

Agrif WG

J. Chanut on behalf of AGRIF WG

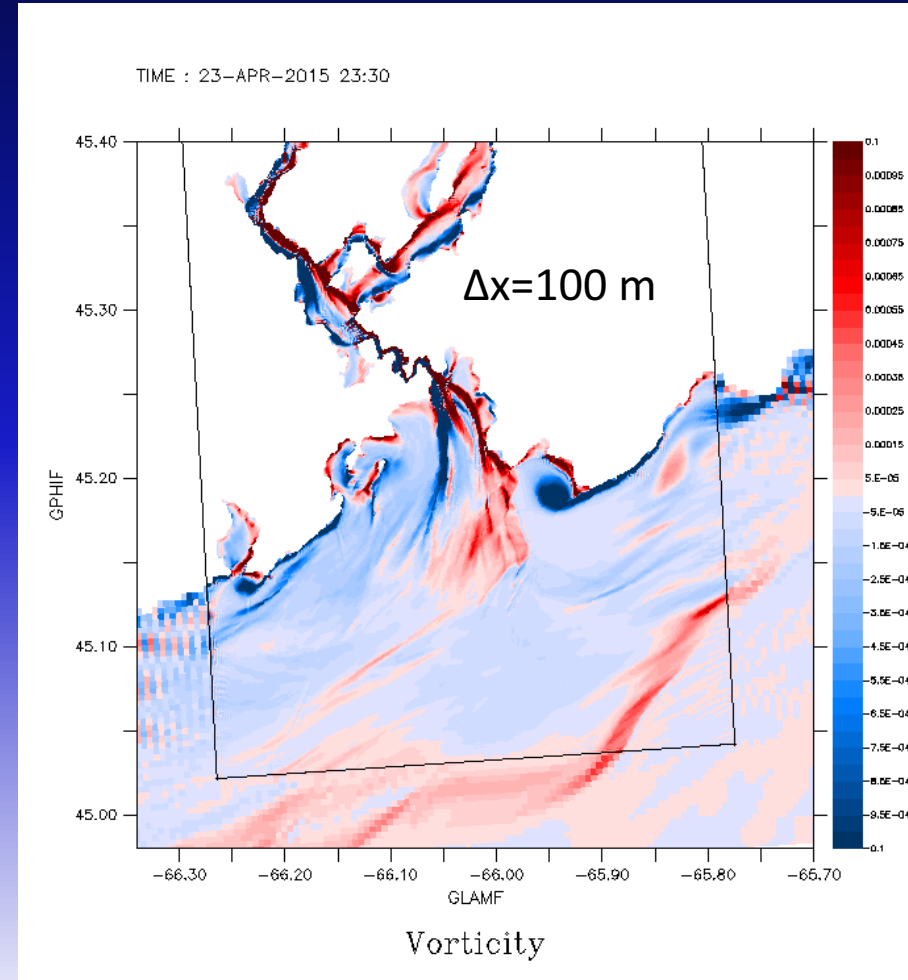
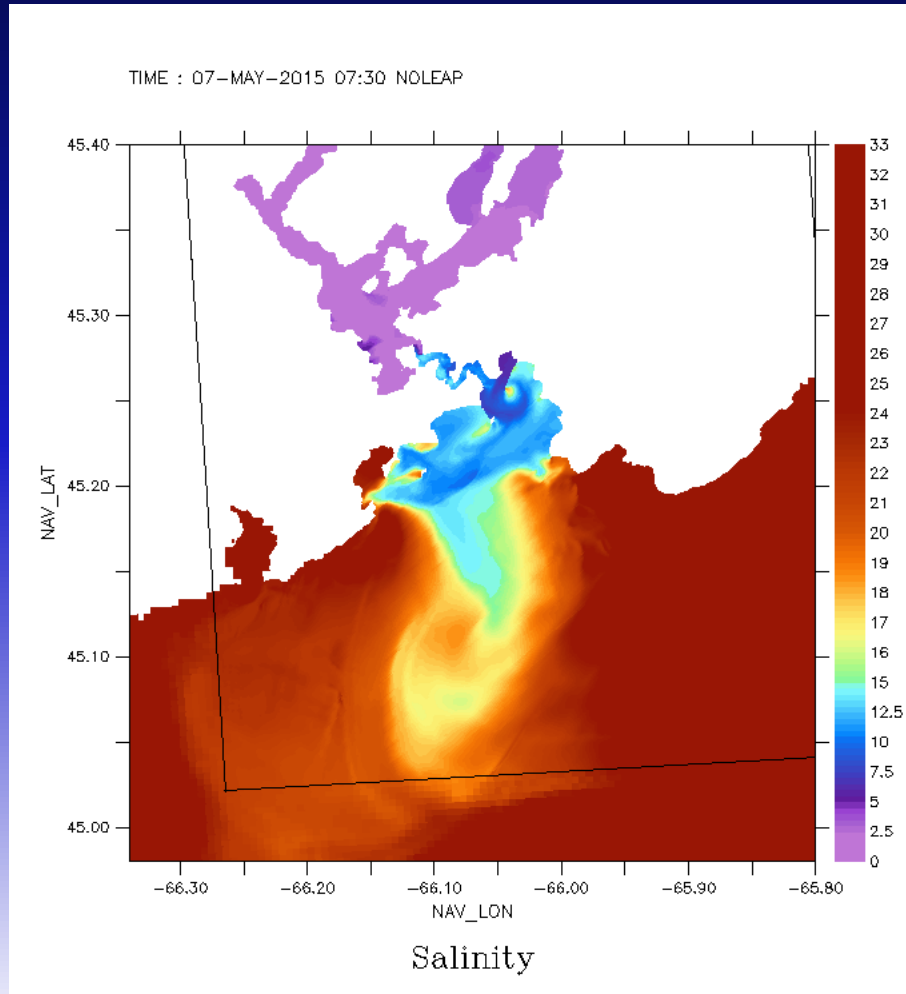
Nemo developer committee, January 16th 2017

