



Intergovernmental  
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Commission



2021 United Nations Decade  
2030 of Ocean Science  
for Sustainable Development



WESTERN TROPICAL ATLANTIC REGION

REGIÓN ATLÁNTICO TROPICAL OCCIDENTAL

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# A Predicted Ocean The Tsunami Hazard

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*One Planet, One Ocean / Un Planeta, Un Océano / Une planète, un océan*

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# TSUNAMI HAZARD – WHAT ARE THE ULTIMATE GOALS

- **Save Lives** with the Following Steps
  - Hazard is Known
  - Threatened Communities are Aware, Educated, and Prepared
  - Warnings are Timely and Accurate
  - Warnings are Rapidly and Comprehensively Disseminated
  - Warnings are Understood and Actionable
  - Response to Warnings is Rapid and Effective
- **Reduce Property Damage** – Especially to Critical Infrastructure
  - Potential Tsunami Impacts are Known
  - Critical Infrastructure is Sited Out of Inundation Zones or Otherwise Protected
- **Institutionalize** - Significant tsunamis are rare events for any particular coast. All protective measures should be institutionalized to ensure long-term readiness.

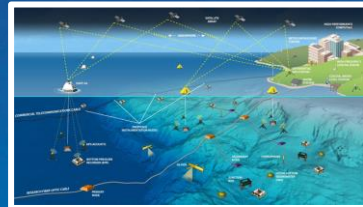
# IOC TSUNAMI DECADE PROGRAMME – SO FAR

## THE PROBLEM

- The deadliest **tsunamis strike fast**
- Tsunami alerts are issued within 5 minutes, but since they are usually based on preliminary seismic analysis alone large uncertainties exist and thus risk of ...  
**Over Warning ... Under Warning ... NO Warning!!**
- Most coastal communities are not ready to respond and as a consequence .....  
**People Die**

## THE PROPOSAL

- **Increase direct tsunami observations** by integrating more sensors from the deep ocean, land and sky - Positively detect and then forecast the tsunami faster and more accurately
- **All coastal communities get Tsunami Ready** – people will be warned and know what to do when seconds count



# PROPOSAL ELEMENTS

- **Increase Direct Tsunami Observations** for faster more accurate warnings
  - Ocean-bottom pressure sensors with buoy data relay
  - Bottom pressure sensors on commercial undersea telecommunication cables
  - Dedicated ocean-bottom cabled observatories with pressure sensors
  - Coastal sea-level gauges
  - GNSS buoys
  - Coastal radars
- **Tsunami-Ready Recognition** for 100% of vulnerable coastal communities
  - Sources Identified → Scenarios Modeled → Inundation Forecasts → Evacuation Maps
  - Routine Community Outreach Efforts
  - Effective Tsunami Warning Dissemination
  - Regular Exercises with Communication Tests
  - Recognition must be renewed every few years (institutionalization)



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MUCHAS GRACIAS

THANK YOU

MERCI BEAUCOUP

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