



# Remote Sensing of Oceans

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Chinese Academy of Sciences (CAS)

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Oceanology (SCSIO)

1

Pan Ocean Remote Sensing (PORSEC)

2

Pacific Congress on Marine Science  
and Technology (PACON)

3

Application: “Wind Pump”, Marine  
plastics

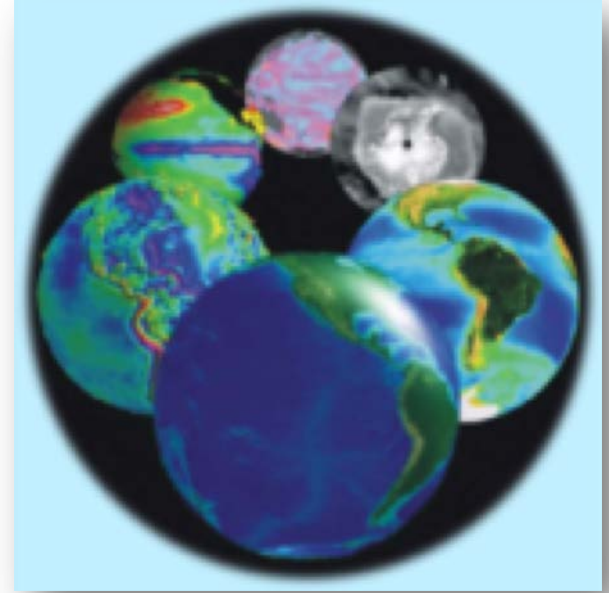
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Invitation to: **GEOARC**



# 1

PORSEC



Pan Ocean

Remote Sensing



# OUR MISSION

- **to promote the open exchange of knowledge about the oceans and related atmospheric sciences and the use of remote sensing technology in oceanic research,**
- **through applying state of the techniques related to ocean remote sensing, including space and underwater technologies, as well as associated data management and information technology**



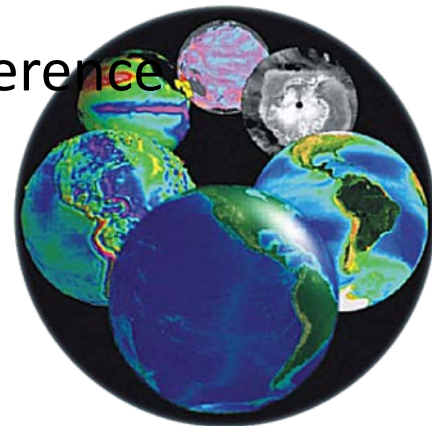
# Data and information for ocean remote sensing (1990)

A group of scientists from the Pacific Ocean Rim countries formed the Pacific Ocean Remote Sensing Society in the year 1990,

PORSEC graduated to global status and is now recognized as a Prestigious International Society in ocean remote sensing with the name:

the **International Pan Ocean Remote Sensing Conference Association**

- South Korea, 3-8 Nov 2018



2



**PACON**

Pacific Congress on Marine  
Science and Technology  
(1984)





**PACON International is dedicated to sharing scientific and technical information on the world's oceans and coastal regions**

**to advance marine science and technology and its utilization in ocean policy formation, and the sustainable development of the world's oceans, through education and public programs.**

### **Goals**

**To strengthen the global exchange of information and collaborative research linkages with Pacific nations' programs in marine environment**

**To provide information freely to all participating nations**

**To promote the environmentally-sound utilization and sustainable development of the ocean's resources**

**To emphasize through education and public programs, the need for sound ocean policies**

**To advance the various disciplines involved in marine science and technology**



26th International  
Conference

July 16-19, 2019  
Vladivostok, Russia

## Marine Science and Technology for Sustainable Development



- 16-19, July 2019, Vladivostok Russia

- Ocean dynamics and climate
- Marine geology and geological resources
- Ocean environment and ecosystem
- Ocean and sustainability of human life
- Polar ocean research and exploration
- Ocean engineering, marine constructions and renewable energy
- Undersea vehicles, robotics, acoustics
- Ocean hazards
- Fisheries and aquaculture
- Ocean observation technologies
- Sustainable economy, ocean policy making and education

