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BLUElink> Operational ocean prediction in Australia

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Operational ocean prediction is a capability being developed at several centres around the world including HYCOM, MERSEA, FOAM, BLUElink and other members of the experiment GODAE. BLUElink is an Australian partnership between CSIRO, the Australian Bureau of Meteorology and the Royal Australian Navy, which is the developing Australia's first operational ocean prediction system. CSIRO Marine Research in collaboration with the BMRC is developing the ocean model and data assimilation system. The Ocean Forecast Australia Model (OFAM) is a global implementation of MOM4 with increased resolution (eddy-resolving) for Australia's marginal seas (90E-180E, 70S-20N). The BLUElink Ocean Data Assimilation System (BODAS) is an implementation of a multi-variate optimal interpolation scheme whose statistics are based on an ensemble of ocean model fields from a non-assimilated 8-year spin-up integration. Both OFAM and BODAS have been optimised for an NECSX6 supercomputer from the joint computing facility of the Bureau of Meteorology and CSIRO. In April, OFAM and BODAS will complete an ocean reanalysis for the period (1992-2004) using archived profiles and satellite altimeter observations. This analysis has provided an unprecedented view of the structure and variability of Australia's coastal current systems and larger scale circulation in the marginal seas. BLUElink has entered a one-year operational implementation phase leading to operational trials in 2006. The operational prediction system will utilise the operational systems infrastructure of the Bureau of Meteorology including a comprehensive data and archival management system and global numerical weather prediction forecasts. Several challenges are being addressed including the continuity/quality of real-time data streams and robustness of the operational system in this environment.