

New realization for European vertical reference system; a first attempt to include the **Hydrodynamic Leveling** data

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European Vertical Reference Frame (EVRF)

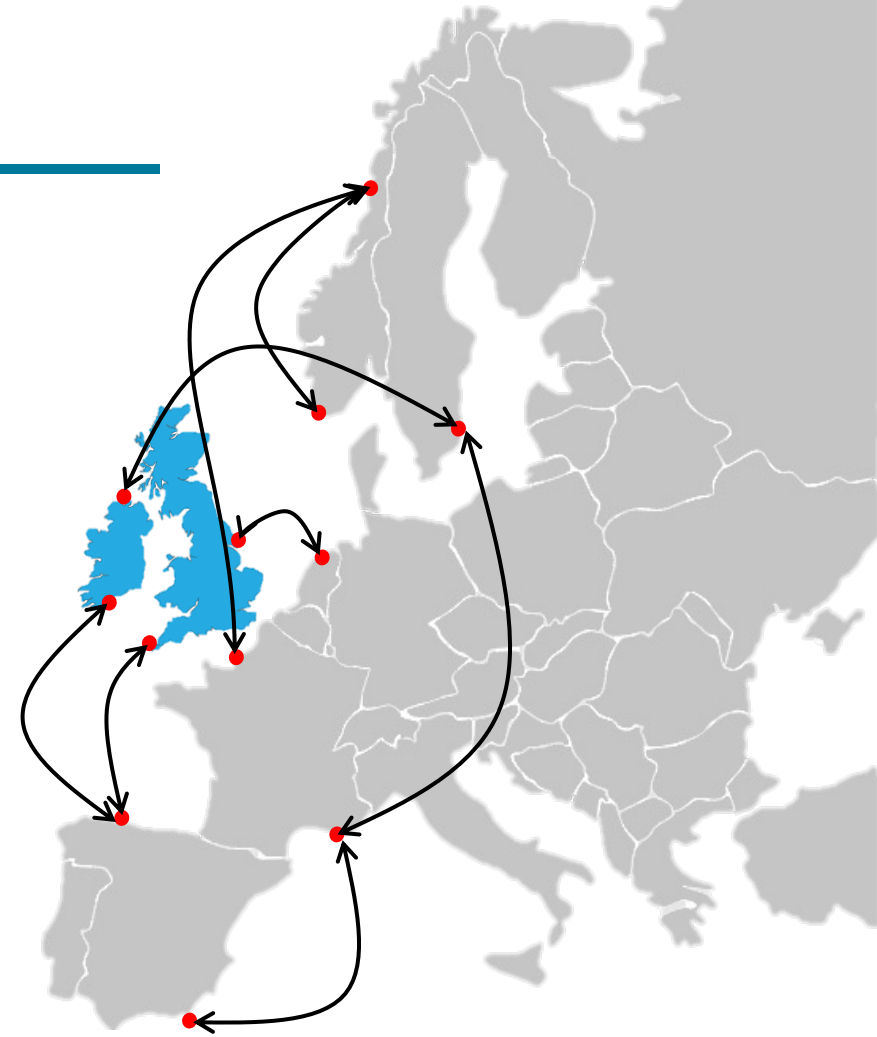
- Spirit leveling
 - Systematic errors
 - Cannot cross large water bodies



Model-Based Hydrodynamic Leveling

Uses the mean water level (MWL) differences between tide gauges obtained by a hydrodynamic model

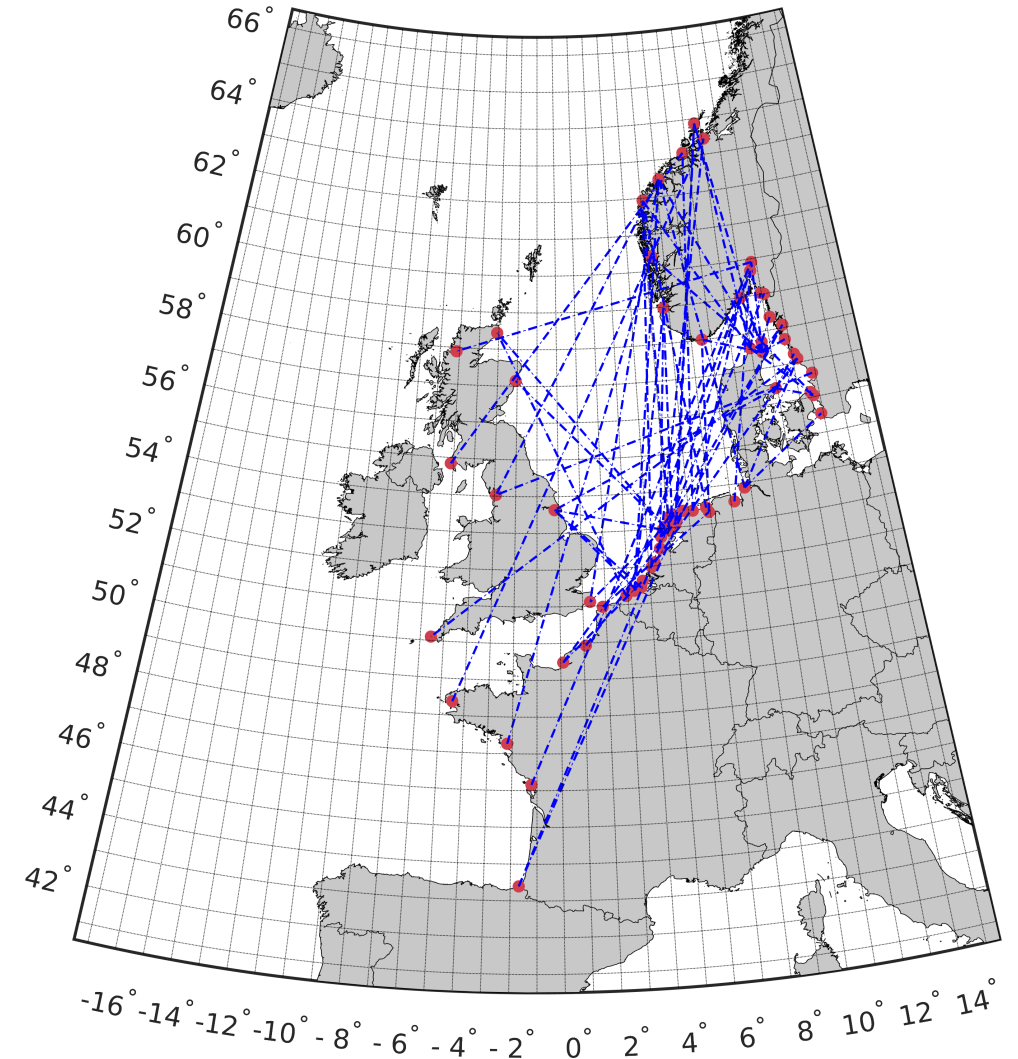
AIM: To combine the model-based hydrodynamic leveling and spirit leveling data to enlarge the extend and improve the quality of the EVRF



Conduct hydrodynamic leveling connections

- 63 tide gauges
- MWL from 3D DCSM-FM over 2006-2012
- Only variances for hydrodynamic leveling data were used

- Overall improvement: 21%



Tilt in Great Britain leveling network