# 3

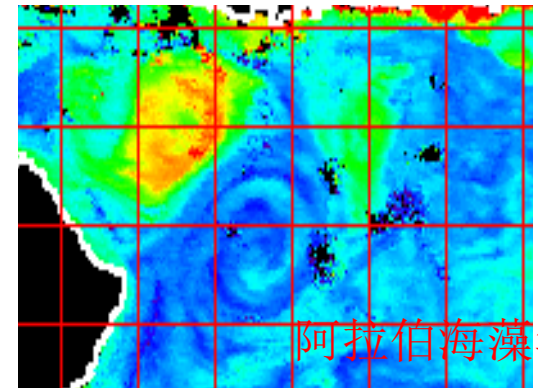
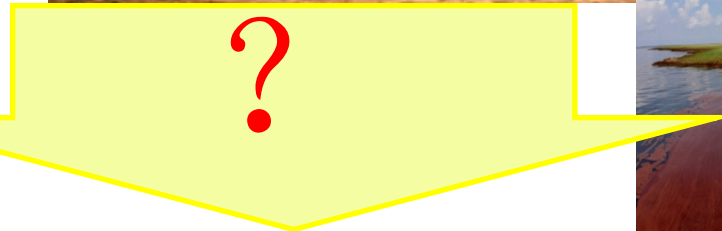
Remote Sensing application:

“Wind Pump”

