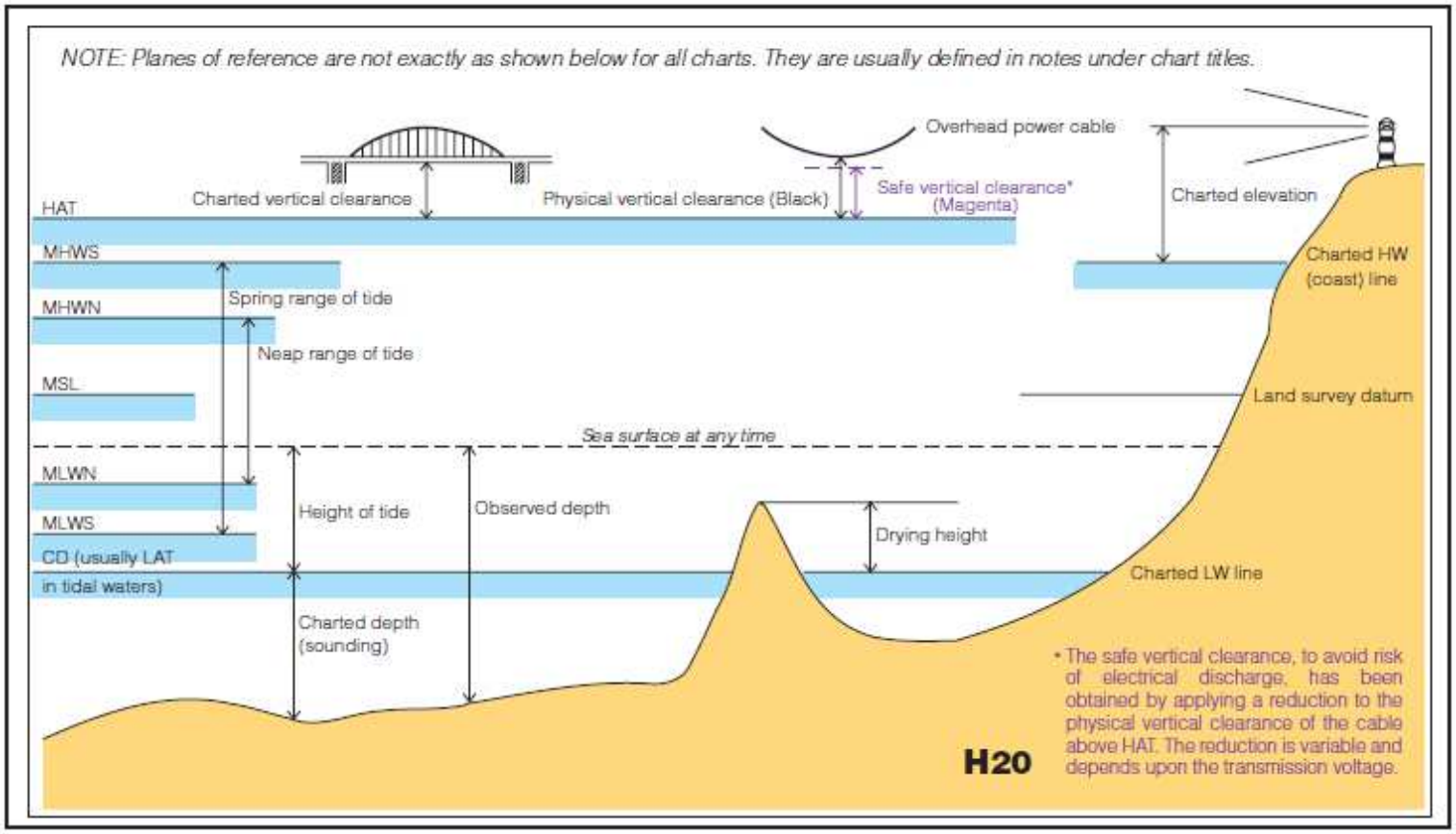
Chart and Land Survey Vertical Datums

Informative

Plane of reference for heights (IHO S-4 standard)



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Coordinate Reference Systems (CRS)

