

TWLWG tasked on dyn. Tides in future e-products (ECDIS)

brainstorming outcome

Action on display the water depth sounding:

Method 1: Way point + overlay water depth column changing with tide (to be updated depending on the navigation need)

Method 2: 2D curves changing with tide amplitude (x,y,z,t) : to be updated every i minutes depending on the maritime « road ».

Alarm fits security water level height.

=> List of criteria to be fulfilled:

- (1) If the number of measurements is below x soundings then no ECDIS will be produced.
- (2) Need to keep the possibility to come back to static display: Raster map (in case of emergency, in order to refer to a secured static map of water depth.)



Linked with S-102 on bathymetry

TWLWG-6 Wollongong 2014 - G. Jan



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2 illustrations of types of uses

ECDIS prepa mode:

Upload tide x,y,z,t before moorings off.

Even if same way points, same month.
(Not the same tide).

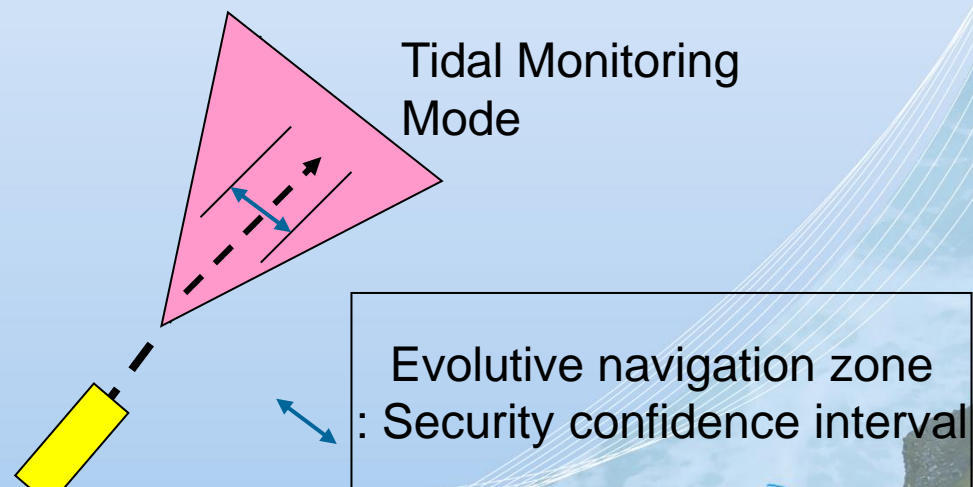
Tidal choice: prediction every (ex:10')

Sampling prediction depending on time dependent water level gradient.

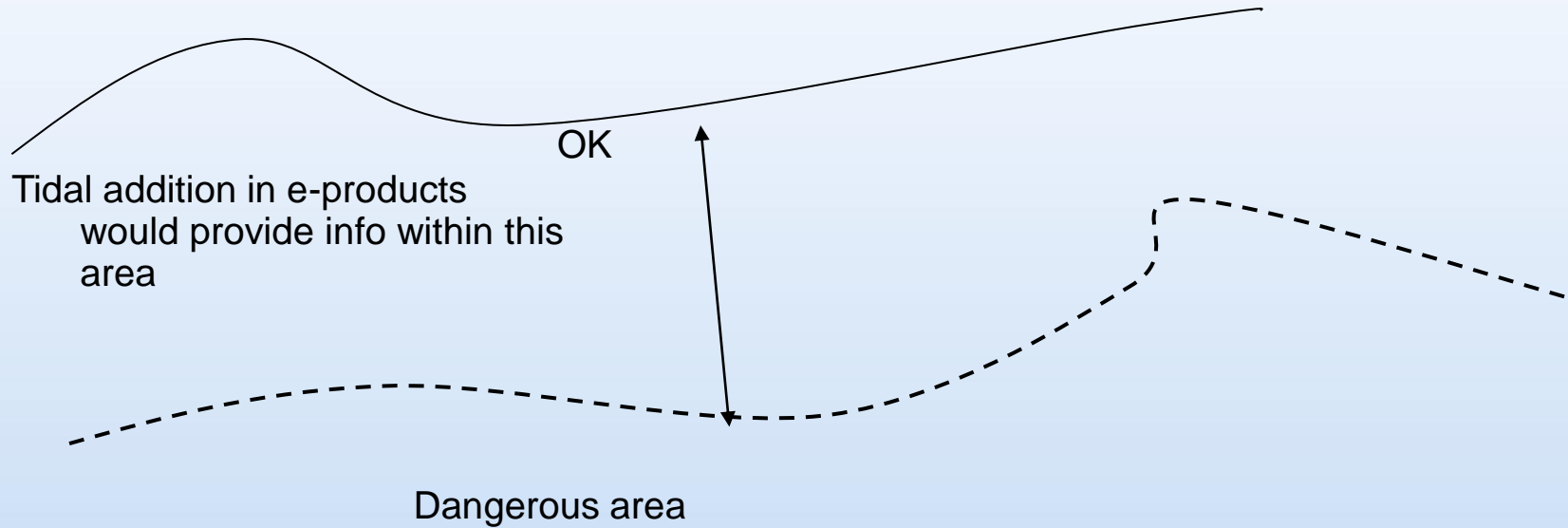
+ (3) **Security criterion:** if depth below 50m. Spatial discretisation of tidal grid model has to be thinner enough to solve tidal dynamics in this marine zone.

