

Category

BE Biology, Ecology, Ecosystems, Biodiversity

Session Number

BE-9

Session Title

Life distribution and responses to environmental changes in Polar ecosystems

Session Description

Polar environments are characterized by unique biodiversity, encompassing marine, terrestrial and freshwater ecosystems, and are the most vulnerable systems to environmental changes.

A full knowledge of life diversity, distribution, and variation in space and time is still needed.

Environmental changes are already affecting Polar regions, with impacts on the biotic and abiotic components of ecosystems, biological responses at ecological hierarchical levels (from genes to landscapes), over different spatial and temporal scales, being triggered by different physical, environmental and biological drivers, and different vulnerability across biogeographical regions, from Antarctica to the Arctic.

We encourage contributions addressing:

- a) Distribution and diversity of life through different ecological levels and environments (e.g. biodiversity hotspots, glacial refugia);
- b) Assessment of impacts and responses to present and/or past environmental changes (e.g. climatic, tectonic, oceanographic, anthropogenic), also through multidisciplinary approaches, long-term monitoring, manipulation experiments;
- c) How best benchmarking polar ecosystems across different environments.

A comprehensive understanding will allow effective planning to disentangle the effects of natural and human-derived global change on ecosystems, and a key challenge will be the development of syntheses allowing the assessment of environmental changes and biota responses at the scale of Polar Regions.

Keywords: Biodiversity; Environmental Change; Terrestrial, freshwater and marine ecosystems; spatial and temporal changes; multidisciplinary research; benchmarking

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