1048-76-138   **William Layton*** (`wjl@pitt.edu`), math dept/Univ of Pittsburgh, 301 Thackery hall, pittsburgh, PA 15260. *Uncoupling Atmosphere-Ocean Models.*

This talk will present 2 algorithms for uncoupling at each time step Atmosphere-Ocean models. The methods are unconditionally stable and, most importantly, require only black box solves of the Atmosphere and the Ocean sub problems. The development will be for a simplified case of two fluids coupled across an interface with commonly used Atmosphere-Ocean coupling conditions. This model captures some of the essential difficulties of Atmosphere-Ocean coupling. The two base methods are first order accurate. The talk will also show how to get fully uncoupled, unconditionally stable, higher order methods using the base methods and deferred correction. The research presented in this talk is based on joint work with Jeff Connors (Pitt, http://www.pitt.edu/ jmc116/), Jason Howell (CMU, http://www.math.cmu.edu/ howell4/) and Alex Labovschii (U. Missouri, http://www.math.missouri.edu/ ayl). (Received February 04, 2009)