



## INTERACTIVE DIALOGUE 3 - **MINIMIZING AND ADDRESSING OCEAN ACIDIFICATION, DEOXYGENATION AND OCEAN WARMING.**

June 29, 2022, Altice Arena, Lisbon Portugal

**Intervention from Ms. Jessie Turner,  
Director of the International Alliance to Combat Ocean Acidification**



Hello Honorable Chairs, Distinguished Panelists and Delegates.

My name is Jessie Turner, and I am Secretariat for the International Alliance to Combat Ocean Acidification—which brings together governments and organizations from across the globe dedicated to taking urgent action to protect coastal communities and livelihoods from the threat of OA and other climate-ocean impacts.

Special Envoy Kerry, we are beyond honored to have the United States officially joining the OA Alliance—and it's especially fitting to be here with you today as the Alliance was launched at the 2016 Our Ocean Conference, which of course was hosted under your leadership.

We were created by subnational governments in direct response to some of the first observed impacts of OA on oyster hatchery production across the North American West Coast.

Today, we are more than 120 members across 22 countries, representing a diversity of national, state, municipal, and sovereign Tribal, indigenous, and First Nation governments along with many dedicated affiliate partners like NGOs, seafood industry leaders, and local academia.

**Together, members are:**

- Elevating urgency and ambition for climate action.
- Integrating ocean across climate commitments and
- Translating knowledge into policy actions.

As we are discussing today in this session, projections across IPCC reports tell us that ocean acidification, warming and deoxygenation are going to increase.



What we **don't yet** have complete regional information for is: at what rates and scales this will occur in discrete coastal areas; and how key species (both calcifiers and non-calcifiers) are going to react...if they will have time to adapt and build resilience or develop a tolerance to these changes.

However, when talking about these issues we must be clear that while we don't know everything, **we know enough to act.**

We know enough to begin prioritizing and exploring the key questions that are most important to policy makers, seafood industries and coastal communities.

However, we've learned that simply asking our members something like, "how are you going to address OA in your region?" is simply just too big of a question.

So we have tried to condense relevant actions down into more understandable components:

**First, we need to urgently and aggressively reduce greenhouse gas and carbon emissions. Full stop.**

Additionally, there are many other things governments and non-government actors can—and should be doing now—that will allow for increased adaptation and resilience of vulnerable ecosystems and species....and significantly, the human communities that depend on them most.

Okay, that sounds great. But how do we prioritize?

- We only have so much **time and money** to invest, where do we begin?
- How do we know which species or ecosystems are **most at risk** and further, **what is their significance in my area?**
- Are there **geographic locations /coastal areas/ or industries** that are more vulnerable to ocean changes than others?
- Who can help outline research that will have **practical applicability and inform management?**

Well...I am glad you asked.

## **The best place to begin, in our opinion, is by developing a regional understanding of trends and impacts in the form of a vulnerability assessment.**

By accounting for increasing acidification and cumulative climate- ocean impacts, governments can more accurately assess the economic, cultural and social vulnerabilities directly caused by carbon emissions and strategize actions that support food security, sovereignty and increase resilience of resources. For example:

Partners in the Pacific Islands Region developed an OA vulnerability assessment in in 2015 which has informed subsequent activities.

U.S. NOAA has commissioned a national OA vulnerability assessment.

And an innovative project occurring along the Pacific coast in north America is integrating a social-ecological approach; ensuring that species identified for research are those most important to place based Tribal communities whether economically, culturally or because of the sovereign rights they have to seafood harvest.

## **Secondly, we need to prioritize local research for management purposes—and at different scales.**

This means:

- Developing regional baselines.
- Identifying areas of refugia—or alternatively—hot spots that may be more vulnerable or face more extreme terrestrial pressures.
- Exploring the impact of local contributions to coastal acidification and deoxygenation.
- Conducting species-specific research to determine vulnerability and adaptation potential of keystone resources.

The State of California has commissioned models which are determining the impact of local terrestrial contributions to this problem. This helps the state understand specific locations that will be most impaired and forecast out habitat availability of key ecosystems, which will aid management and regulations.

The IAEA has an ongoing coordinated research project to assess the impacts of ocean acidification on key seafood species like oysters, mussels, shrimps, lobsters and/or some fin fish) across 17 countries.

## **Thirdly, we must begin deploying interventions and adaptation strategies across sectors and scales.**

- This includes nature-based solutions—including shell dissolution techniques and restoration of mangrove, seagrass, salt marsh and kelp forest.
- Exploring aquaculture techniques that aim to predict and mitigate corrosive or harmful conditions.
- Reducing land-based pollution, including nitrogen and wastewater inputs.

## **Fourthly, we need to Integrate policies and leverage existing frameworks.**

If you are a coastal state and your climate mitigation and adaptation strategies do not adequately include ocean change knowledge and response—you are probably missing something important.

