

Comunicação de Ciência



11 de Novembro de 2019

Disciplina de Avaliação Ambiental

Mestrado em Ecologia e Gestão Ambiental



Proposal for class re-scheduling:

1h Seminar on Tróia Detail Plan SEA

1h Seminar on PSOEM SEA

Dates to be defined
between **25-Nov** and
13-Dec

Exercise: comparative analysis

Written exercise to deliver until December 20

Today's class:

1. What is the COMPASS project?
2. The Message Box
3. Elevator Speeches

What is COMPASS?

“Communication Partnership for Science and the Sea”

www.compasscicomm.org

CÔMPASS



Dr. Jane Lubchenco

Co-Founder of COMPASS

Marine **Ecologist**
and **Environmental Scientist**



HARVARD
UNIVERSITY





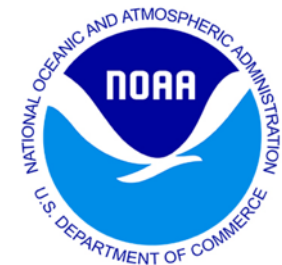
Dr. Jane Lubchenco

Co-Founder of COMPASS

Marine **Ecologist**
and **Environmental Scientist**

Former Administrator of **US NOAA**
2009-2013

President of the
**American Association for the
Advancement of Science**



The right incentives enable ocean sustainability successes and provide hope for the future

Jane Lubchenco^{a,1}, Elizabeth B. Cernv-Chioman^a, Jessica N. Reimer^a, and Simon A. Levin^b

^aDepartment of Integrative University, Princeton, NJ 085

Edited by Alison P. Galvani, November 9, 2016 (received

Healthy ocean ecosystems livelihoods and to achieve development Goals. Using the many formidable challenges acidification, and pollution reason for hope. New beginning to transform and marine spatial planning global scale. We dissect systems (CAS) framework tedness of social and policies and practices the behavior of different robust, sustainable status. Our review reveals that social norms, or both—ciple, introduction of well fisheries and ecosystem tives to align conservati cal norms can create country, or individual to create large marine reser self-image. In each exa actors and emergent sy a transition from a vicie evaluating conservation of actors with broader g roach that can provide successes. In short, gett

EDITORIAL

A new narrative for the ocean

Narratives help frame our thinking and action. On the eve of World Oceans Day and in anticipation of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), a new narrative for the ocean is warranted—one that reflects current scientific knowledge and inspires new science and effective action.

For most of human history, people considered the ocean so immense, bountiful, and resilient that it was impossible to deplete or disrupt it. The overarching narrative was, “The ocean is so vast, it is simply too big to fail.” This mindset persists today, bringing even more

intense, unsustainable uses of the ocean that reflect ignorance; the allure of new economic opportunity; or the need for food, resources, and development. However, the folly of this too-big-to-fail narrative has become glaringly obvious through overpowering scientific evidence of depletion, disruption, and pollution. Climate change, ocean acidification, habitat destruction, overfishing, and nutrient, plastic, and toxic pollution are insidious. These changes threaten the most vulnerable people; the economic prosperity, quality of life, and opportunities for everyone; and the well-being of the ocean’s amazing



“In healing the ocean, we can heal ourselves.”

ing fisheries to “fish smarter, not harder” ocean ecosystems; reduce impacts of climate change; enhance food security, job creation, and economic growth. Combining remote sensing, artificial intelligence, big data, machine learning, transparency, and blockchain technologies can minimize illegal fishing. Enabling aquaculture—especially of low trophic species—can contribute substantially to food security with a smaller environmental footprint than that of terrestrial animal production. Creating fully and highly managed, well-designed marine protected areas and marine reserves, biodiversity, replenish the ocean, and help us

adapt to climate change, ocean acidification, and rising sea levels. Integrating ocean acidification into climate agendas, reducing greenhouse gas emissions, and adapting to sea level rise. A range of effective strategies, from scaling them globally to working with communities, businesses, non-profit organizations, and policy-makers so that these strategies are complementary, effective, and

A new narrative does not automatically change the status quo but, if widely adopted, can reset expectations and liberate ingenuity. Yes, the challenges