Marine plastics



# Climate Changes /Natural Hazards/Pollution



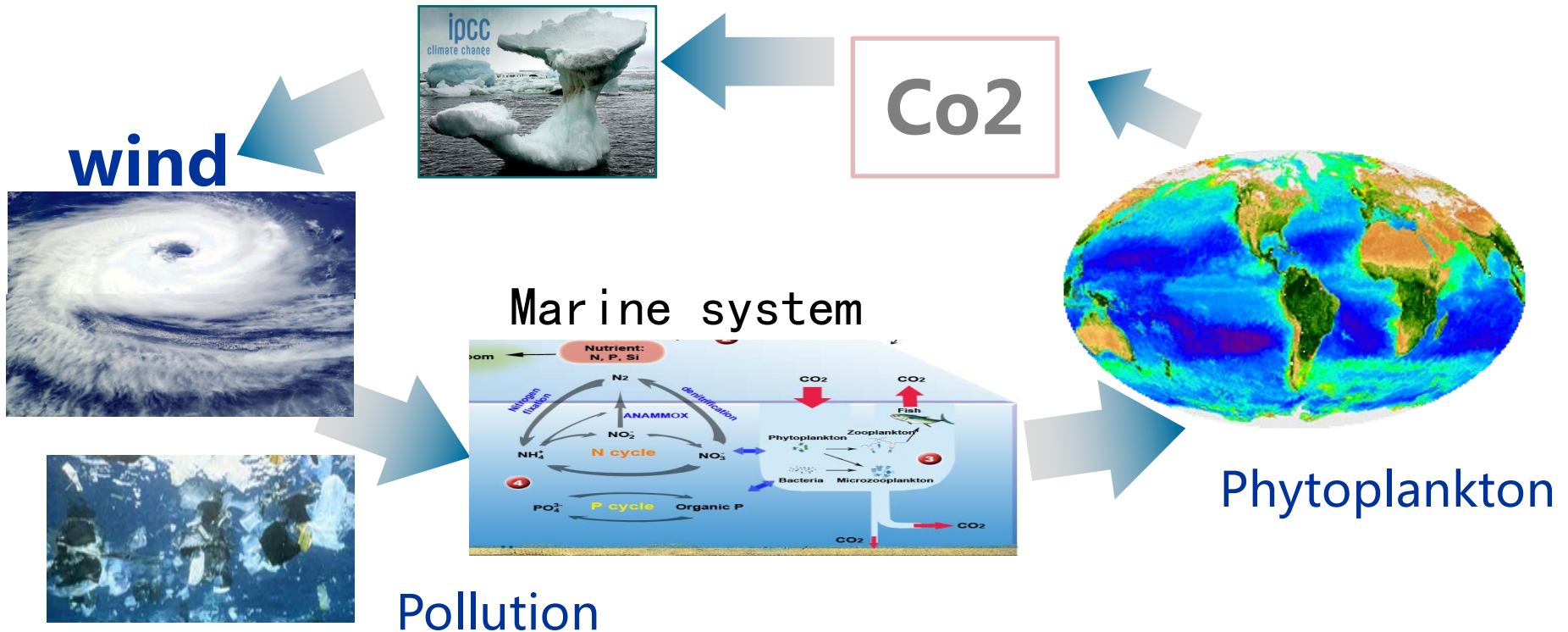
# Scientific question

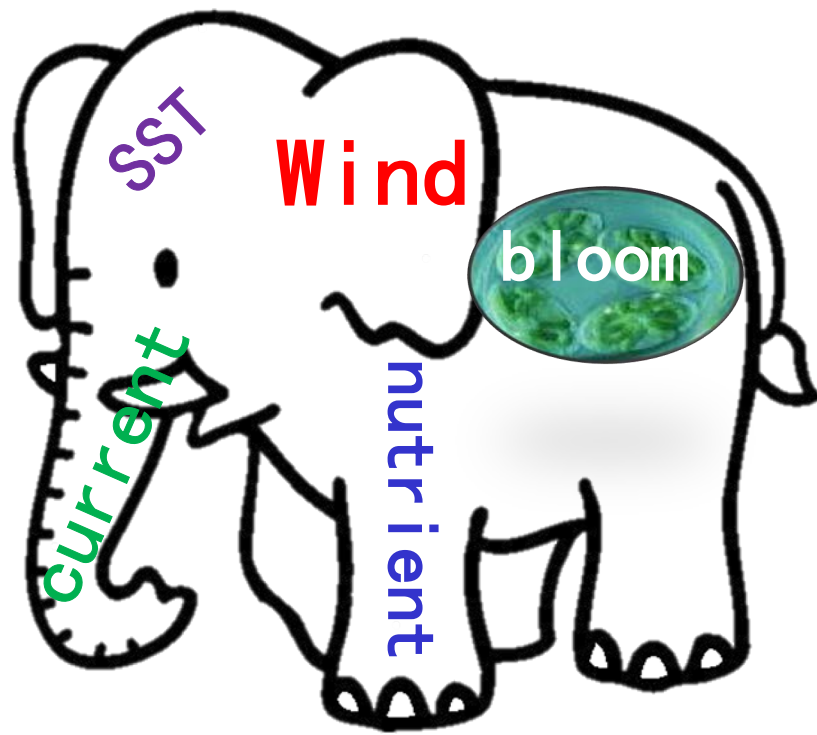
Driver ?

Ocean dynamic ?

Climate change → Marine ecosystem → Phytoplankton?

