

COORDINATED OCEAN-ICE REFERENCE EXPERIMENTS PHASE II (CORE-II)

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The Coordinated Ocean-ice Reference Experiments (COREs) were proposed by the CLIVAR Working Group on Ocean Model Development (WGOMD) – now known as the CLIVAR Ocean Model Development Panel (OMDP). The CORE framework defines protocols for performing global ocean – sea-ice coupled simulations forced with surface fluxes, computed using common atmospheric data sets and the same bulk formulae. The second phase of COREs, CORE-II, uses inter-annually varying atmospheric forcing for the 1948-2007 period. These CORE-II experiments can be employed to evaluate ocean and sea-ice model performance and study mechanisms of time-dependent ocean phenomena and their variability from seasonal to decadal time scales for the recent past, complementing coupled climate models. The simulations also provide consistent ocean and sea-ice states for initialization of decadal prediction experiments. Presently, the CORE-II effort involves participation of a broad, international community of ocean modeling groups. The simulations are being analyzed in several separate studies, each focusing on a specific aspect of the solutions, e.g., mean and variability of the Atlantic meridional overturning circulation, global and regional sea level height, ventilation in the Southern Ocean. Here, we briefly introduce the CORE-II framework and highlight some results from these studies.