MERCATOR OCEAN INTERNATIONAL

NEMO

AGRIF WG

Developers: R. Benshila, J.Chanut, L.Debreu, T. Graham, S. Masson, C. Rousset

And more or less experienced users: F. Dupont, J. Jouanno, L. Gillard, C. Pennelly, F. Schwarzkopf

mercator-ocean.eu/marine.copernicus.eu

- Vertical refinement (Chanut, Harle)
  - Code stabilized for NEMO 4.2_RC incl. DOME test case
  - Report describing implementation and 3 test cases

- DOMAINcfg as the new AGRIF preprocessing tool (Benshila, Chanut)
  - Deals with NEMO 4.2 halos paradigm
  - Creates the whole AGRIF hierarchy of meshes in a row
  - Still not compatible with a vertical coordinate change

- AGRIF grids crossing (or having) cyclic boundaries (Debreu, Benshila, Chanut)
  - Two global grids can even coexist with the new framework (=> coarsening)

- First implementation of AGRIF with RK3 tested (Chanut). Various alternatives depending on the level of complexity/accuracy have been proposed.
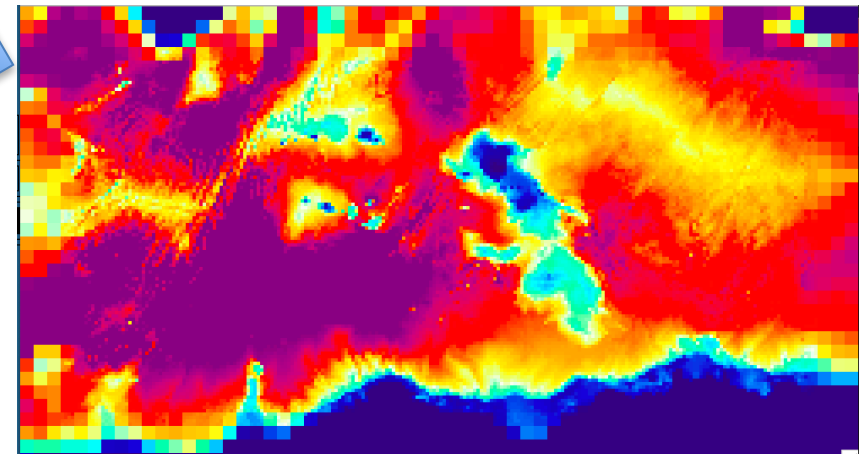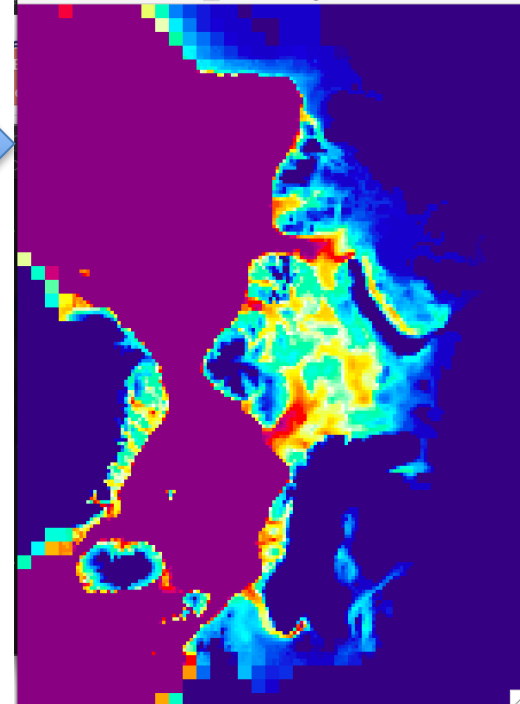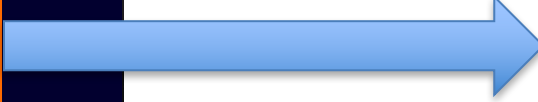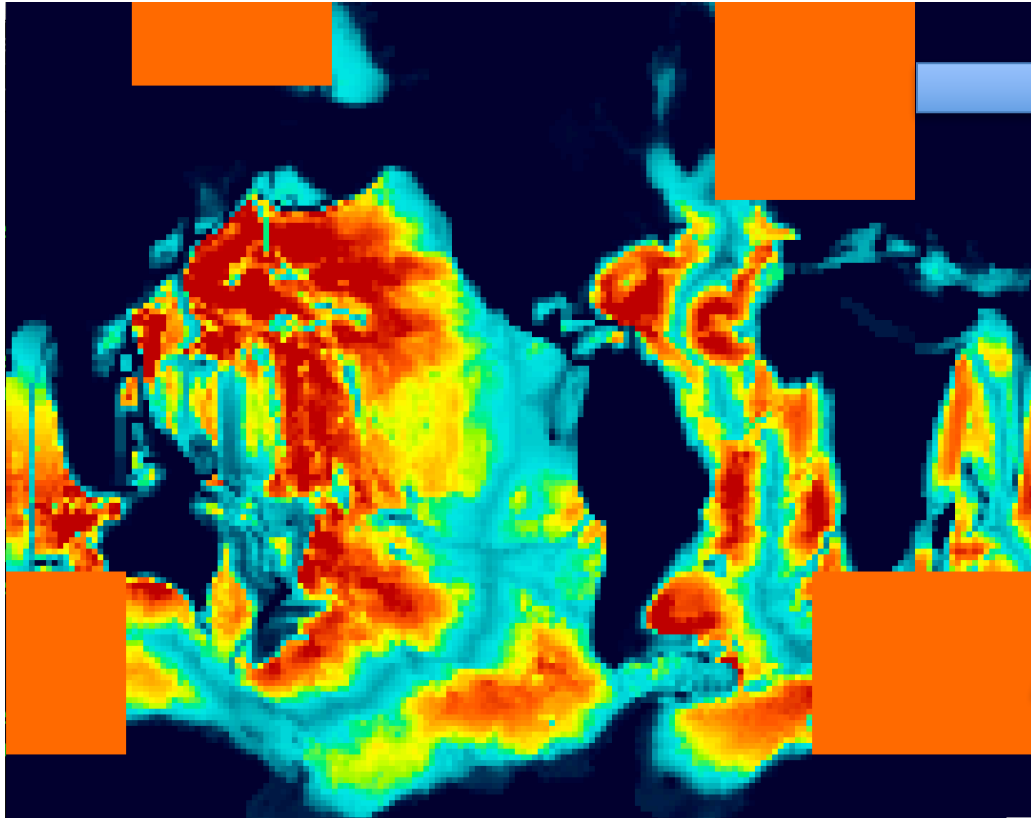
ORCA2
AGRIF_FixedGrids.in:
2
125 160 113 162 4 4 4
−38 22 16 48 4 4 4
0

- New implementations often break AGRIF !
  - Too few developers know the logic behind it

  - The grid coupling problem is often left outside the development of new features.

- Strategic plan:
  - Existing one has been (almost) entirely achieved

  - BGC coarsening can be envisioned in the short term with modest efforts

  - Should we be ambitious (and *green* modellers) by defending a truly efficient multiresolution code ? Adaptive grids ?