AIR CENTRE

ATLANTIC INTERNATIONAL RESEARCH CENTRE

The AIR Centre: a framework for scientific and technological collaboration across and along the Atlantic Ocean

Jose Luiz Moutinho, Samuel Djavidnia

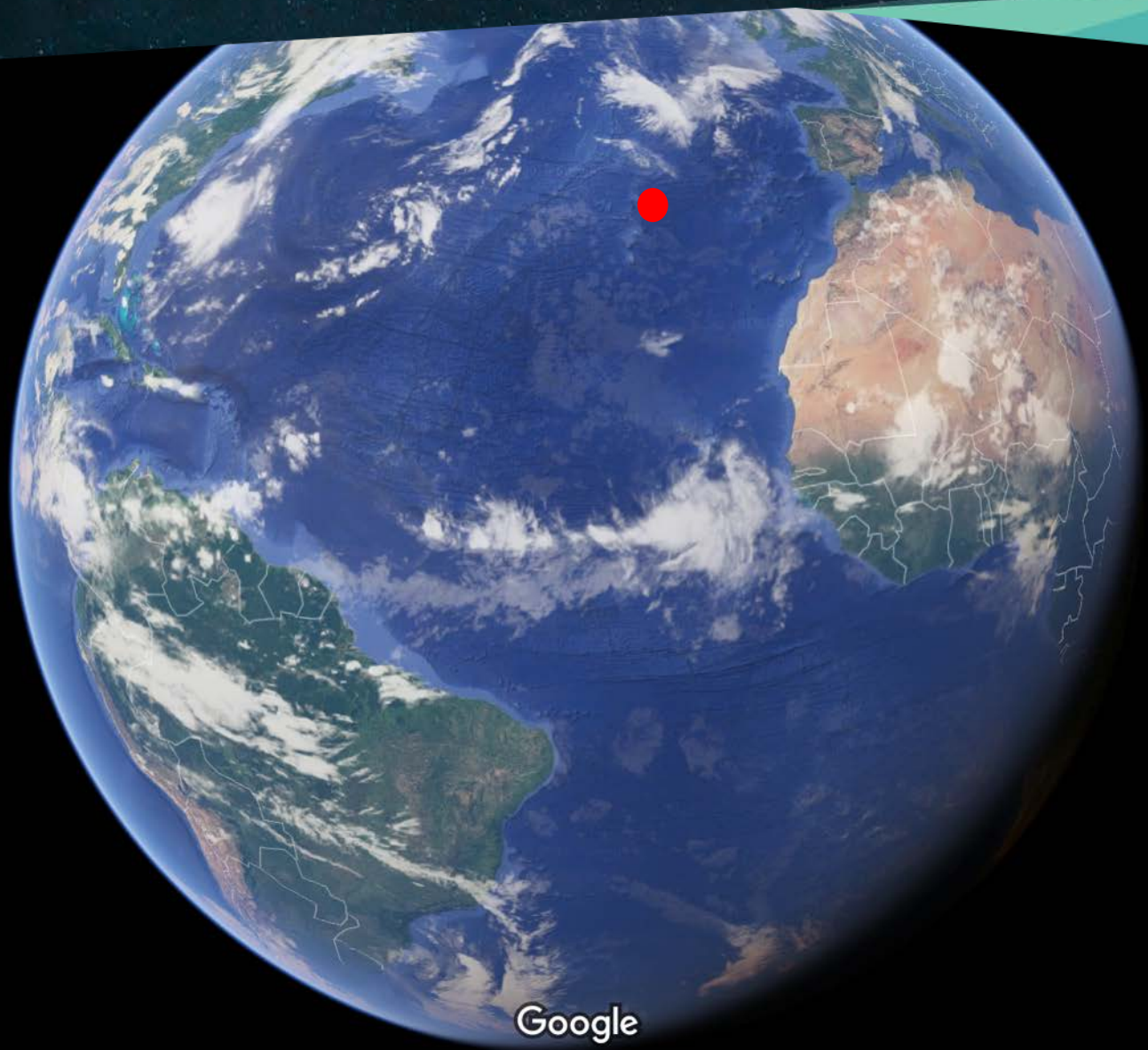
Atlantic from Space Workshop, Southampton, January 23-25, 2019

AIR Centre / AD AIR Centre
Who are we?