ECDIS road monitoring mode:

To be done regularly during the navigation. + (4) security criterion that is an adaptation depending on the danger : (a) water level depth decrease; (b) f(distance boat and critical zone (no go areas)).



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Criterion 4: tide uncertainties (accuracy) maps relative to ECDIS should be provided with product.

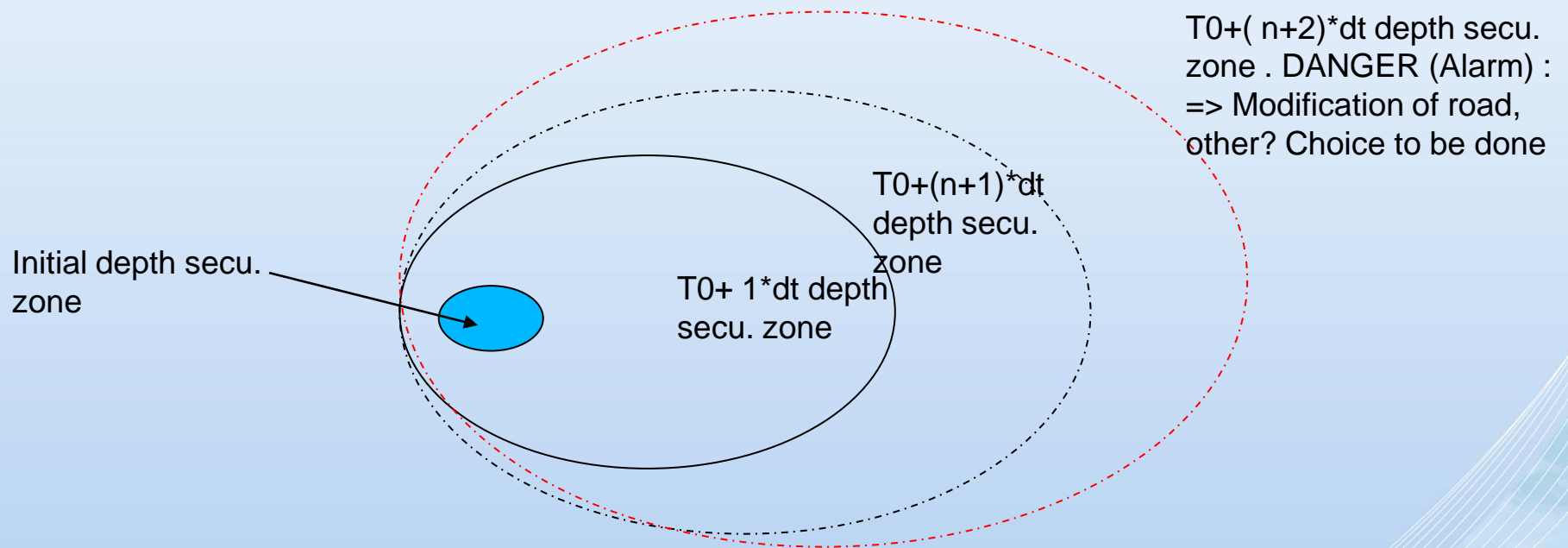


Training (with the ECDIS dyn. Tide production)

Ex:

Display of depth security zone from soundings at x,y,z,t point.

Variation depending on t+x hours planned trajectory



Criterion n°5: Prevent delay of the ship trajectory. So, alarm has to be adapted to real time. Its display has to.



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Addition of another criterion (6):

Areas' delimitations on a chart : tidal information validated and official source.

I.H.O should provide criteria for the tidal source data choice (selection).
Ex for marine zone 1, ECDIS from country « Alpha » should be used.

No meteo and atmospherical ocean forcings forecast is discussed here.
Only tide.

For meteo and other oceanic dynamics, then, ship should have a permanent satellite/ Internet connexion in order to download the results of ocean simulations forecast (big challenge on security of navigation and models uncertainties)



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Criterion 7: If there is a wreck in vicinity, nothing is done on security water depth and alarm is kept as it is today.

If there is no wreck => Tidal height relative to way points and security water depth is possible.

Future limit on data volume of future product?

Currently ENC (ex) ⇔ 362 Megabytes for 1 zip file.

