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The focus of our OST-ST project is on the exchange of water mass and properties between the shelf and the deep ocean along the east and west coasts of South America (Argentina-Uruguay-Brazil; Peru-Chile). Our first region of interest is in the SW Atlantic, where the two opposing boundary currents (the Brazil and Malvinas Currents) converge and create an energetic eddy field offshore of the wide continental shelf. The serendipitous location of the strong freshwater outfall from the Rio de la Plata inshore of the confluence provides a salinity tracer that is detected by satellite surface salinity data collected by the new Aquarius mission. Here we use the combination of altimetry, scatterometry and satellite salinity fields, along with nested ocean circulation models, to investigate the onshore-offshore transport of water mass and salinity between the shelf and deep ocean in this dynamic system. Although taking place on the mesoscale, the transport is part of the basin-scale circulation and affects the salinity and biological fields (as seen in ocean color imagery) of the South Atlantic portion of the Southern Ocean.
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