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Information about the paper	
Session	**MS016** Downscaling to Local and Regional Scales (ICCL)
Title	Coupled Ocean/Atmosphere regional simulation of Coastal Jet off Central Chile: A case study for the October 2000 event
Abstract	The cool waters off central Chile (26S-36S) are principally maintained by coastal upwelling, which in turn is driven by persistent low-level along-shore southerly winds. Satellite data, marine reports, and coastal in situ observations off central Chile indicate that those along-shore winds intensify at intraseasonal timescale leading to "Coastal Jets". The southerly jet events off central Chile occur year-round but are more frequent during the upwelling season in summer (over 60% of the time). The jet is characterized by an elongated maximum of surface wind speed (10m s-1) with its axis at about 150 km off the coast and a cross-shore scale of about 500 km. It is associated with a significant oceanic mesoscale variability that contributes to cross shore exchanges of heat, salt and biogeochemical material between the open and coastal oceans.! High-resolution ocean (ROMS) and atmosphere (WRF) regional model simulations are used to document a typical "Coastal Jet" event which occurred in October 2000. At a first step, the sensitivity of the surface wind and air-sea heat fluxes to the horizontal resolution of the atmospheric model is evaluated. Near the coast, increased resolution improves the realism of the cross-shore variability of the wind stress. The atmospheric fields for different resolutions (54km, 18km and 6km) are then used as boundary conditions for a regional ocean model. A heat balance is estimated in order to assess the relative contribution of the horizontal and vertical advection terms and to document the oceanic processes at stake during the Coastal Jet event. The results suggest that air-sea coupling at mesoscale is a significant contributor to the oceanic variability in this region.
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Other information	
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