CRS	Datum for three-dimensional and two-dimensional coordinate reference systems
3D CRS	1. Cartesian coordinates, based on Geodetic Reference System 1980 (GRS80) ellipsoid.
	2. Geodetic coordinates (latitude, longitude and ellipsoidal height) based on the Geodetic Reference System 1980 (GRS80).
2D CRS	1. Geodetic coordinates (latitude, longitude) based on the Geodetic Reference System 1980 (GRS80) ellipsoid
	2. Plane coordinates using a <regional> CRS, using a <regional/GRS80l> ellipsoid
Compound CRS	1. For the horizontal component of the CRS, one of the CRS specified for two-dimensional CRS shall be used
	2. For the vertical component, a vertical datum as specified in the S-101 Feature Catalogue shall be used

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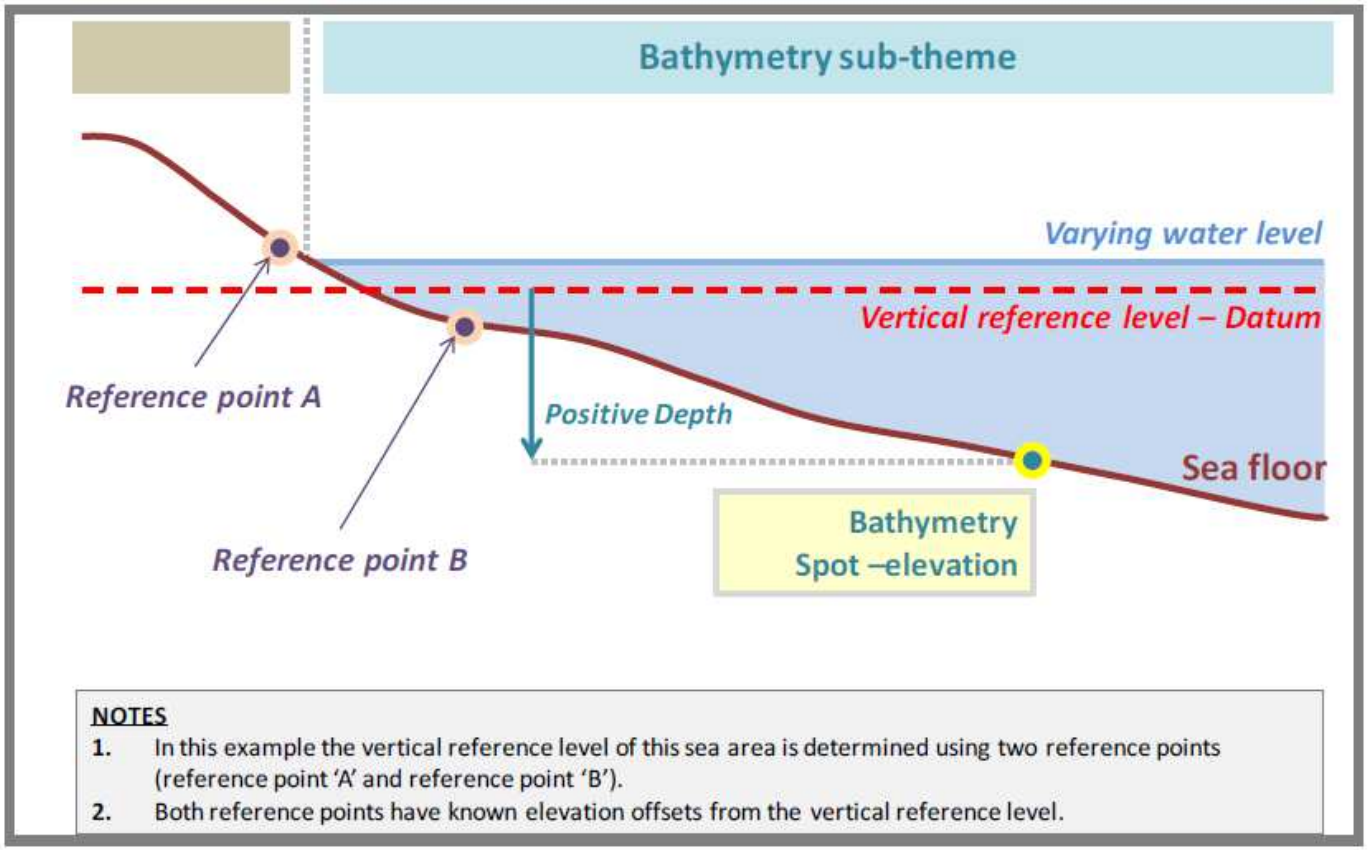
Description of the sea floor



