NEMO air-sea interaction WG

ex- Wave coupling WG

Waiting for IMMERSE…

Validation

- 08_Drudi_Wave_ORCA2

In order to test wave-current interaction developments, wave options will be added in reference ORCA2_LIM3 configuration for demonstration purposes

- 09_Lovato_Test Wave_Med Sea

Test the wave-current interaction processes in the Mediterranean Sea coupled with WW3. Evaluate single process impact on the hydrodynamic fields. Propose possible modifications and enhancements.

Enhancement

- 12_Yevgeny-Ice Waves

Introduce a coupling between waves, sea ice and ocean (Marginal Ice Zone) that accounts for sea ice break up by waves, wave attenuation by sea ice and combined collisional ice rheology

CMCC

- 03_Clementi_Add Wave Diag

CMCC will enhance the way the wave external fields are read, and provide output fields on wave forcing

IMMERSE

Improving the representation of key interaction processes at the ocean surface boundary layer for high resolution systems (WP5)

T5.1 [M1-M36] Integration of an Atmospheric Boundary Layer model in NEMO (Lead: INRIA, Participants: Mercator Ocean, Ocean-Next, CNRS)
Improve the representation of the Atmospheric Boundary Layer (ABL) interacting with the ocean through the use of a simplified ABL model coupled to advanced atmospheric bulks.

1. Complete ABL-1D integration: integration of ABL 1D
2. Improvement of Atmospheric Bulks: cool-skin/warm-layer, exchange coefficients over sea-ice
3. Toward a 3D-ABL model

T5.2 [M1-M36] Interactions between waves and O/A boundary layers processes (Lead: CMCC, Participants: Ocean-Next, NERC)
Improvements of the representation of the interactions between the waves and atmospheric/oceanic layers.

1. Waves and bulk interactions: Improvement of bulk closures through the use of the relevant surface wave information
2. Include an additional wave coupling development, modified vertical mixing due to breaking waves
3. ave and oceanic boundary layer mixing: insure a full compliance between waves and vertical mixing schemes, OSMOSIS