Depth information is referred to a reference water level.
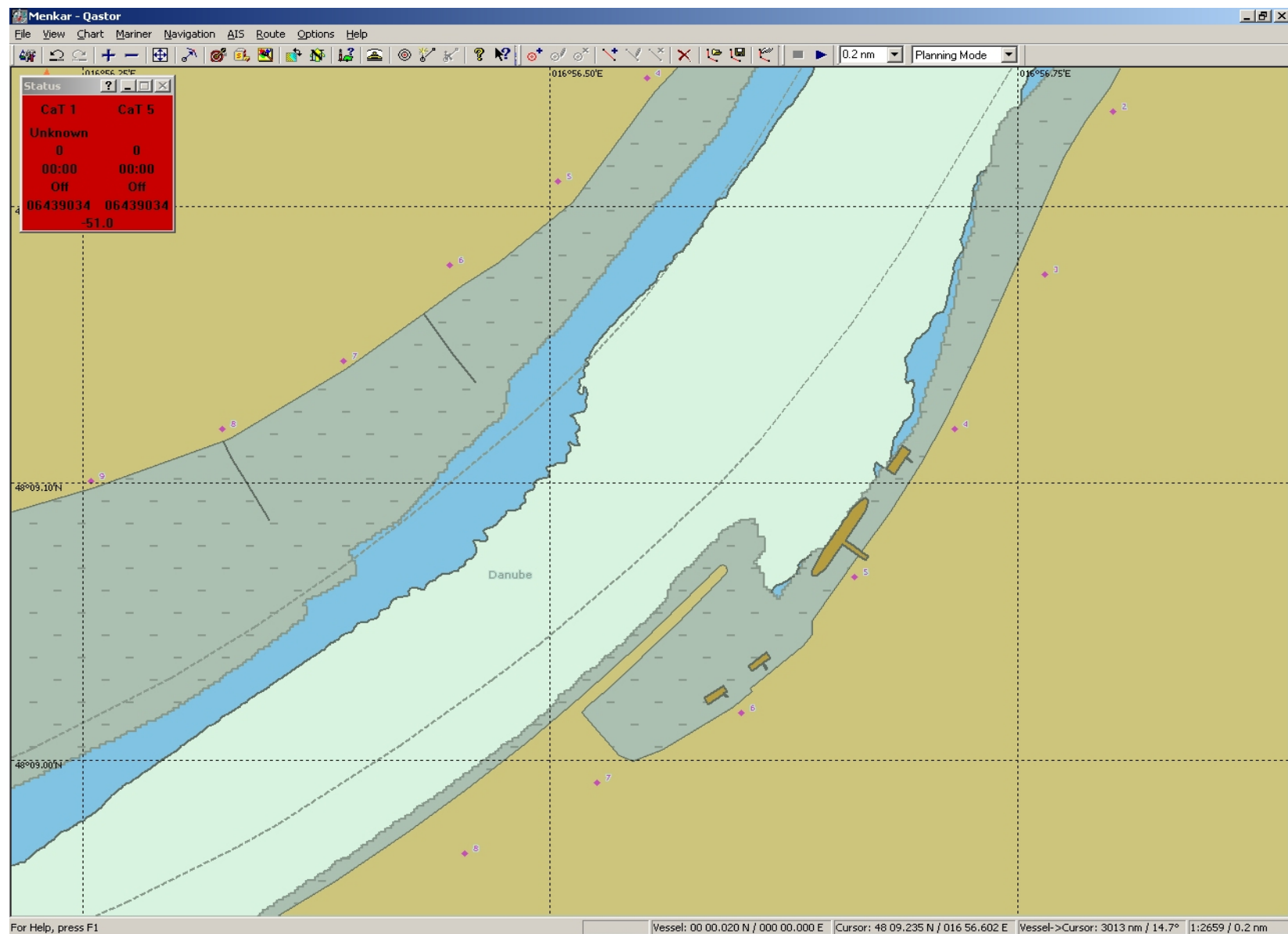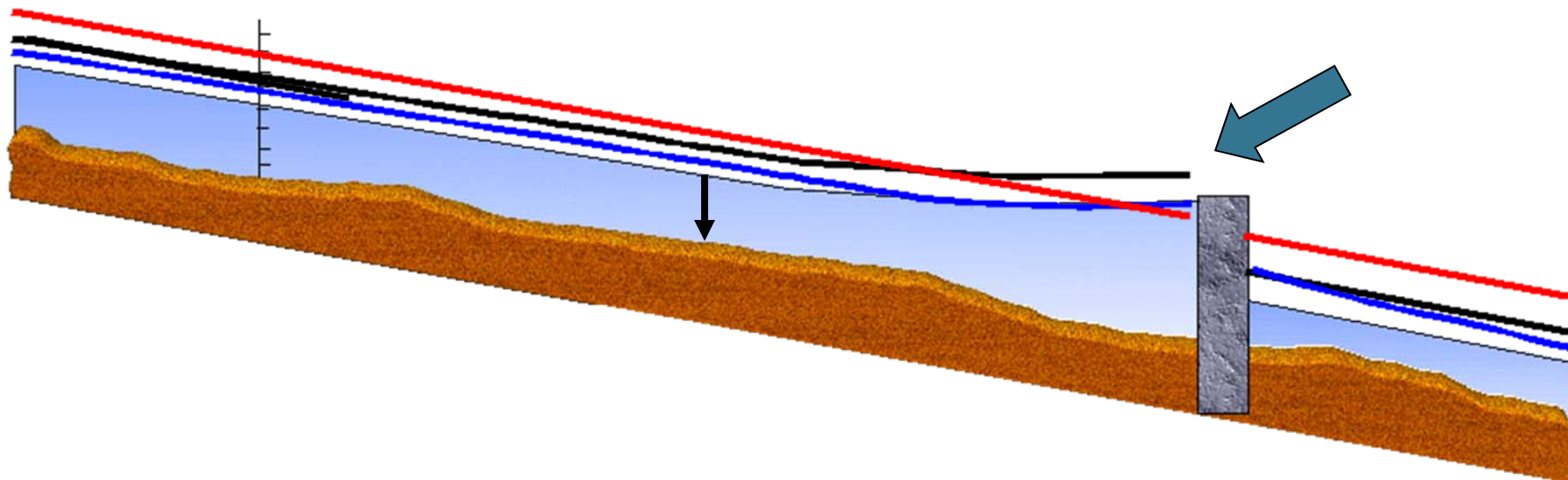
Depth information in Inland ENCs is referred to a reference water level, which is sloped and non-linear.

