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*The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.*

## Twenty Sixth SPREP Meeting of Officials

Apia, Samoa  
22<sup>nd</sup> – 24<sup>th</sup> September 2015

### Agenda Item 10.2.5: Ocean acidification update

#### Purpose

1. To update Members on SPREP's Ocean Acidification activities, including the recently funded New Zealand Partnership on Ocean Acidification and new partnerships.

#### Background

2. Our oceans are essential to the Pacific Islands, but the impacts of climate change on them have been largely overlooked. Since the start of the Industrial Revolution, the ocean has absorbed nearly 30 percent of human-generated carbon dioxide from the atmosphere. The most recent IPCC report notes that most of the carbon dioxide emissions and atmospheric warming (half the total since the Industrial Revolution) have come in the last 40 years and that ocean has absorbed nearly 30 percent of the human generated carbon dioxide from the atmosphere and nearly 90 percent of the heat from greenhouse gases. As oceans absorb carbon dioxide they become more acidic, with conditions now approaching those not seen in the past 55 million years.

3. The rapid changes in ocean chemistry have already had, and will continue to have, broad and significant impacts on marine ecosystems, with consequent direct and indirect impacts on the coastal environment, coastal and pelagic fisheries, tourism, and ecosystem services provided by coral reefs. As oceans become more acidic, it will be harder for coral reefs to form their calcium carbonate skeletons, which will result in reduced growth rates and eventually net erosion of the reefs. Healthy coral reefs are essential for productive coastal fisheries, and as ocean acidification impacts the growth rates and survival of reefs it will indirectly reduce coastal fisheries. Ocean acidification has also been found to have a negative impact on the survival of yellow fin tuna larvae, thus posing a threat to the regions tuna fisheries.

4. Of late, ocean acidification has been receiving considerable media attention, but little is still known about its long term impacts on coastal and other marine ecosystems. Ocean acidification is best described as a slow-onset effect, similar to sea level rise, and will require sustained, long-term monitoring and research to be fully understood. Most of the oceans, especially coastal regions where biodiversity is highest, lack monitoring programmes, and therefore sustained support from the global community will be required to address this.

5. Prior to the 3<sup>rd</sup> UN SIDS Conference, the US and NZ, in collaboration with SPREP, hosted "An International Workshop on Ocean Acidification: Considerations for Small Island Developing States (SIDS)" as an official parallel event. The workshop brought together technical and policy experts, and representatives from the three SIDS regions, to seek ways to address the impacts of ocean acidification through monitoring and regionally-relevant, practical adaptation measures.

6. As a follow-up to the SIDS workshop, NZ has recently partnered with SPREP on a regional and global-first project to help Pacific Islands build resilience to ocean acidification. The NZD\$ 1.8 million project aims to ensure that "Pacific Islands and Territories are resilient to Ocean Acidification impacts with adaptation measures in place". Activities to be undertaken are guided by the outcomes of the SIDS workshop, will focus on Research and Monitoring, Identification and Implementation of Practical Adaptation Actions, and Capacity Building and Awareness Raising. In keeping with the workshop recommendation of "SIDS-Driven, SIDS-Connected, SIDS-Together" actions, current and future works are being conducted in consultation and partnership with local government and communities.

7. In addition to support from NZ, SPREP is now a member of the Global Ocean Acidification Observing Network (GOA-ON) and has partnered with the International Atomic Energy Agency (IAEA), who is the host of the Ocean Acidification International Coordination Center (OA-ICC).

8. The Global Ocean Acidification Observing Network is a collaborative international approach, promoting effective monitoring of ocean acidification in pelagic and coastal environments, understanding the drivers and impacts of ocean acidification on marine ecosystems, and to provide high quality data for ocean acidification modeling.

9. The Ocean Acidification International Coordination Centre, suggested by the Surface Ocean Lower Atmosphere Study (SOLAS) – Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) Ocean Acidification Working Group and the International Ocean Acidification Reference User Group, was officially announced at the Rio+20 UN Conference on Sustainable Development. The Coordination Centre works to promote, facilitate, and communicate global activities on ocean acidification; including activities such as training sessions, mentoring networks, and opportunities for international cooperation on experiments on ocean acidification.

## Recommendation

10. The Meeting is invited to:

- **note with appreciation** the US and NZ Governments for their support for the UN SIDS Ocean Acidification Workshop;
- **welcome** the support of NZD\$1.8 million from NZ in helping Pacific Island Countries build resilience to ocean acidification; and
- **encourage** SPREP and Member countries to actively pursue ocean acidification adaptation opportunities and to incorporate ocean acidification into climate change policy.