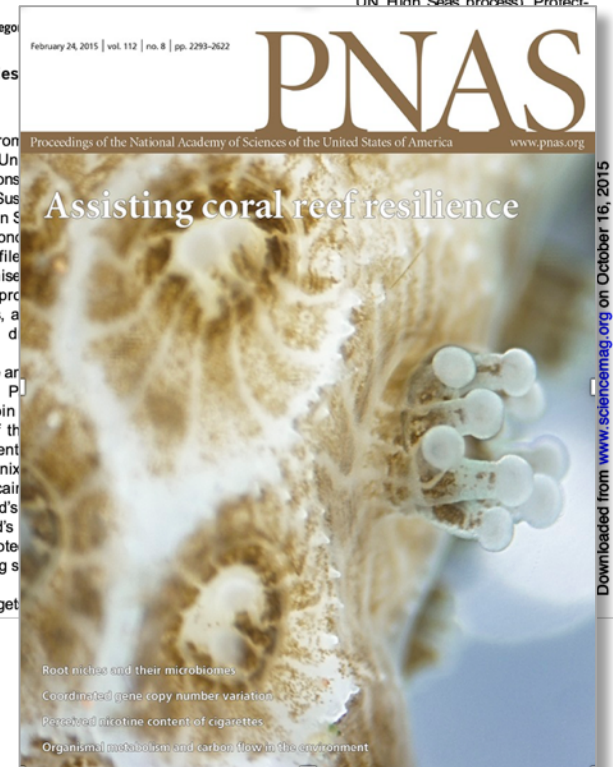
COLLOQUIUM PAPER

Scienceexpress Policy Forum

Making waves: The science and politics of ocean protection

Jane Lubchenco and Kirsten Grorud-Colvert*

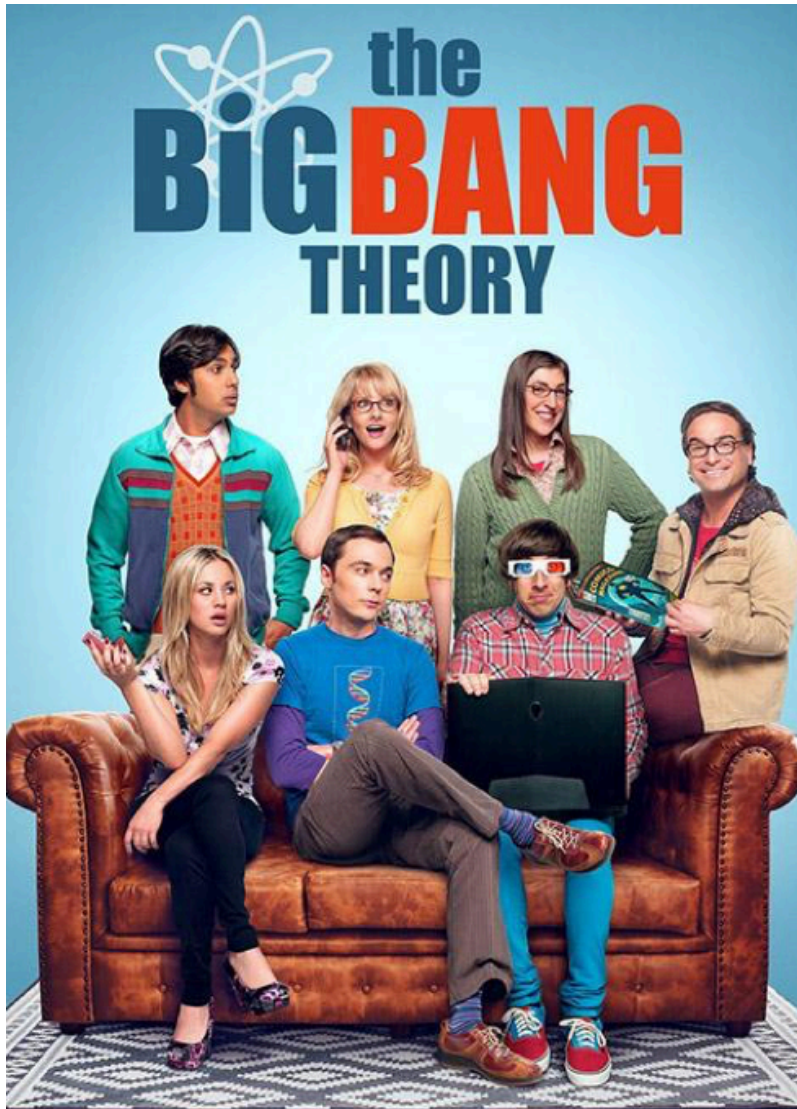
tific analyses support ocean protection ranging from 20 to 50% (3). Existing MPAs are solely within countries’ jurisdictions, leaving the High Seas (~58% of the ocean) without any permanent protection (hence the new UN High Seas process). Protec-



the University of California, Santa Barbara. gains@ucsb.edu

November 8, 2019

Downloaded from www.sciencemag.org on October 16, 2015



MacArthur 'Genius' Award



Big Bang Theory "Geology Elevation" S10

MacArthur 'Genius' Award MacArthur Fellowship

“extraordinary **originality** and
dedication in their **creative**
pursuits and a marked capacity
for self-direction”



She received
it in 1993



Big Bang Theory “Geology Elevation” S10

“Scientists have a **tremendous amount to contribute** to solving society’s most pressing problems and many are eager to engage with society, but they often **need help in learning how to be effective**”

Jane Lubchenco

COMPASS mission is to **help scientists effectively share their knowledge** in the public discourse and decision-making

(without compromising the accuracy of their science)

CÔMPASS

Information is not enough!



Context, values
and beliefs
matter

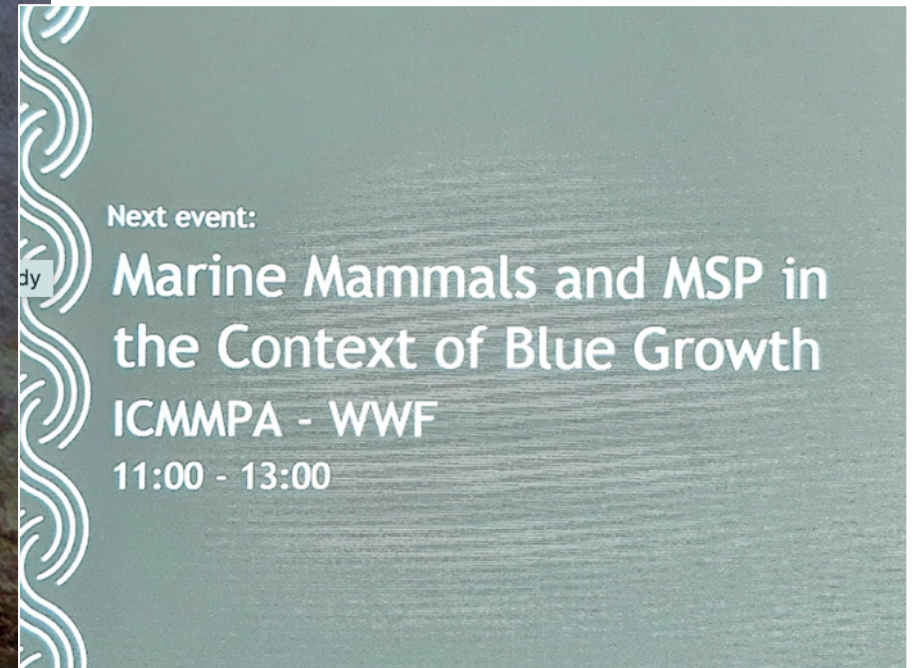
Information is not enough!