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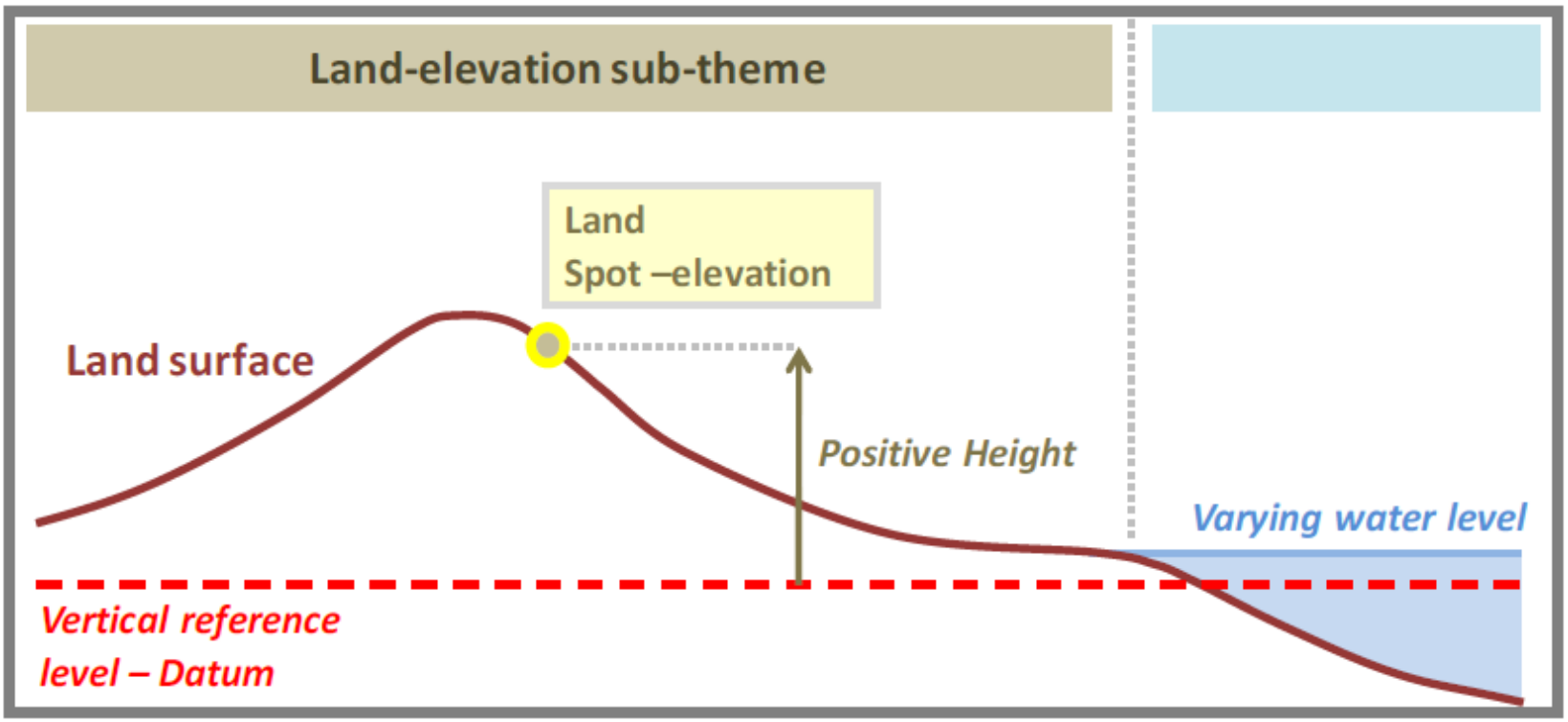
Description of land elevation