## Climate Changes





SST

Wind

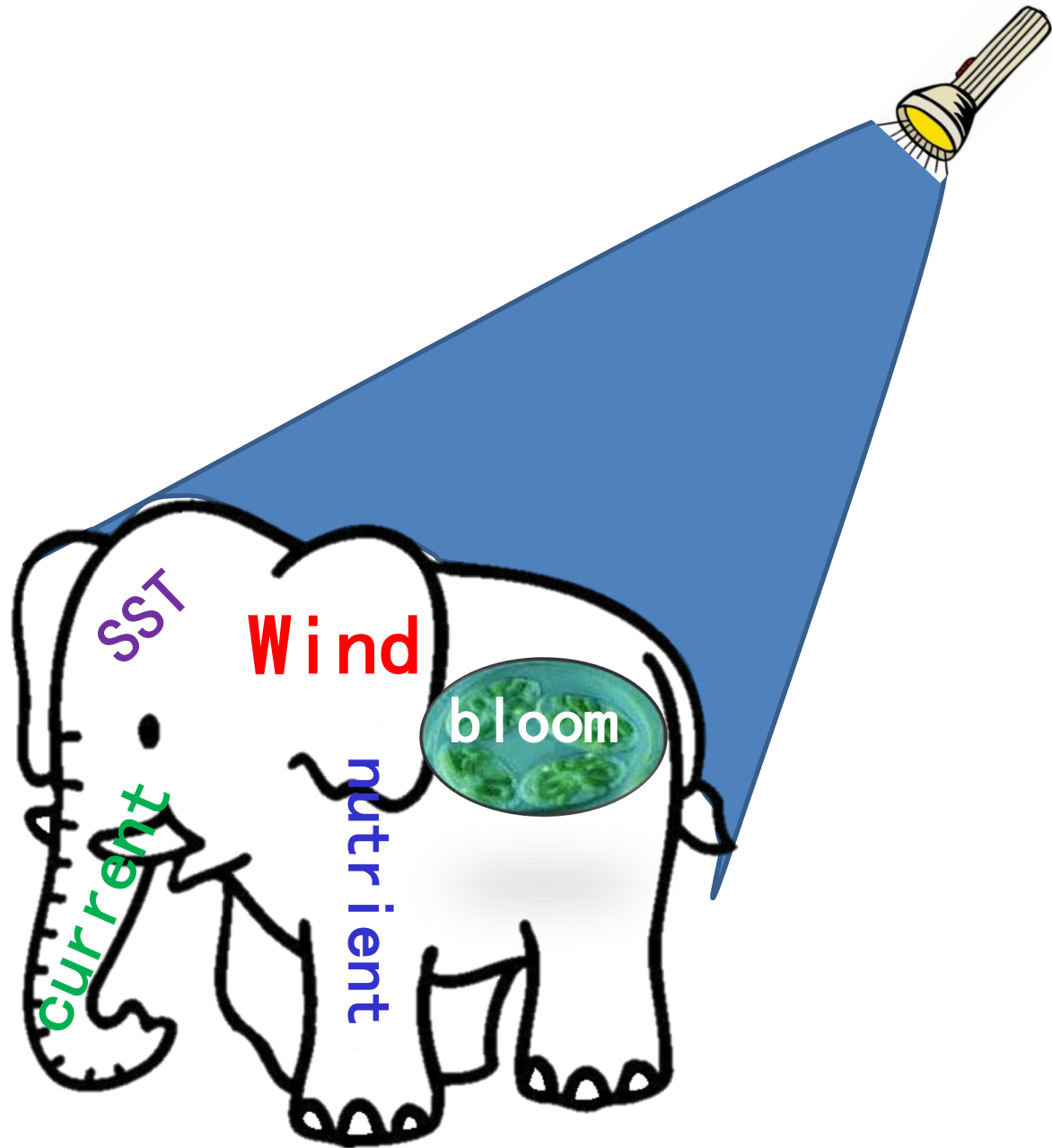
current

nutrient

bloom







SST

Wind

