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***“Advancing Ocean Knowledge,
Fostering Sustainable Development:
from the Indo-Pacific to the Globe”***

Broad science agenda of IOC and WESTPAC: from supporting healthy Indo-Pacific to contributing to global sustainability

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Humankind has grown to the level at which its activities exert a strong detrimental impact on the planet and its Ocean. Ubiquitous and unprecedented environmental challenges facing the humankind require, probably for the first time in our history, a major change in attitude and management. Unlike previously, they should be based on reliable quantitative understanding of the Earth System and foresight of its predictable changes. Ocean is a part of the Earth System, and the Intergovernmental Oceanographic Commission (IOC) of UNESCO has the UN mandate to facilitate international cooperation aimed at development of capacity in ocean observations, research and related services.

Ocean health is one of the most important and difficult challenges. We need to preserve the Ocean, a common heritage of humankind, for future generations. But the fact that it is “common” creates a fundamental obstacle because we also need a common desire (agreement) to protect the ocean, common approaches, resources, true commitment and global compliance with international decisions. We are very far from that stage and it is the science that will illuminate our path to saving the Ocean. These circumstances define the importance of the IOC for the world.

In terms of climate and the ocean, the immediate task is to summarise the current knowledge in a special IPCC report on the ocean and cryosphere. This will be instrumental for adaptation and mitigation solutions and will determine gaps in knowledge. Safety of coasts and islands is another major concern that requires solutions ensuring sustainability of warning systems, their increased efficiency and multi-hazard scope. We need to make a large step forward in understanding the functioning of ocean ecosystems, including their evolution under multiple stressors. The development of science will be synergistic with accelerated progress in related technologies and they both will contribute to expansion of the ocean economics. Importantly, each of these areas depends on all others, which calls for a dedicated approach. Maritime special planning, coastal zone management, marine protected areas, all based on ecosystem science and governed using new agreed legal regimes, show significant promise. The Agenda 2030 provides a global international framework for addressing the related challenges and includes a dedicated Sustainable Development Goal on the Ocean (SDG 14), which is focussed on Ocean health and explicitly recognises the role of IOC.

While approaches and decisions can be global or regional, actions and implementation agreements will almost always be national and local. This determines the roles of regional

organizations such as WESTPAC. WESTPAC has a unique role because of the leading position of its Member States in ocean sciences and observations. Environmental and development challenges of the WESTPAC waters are also enormous, because this area is one the most biologically productive in the Ocean and as well one of the most stressed. That is why WESTPAC sees itself and it seen by IOC as a key spawning area for ocean ecosystem sustainability and the research and observations that underpin it.