



28/01/2013

United Nations  
Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs

Reference: LOS/SG Report/2013  
Your letter from 12 December 2012

Dear Madam or Sir,

Concerning the Informal Consultative Process, the Antarctic Treaty Consultative Meeting is aware of the impacts of ocean acidification on the marine environment and has requested its Observer and advisory body for scientific issues, the Scientific Committee on Antarctic Research (SCAR), to produce a comprehensive report focusing on both ecosystem and species responses to ocean acidification. This report will be made available to the Treaty in 2014. The Secretariat will provide a copy of the report when available and post it to its website: <http://www.ats.aq>.

Please find below a preliminary statement from SCAR.

Dr. Manfred Reinke  
Executive Secretary of the Antarctic Treaty

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Scientific Committee on Antarctic Research (SCAR)

Summary on Southern Ocean Acidification (SOOA)

The carbon dioxide (CO<sub>2</sub>) concentration of the Southern Ocean is rising. The dominant source of this increase is in response to partial equilibration with the increasing atmospheric CO<sub>2</sub> concentrations, following fossil fuel combustion and land use changes. Subsequent shifts in chemical equilibria result in a change to the marine carbonate system and a lowering of seawater pH. This process is termed "ocean acidification" (OA). From a very limited number of studies to date, it is already clear that OA is causing rapid changes in ocean chemistry. Several key organisms and ecosystems in the Southern Ocean system are thought to be sensitive to OA but this is based on few experiments and observations. The socioeconomic and cultural effects of SOOA are unknown.



In recognition of the importance of communicating present knowledge and future challenges of SOOA, SCAR has appointed an Action Group on OA. The Action Group consists of an international cross-disciplinary team of ocean acidification experts representing the fields of marine carbonate chemistry, global and regional modelling, marine ecology, ecotoxicology/physiology and paleoceanography. The group is led by Dr Richard Bellerby, (Norway) who is also leading an equivalent study in the Arctic.

The OA Action Group will:

- define our present understanding of the contemporary rates and future scenarios of Southern Ocean acidification;
- document ecosystem and organism responses from experimental perturbations and geological records;
- identify present and planned observational and experimental strategies;
- identify gaps in our understanding of the rates and regionality of ocean acidification;
- define strategies for future Southern ocean acidification research.

The above workplan will be performed in consultation with existing global ocean acidification efforts (e.g. SOLAS/IMBER Sub Group 3, US Ocean Carbon Biogeochemistry, the SCAR co-