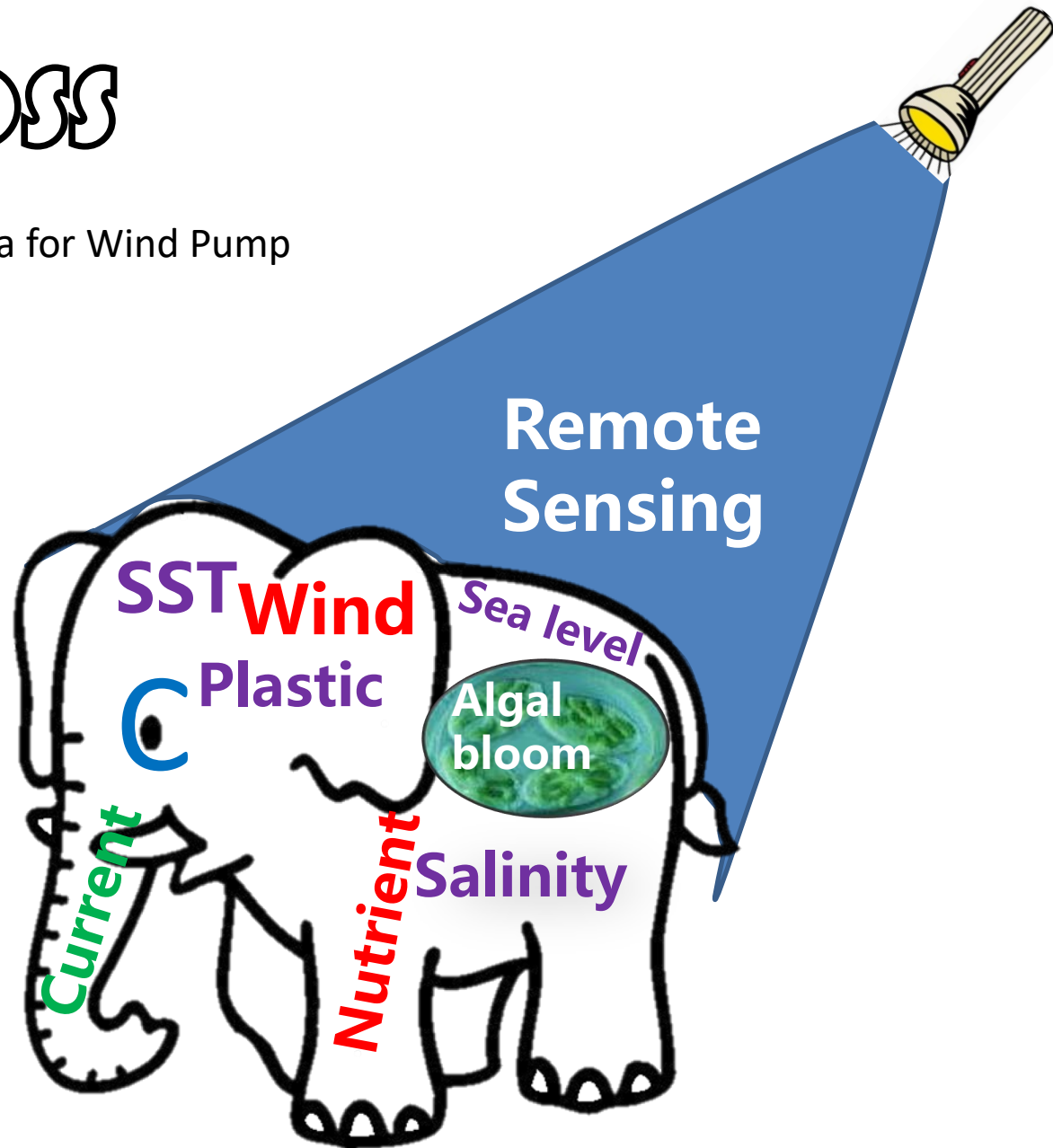
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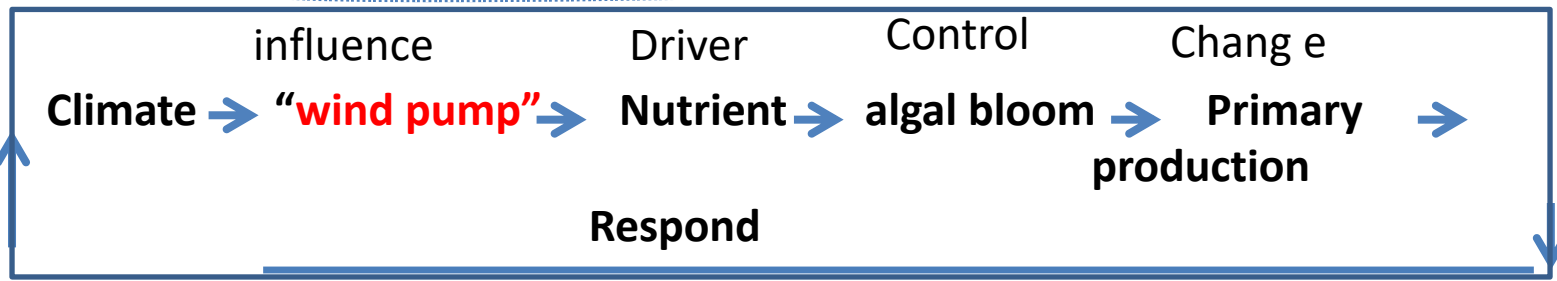