- Atlantic International Research Centre (AIR Centre) is the outcome of a long process of scientific diplomacy: Atlantic Interactions
- Association for the Development of the AIR Centre (AD AIR Centre) is a Portuguese not for profit association based on Terceira Island, created under Portuguese law.

Headquarters

Casa da Roda, Praia da Vitoria, Ilha Terceira, Azores



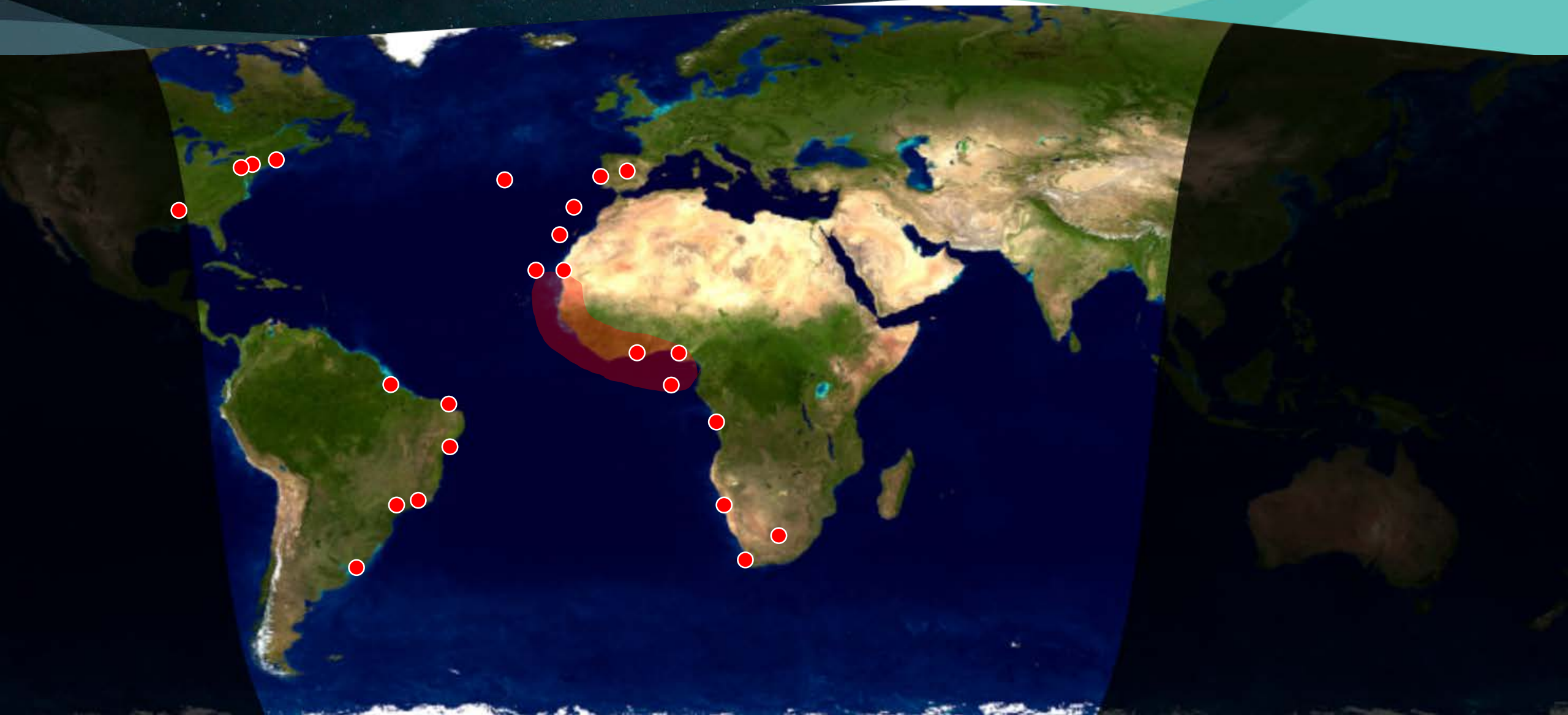
Countries Involved

Core and associated countries

AIR CENTRE

Network of Affiliated Institutions

Academia, industry and government



Las Palmas de Gran Canaria
MoUs signed

UNITED NATIONS
Office for Outer Space Affairs

MBON
Marine Biodiversity Observation Network

UFRJ
UNIVERSIDADE DO BRASIL

GOVERNO DO ESTADO DO CEARÁ
Secretaria da Ciência, Tecnologia e Educação Superior

INPE

GEO GROUP ON EARTH OBSERVATIONS

BLUE PLANET
Oceans and Society

LifeWatch

PennState

Agreements under negotiation

MoUs and LoIs