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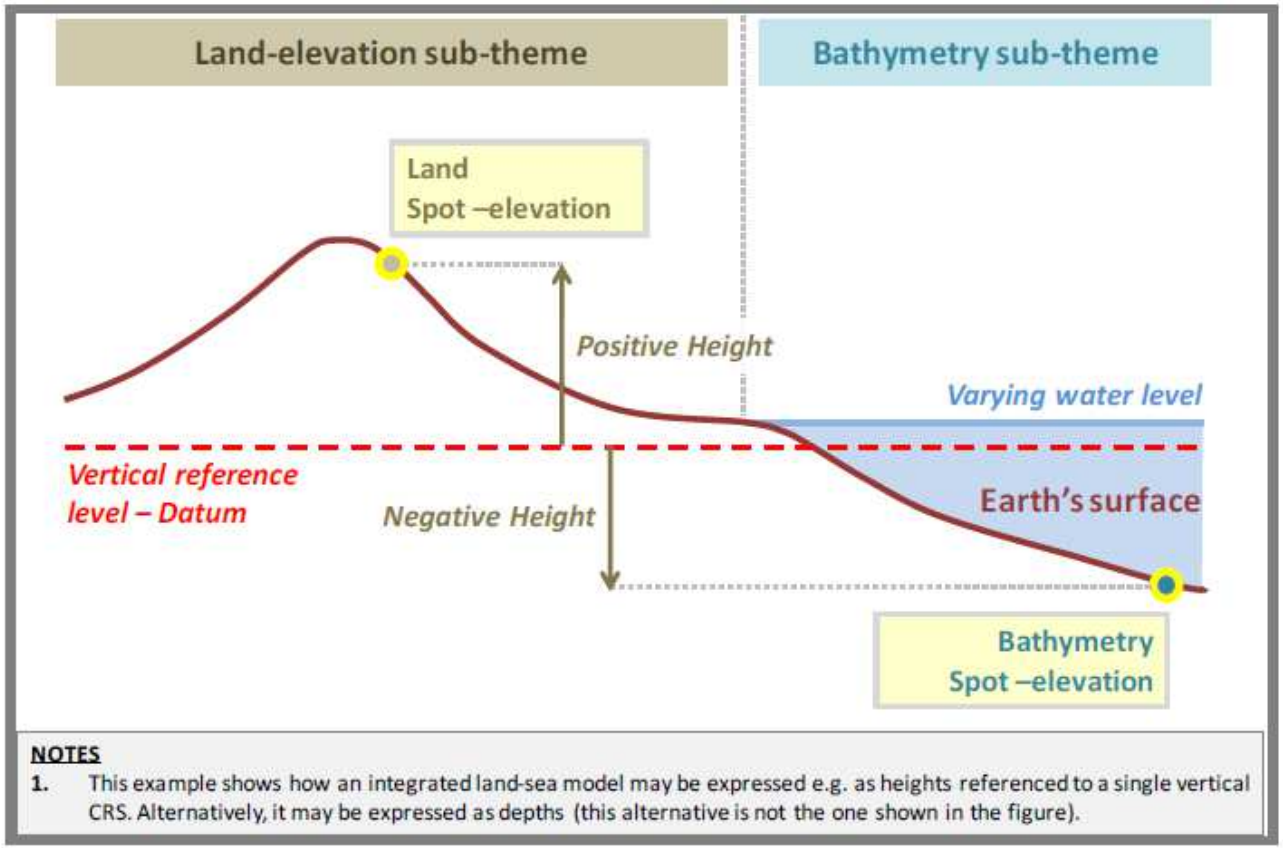
Integrated land/sea models