5th International Conference On Marine Mammal Protected Areas “Celebrating A Decade Of IMMPA”

The Westin Resort, Costa Navarino, Messinia Greece

April 8 - 12th, 2019



Next event:

Marine Mammals and MSP in
the Context of Blue Growth

ICMMPA - WWF

11:00 - 13:00

Clear distinct view!

Information is not enough!



Conservation Scientists
(we only need to **produce** information)



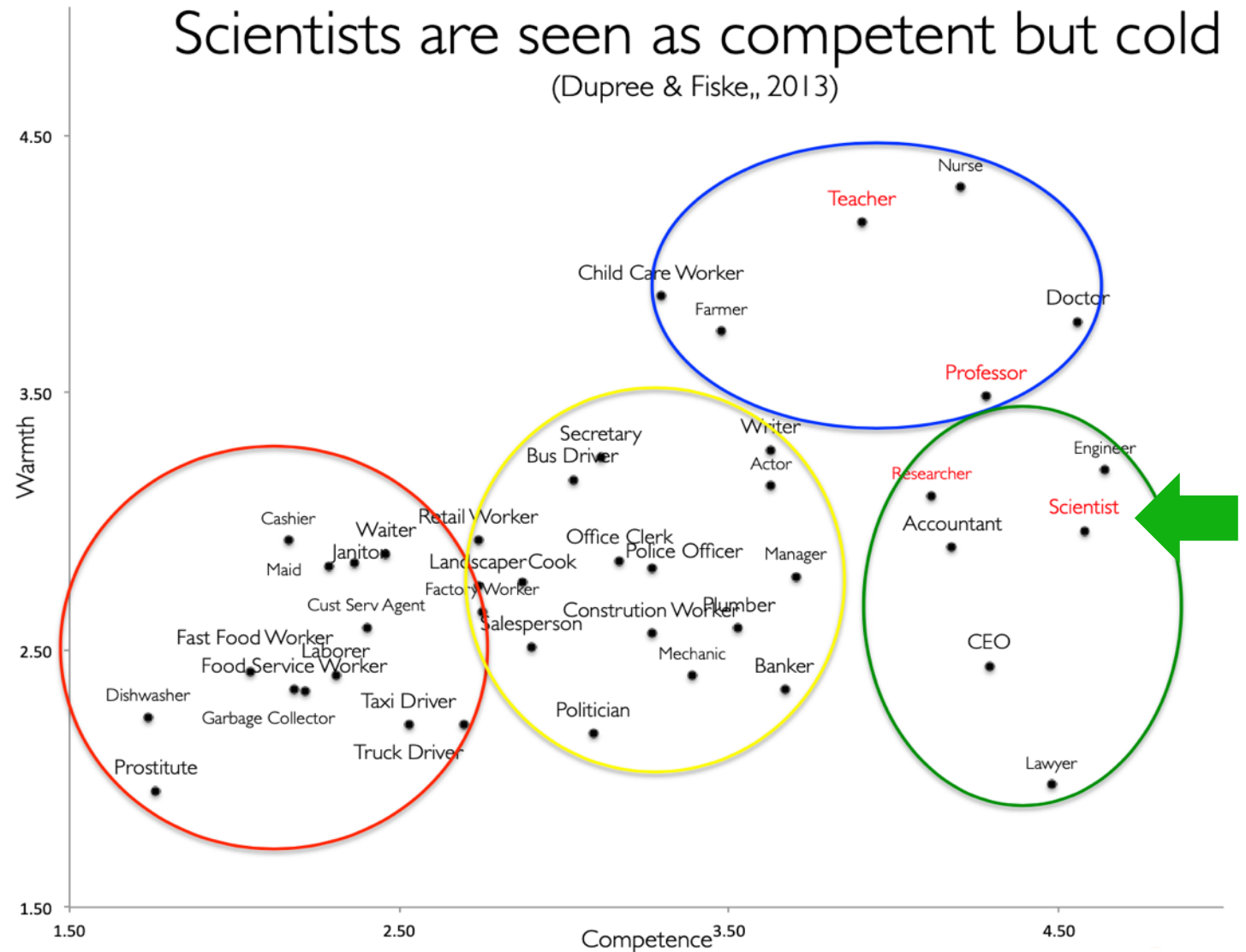
Planning Scientists
(they need to **communicate** the info relevance)

Trustworthiness is a combination of perceived warmth and competence.

– Susan Fiske
Princeton University

Scientists are seen as competent but cold

(Dupree & Fiske, 2013)





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An e.g. with policymakers...

Reframe the issue
and meet people
where they are.