UNIVERSITY OF GHANA

UNAM
UNIVERSITY OF NAMIBIA

hidrográfico
marinha • portugal

Centro Tecnológico Nacional
MINISTÉRIO DO ENSINO SUPERIOR, CIÊNCIA, TECNOLOGIA E INOVAÇÃO

science & technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

CSIR
our future through science

Main areas of interest
Convergence is key

Marine Resources & Biodiversity

Clean and Healthy Oceans

From Deep Sea to Outer Space

Mitigation, Adaptation to Climate Change

Renewable Offshore Energies

Data Science, Deep Learning

Infrastructures, Capacity Building, Knowledge for All

Focus on societal impacts

National priorities aligned with global challenges

Emphasis on capacity, institution building

Workshops, fellowships, mobility of researchers

AIR CENTRE

ASHESI

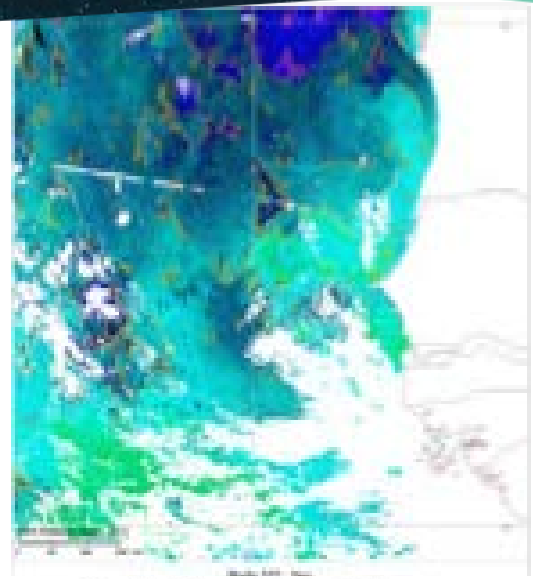
PennState

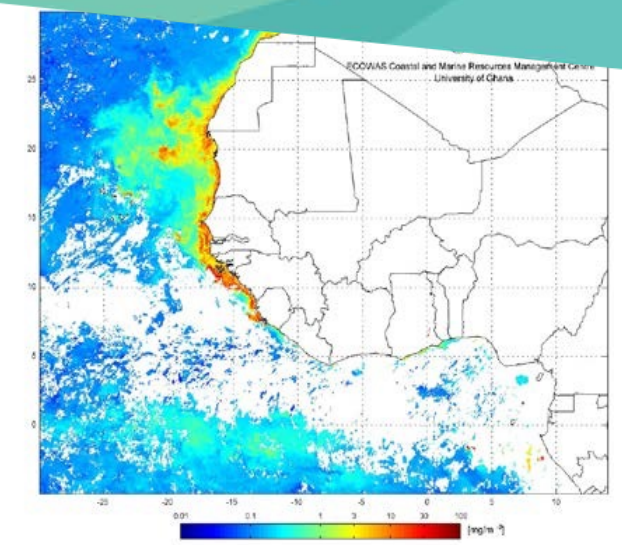
Workshop on Ocean and Coastal Information
Macaronesia + Sao Tome and Principe

