

3-5 JUNE 2024

COSTA RICA

CISOS 24

CONGRESS OF INTEGRATION OF KNOWLEDGE FOR A SUSTAINABLE OCEAN

IN COLLABORATION WITH: IMMERSED IN CHANGE

Cora Ferro Calabrese Institutional Auditorium, Universidad Nacional,
San Pablo, Heredia, Costa Rica

CISOS24 DECLARATION

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DECLARATION ON THE CONGRESS OF INTEGRATION
OF KNOWLEDGE FOR A SUSTAINABLE OCEAN 2024

Between June 3 and 6, 2024, more than 500 attendees from various countries and regions gathered at the Cora Ferro Calabrese Institutional Auditorium of the Universidad Nacional, Heredia, Costa Rica, to participate in the Integration of Knowledge for a Sustainable Ocean Congress activities and discuss four main themes and potential solutions to the challenges facing the ocean and its sustainability.

Researchers, faculty members, students, professionals, community leaders, non-governmental organizations, state agencies, private companies, and government representatives from around 20 countries in the Americas, Europe, Asia, and Africa participated in identifying and discussing the priorities to be considered in academia to improve and promote the conditions for knowledge generation and the development of ocean sciences to contribute to informed decision-making.

We, the organizers of the Congress of Integration of Knowledge for a Sustainable Ocean (CISOS24, by its Spanish acronym) and the President of the Universidad Nacional, Francisco González-Alvarado, who is also the Commissioner of the National Council of Rectors according to Agreement CNR-225-2024, HEREBY DECLARE that it is essential to engage the scientific and academic communities in decision-making at all levels of life in society.

We propose that the declaration of the CISOS24: Scientific-Academic Forum: Congress of Integration of Knowledge for a Sustainable Ocean be framed under the following thematic areas: **Governance for Sustainability and Law of the Sea, Ocean Risks and Monitoring, Ocean Health and Productivity, and An Inspiring Ocean.**

Governance for Sustainability and Law of the Sea:

- Ocean governance should be multilevel and multi-stakeholder, understood from an international perspective to the extent that the ocean is a common good, recognizing the importance of each region's particularities.

- Blue diplomacy connects the scientific and academic communities and the political sphere from a practical standpoint. This creates opportunities to discuss the challenges of justly managing and preserving the ocean for future generations.

- It is understood that international cooperation, in combination with traditional, scientific, and blue diplomacy, supported by collaborative networks, contributes to better governance where the ocean serves as a space of convergence of diverse local, national, international, and transnational interests and stakeholders.
- Establishing a governing body to improve marine governance in Costa Rica through integrated management processes with the active participation of all societal stakeholders is urgent. This would foster similar practices in Central America and other regions.
- The academy is urged to become involved in training processes that respond to the needs of different sectors, such as civil society, with particular emphasis on children and adolescents, and non-governmental organizations, by integrating diverse knowledge. To this end, investing resources in research with a social perspective and respect for marine ecosystems is fundamental.
- Governments worldwide are encouraged to integrate public policies in which academic, community, and political aspects converge in a triangular manner to address the issues of marine coastal populations.
- It is crucial to implement and adhere to international instruments and develop national regulatory frameworks to ensure the sustainable use of marine resources while avoiding overexploitation and pollution. This aims to establish interconnected and international marine conservation areas to manage and quantify the impact on marine life efficiently.
- The principles and objectives of the "Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction " must be acknowledged and respected.

Ocean Risk and Monitoring:

- National and local governments should work jointly with the academic and scientific sectors to engage communities in creating emergency plans, evacuation routes, contingency plans, and other measures to safeguard coastal communities vulnerable to climate change.