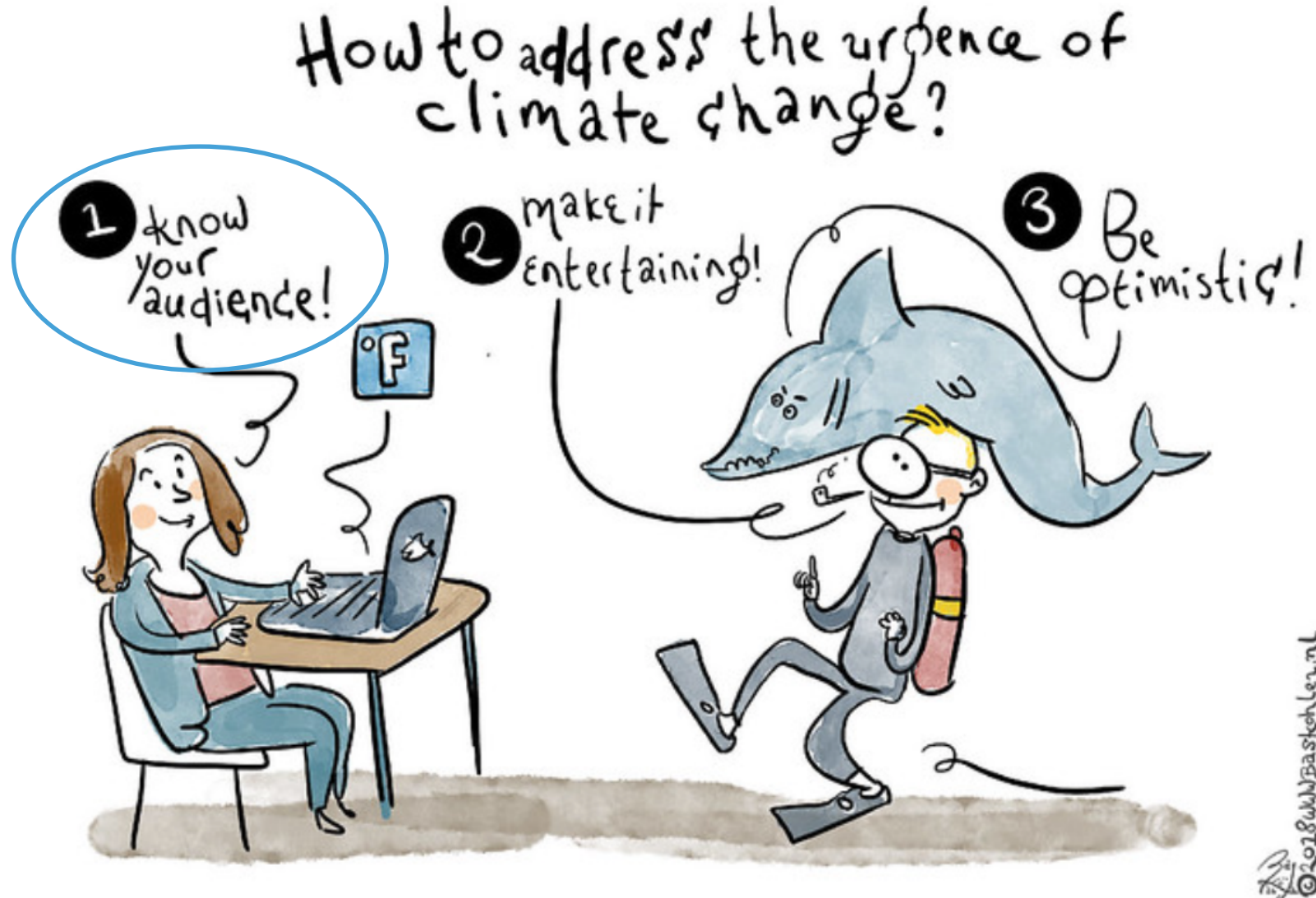
E.g. communicating the **impacts of climate change...**