Last year summary

- WG involves now 11 people (out of which 4 system team members). Last WG meeting on November 22nd
- New features enable AGRIF and:
 - LIM3
 - z* coordinate
 - Extended number of ghost cells (ie >1)
 - Vertical two-way remapping (cpp key)
 - Both GLS and TKE schemes
- AGRIF & Ocean dynamics fully reproducible and restartable. Volume is conserved.
- “Hidden” cpp keys to switch on interface separation, more scale selective update operators, volume refluxing
- 2 academic test cases: *SAS_BIPER* & *VORTEX*
- **Recommendations:**
 - Neither vertical remapping nor additional ghost cells have been tested in realistic applications
 - AGRIF & LIM3 still not restartable
 - TOP and AGRIF should be reconsidered

AGRIF, z^* and s-coordinates in the Bay of Fundy

Y. Lu, J.P. Paquin, X. Hu, S. Taylor and L. Zhai, DFO Canada



Exhaustive list of missing features

- Open boundaries (bdy) inside nested domains (rivers)
 - Cyclic East-west or North-Fold condition in zoom
 - Mpp masked sub-domains suppression
 - Z-tilde coordinate
 - Icebergs capability
 - Timing
 - Up to date nesting tools
 - Documentation and tutorial
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- + overlapping grids, shared mpp resources,...

2018 WP

- AGRIF-1_cbricaud-EWandNorthBC
 - Allow NEMO to run an ORCA global configuration in an AGRIF zoom
- AGRIF-2_crousset-LIM3
 - Testing ?
- AGRIF-3_jchanut-TOOLS
 - AGRIF nesting tools update. On-line nesting pre-processing tools are outdated and need complete revision to work with the most recent code. We propose in this task:
 - (i) To correct the tool by gathering various fixes done by users, remove obsolete features and test it.
 - (ii) Investigate an alternative, in collaboration with people from the CONFIG MANAGER group. It could be based on the use of the AGRIF library itself, thus making it simpler to navigate through the grid hierarchy.
- AGRIF-4_jchanut-TSTEPPING
 - Reorganize NEMO time stepping for AGRIF. (i) re-order call tree to simplify AGRIF update (ii) Prepare possible coupling at barotropic time step (iii) Anticipate RK3 time stepping