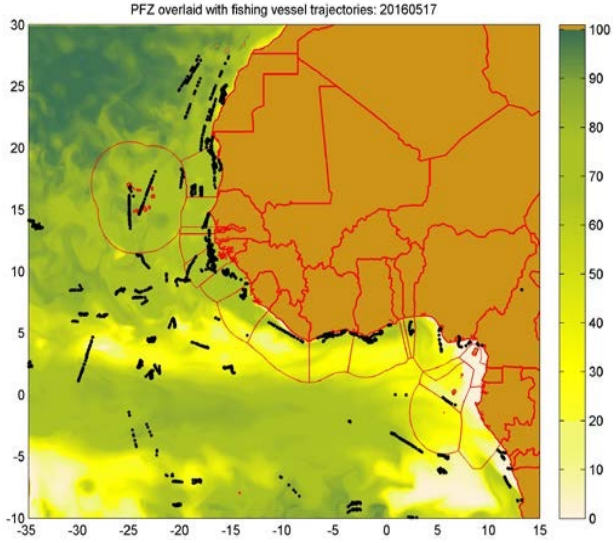
Preliminary meeting at Faial, Azores, October 29, 2018

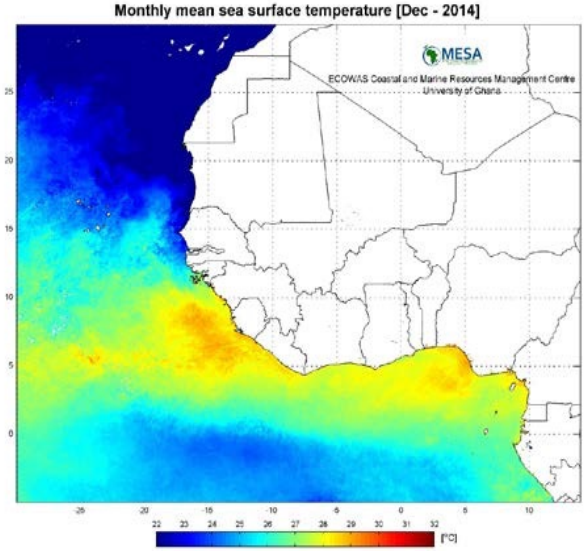
Preliminary meetings at Las Palmas de Gran Canaria, November 15, 2018

