



Background Geophysical Modeling for Geodetic Processing

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The atmosphere, non-tidal oceans and hydrological variations fall into a class of models that can only be represented in empirical time-series and are generally not used in a predictive sense in geodetic data processing. There are several notable common attributes of these series that affect their use in geodetic data processing, for modeling the atmospheric, oceanic and hydrologic time-variable gravitational potential, the Earth's surface displacements and tropospheric delays impacting the geodetic sites. These models are outcomes of non-geodetic activities, so the required attributes important for their use in geodesy are not always satisfied (e.g. continuity, uniformity of standards, long-term trends, horizontal and vertical discretizations, temporal sampling). This presentation surveys key issues of the proper representation of these geophysical processes relevant to geodesy and examines the contrast between the availability and the requirements.