Preliminary results using Regionally Refined Ocean and Sea-ice Meshes for   
the E3SM v2 Cryosphere Science Campaign

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In this follow-up presentation to "Designing Regionally Refined Ocean and Sea-ice Meshes for the E3SM v2 Cryosphere Science Campaign", we present results from preliminary simulations using the newly developed regionally refined ocean/sea-ice meshes for cryosphere configurations. These simulations include our team's first effort to run fully coupled simulations with high resolution around Antarctica that include prognostic ice-shelf melt fluxes. We find the regionally refined simulations to have improved certain biases relative to their low-resolution counterparts, and in particular "tipping point" behavior to high melt regimes seen in many low-resolution simulations seem to be mitigated with the regionally refined meshes. In addition to the fully coupled simulations, we will also present results from active ocean/sea-ice configurations with data atmosphere forcing. These early results show promise for the v2 Cryosphere Simulation Campaign, where we aim to run pre-industrial control simulations (both low-resolution and regionally refined) that will allow us to branch off scenario simulations for the first time.