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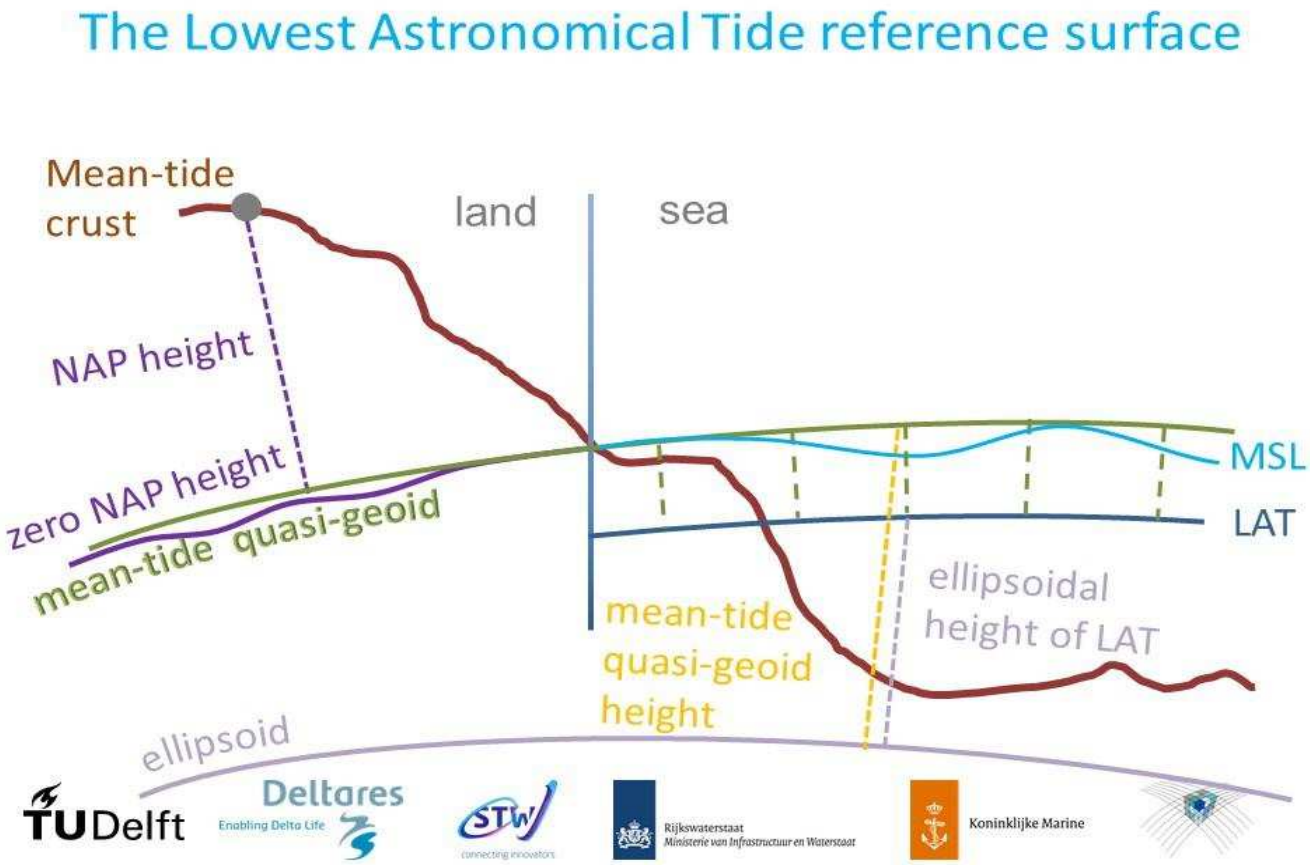
NL PUBLICATION OF GEOID AT SEA + LAT



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OBSERVATIONS

- In nautical charts, vertical datums at sea and vertical datums on land are usually not the same.
- This prevents LIDAR data on land and S-102 data at sea to be integrated without discrepancy.
- NLHO has published a geoid on land and at sea (North Sea) without discrepancy.
- Parallel to the geoid, the LAT Chart datum is also available.
- Accuracy geoid on land = 1 cm (RMSE)
- Accuracy geoid at sea = 3 cm (RMSE)
- Accuracy LAT at sea = 6.6 cm (RMSE)
- The accuracy of the vertical datum is not contained in the S-101 datamodel and feature catalogue.