Ideally, we want to help government and other stakeholders see how existing efforts could be leveraged or expanded to incorporate a more sustained focus on OA and climate-ocean change:

- Most governments already have a:
- Climate action plan or adaptation plan (NAPs/ JNAPs)
- National ocean or shoreline management policy (NOPs)
- Marine spatial plans or MPAs
- Coral reef conservation initiatives and
- Water quality monitoring

## **How can OA information, science and response be included within these?**

How does ocean acidification relate to **water quality, stormwater, wastewater, other sources of pollution or land-based run-off?**

## **Finally, we need to be funding, partnering, and sustaining this work.**

Less than 2% of international climate adaptation funding is applied towards ocean and coastal adaptation projects. Internationally, 70% of OA knowledge generation is conducted across North American and European countries. And only 1.6% of official development assistance supports ocean economy.

At present, this is inadequate and does not reflect the level of severity and harm that climate change is posing to ocean resources.

Additionally, this demonstrates vastly unequal distribution of climate-ocean change science funding—resulting in limited capacity where needed most.

**The good news is...we have lots of existing frameworks across different scales of governance that can be leveraged to take up this work.**

## **At the UN we have multiple frameworks relevant to addressing climate-ocean change.**

- Obviously, SDG 14.3 aims to advance OA action and has established a common methodology for reporting measurements.
- As of last year – 35 countries submitted data and information.
- The newly established UNFCCC Ocean and Climate Dialogue aims to strengthen ocean mitigation and adaptation strategies across the Convention with a specific focus on NDCs and NAPs.
- Climate adaptation funding can—and must be explored—to support this work. This means GCF, GEF, development banks, UN environment and development programs.
- Mandates through UNCLOS include an emphasis on climate responsive fisheries management and call for reducing harmful marine pollutions including atmospheric pollutions.

***Bottom line: Mandates already exist to accelerate this work.***



We can utilize regional partnerships:

- The Global Ocean Acidification Observing Network (GOA-ON) supports a network of nine regional hubs engaged in building capacity for monitoring and research.
- GOA-ON has led the development of the UN Decade endorsed Ocean Acidification Research for Sustainability (OARS) Programme.
- Entities like the Arctic Council, OSPAR and Regional Fisheries Management Organizations have OA monitoring priorities that can be leveraged.
- Bodies like the Western Indian Ocean Marine Science Association (WIOMSA), The Pacific Community (SPC), and the Secretariat of the Pacific Regional Environment Programme (SPREP) are prioritizing discrete projects at local scales, and well aligned to provide decision makers and communities with information they can use.

***Bottom line: Scientists and government must co-create science priorities and useful applications of regional information together.***

### **At the local level—we can accelerate policy integration and invest in pilot projects:**

In addition to national governments, state, cities, Tribal/ indigenous and First Nation governments around the world are a significant part of climate action, policy setting and innovate resilience strategies.

We've talked briefly about reducing land-based pollutions and nature-based solutions, but I want to add a few more.

We are seeing pilot projects that:

- Anticipate and buffer corrosive seawater in shellfish hatcheries.
- Co-locate marine vegetation near sensitive calcifying organisms to raise the pH and provide more suitable conditions for growth.
- Enhance Marine Spatial Planning... and broadly marine management decisions... with multi-stressor/ cumulative impact assessment tools like Symphony which was created to support Sweden's MSP process or World Resources Institute's Ocean Data Watch Platform.
- The State of Oregon is creating a fisherman's App which is helping to collect and forecast temperature, salinity, pH and dissolved oxygen content for Oregon crabbers to utilize and better navigate their industry practices.

***Bottom line: Asking the right questions can shape government response and management levers. Discrete projects can directly support marine industries and communities.***

The best news—however—is that this community of practitioners is full of leaders who are showing us that increased cooperation and ambition is possible—indeed essential—as we define our newer world in this decade.

Together we must continue increasing ambition for climate action and transforming planning and response to climate-ocean change.

*(PROCEED TO DIALOGUE WITH INTERVENTIONS FROM THE FLOOR)*



## CLOSING REMARKS:

If there's one thing I'd like to share from our perspective working with governments and civil society on this issue, it's that climate change drivers and impacts—and therefore climate-ocean change drivers and impacts—must always be seen through the lens of climate justice, and in this way is absolutely a moral imperative.

**In this context, it's important to be clear that SDG 14.3 is not just about enhancing ocean observation...but rather, is a necessary part of adequate and equitable climate preparedness and adaptation.**

And a final note of optimism I'd like to share, from my experience trying to engage governments and civil society on these issues.

I genuinely think inaction on climate-ocean change is not an issue of “don't care”... The biggest obstacle, in my experience, to the “action taking” aspect of this interactive dialogue is communication. As a non-scientist myself, the complexity of climate-related changing ocean conditions can be overwhelming and it's easy to feel (pun intended) out of your depth.

Therefore, it's important that we clearly communicate not just the primary causes of ocean acidification, warming and deoxygenation, but also the myriad options for mitigation, preparedness, and response. And if we do that, I am confident more people (both from governments and civil society at all scales) will be ready and able to engage with us and see more pathways for action.



INTERNATIONAL ALLIANCE TO  
COMBAT OCEAN ACIDIFICATION