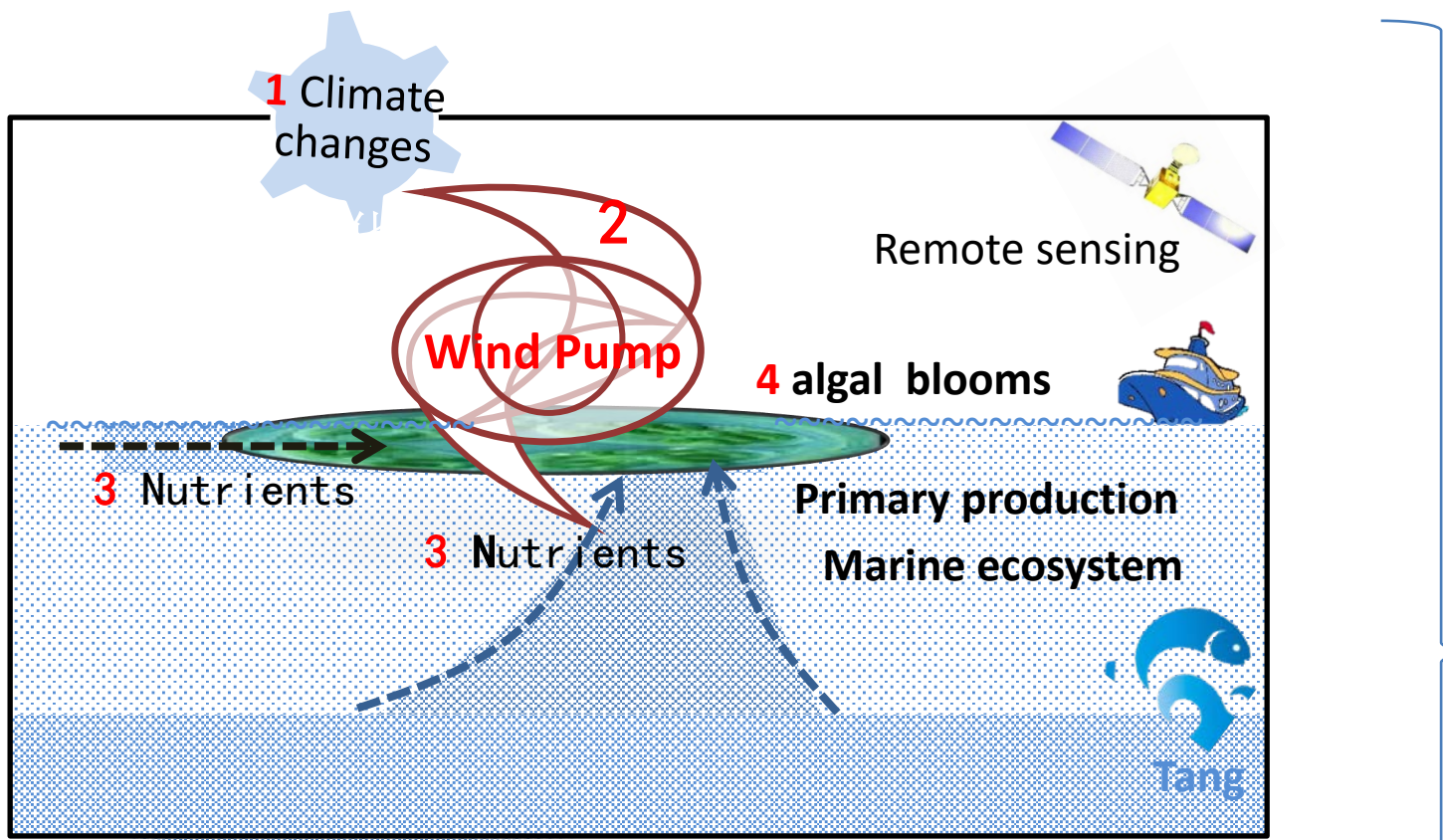
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# AO GEOS

