Models, Tools, and HPC breakout group

1- NEMO/Sea Ice HPC concerns; thanks to Italo Epicoco for introduction

- Some people did not know that sea-ice was part of NEMO. It has been confirmed: HPC developments for NEMO need to take in account ocean dynamics, sea-ice and biogeochemistry
- If a group wants to propose a development in the NEMO shared reference, it should follow the workflow clearly established by the NEMO consortium:
  - Announce development to developer committee
  - Have it reviewed by appropriate working group, and then NEMO system team **before** development, **during**, **after**; does not
- Different feelings about effectiveness of how the "procedure" has been applied were expressed during the discussion.
- Our analysis:
  - We would advice the NEMO consortium that the "procedure" is understood by the potential contributor
  - Issue: subjective judgement on the balance between performance gain and impact of supportability
  - As HPC working group matures, it is likely that long term strategic gain could have more weight in the balance, as we move toward exascale challenges.

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1- NEMO/Sea Ice HPC concerns (continued)

- Well-defined scientific validation strategy for non-scientific changes (porting to new platforms, change of compiler, optimisations, etc.) is needed and this is known
- IS-ENES3 could help (under WP4/NA3)
- We recommend BSC present their validation procedure based on ensembles to NEMO consortium; look at NCAR validation procedure.

- We recommend WP4 produces a mapping of activities of all nemo-related EU projects on NEMO activity plan, identify redundancy, clashes, and report them back to the consortium

2- Complex coupled system HPC performance evaluation (WP4 T3) ; thanks to Mario Acosta for introduction

Note: Almost all metrics could be measured in an additional one-year run

Contact point for CPMIP metric collection
CNRM-CM6 : E. Maisonnave, S.Valcke ;IPSL-CM : Arnaud Caubel
EC-Earth : Uwe Fladrich; MetO : JC Rioual; CMCC : Silvia/Italo Epicoco
MPI-M : Stefanie Legutke;U. Read : Bryan Lawrence,
missing : Nor-ESM

IS-ENES3 responsibility: to chase within the consortium, but we accept numbers from all CMIP6 groups
Advertise at Barcelona meeting in March (Balaji)
To convince people, send around preliminary results and ask to contribute.

Load balancing analysis:
Incremental approach: start with EC-Earth, CNRM-CM, then contact other ESMs; Met O ready to provide feedback on the methodology