

The role of ocean planning in adapting to global climate change impacts

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Workshop 4 | June 3, 2018

What is Ocean Planning and why is it important?

Marine Spatial Planning – MSP

Practical way to **organize the use of the ocean space**, and the **interactions between uses**, to balance needs for development and environmental protection



WWF (2010)

**BALTIC SEA
USES & CONFLICT MAP**

Legend

- Shipping route //
- Fishing site ●
- Biodiversity site ■
- Wind power area ▲
- Conflict area/zone ⚡



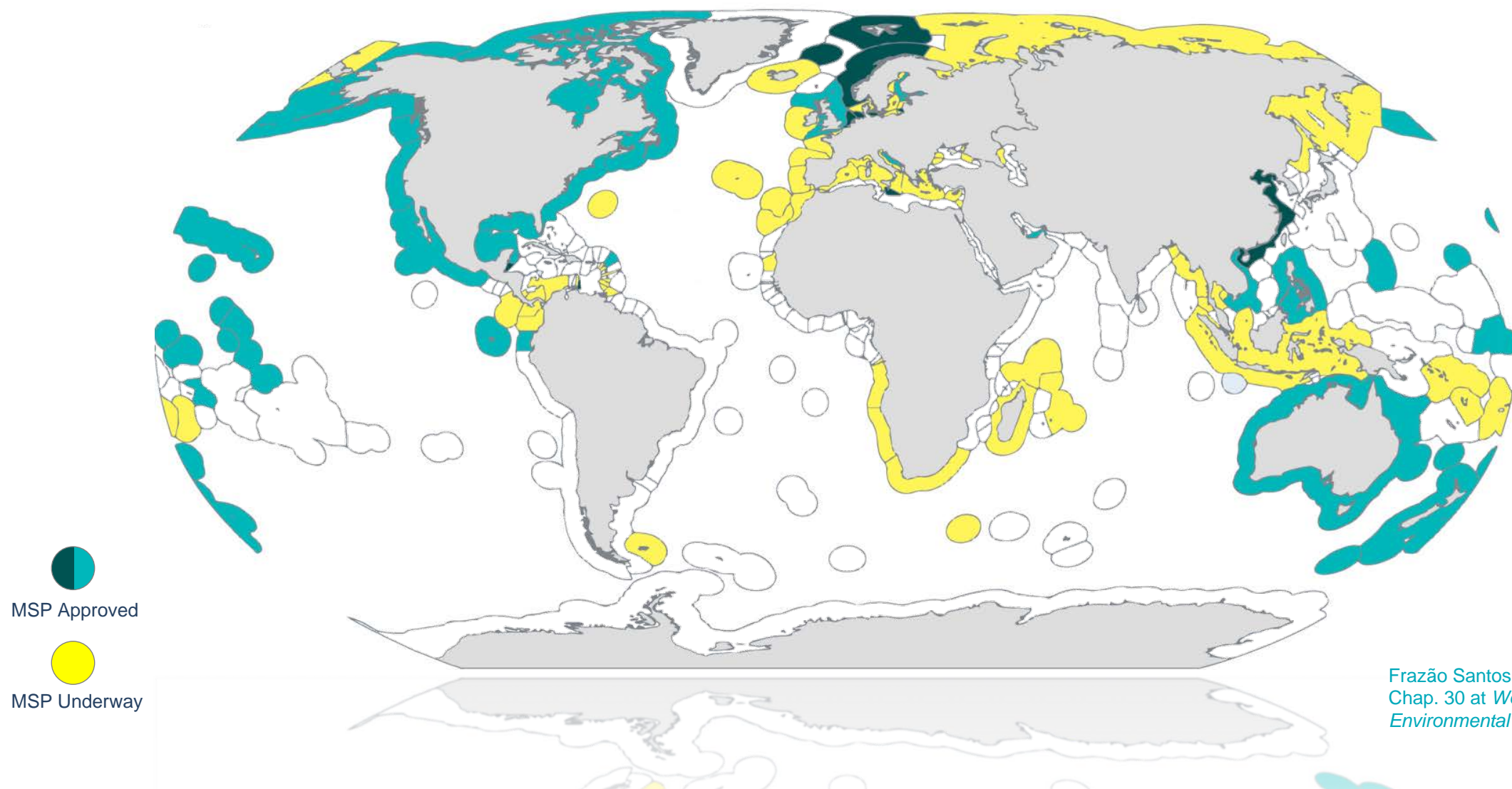
What is Ocean Planning and why is it important?