Convincing the Crowd

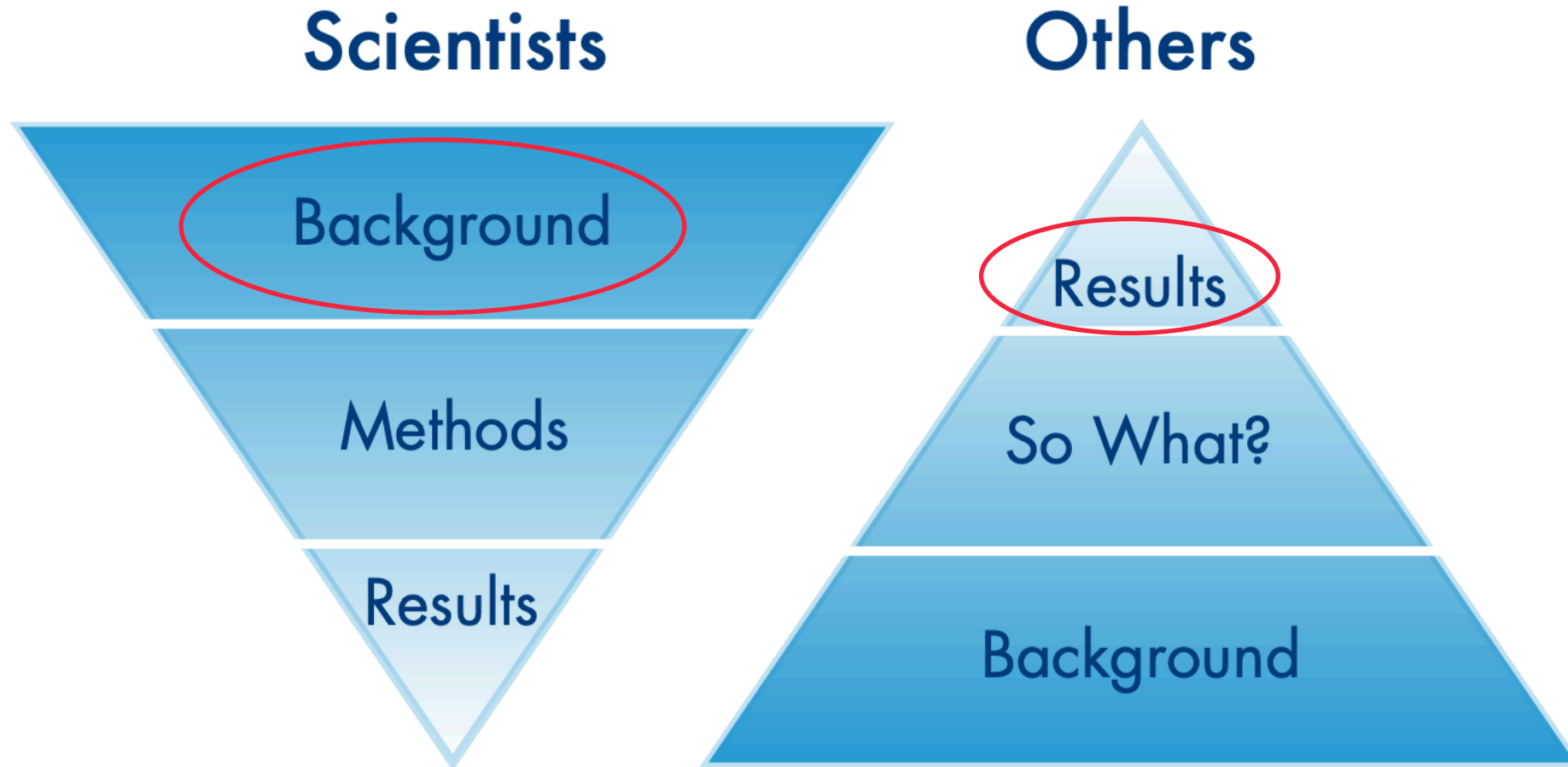


Finding the right words is not always easy...

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Finding the right words is not always easy...



So What?

Each person wants to know **why**
this matters to them

This changes with the **audience**



Why does this matters to **me**?



Quo Vadimus

Managing marine socio-ecological systems: picturing the future

Olivier Thébaud^{1*}, Jason S. Link², Bas Kohler³, Marloes Kraan⁴, Romain López⁵, Jan Jaap Poos⁴, Jörn O. Schmidt⁶, and David C. Smith^{7,8}

¹Ifremer, Univ Brest, CNRS, UMR 6308, AMURE, Unité d'Economie Maritime, IUEM, F-29280, Plouzane, France

²National Marine Fisheries Service, National Oceanic and Atmospheric Administration, 166 Water Street, Woods Hole, MA 02543, USA

³Studio Bas Kohler, Binnenbantammerstraat 1, 1011 CH, Amsterdam, The Netherlands

⁴Wageningen Marine Research, PO Box 68, 1970 AB IJmuiden, The Netherlands

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Thébaud, O., Link, J. S., Kohler, B., Kraan, M., López, R., Poos, J. J., Schmidt, J. O., and Smith, D. Managing marine socio-ecological systems: picturing the future. – ICES Journal of Marine Science, doi:10.1093/icesjms/fsw252.

Received 16 November 2016; revised 17 December 2016; accepted 19 December 2016.

What do you get when a lawyer, a modeller, an economist, a social scientist and an ecologist talk about the ocean? Besides an interesting conversation, it is likely there will be some consideration of how to solve many of the problems facing marine ecosystems around the world. That is precisely what the MSEAS 2016 symposium on understanding marine socio-ecological systems aimed to do. From 30 May to 3 June in Brest, France, the symposium gathered over 230 participants from around the world and from multiple disciplines to discuss the challenge of explicitly considering the human component in producing synoptic assessments of marine social-ecological systems. The symposium fostered dynamic debates on the inter-disciplinary collaborations needed to support management of ongoing and anticipated growth in multiple ocean uses, with particular consideration of the triple bottom line of ecological, economic and social sustainability. Building on the illustrations produced by a professional cartoonist during the meeting, this graphic novel summarizes the key challenges ahead in understanding marine socio-ecological systems and draws a path for future research endeavours in this domain.

Scientists

Brest
France

Understanding marine socio-ecological systems including the human dimension in integrated ecosystem assessment

May 30 - June 3, 2016

www.MSEAS.org

Published by Oxford University Press on behalf of ICES Journal of Marine Science (2017). This work is written by and is in the public domain in the United States.

the political dimensions.



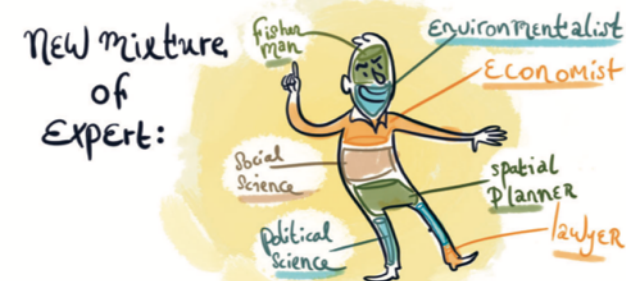
and the ecological dimensions.



Making Policy:

Managing marine socio-ecological systems: picturing the future

This future will need to be highly interdisciplinary, with a wide range of expertise.



All in the context of flexible and adaptive governance systems and legislation.

legislation, then now: in the old days it used to be all about us... now it's so complex with all these modern Ocean functions and users!



that take a balanced view of individual versus collective outcomes.

