2004 Ocean Sciences Meeting
Search Results

Cite abstracts as *Eos Trans. AGU, 84*(52),
Ocean Sci. Meet. Suppl., Abstract xxxxx-xx, 2003

Your query was:
ecco

HR: 08:45h
AN: **OS21H-02**
TI: **The ECCO High-Resolution Global-Ocean State Estimation Initiative**
AU: *** Menemenlis, D**
AF: *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109*
AU: **Cheng, B**
AF: *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109*
AU: **Fukumori, I**
AF: *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109*
AU: **Lee, T**
AF: *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109*
AU: **Koehl, A**
AF: *Scripps Insitution of Oceanography, University of California, San Diego, La Jolla, CA 92093*
AU: **Stammer, D**
AF: *Scripps Insitution of Oceanography, University of California, San Diego, La Jolla, CA 92093*
AU: **Adcroft, A**
AF: *Massachusetts Institute of Technology, Cambridge, MA 02139*
AU: **Heimbach, P**
AF: *Massachusetts Institute of Technology, Cambridge, MA 02139*
AU: **Hill, C**
AF: *Massachusetts Institute of Technology, Cambridge, MA 02139*
AU: **Zhang, J**
AF: *Applied Physics Laboratory, University of Washington, Seattle, WA 98105*
AU: **Henze, C**
AF: *NASA Ames Research Center, Moffett Field, CA 94035*
AU: **Taft, J**
AF: *NASA Ames Research Center, Moffett Field, CA 94035*
AB: During the past four years, the consortium for Estimating the Circulation and Climate of the Ocean (ECCO) has demonstrated the feasibility and utility of providing global, sustained, dynamically reasonable estimates of the full three-dimensional, time-varying oceanic state. Remotely-sensed (altimeter, scatterometer, ocean temperature, and gravity) and in-situ (temperature and salinity profilers, mooring, drifter, and float) data and advanced estimation methods (adjoint model, Kalman filter, and Rauch-Tung-Striebel smoother) are used to constrain a state-of-the-art numerical ocean model and to produce best estimates of the large-scale oceanic circulation. These estimates are made available in near-real-time and are being used for a wide variety of scientific and operational applications. The ECCO experience has shown that it is possible to carry out these computations and that the resulting estimates possess significant value. Unfortunately, the computational demands for such a system are enormous, limiting the existing ECCO products to rather coarse resolutions (30 to 100-km horizontal grids). With this limited resolution it is not possible to adequately represent the many small-scale features of the oceanic circulation (western boundary currents, eddies, convection, etc.) that are important both for climate studies and for

operational applications. To address this deficiency and to more fully utilize the available satellite and in-situ data, NASA is committing significant new computational resources to the ECCO project. This presentation will review existing ECCO products and applications and summarize the motivation, objectives, and status of the ECCO high-resolution ocean state estimation initiative.

UR: **http://www.ecco-group.org**
DE: 1635 Oceans (4203)
DE: 1640 Remote sensing
DE: 4215 Climate and interannual variability (3309)
DE: 4255 Numerical modeling
DE: 4532 General circulation
SC: OS
MN: 2004 Ocean Sciences Meeting

New Search