Analysis Ready Data for Wind Pump



Remote Sensing of Marine Ecology



Satellite remote sensing of **Wind pump**

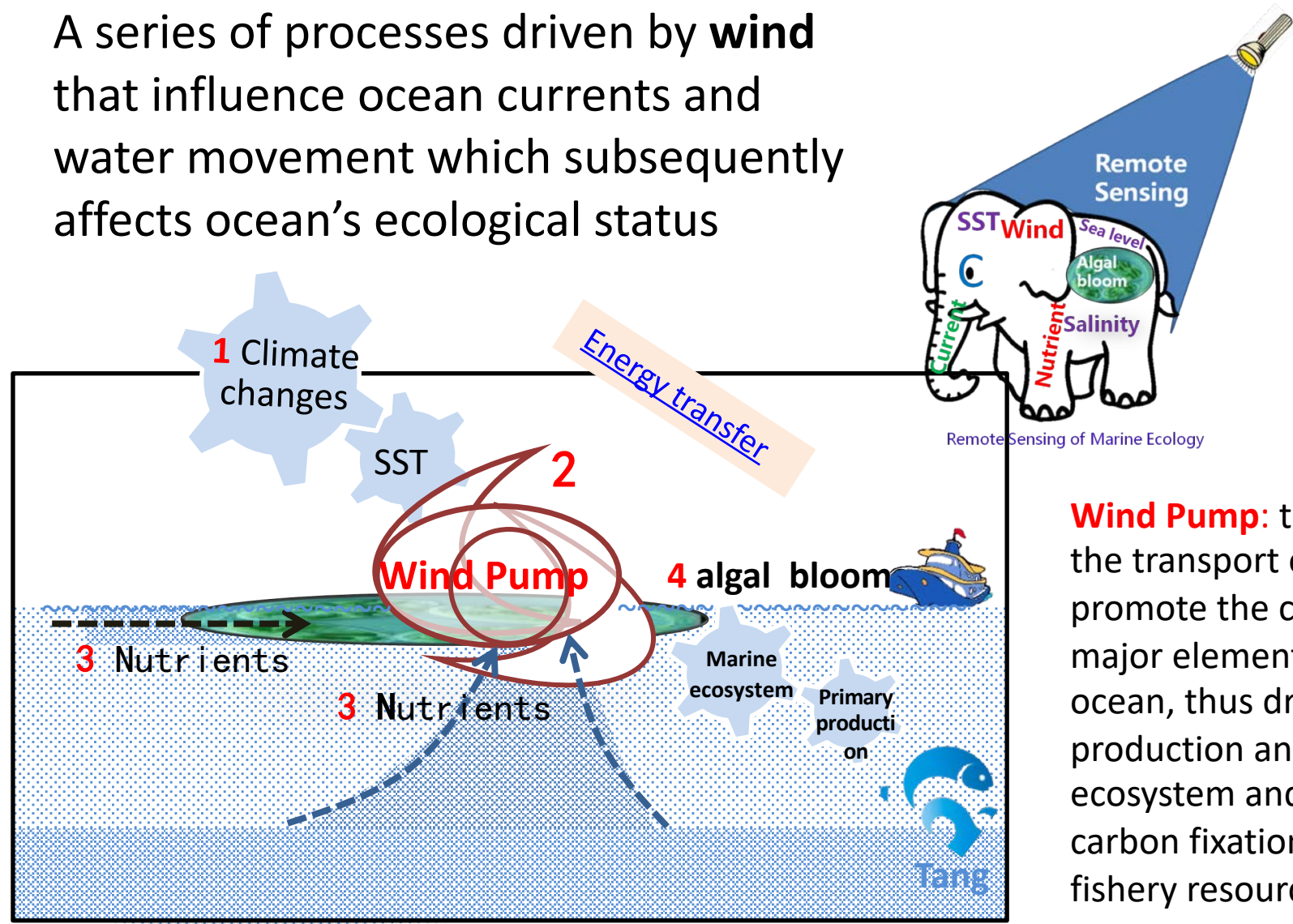


Wind pump impact



# Wind Pump

A series of processes driven by **wind** that influence ocean currents and water movement which subsequently affects ocean's ecological status



