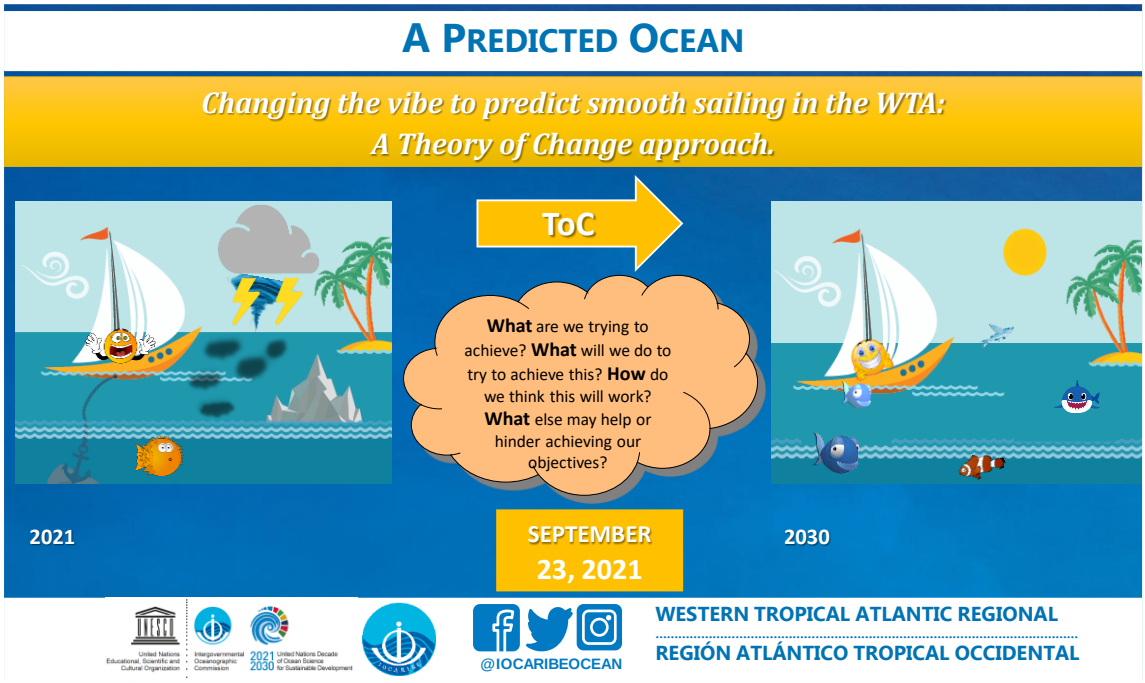

Tropical Americas Region - A Predicted Ocean, Problem Tree (Working Group 3)

Purpose

The United Nations Decade of Ocean Science for Sustainable Development (2021-2030) (**The Ocean Decade**) has the ambition to trigger a revolution in ocean science that will take us from 'the ocean we have' to 'the ocean we want'. Our society needs a clean, resilient, productive, safe, well-observed, documented, and predicted ocean. The Decade has 7 societal outcomes, namely a clean ocean, healthy and resilient ocean, a predictable ocean, a safe ocean, a sustainably harvested ocean, a transparent ocean, and an inspiring and engaging ocean. In order to realize the long-term goal of the *A Predicted Ocean* societal outcome in the Tropical Americas (Region (TAR), a predicted ocean where society in the TAR understands and can react to changing ocean condition by 2030, we will be using the Theory of Change (ToC) program design approach. So how can we bring about the change that will lead to investing in resources that can address the current shortcomings in ocean observations and modeling and enable sustainable and systematic ocean observations needed to document ocean change and initialize ocean system models?

