**Identifying priorities for global monitoring of marine biology and ecosystems**

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The Biology and Ecosystems Panel of GOOS aims to develop and coordinate efforts in the implementation of a sustained and targeted global ocean observation system driven by societal needs to include biological and ecosystem Essential Ocean Variables (EOVs). This system will answer relevant scientific and societal questions, and facilitate critical policy development and management decision-making on ocean and coastal resource sustainability and health.

Biological and ecosystems EOVs must support management actions, comply with international conventions, and help predict how marine biodiversity and ecosystems will change in the future under increasing anthropogenic pressures. To identify biological and ecosystem EOVs, we are adapting the Framework for Ocean Observing to a DPSIR model (Drivers-Pressures-State-Impact-Response). To identify societal drivers and pressures requiring sustained global ocean observations, we reviewed the goals and societal issues addressed by nearly 30 major international bodies/conventions. Main drivers identified in these conventions were the need of: knowledge (science/data access), development (sustainable economic growth), conservation (biodiversity and ecosystems), sustainable use (biodiversity and resources), environmental quality (health), capacity building (technology transfer), food security, threat prevention and impact mitigation (to different pressures), management improvement (integrate ecosystem approach). The main pressures identified were climate change, ocean acidification, extreme weather events, overfishing/ overexploitation, pollution/ eutrophication, mining, solid wastes.

To establish the current state of ocean observation of biological and ecosystem variables, we will survey the major global and large-scale regional observing networks or programs, to learn the extent in terms of geographic area, temporal scale, spatial scale, variables measured, availability and readiness of data that they are covering.

By following this process, the GOOS BioEco Panel will be able to develop a global monitoring program that is globally relevant; accessible to participants from developing, emerging and developed economies; build on and facilitate existing structures and groups; and scientifically transparent.