



Contribution ID: 22

Type: **Talk**

Plume-spreading test case for the coastal ocean models

Thursday 30 January 2020 14:30 (30 minutes)

The current study provides a new test case for the coastal numerical solutions dedicated to the plume spreading in the estuary and on the shelf. The suggested estuary-shelf system represents a mixture between pronounced nonlinear flow dynamics with sharp frontal boundaries and linear dynamics and across-shore geostrophic balance. The major aspects of the plume dynamics are analytically predicted, but are difficult to reproduce numerically. The test case manifests the level of numerical diffusion, ability of the model to reproduce the nonlinear processes and frontal zone dynamics. Numerical solutions were obtained with three unstructured mesh models SCHISM, THETIS and FESOM-C. The current study also suggests the plume spreading analysis based on numerical results, which can be useful for any intercomparison studies with focus on the plume behavior.

Do you need an official invitation letter?

Authors: FOFONOVA, Vera (Alfred Wegener Institute for Polar and Marine Research); KUZNETSOV, Ivan (Alfred Wegener Institute for Polar and Marine Research); KÄRNÄ, Tuomas (Finnish Meteorological Institute); ANDROSOV, Alexey (Alfred Wegener Institute for Polar and Marine Research); WILTSHIRE, Karen Helen (Alfred Wegener Institute for Polar and Marine Research)

Presenter: FOFONOVA, Vera (Alfred Wegener Institute for Polar and Marine Research)

Track Classification: COMMODORE conference