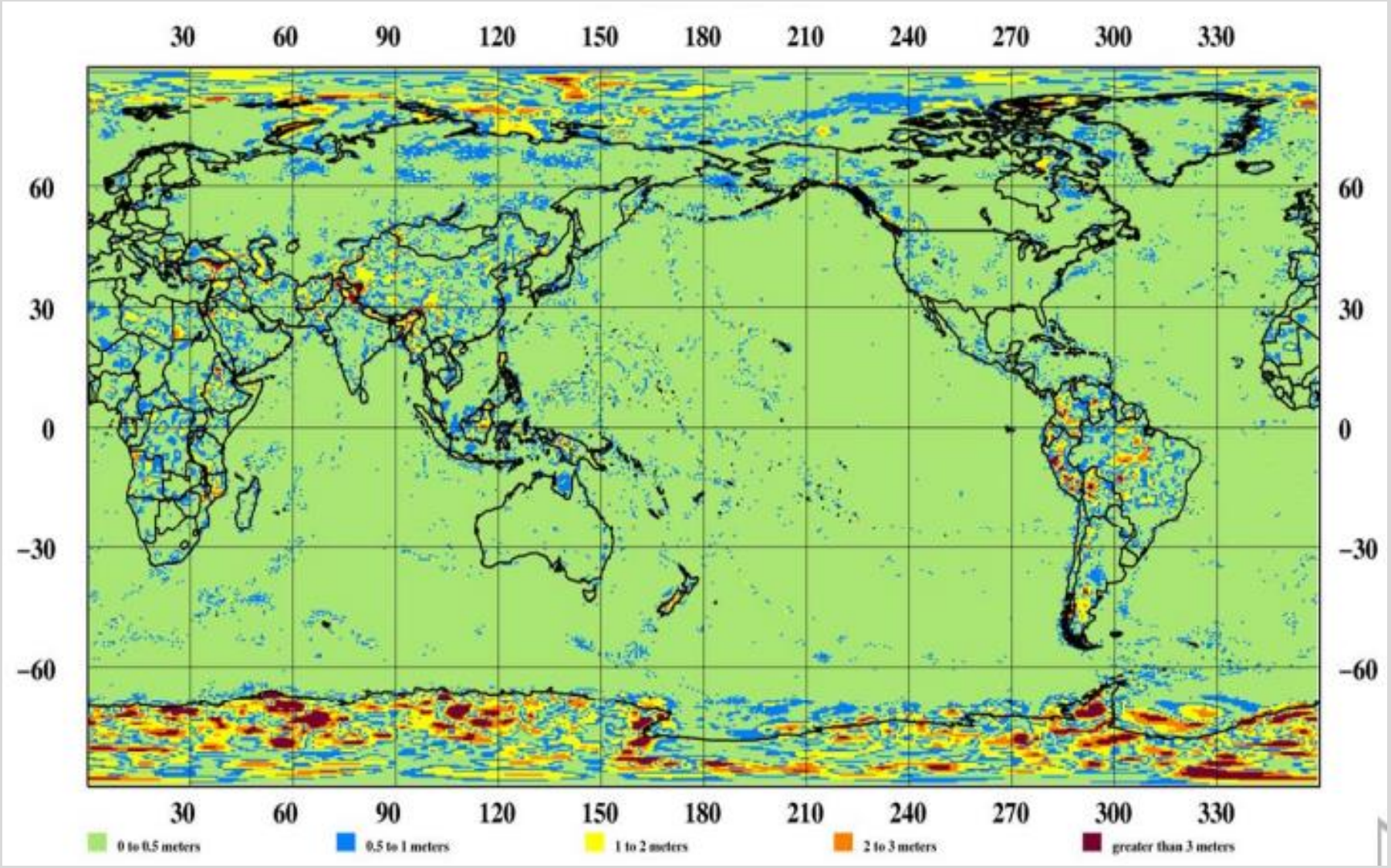
1.2.2.3 At those geographical positions where the accuracy of EGM-96 does not meet the accuracy requirements for elevation and geoid undulation on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data shall be developed and used. When a geoid model other than the EGM-96 model is used, a description of the model used, including the parameters required for height transformation between the model and EGM-96, shall be provided in the Aeronautical Information Publication (AIP).

Note.— Specifications concerning determination and reporting (accuracy of field work and data integrity) of elevation and geoid undulation at specific positions at aerodromes/heliports are given in the PANS-AIM (Doc 10066), Appendix 1.

Earth Gravitational Model 2008



Difference Earth Gravitational Model 1996 and 2008



Why does this matter?

- Aircraft Avionics are coded with reference to EGM96
- Providing EGM used enables next intended user the ability to apply data transformation between the datums