Importance of Holistic view:



The Effects of Climate Change on the World's Oceans

4th International Symposium
June 4-8, 2018 • Washington, DC



June 4th to 8th
2018

4th International Symposium
The Effects of
Climate Change on
the World's Oceans
Washington DC
USA



700 Billion
investments
are at Risk
by changing
oceans

Some have
to invest in
more knowledge
about the oceans

Give me a
scientist to
put my
money on

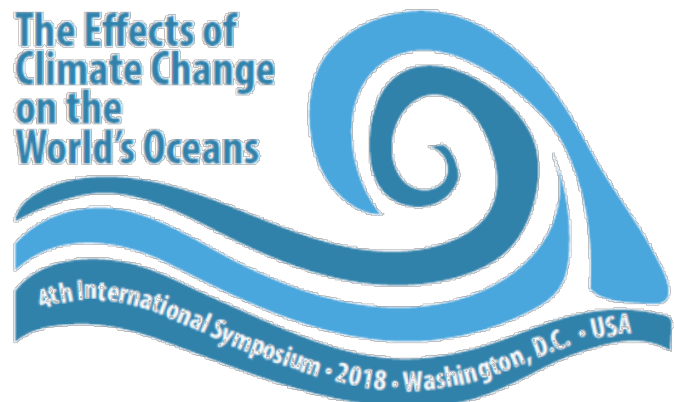


urgency of
change?

3 Be
optimistic!



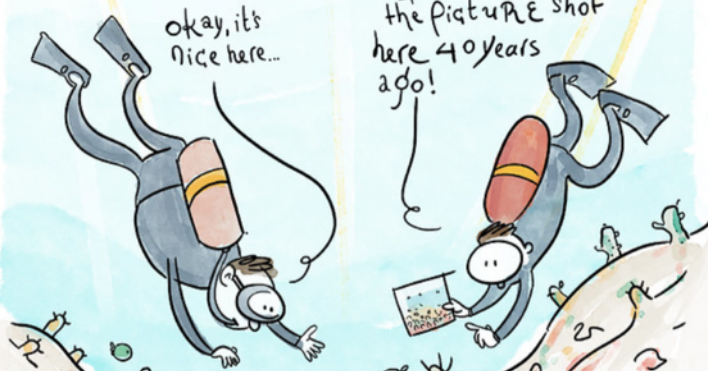
The Effects of Climate Change on the World's Oceans



on the Great barrier Reef...

okay, it's
nice here...

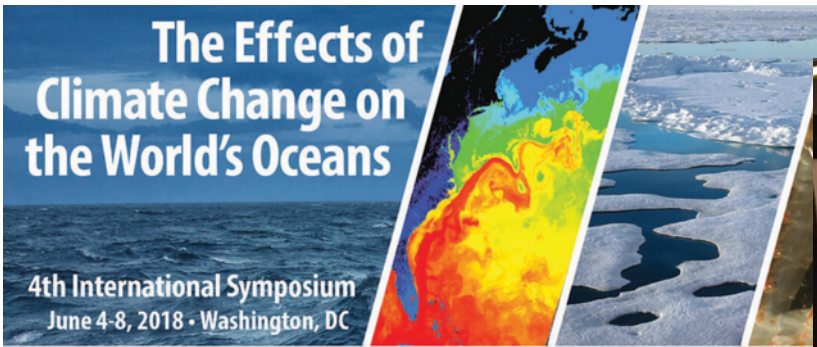
But not as
nice as
the picture
shot
here 40 years
ago!



When thinking
about climate change,
lots of people think
about me...

...But who's
thinking about
me?!!





A graphic novel from the 4th International Symposium on the Effects of Climate Change on the World's Oceans



Link, Jason; National Oceanic and Atmospheric Administration, National Marine Fisheries Service

Köhler, Bas; Studiobasköhler, Amsterdam The Netherlands

Griffis, Roger; National Oceanic and Atmospheric Administration, Fisheries Service

Brady, Margaret M. (Peg); National Oceanic and Atmospheric Administration, Fisheries Service

Ito, Shin-ichi; University of Tokyo, Atmosphere and Ocean Research Institute

Garçon, Veronique; National Center for Scientific Research

Hollowed, Anne; National Marine Fisheries Service, Alaska Fisheries Science Center

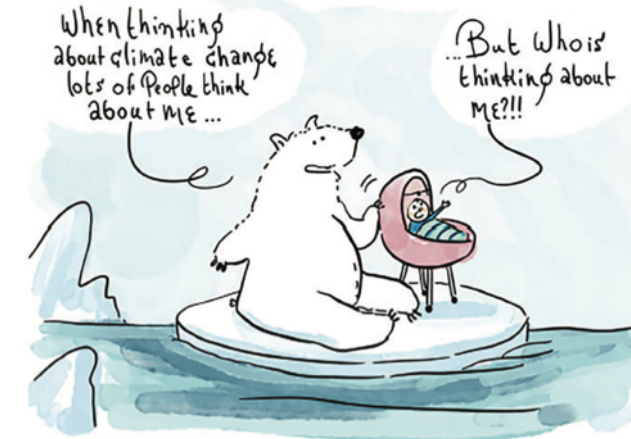
Barange, Manuel; Food and Agriculture Organization of
the United Nations Agriculture and Consumer Protection Department

Brown, Robin; North Pacific Marine Science Organization

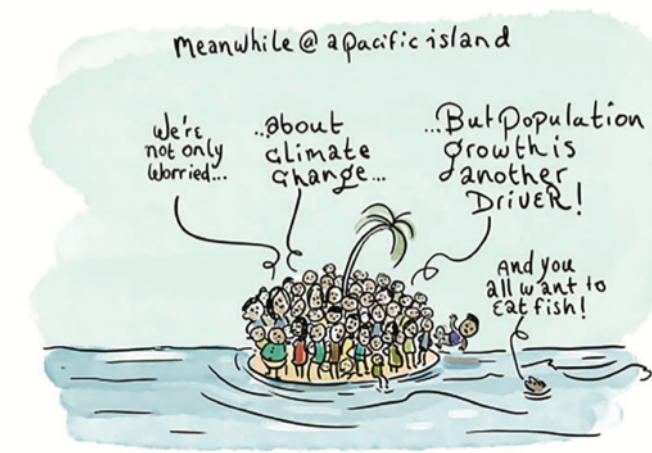
Wawrzynski, Wojciech; International Council for the Exploration of the Sea



and all resulting in notable consequences,
To the point that there is a lot at stake.



