

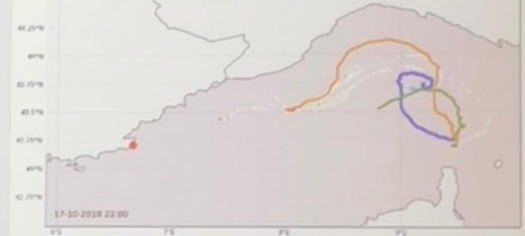
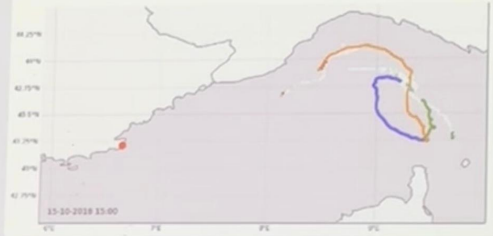
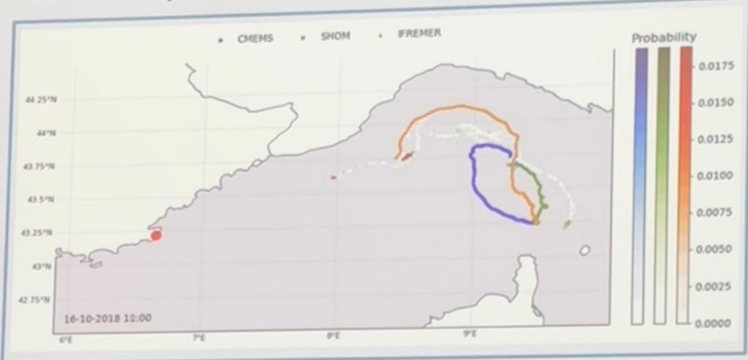
Case I: Sea surface velocity

Probability and trajectory of the three simulations

Probability distribution

Barycentre

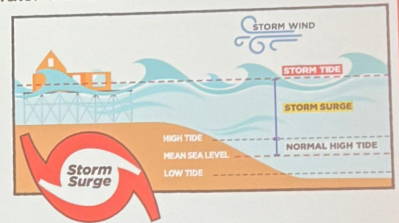
$$\bar{x}(t) = \sum_{i=1}^N \frac{x_i(t)}{n_m(t)} ; \bar{y}(t) = \sum_{i=1}^N \frac{y_i(t)}{n_m(t)}$$



- Motivations
- Introduction**
- Background
- Case study
- Goals
- Methods
- Validation

• Description of the phenomenon:

- Storm Surge is the abnormal rise in seawater level during a storm, i.e. in low atmospheric pressure conditions, measured as the height of the water above the normal predicted astronomical tide.
- Caused primarily by a storm's winds pushing water onshore.
- Local phenomenon, influenced by geometrical, territorial, and morphological factors as the shape of the coast and the bathymetry.



• Storm surge modelling:

- High resolution models usually focus on a limited area or stretch of coast because it acts on a local scale.

