

## **2.11 NIPPON FOUNDATION PROGRAMMES**

### **2.11.1 Nippon Foundation - GEBCO Overview**

GEBCO has had a relationship with The Nippon Foundation (NF) since 2004 when the GEBCO-NF Ocean Mapping training program began at the University of New Hampshire (UNH). NF fully funded the Monaco Forum on the Future of Seafloor Mapping held in June 2016. That led to the establishment of the Seabed 2030 project. NF fully funded the NF-GEBCO Alumni team participation in the Shell Ocean Discovery XPRIZE competition in 2017 and 2018. The team won the \$4M first prize. In 2022 NF supported investigations of the volcano that erupted in Tonga in February.

The total contribution by NF to GEBCO related activity since 2004 is approximately USD \$35M. The longstanding partnership with The Nippon Foundation is fundamental to much of GEBCO's work.

### **2.11.2 Seabed 2030**

Establishment of the joint NF-GEBCO Seabed 2030 project has been a major milestone for GEBCO. This is reported in a separate report and covered elsewhere in the agenda.

### **2.11.3 UNH training program**

The GEBCO-Nippon Foundation Ocean Mapping training program at UNH is in its 19<sup>th</sup> year. In addition to the six students currently at UNH, 107 scholars, from 44 countries have been through the course. Full details of the programme are provided in a separate report and covered elsewhere in the agenda.

It is timely to review the training program at UNH to ensure that it will meet future needs. We have planned to do this for some time. However the establishment of the GEBCO Subcommittee on Education and Training (SCET) could involve interaction with the program, so no action has been taken on a review. We await further progress on the SCET Terms of Reference.

### **2.11.4 Tonga volcanic eruption response**

In January 2022 Tonga was severely impacted by a tsunami and ash fall from the Hunga Tonga – Hunga Ha'apai, HTHH, volcanic eruption. A GEBCO group of Jamie McMichael Phillips, Larry Mayer, Martin Jakobsson and Robin Falconer initiated investigations of a suitable response. This led to a proposal in February to The Nippon Foundation by NIWA of New Zealand with the support of Seabed 2030. There were two parts. Firstly funding to NIWA for some extra Seabed 2030 survey work enroute and around the volcano. Secondly deployment of an unmanned surface vessel, USV, to go close to the volcano where it was too risky for RV Tangaroa to go.

Our organizing team went to the world market for USV capability. SEA-KIT Ltd of UK were the only ones who could respond in a reasonable timeframe. They offered the USV Maxlimer, the 12m vessel they had designed and built for the NF-Alumni XPRIZE competition. The vessel was freighted to Tonga (it was designed to fit in a 40ft container) and deployed from Nukualofa, 80km from HTHH. It operated for 30 days completely controlled by SEA-KIT from their premises in the UK. MBES bathymetry with an EM710 was obtained of all of the HTHH crater and some of the surrounding area. Shereen Sharma and Karolina Zwolak, alumni of the GEBCO-NF UHN training program lead the Maxlimer program planning. Other alumni remotely processed the MBES data from six locations around the world. In addition a winch lowered NOAA sourced oceanographic sensors to 300m depth. Deployments were directed in real-time by NOAA PMEL in Seattle and GNS in Wellington through SEA-KIT in UK. Hydrothermal activity was detected in the caldera which was 800m deep, having been only 250m prior to February. A full report of all the Tonga activities will be presented in the Map the Gaps symposium prior to the GGC meeting.

The RV Tangaroa Seabed 2030 activities and the RV Maxlimer deployment was fully funded by The Nippon Foundation for a total of approximately US \$1.8M. The contract was managed by NIWA. The project is an outstanding example of the technical and human resource capability The Nippon Foundation - GEBCO partnership has developed over the last 18 years.

#### **2.11.5 NF Project Management Committee status**

The NF Project Management Committee has oversight, on behalf of the GGC, of the training program at UNH and other NF funded projects; not including Seabed 2030. Current members are Robin Falconer (chair), Shin Tani, Martin Jakobsson, Hugo Montoro, Taisei Morishita, Dave Monahan and Rochelle Wigley. The advent of Seabed 2030 has changed the financial and organizational interactions between GEBCO and NF. This means that the Management Committee should be restructured. The proposal to establish a GEBCO Subcommittee on Education and Training (SCET) may affect decisions. The GEBCO governance review is also potentially relevant. We await developments on both these before acting.

#### **2.11.6 Recognition**

The GGC, on behalf of the IOC-IHO GEBCO Project, recognizes with great gratitude The Nippon Foundation for its range of partnerships with the GEBCO Project over the past 18 years. GEBCO looks forward to a continuing relationship, especially with the GEBCO-NF UNH alumni and the Nippon Foundation – GEBCO Seabed 2030 project.

#### **2.11.7 Action**

The GGC is requested to:

- a. Note the contents of this report
- b. Note that interaction with SCET is required on the UNH Training course and with the

GGC on the future status of the NF Project Management Subcommittee.

- c. Note that the total contribution of The Nippon Foundation to GEBCO related activity since 2004 is approximately USD \$35M. The longstanding partnership with The Nippon Foundation is fundamental to much of GEBCO's work.
- d. Express to The Nippon Foundation the gratitude of the GGC for the Nippon Foundation's continued support of the GEBCO Project, in particular of the UNH Training Course, and of the Nippon Foundation – GEBCO Seabed 2030 project; and
- e. Take any other action deemed appropriate.