Remote Sensing of Marine Ecology

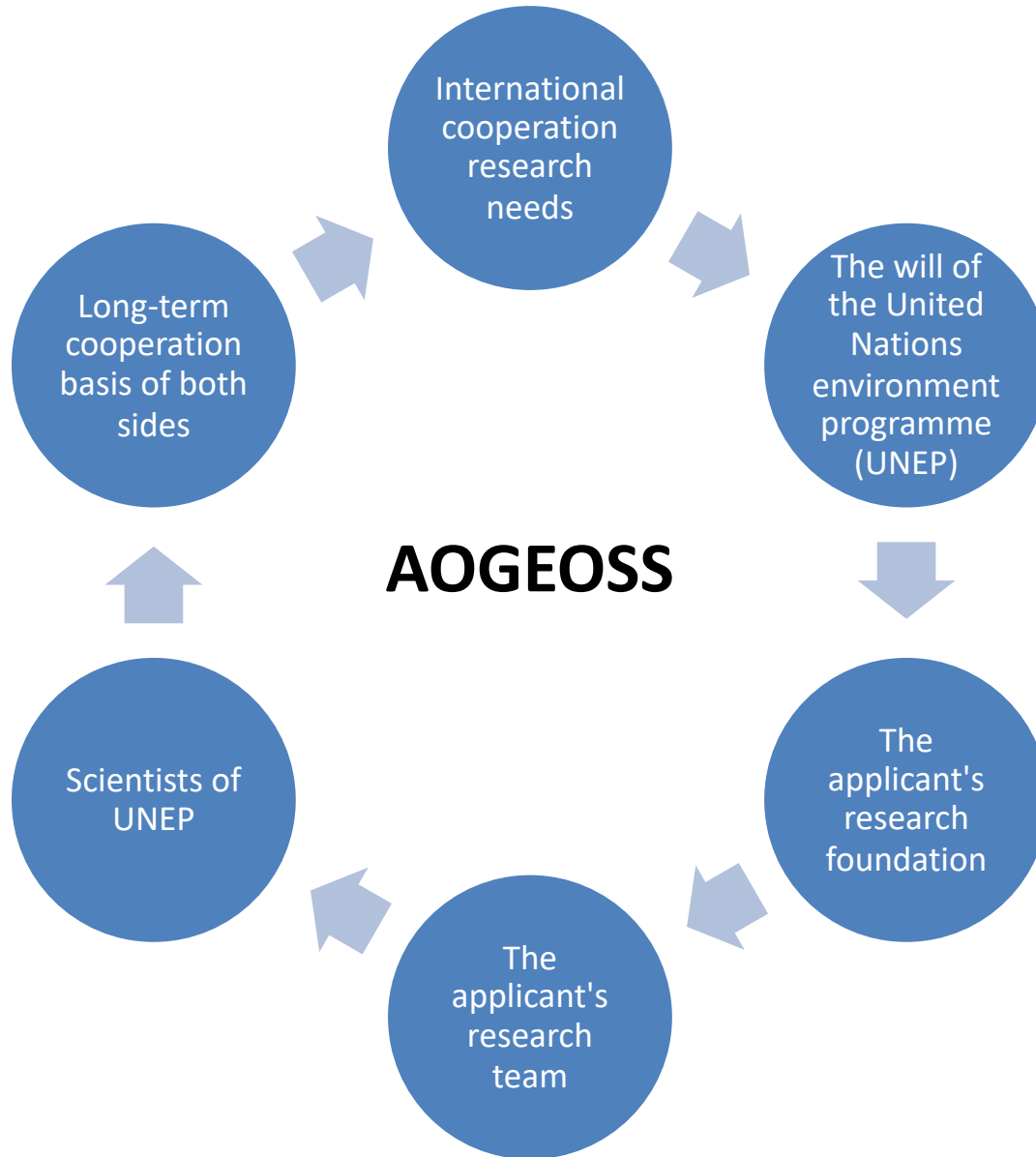
**Wind Pump:** to change the transport of nutrients, promote the cycling of major elements in the ocean, thus drive primary production and marine ecosystem and affect carbon fixation and global fishery resources.

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## Marine plastics

**An international cooperation  
research  
on remote sensing observation  
of marine plastic pollution  
and its transfer**

## 1.3 Complementarities of the two participators



TO provide basic data for the ecology risk assessment and management technology of marine plastic pollution

and provide foundation and technical support for global marine waste management,

and establish the initiative and voice on the global plastic pollution.



# 4

Invitation:

GEOARC



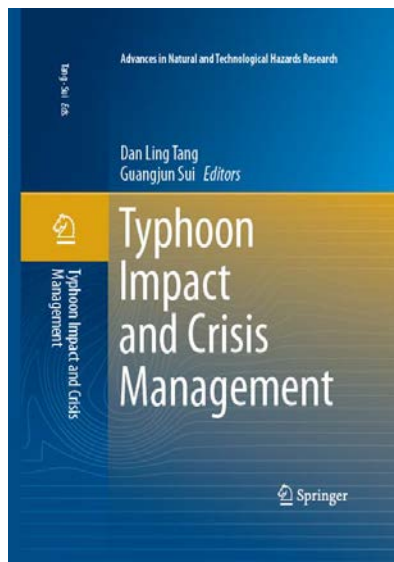
# GEOARC

- **Global Ecosystems and Environment Observation Analysis Research Cooperation**
- Oct 30, 8:30-12:00
- GEO week

# DanLing TANG (lingzis)

# Thank You!

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South China Sea  
Institute of  
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Chinese Academy of  
Sciences

