IOC continues to lead in the area of ocean acidification through its active participation in, and support to, the Global Ocean Acidification Observing Network (GOA-ON), as well as participation in other relevant international groups such as the international Ocean Acidification international Reference User Group (OAiRUG). In the reporting period, the Commission hosted two expert group meetings to develop further the methodology for SDG indicator 14.3.1. This methodology is now openly available on the IOC website. The Inter-agency and Expert Group on SDG Indicators (SDG-IAEG) of the UN Statistical Commission agreed on the reclassification of SDG indicator 14.3.1 from Tier III to Tier II, which reflects that the indicator is considered conceptually clear, has an internationally established methodology and

The recently-formed IOC Working Group on Integrated Ocean Carbon Research (IOCR) has constituted a Scientific Steering Committee, made of experts designated by the Global Carbon Project (GCP), the International Ocean Carbon Coordinating Project (IOCCP), the Integrated Marine Biosphere Research project (IMBeR), the Surface Ocean-Lower Surface Atmosphere Study (SOLAS), WCRP/CLIVAR and IOC. The IOCR SSC has initiated the scoping of a comprehensive expert workshop on integrated ocean carbon research, sched.96

on defining requirements to one supporting the development of sustained observing networks for the biological and ecosystems EOVs, focused on capacity development, coordination, and sharing of best practice.

While requirements have been expressed in EOVs, it is in fact a structure of requirements that can be identified against information needed to deliver applications and services, key phenomena of the ocean to capture, EOVs, and the capacity of observing platforms and networks to respond, that are the core of improving the integration of GOOS. The three panels of GOOS have been working on harmonization of this, in connection also to regional revg0 G[nBT/F1 9.96 Tf1 0 0nBT/F1 9.96 Tf1 0 0 1 178.82 776.04 Tm0 g0 G -0.0178 Tc[one)]TJETQq0.00

exceptional history of contributions to the field of oceanography by Japan, and (ii) the very first lecture in the Fred Grassle Memorial Lecture Series presented by Dr Yoshihisa Shirayama of JAMSTEC.

The IODE Committee Session, as did the scientific conference, specifically addressed the way IODE will be able to contribute to the UN Decade. The IODE Committee recommended to the IOC to include, as part of preparatory process, the formulation of common guidelines/principles on flow, discovery, access, and re/use of data collected during the decade. The IODE Committee adopted a recommendation on the "Establishment of an inter-

UNESCO-IOC pilot community recognition programme that promotes tsunami hazard preparedness as an active collaboration of national and local emergency management agencies, community leaders and the public. The International Tsunami Information Center (ITIC) hosted by the NOAA National Weather Service of United States continued to play a key role in the reinforcement of capacities of key stakeholders in the Pacific Tsunami Warning and Mitigation System (PTWS), through the co-organisation of several

information meetings on

The Nippon Foundation-GEBCO Seabed 2030 project, aimed at facilitating the complete mapping

climate related issues. The key messages of the Conference were subsequently presented at the Global Climate Action Summit 2018 (13–14 September, San Francisco, USA) and Ocean Day at UNFCCC COP 24 (Katowice, Poland).

## Large Marine Ecosystem (LME) programme

In 2018, the LME:LEARN project continued to be implemented in line with objectives and the previously ap-

States

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