OCEAN ACTION HUB

OCEAN FORUM

Ocean Acidification Online Discussion

9 – 30 March 2017

Background Note

Target 14.3: Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

About the Forum

The Ocean Action Hub is hosting a series of online discussions over the course of the preparatory process for The Ocean Conference in order to engage stakeholders in assessing the challenges and opportunities related to delivering on SDG14 implementation. Bringing together governments, UN agencies, intergovernmental organizations, international financial institutions, NGOs, civil society organizations, academic institutions, the scientific community, private sector, philanthropic organizations and other actors, each online discussion will focus on one of the agreed Partnership Dialogue themes and implementation of relevant SDG targets and are being launched following the conclusion of the Preparatory Meeting in New York (15-16 February 2016). The second discussion is focused on Target 14.3: Minimizing and addressing the impacts of ocean acidification: http://www.oceanactionhub.org/ocean-acidification-discussion

About Ocean Acidification

The ocean absorbs up to 30% of the annual emissions of anthropogenic CO_2 to the atmosphere, helping to alleviate the impacts of climate change on the planet. However, this comes at a steep ecological cost, as the absorbed CO_2 reacts in seawater and results in changing acidity levels in the ocean. The changing acidity is described by a decrease in seawater pH and closely linked shifts in the carbonate chemistry of the waters including the aragonite saturation state, which is the main form of calcium carbonate used by key species to form shells and skeletal material (e.g. reef building corals and shelled mollusks). Since the industrial revolution mean surface ocean pH has dropped by 0.1 units, corresponding to an increase in acidity of 26%. If CO_2 emissions continue at the present rate, mean surface pH is predicted to fall by another 0.3 to 0.4 units (equivalent to a 100-150% increase in acidity) by the end of this century.

Concerns about ocean acidification, first expressed in the early 1980s, have been confirmed. Ocean acidification impacts global marine chemistry, essential biological processes are also affected, sometimes in critical ways. Furthermore, dissolved CO_2 levels may influence the physiology of marine organisms, which often depend on a narrow range of environmental parameters including dissolved CO_2 and pH.

Observations of marine acidity at open ocean and coastal locations have revealed that present-day conditions are often outside preindustrial bounds. In some regions, the changes are amplified by natural processes like upwelling (cold often, CO_2 and nutrient rich water from the deep rises toward the sea surface), resulting in conditions outside biologically relevant thresholds.

Discussion Questions:

1. What are the **challenges** faced in your community, country or region in achieving Target 14.3, aimed at minimizing and addressing the impacts of ocean acidification?

2. What do you see as the **priority actions** which we can all rally around in global **'Calls for Action'** in achieving Target 14.3 and to improve ocean acidification observation??

3. Please share any **innovative partnerships** - existing or proposed - aimed at mitigating and addressing the impacts of ocean acidification that you are aware of or involved in that could be launched at the June Ocean Conference and can advance effective actions from local to global levels.

To participate, post your response in the discussion forum here:
http://www.oceanactionhub.org/ocean-acidification-discussion