- It is essential to promote the dissemination of research findings among civil society, local and national governments, and international advisory bodies to work together on measures to prevent and mitigate the risks of climate change and extreme events in the medium and long term.
- It is necessary to strengthen the political participation and impact of the scientific and academic sectors so that the data, models, and studies conducted become incentives to adopt better public policies and planning actions from a more comprehensive perspective of the coastal system.
- Prioritizing investment in cutting-edge technology for ocean monitoring and risk assessment research is vital. The science resulting from the research will be the foundation for making decisions aimed at the common good of humanity.
- Coastal areas are significant for countries' economies. Oceanographic monitoring aimed at sustainable decision-making that benefits humans and respects the ocean in socio-economic activities such as mariculture, coastal infrastructure, and navigation, among others, is crucial. The development of coastal areas should be aligned with the principles of integrated management.
- To understand the dynamics of the oceans, global numerical models for coastal and climate approaches must be developed, implemented, and used in decision-making regarding adaptation to variability and climate change.
- Strengthening coastal communities' tsunami preparedness and resilience through education, planning, training, and the empowerment of local governments is essential.
- Improve and maintain real-time access to satellite data through collaboration with space agencies to enhance the accuracy and resolution of oceanic data. This will benefit the productive, community, and conservation sectors and contribute to resilience against natural disasters.
- The infrastructure and expanded use of fiber optics in various fields, such as marine life and urban activities, would provide valuable data for the scientific community.

- It is essential to develop monitoring protocols for marine flora and fauna while respecting their lives and without harming the ecosystems, obtaining comparable and reliable data over time. It is also essential to build DNA databases of these organisms to improve their detection in the environment.

Ocean Health and Productivity:

- Ocean health is vital for human life and coastal and island communities' social, economic, and cultural development. Therefore, it should be a priority for governments to focus their policies on monitoring and promoting ocean health.
- Geophysical dynamics affect the biological and physical dynamics that nourish the ocean and coasts, impacting the health and productivity of the ocean. Specialized scientific knowledge helps us understand these phenomena and predict their effects, thus contributing to decision-making and adopting practices for preserving and restoring marine coastal ecosystems.
- It is important to promote research on identifying Harmful Algal Blooms (Red tide) and their relationship with environmental variables and to implement monitoring programs.
- A comprehensive approach to marine pollution, its origin, and its causes must be undertaken. Research on the effects of emerging pollutants, persistent pollutants, and microplastics in coastal marine areas and their impact on marine life and human health is essential.
- Recognizing the importance of science in developing and innovating water quality monitoring to prevent harmful effects on human health, ecosystem health, and economic losses is fundamental.
- National collaborations between academic, private, and public sectors and international cooperation to generate knowledge are necessary to comprehensively understand phenomena, their consequences, and relevant ocean health and production actions.
- Protecting the marine environment and resources and upholding countries' sovereignty over their exclusive economic zones is crucial. This requires resources,

infrastructure, and capacity-building for government personnel, suppliers of goods and services in the national region, and the public. The academic and scientific sectors play a vital role in capacity-building.

- There should be mediation between small-scale or subsistence artisanal fishing carried out by coastal communities and Indigenous peoples and that of large fishing industries, as these industries tend to alter the natural dynamics of species, which consequently affects coastal fishing.
- Developing mariculture of potential species through an environmental management approach that also respects the carrying capacity of marine and coastal environments should be encouraged.
- The aim is to increase research and implementation of clean technologies and efficient processes to reduce emissions from port activities and land and sea transport and increase research on harnessing ocean power for generating alternative energies.
- Infrastructure and knowledge must be expanded for management and better use of open data in decision-making regarding pollution, acidification, and ocean changes affecting health and productivity.

An Inspiring Ocean:

- Citizen participation in research processes should be promoted; that is, citizen science should be encouraged.
- Balance must be maintained between conservation, resource use, and the human rights of all people who benefit from the ocean by promoting non-extractive practices while ensuring a dignified life for all who rely on ocean resources for their livelihoods.
- Protecting and promoting natural marine biodiversity and fostering research in the deep ocean through international collaboration is indispensable.
- Ocean tourism development should be sustainable and regenerative, oriented toward benefiting local communities and the environment.

- Research, training, and observation, the pillars of continuous improvement in marine biotechnology, should be promoted.
- Adequate laboratory equipment is essential for the development of experimental research projects.
- Organizing conferences and identifying other appropriate means to inform the social, productive, and political sectors of the methodologies and findings is part of knowledge direct transfer and exchange.
- To benefit a sustainable economy, the relationship between companies and the productive sector regarding research and innovation must be emphasized and enhanced.
- In research and industry, promoting green chemistry and sustainable production is critical to developing marine biotechnologies.

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