Leveraging existing applications, services
ECOWAS MESA



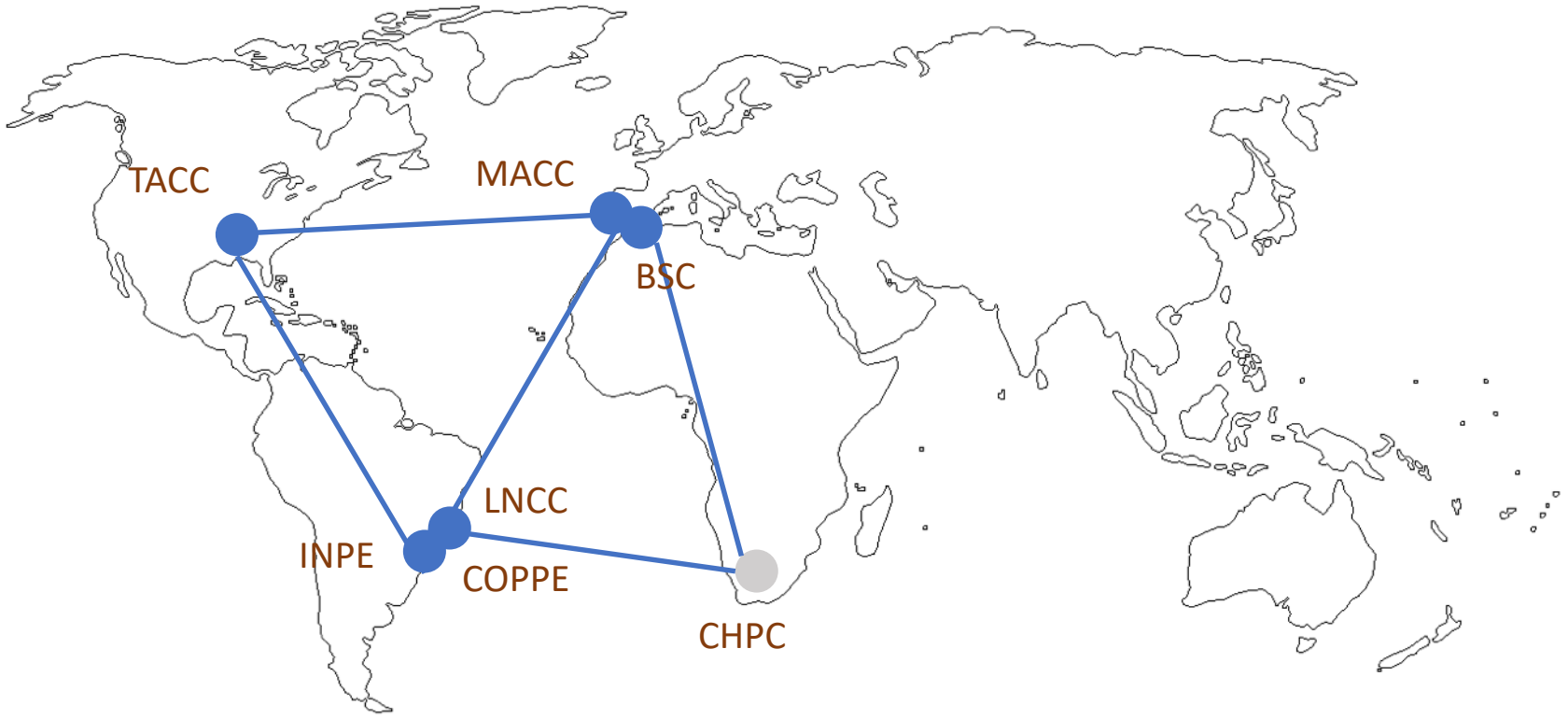




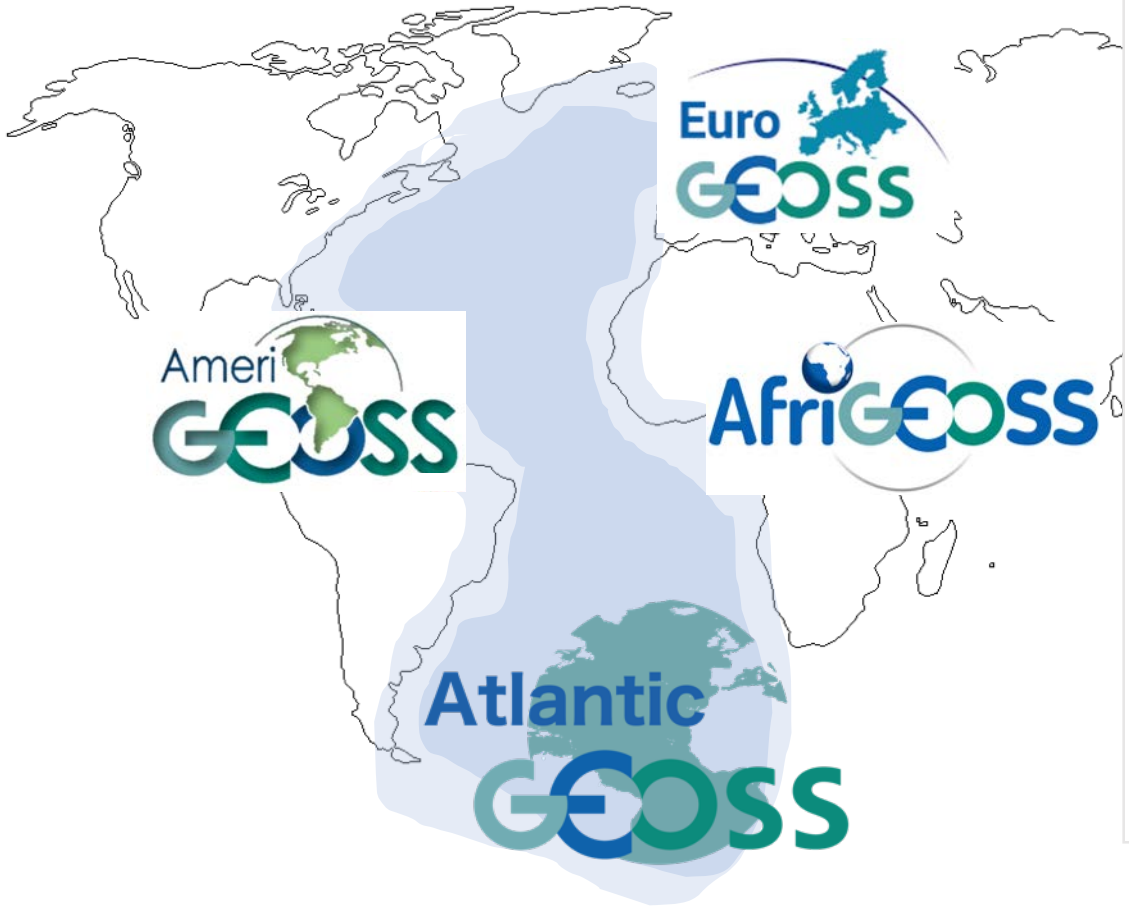


Courtesy of MESA/Kwame Adu