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# 4th HYCOM Consortium Meeting

*March 1, 2001*

## Summary of Actions

1. HYCOM 2.0 and HYCOM manual

   - Global grid as in Shan Sun's global configuration

   - Linda Smith will have a new look at the READMEs and update them if necessary. Additional inputs will be provided by Carlisle Thacker and Oleg Esenkov.

   - Peter van Leeuwen to send web site address regarding the CKO model configuration options - DONE

   - Peter van Leeuwen to follow up on possibility of producing the HYCOM manual, Eric Chassignet will follow up regarding possible funding from Miami. (ACTIONS: Funding can be provided, Peter van Leeuwen is investigating and will get back to us shortly)

   - George Halliwell to write detailed descriptions of the KPP and KT1 mixed layer implementations. Rainer Bleck will do the same for KT2.

   - New sofware of Rainer Bleck: OMNIPROC and OMNIDIFF which allows plotting of the model results in density only and display differences. Linda Smith has a version that works for the offcial HYCOM code. To be provided to Alan.

   - Optimization of the tridiagonal solver. Comparison to the approach of Hallberg (2000). Test of the entrainment parameterization (Wallcraft, Chassignet)

   - Addition of the new unmixing algorithm in HYBGEN (Wallcraft, Bleck).

   - For first time users of HYCOM, a list of recomended parameters needs to be made available (Wallcraft)

   - Higdon time-splitting. Should be included when moving to a two time stepping scheme (Bleck)

   - Open boundary conditions: Arthur Mariano will investigate the possibility of doing so via data assimilation

   - Noise in KPP - George Halliwell will follow up on some recomendations provided by Bill Large

2. Web site

   - All presentations made a the LOM meeting should be added to the HYCOM web site http://hycom.rsmas.miami.edu

   - Every participants should make sure that his/her page is up to date

   - Add to the HYCOM web site instructions on how to join the HYCOM mailing list - DONE

   - Addition of Partners and Collaborators:

Partners: Groups that have actively participated in the Consortium since day 1. SHOM qualifies in that regard. Specific funding was allocated for Remy Baraille's participation in the original proposal.

Collaborators: Active collaboration from a group.

- The partners unanimously voted to extend an invitation to the TOPAZ group (Geir Evensen and collaborators) to join the HYCOM consortium as a "Collaborator" (i.e. mentioned on the web site).

3. Glbal/basin-scale configurations

- Global grid: 1.6°, .96°, .32°, .08°

- Topography: new 2.5' to be released this summer. Ask Mike Carron to provide details (E-mail sent to M. Carron on March 14, 2001).

- Forcing: Evaluation of NOGAPS vs ECMWF vs NCEP

- Basin scale simulations at 1/12° (grid from the global configuration)

  Pacific and Atlantic:

    20 years with climatological atmospheric forcing
    12 years with ECMWF 6 hourly forcing (79-90)
    14 years with FNMOC 6 hourly forcing (91-04)

  Atlantic only:

    13 years with ECMWF 6 hourly forcing (91-03)

- IAS (1/12°):

    George Halliwell: Focus on the coupling to MM5 (project with S. Shen), mixed layer physics, shelf break interactions
    Tammy Townsend: Focus on boundary conditions, shelf break interactions, impact of resolution, data assimilation (with O.M. Smedstad)

4. Data assimilation

- Mike Chin expressed the need for some help in parallelizing his data assimilation code. Contact Matt O'Keefe. Is he still ineterested in participating? Has not attended the last 3 HYCOM meetings, very loose connection to the present effort. Eric Chassignet to follow up.

- Carlisle Thacker reminded the HYCOM community that he would like some inputs on the Thacker and Esenkov paper submitted to JAOT.

- Data quality of XBTs. Carlisle Thacker to follow up on what is presently being done.

  From Carlisle Thacker regarding ECCO practice:

> "So far, they are not using real XBT data. The following is from report 4, November, 2000, found on http://www.ecco.ucsd.edu/report/report_4/node1.html A complete ocean state estimation system will combine the entire suite of large-scale ocean observations including hydrography, Lagrangian and Eulerian velocity measurements with the dynamics of an ocean circulation model. The aim of this paper is somewhat more modest in that we use only a subset of available ocean data, and not the most complete model physics. Our primary focus here is on the time-evolving global circulation as it emerges from the MONTHLY MEAN LEVITUS ET AL.(1994) HYDROGRAPHIC CLIMATOLOGY, monthly mean Reynolds and Smith (1994) sea surface temperature (SST) fields, the altimetric measurements from TOPEX/POSEIDON (T/P) and ERS-1,2 and daily surface forcing over the time interval 1992 through 1997. Nonetheless, these prototype results are sufficiently

conclusive to be scientifically useful, and in particular they demonstrate that a complete WOCE data synthesis is now possible."

5. Other items

- Post-doc hire (follow-up on possibilities)
- Investigate DODS and its potential use (O'Keefe)
- Rainer Bleck to send Touchone (sp?) routine to Alan Wallcraft