There are impacts on human populations



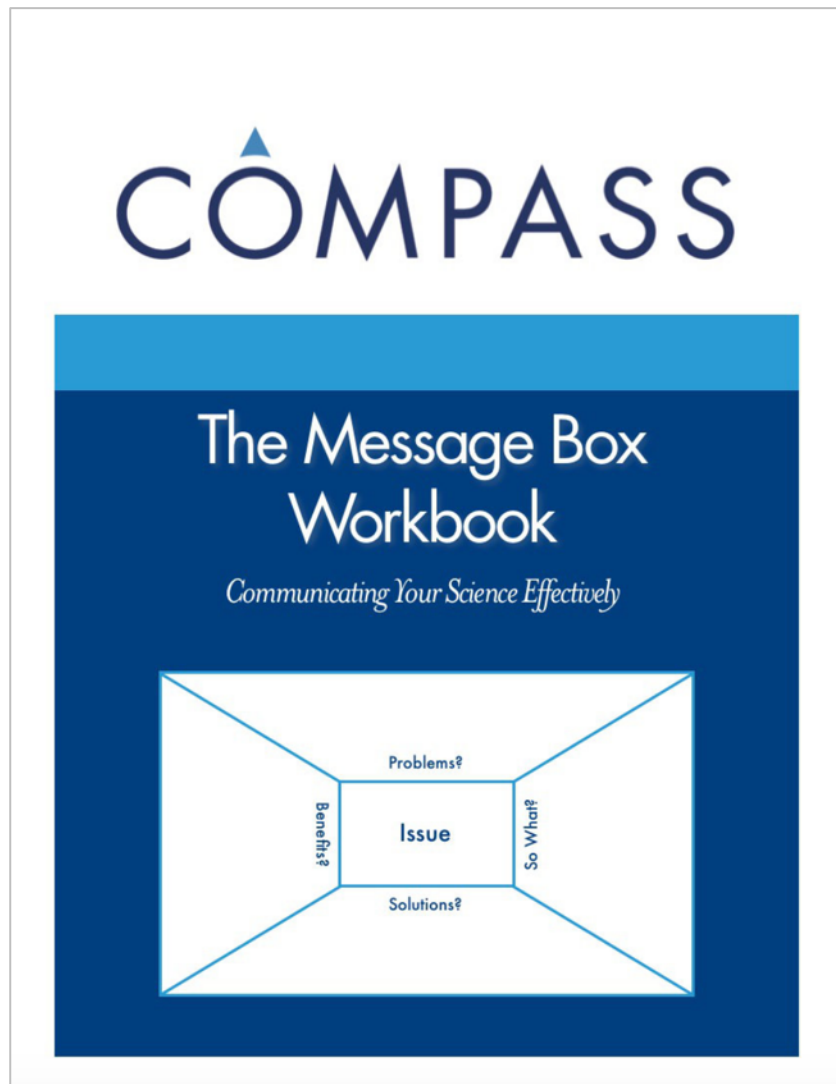
ICES Journal of
Marine Science



ICES
CIEM

International Council for
the Exploration of the Sea
Conseil International pour
l'Exploration de la Mer