Agyekum, ECOWAS Coastal & Marine Resources Management Centre

AIR_DataNET
Global Data processing



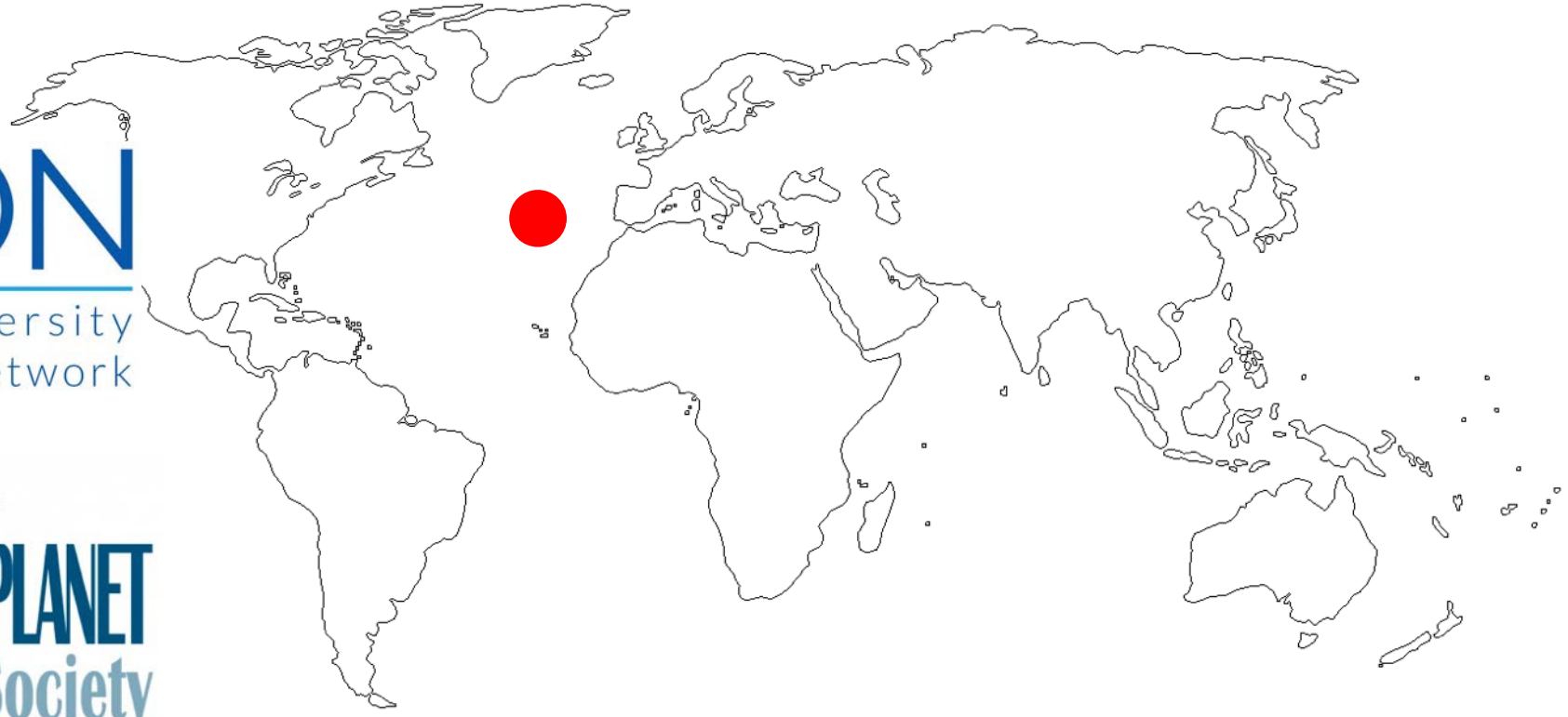
AtlanticGEOSS
Ocean- and coastal-based data



