WG Air-sea interaction

A large part of IMMERSE WP5

Many important developments by different teams
… but few interactions
maybe more in the future …

developments

- **Atmospheric Boundary Layer 1D** (Lemarié, Samson, Madec). implementation + 1 paper in GMD

- **Waves** (Emanuela) : Gathering ocean-wave developments, Couvelard paper, New test case

- **Vertical Mixing** OSMOSIS (George and Andrew): new formulation of Stokes drift, reduction in mixing under ice, Integrated Fox-Kemper, including shear-driven mixing

- **Bulks** (Laurent) : Skin t°, new bulks (sea-ice), ASF test case

- **Sea-ice coupling** : Clément

few interactions

- people have other thing to do…

- difficult to start something when there is no real motivation to do it

- developments constrained by IMMERSE

- hopefully more in the future thanks to the **New leader: Guillaume Samson**

Air-Sea Interactions WG

- **potential points to discuss mainly based on Nemo WP:**

  - nemo sensitivity to the various options proposed by Aerobulk, such as bulk schemes, cool skin / warm layers params, ...
  - wave forcing effect on nemo
  - new current feedback param and ABL model as a replacement of "rn_vfac"
  - vertical physics (vertical mixing, light penetration, convection, ...) interactions with surface

- **some validations tasks in the 2021 WP already dealing with these aspects:**

  - VALID / Validation the tropical channel coupled to WRF / Sebastien, CNRS

  - VALID / Validation of NEMO-wave coupling in the Mediterranean Sea (to be continued after first semester as IMMERSE activity) / Aimie Moulin & Emanuela Clementi, CMCC

  - VALID / Validation (main focus on new bulk formulations) within the CMCC ORCA025 configuration, Iovino, CMCC

  - PUB / impact of bulk formulations in simulating the upper ocean, CMCC/Ocean Next PHYPRO / OSMOSIS science