After the Regional Workshop for the Western Tropical Atlantic, held in April 2020, the identified action and challenges to address the Ocean Predict – Societal Outcome are:

- **Action**
  A predicted ocean whereby society has the capacity to understand current and future ocean conditions, forecast their change and impact on human wellbeing and livelihoods.
- **Challenges**
  To Produce, Integrate and Communicate knowledge and high-quality ocean and coastal data, information, and services that meet the safety, economic, and stewardship needs of the region sustain long-term high-quality observations of marine and coastal environments including human interactions and deliver forecast and decision-support tools that help fulfil the multiple sustainable development goals.

The Theory of Change is a causal framework about how and why a change process will take place in a particular context (under specific circumstances). In constructing a ToC process there are several steps that need to be taken beforehand. The first step is to construct a Problem Tree, in order to get an idea on the current situation.

The core problem to be addressed is as follows: *Society in the TAR has insufficient understanding of the vast volume of the regional sea and cannot react to changing sea conditions efficiently.*

From this core problem we should speculate about the factors contributing to the effect – as a basis, we have put three main factors, where other factors branch out.
The main factors in the Problem Tree are:

1. The Essential Ocean Variables in TAR are inadequately observed;
2. The TAR is inadequately mapped and observed, considering an Earth Observation Approach;
3. In the TAR climate change impacts on established and emerging marine, maritime industries, and ecosystems are poorly understood.

Outcomes

A co-designed Problem Tree for A Predicted Ocean in the TAR region.

WIIFM (what's in it for me)

- Participants will be introduced to the ToC approaches and principles and will be guided to developing a clear and thoughtful framing of the changes we want to make in the TAR for a successful *A Predicted Ocean* outcome.
- Participants will actively aid in conducting the first step of the ToC Process, namely co-designing a Problem Tree for the outcome A Predicted Ocean in the TAR.
- Participants will actively work and gain experience using the Miro platform for co-designing.
- The workshop will further highlight the importance of operational oceanography[1], ocean observations and forecasts to end-users whose activities or businesses benefit from ocean data and information in terms of better scientific understanding of the ocean, improved safety, economic efficiency gains or more effective regulation of ocean use, and the protection of the ocean environment. Participants will realize that the cost of obtaining and using ocean observations is almost certainly only a small percentage of the value of the benefits obtained.
- Participants will be introduced to global programs as the EU Copernicus Marine Services, and regional programs such as IOCARIBE-GOOS and IHO-MACHC, and understand that creating an enhancement of an accurate and sustain ocean observation system and ocean bed based bathymetric map of the region is essential for the sustainable use of our ocean, and will greatly help to achieve SDG 14 – Life Below Water, and contribute to other related SDGs (e.g., Climate Action SDG13, Zero Hunger SDG2).

[1] Operational oceanography is providing to many users' solutions (services and products) dealing with several SDGs and societal and scientific challenges. Oceanographic products from Global and regional and downscaled sub-regional, national forecasting services are transformed and provided to users, private companies, public users and stakeholders and citizens through adding-value chains (down streaming) that consider development of specific solutions, advanced visualization, usage of multi-channel technological platforms, specific models, and algorithms.

Engagement

To develop a Problem Tree, we need to:

1. Carefully articulate the core problem. The core problem has been defined already through past workshops in the TAR. The participants could add comments reviewing the way to articulate the core problem and improving the tree flow.
2. Comment about the factors contributing to the effect. At this step, participants can add sticky notes and comments on the Miro Template. The WG3 Petit Committee has added some factors as examples on the Miro Platform. Adding sticky notes is as easy as clicking 'n' on your keyboard, and adding comments is as easy as clicking 'c' on your keyboard.
3. When adding factors, think about existing research on causal linkages and positioning of the factor.

Roles & Responsibilities

The Intergovernmental Oceanographic Commission, IOC of UNESCO - IOCARIBE secretariat will be responsible for providing the links to the Miro templates. The Miro Template will be made by D&I Business Support in conjunction with the WG3 Organizing (Technical) Committee. The Problem Tree Miro template will remain open for participants for a period of seven days. After seven days the WG3 Organizing (Technical) Committee will review the concept ProblemTree based on the Miro inputs by the participants.