- Curate data for Ocean and Coasts
- Serve as a test bed and a tool for the coordination for EO All-Atlantic initiatives
- Gather user needs taking into account local / national capacities
- Develop ocean-or coastal-related products for decision makers and end user

GEO MBON Secretariat

Geo Blue Planet Biodiversity Thematic Node



Envolving approach on EO
Partnerships, leveraging existing

- Partnering with global/regional actors
- Participating in global/regional networks
- Understanding user needs
- Supporting the integration of satellite imagery, in-situ observation data through assimilative, predictive numerical models
- Stimulating new sensing technologies and methods
- Fostering cutting-edge data science: AI, Deep Learning
- Deploying new satellite constellations
- Promoting capacity and institution building
- Providing, facilitating new services and products
- Foster policies for resource economics and service value

Typical collaboration framework
Bottom-up approach with strong Top-down support

Definition of high priority topics	Countries / affiliated organizations and AIR Centre
Identification of key needs/requirements	AIR Centre and international stakeholders
Elaboration of the initiative	Countries / affiliated organizations and AIR Centre
Implementation of the activities	Industry / research organizations
Service Fruition	User communities
Impact evaluation (feedback loop)	AIR Centre and end users

Outcome of the Canary Islands 5th High Level Dialogue

Decision-making oriented / Problem-solving approach

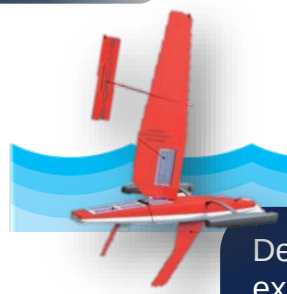
Deploying new satellite constellations e.g. Cubesats & micro-launchers offer new low-cost & multi-lateral value & capabilities…

Maximising the value of Copernicus constellations through new network derived science products, calibration & validation…

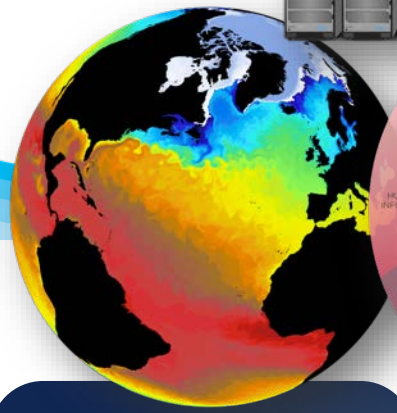
Big Data integration & fostering cutting-edge data science: artificial intelligence, deep learning, etc …

New understanding of the earth system, from event-scale physics & biogeochemistry to climate & ecosystem variability…

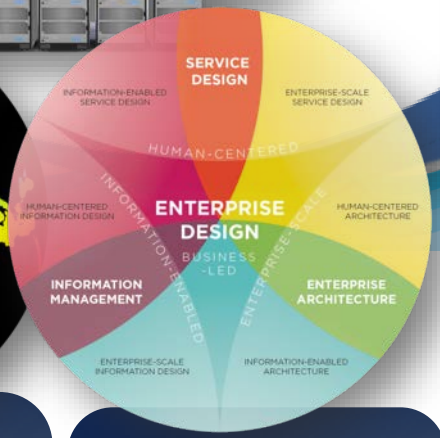
Develop new sensing technologirs



Developing & exploiting innovative marine robotics, autonomous sensing technologies & applications…



Global and regional assimilative, predictive ocean models providing data integration, forecasting and a wide range of high value applications…



Developing user co-designed marine services to transition from research -> operations & realise value & impact…

Resource economics & establishing economic/socio-economic value and return on investment

Improved ocean governance, public/private partnerships, and inclusive blue economic growth…

Emphasis on capacity, institution building
Workshops, fellowships, mobility of researchers

Secretariat

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