MSP has been recognized as a tool with high potential to ensure **sustainability in the use of the oceans**



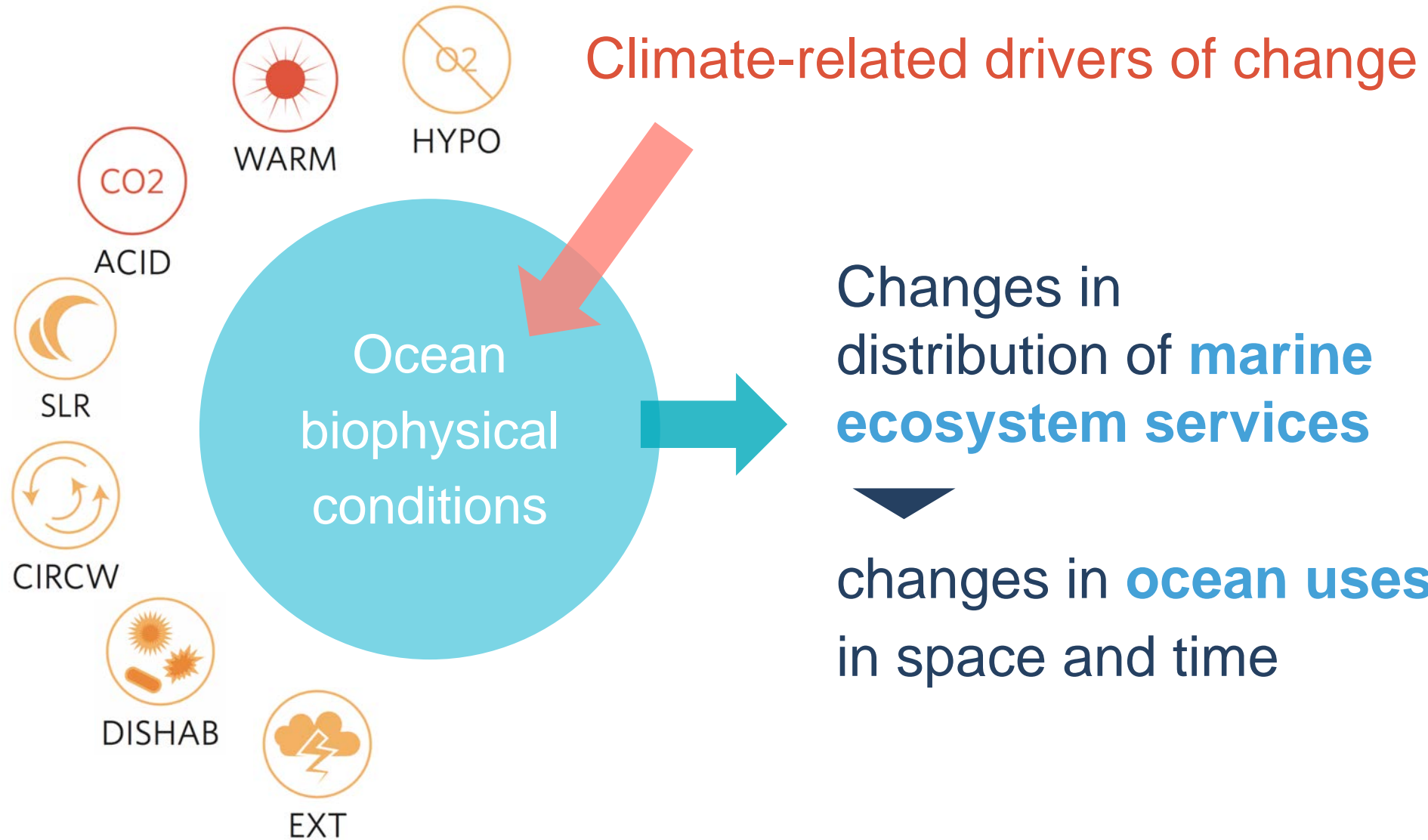
What is Ocean Planning and why is it important?