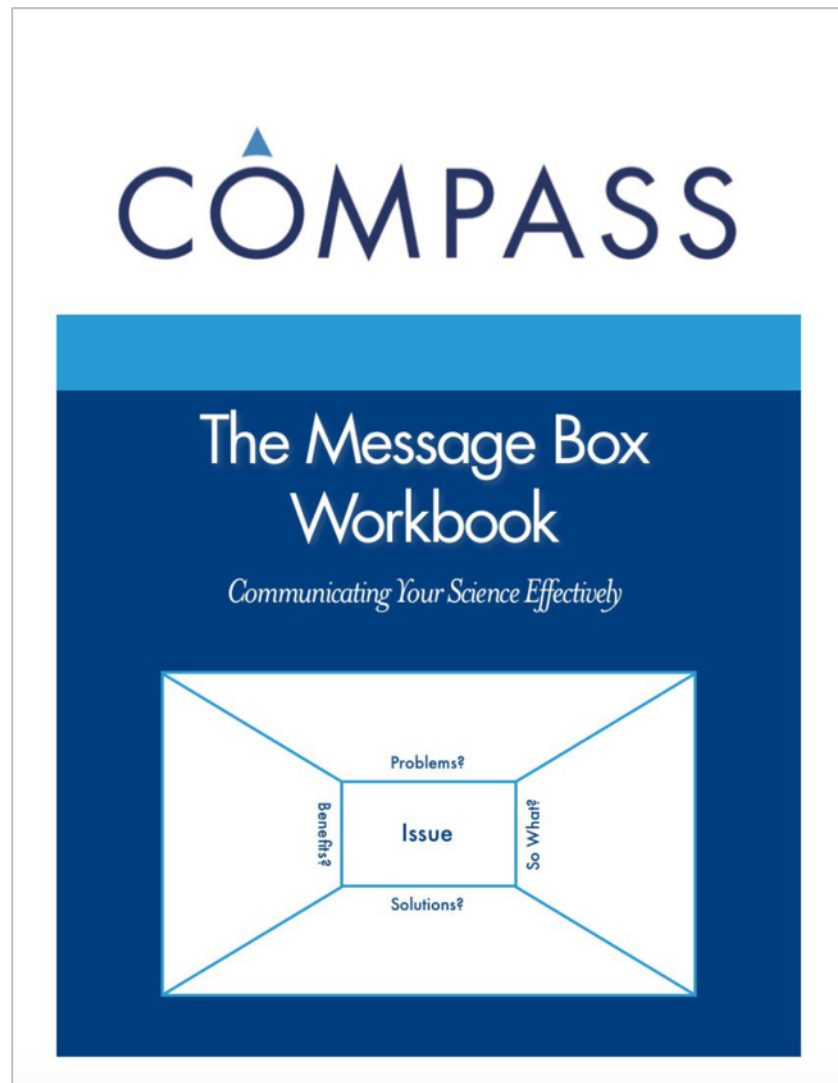
The Message Box



Where can it **be used?**

COMPASS Workbook

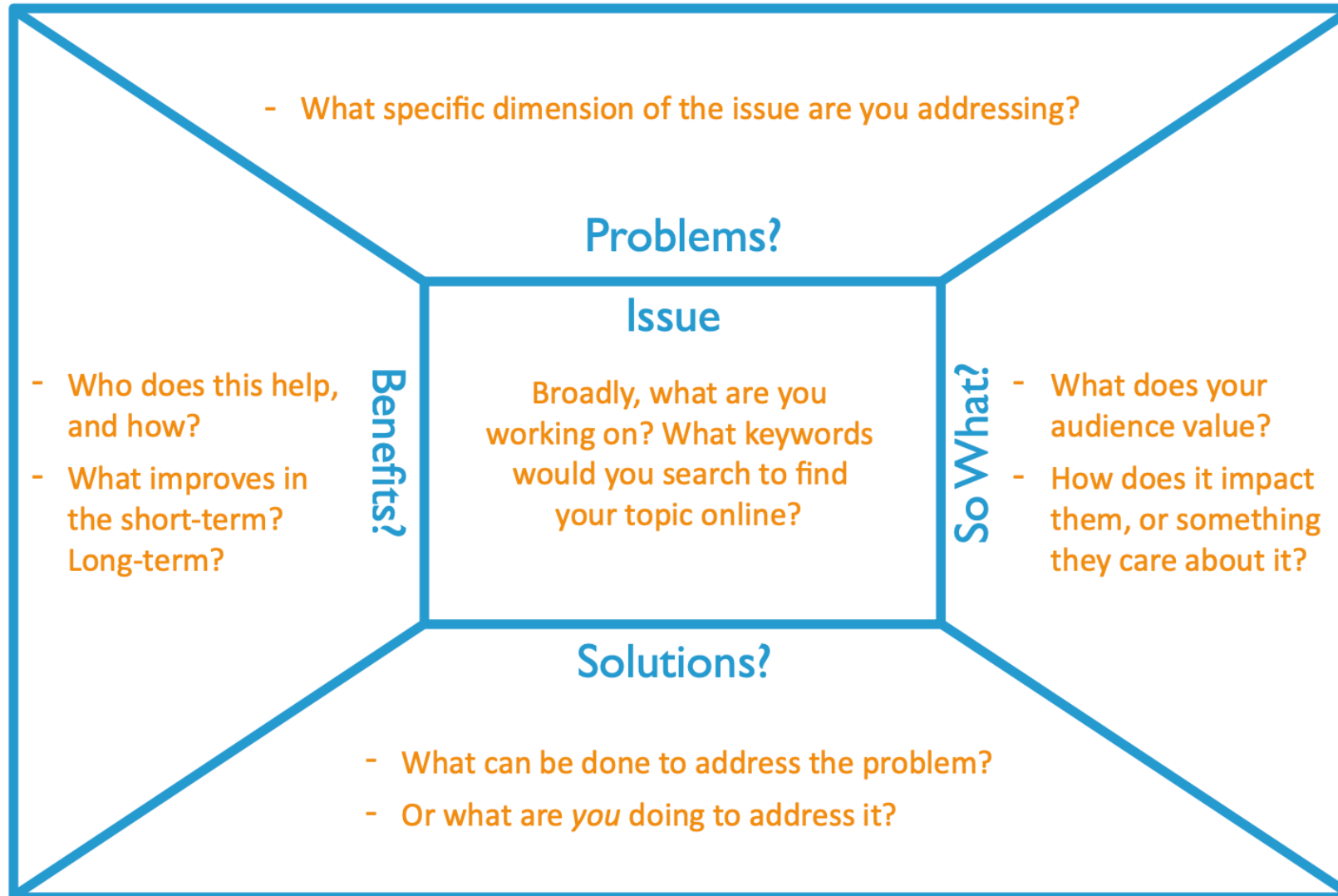
www.oceanplan-project.com/aa2019



- Explain better **what you do**
- Write a manuscript **abstract**
- Draft a **grant proposal**
- Reference during **interviews**
- Prepare a **presentation**
- ...

The Message Box

Audience: Who is impacted by this? Who can change this? Who cares about this?



1. Limit the number of **ideas**

2. Avoid



JAR·GON

“n. special words or expressions that are used by a particular profession or group and are **difficult for others to understand**”

3. Avoid too many *1#2#3#*

4. Make your messages **stick**



The Message Box Workbook

(COMPASS Science Communication Inc, 2017);

www.compasscicomm.org/the-message-box-workbook

ECCWO-2018 – 4th International Symposium on the Effects of Climate Change on the World's Oceans (PICES, 2018);

<https://meetings.pices.int/meetings/international/2018/climate-change/Background>

<https://meetings.pices.int/publications/video/2018-Climate-Change>

Link JS, et al. *A graphic novel from the 4th International Symposium on the Effects of Climate Change on the World's Oceans*. ICES Journal of Marine Science (2019), 76(5), 1221–1243. doi:10.1093/icesjms/fsy155

Thébaud O, et al. *Managing marine socio-ecological systems: picturing the future*. ICES Journal of Marine Science (2017), doi:10.1093/icesjms/fsw252