If the water level at the gauge is 1 m above the reference level, the skipper adds 1 m to all the depth values.

We need a **inland/river (fluvial) water level model**, because water levels are not parallel.

Inland/river (fluvial) water level models are also needed for free flowing sections due to different cross sections.
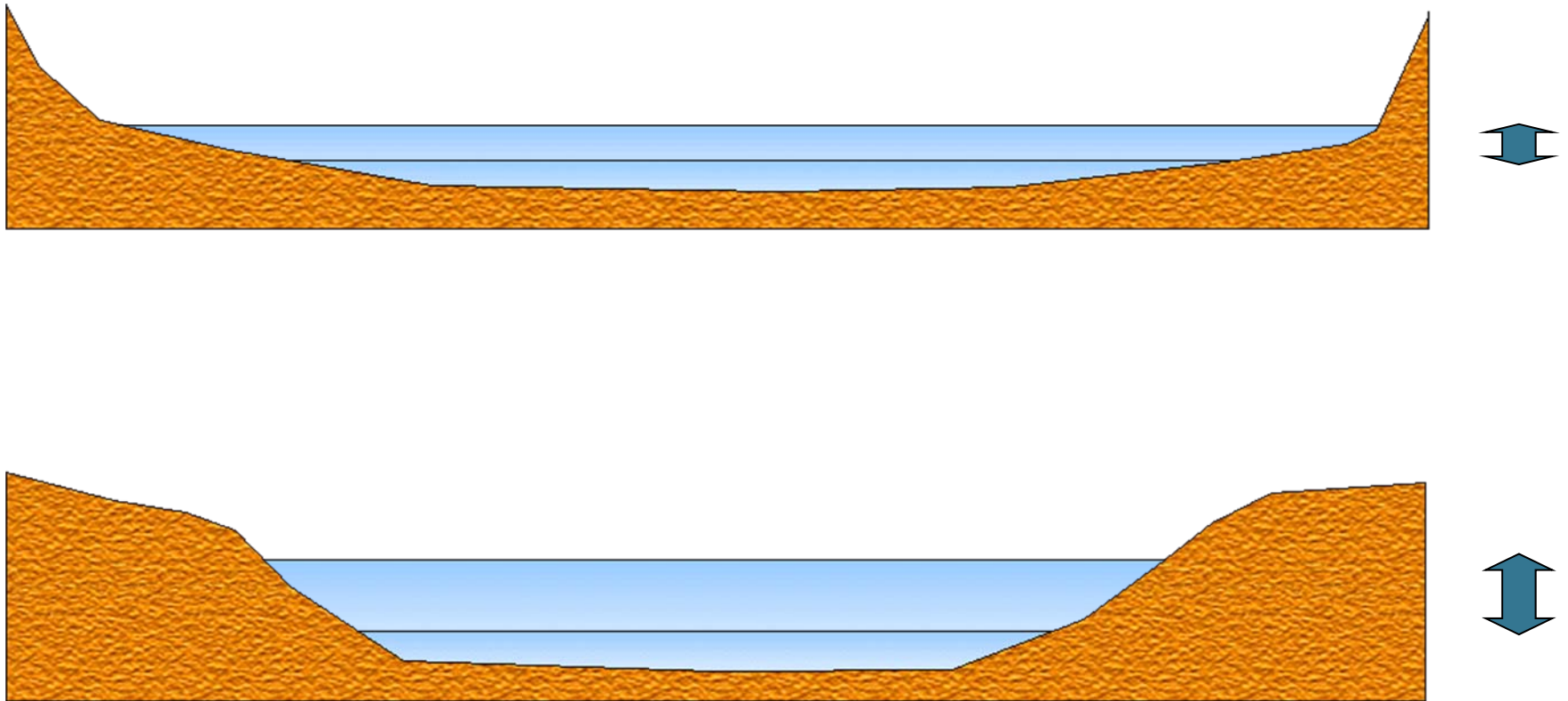
Water level models: Challenges and Opportunities

- A water level model has to describe the water level for various gauge levels.

- It is not possible to use the same water level model everywhere.

- Differences due to tidal influence, kind of dams, power stations, locks and water management.

- Some countries are already using water level models, which are not only used for inland navigation, but also for flood protection, energy management, etc.

- The different models should be used on shore, the results should be transmitted to the on board applications in a standardized way.

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Water level models - questions

Changes for M-13 and S-44

- Need for standardization of water level information?

    - X, Y, Z and time

    - Zones (vector) vs. gridded (DTM)

- Also, water level prediction?

    - If yes: for which periods and for fixed times or on demand?

- Should IHO standardize data format or the means of transmission?

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