

LA CAML 2

Impact of Climate induced Glacial Melting on Marine and Terrestrial Coastal Communities on a Gradient along the Western Antarctic Peninsula (ClicOPEN) – Argentina

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On the Western Antarctic Peninsula (WAP) a recent rapid regional warming with a temperature increase of more than 2.5 K has been observed over the last 50 years. The glacial systems on the WAP show direct responses to these climatic changes, including retreat of ice fronts and increased melt water production. The anticipated primary effects of glacial melting on marine coastal systems are the increased fresh water and particle transport which will entail changes of water column stratification, light climate and the concentrations trace elements and nutrients. These changes impact on almost every compartment (population or community) in the coastal ecosystems along the WAP, but the effect is geographically weighted. The present project is part of the IPY programme ClicOPEN (EoI 193 of IPY lead projects) which aims to monitor glacial retreat at the Antarctic Peninsula and adjacent islands and the effects on marine and terrestrial coastal systems along a latitudinal gradient on the Antarctic Peninsula. It is a multi-disciplinary and international synoptic programme with standardized methods and sampling protocols as well as centrally managed and accessible data archiving. The Argentinean participation focuses on the effects of glacier retreat on populations of phytoplankton (composition and primary production), zooplankton (composition, structure and filtration rates) and benthic communities (macroalgal and macrofaunal) as well as the interactions between them along the WAP.