Globally widespread



Fraão Santos et al. (2018)
Chap. 30 at *World Seas: An
Environmental Evaluation—Vol III*

How can climate change affect MSP?



How can climate change affect MSP?

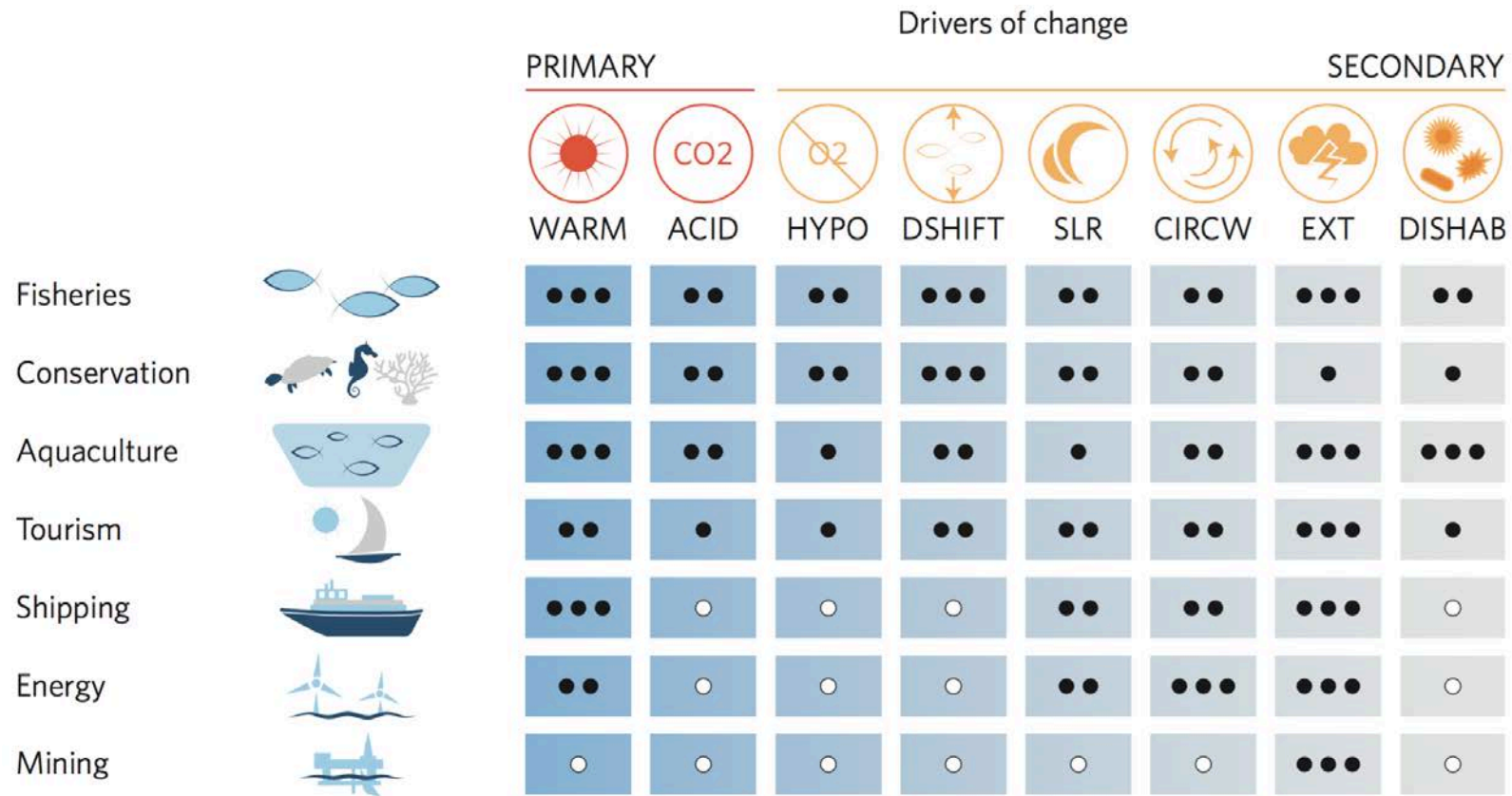


Uses of the
ocean space



How can climate change affect MSP?

Not all uses will be affected the same way, still **fisheries** and **aquaculture** are among the most **sensitive** ones globally



Nature Geoscience
Frazão Santos et al. (2016)

How can climate change affect MSP?

Relocation of ocean uses
will lead to



New use-use conflicts

**New pressures on the
environment**

Legal issues (use permits)

How can climate change affect MSP?



While MSP **will be affected** by a changing climate...

... it can be an important **tool to manage** its impacts!



WARM



ACID



SLR



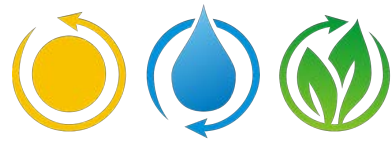
CIRCW

What to do?

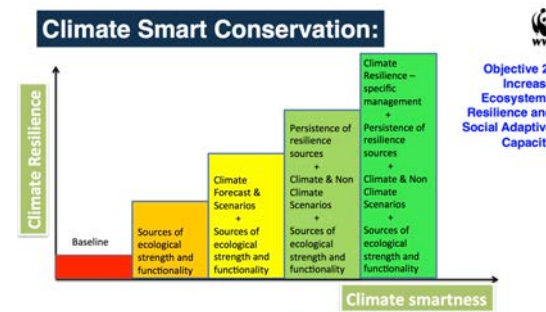
How ?

What to do?

Climate-smart **Agriculture**, climate-smart **Conservation**,
climate-smart **Islands**, climate-smart **Cities**...



Climate Smart Agriculture
Booster



Start developing **Climate-smart Ocean Planning!**

What to do?

Deepen the analysis of climate change impacts on ocean uses

Analyze **local contexts** (MSP management area)

What **uses exist?**

Their **importance?**

Likelihood of **climate hazards?**



1 Vulnerability and Risk assessments

What to do?

MSP **cannot** anticipate **every possible scenario**, and plan for all potential cases

Ensure mechanisms to **adapt** to an **uncertain** and **dynamic future**

Adaptive management cycle



N.B. Adapted from CSIRO Marine and Atmospheric Research 2009

2 Ensure flexibility and adaptation in MSP

3 Climate-smart MSP Policies

Addressing MSP initiatives is not sufficient. National & regional **MSP policies** must also

Recognize climate change as a **real challenge**

Promote the **integration of adaptation** into MSP

... driving force!

Future research

Recently funded 3-years **R&D project (2018-2021)**
by the Portuguese National Science Foundation



OCEANPLAN

Marine Spatial Planning under a Changing Climate

Marine Spatial Planning under a Changing Climate

Upcoming information at:

www.researchgate.net/project/OCEANPLAN-MSP-under-a-Changing-Climate

Future research

Preliminary research

will be presented
in **Session 14**
14:20, Jun 6

An Index to assess the Vulnerability of MSP and the Blue Economy to global climate change

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Session 14 | June 6, 2018

Thank you!

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Acknowledgments:

