A pragmatic approach to developing Climate Adaptation Plans for fisheries and aquaculture

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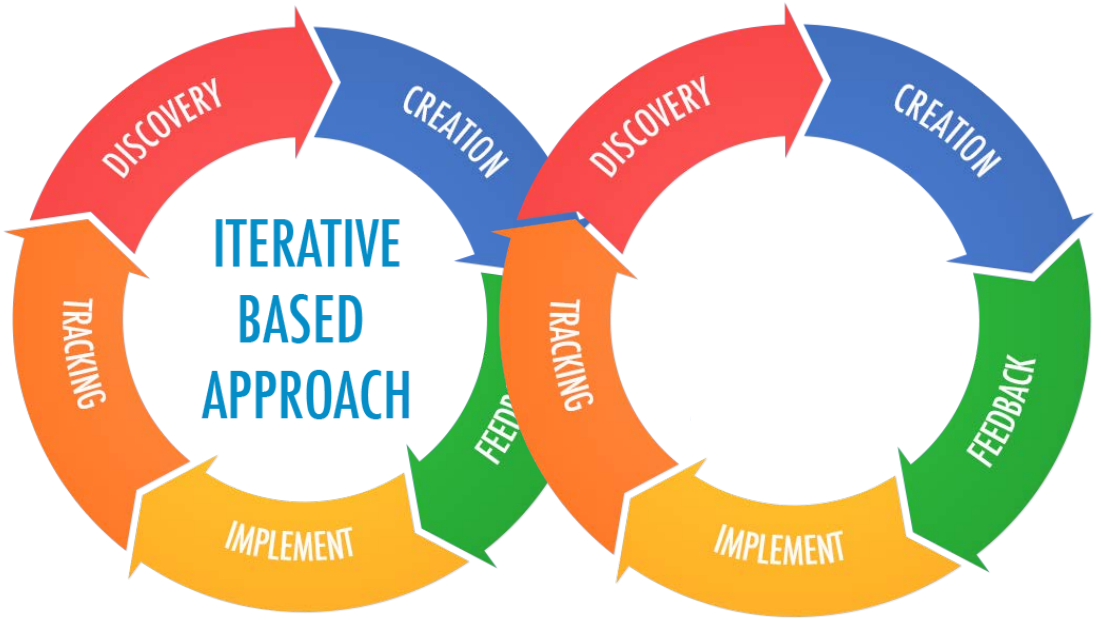
Climate change adaptation challenges

Eric Galbraith:

Sarah Cooley:



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ClimeFish:

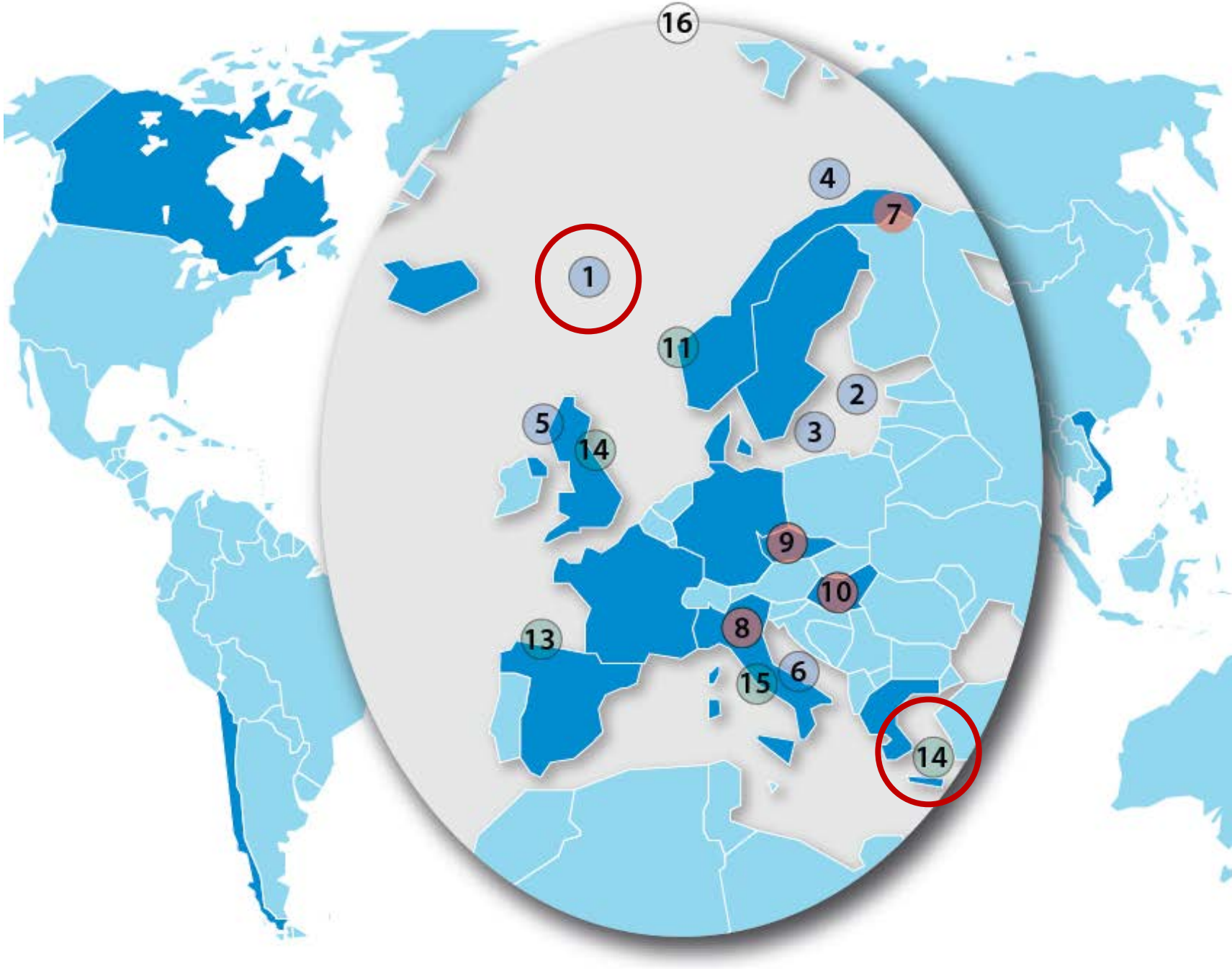
Co-creating a decision support framework to ensure sustainable fish production in Europe under climate change

Partner countries and case studies

Fisheries

Aquaculture

Lakes and ponds



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ClimeFish applies a co-creation approach

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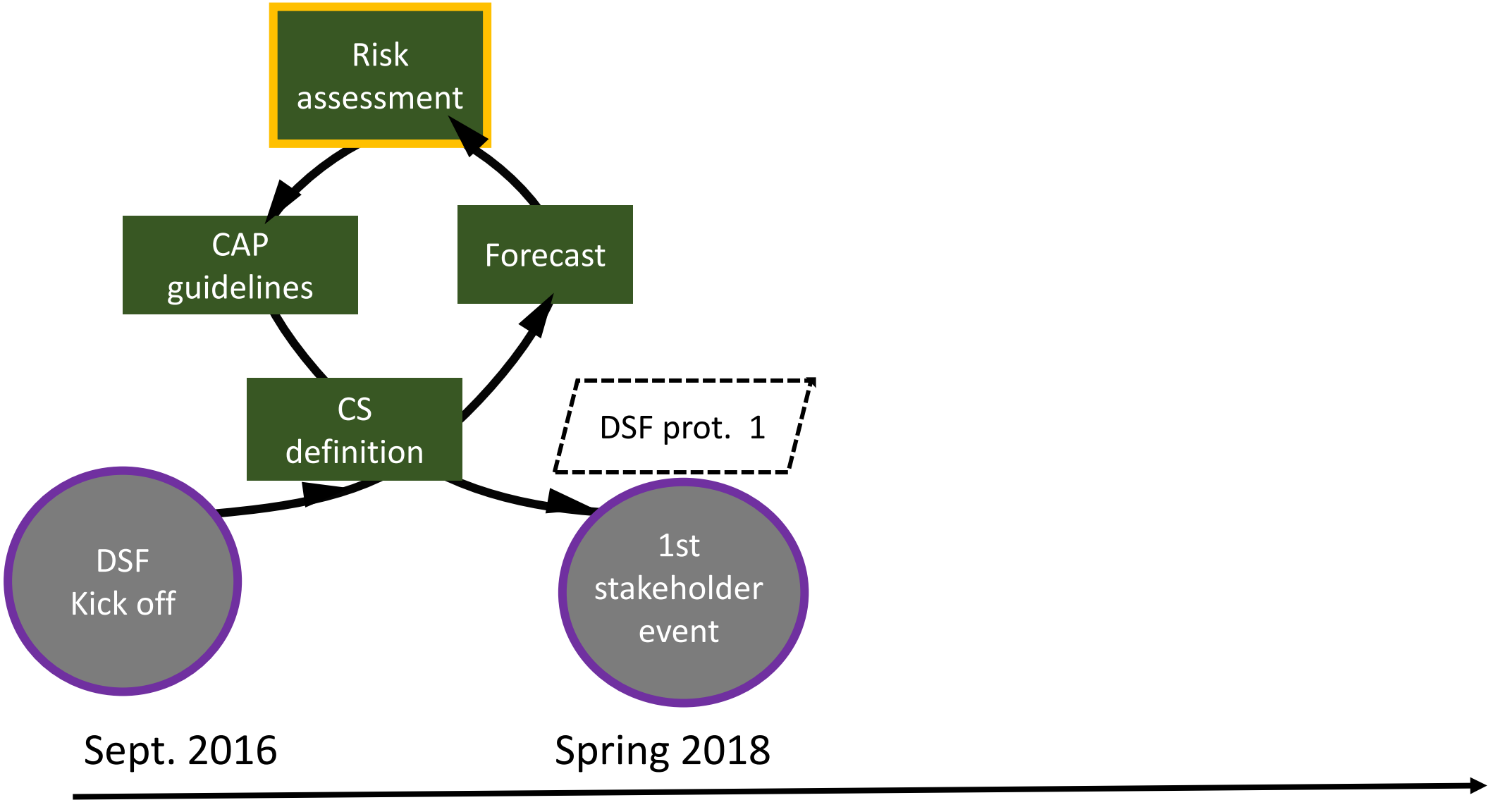
An iterative process ensures that the CAPs developed are applicable



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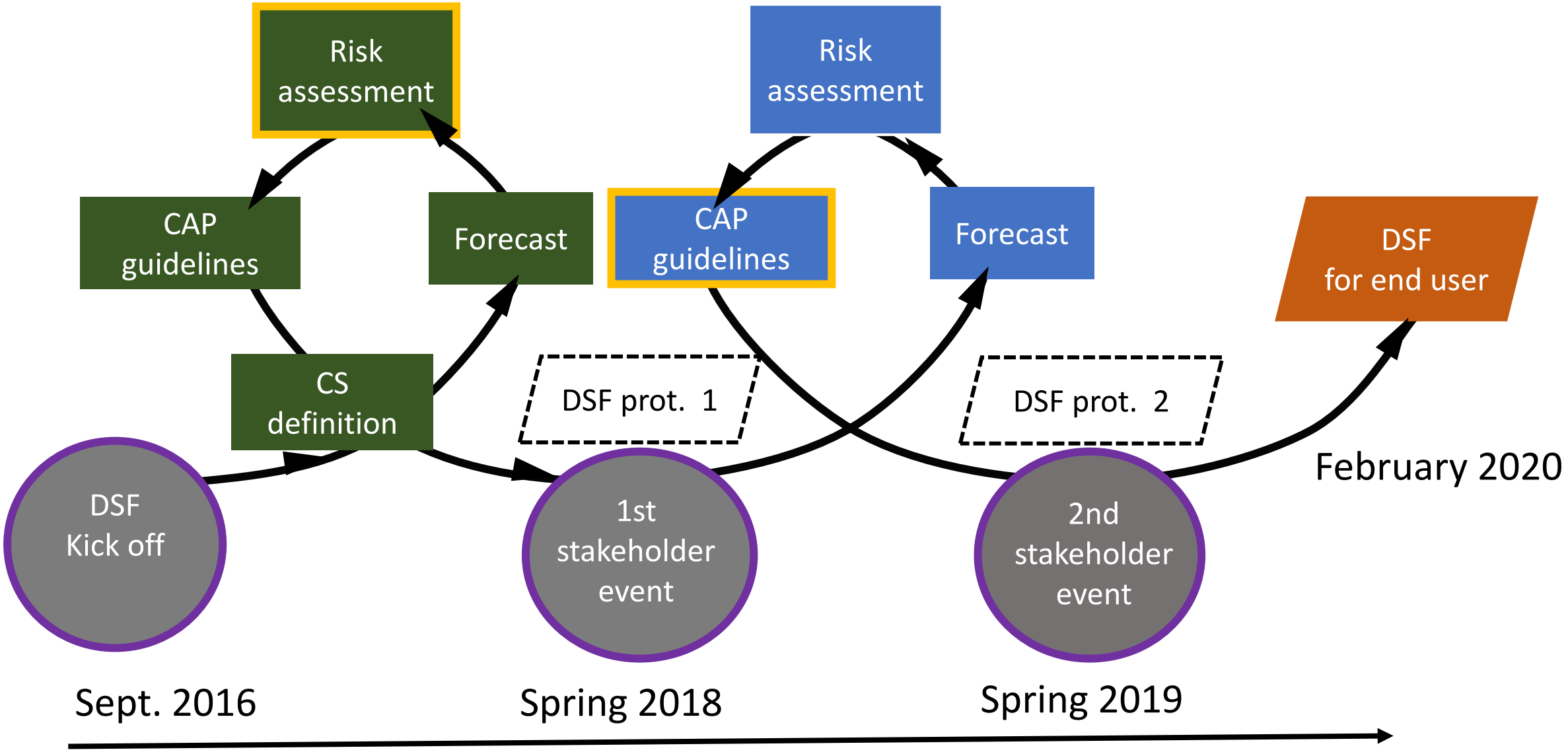
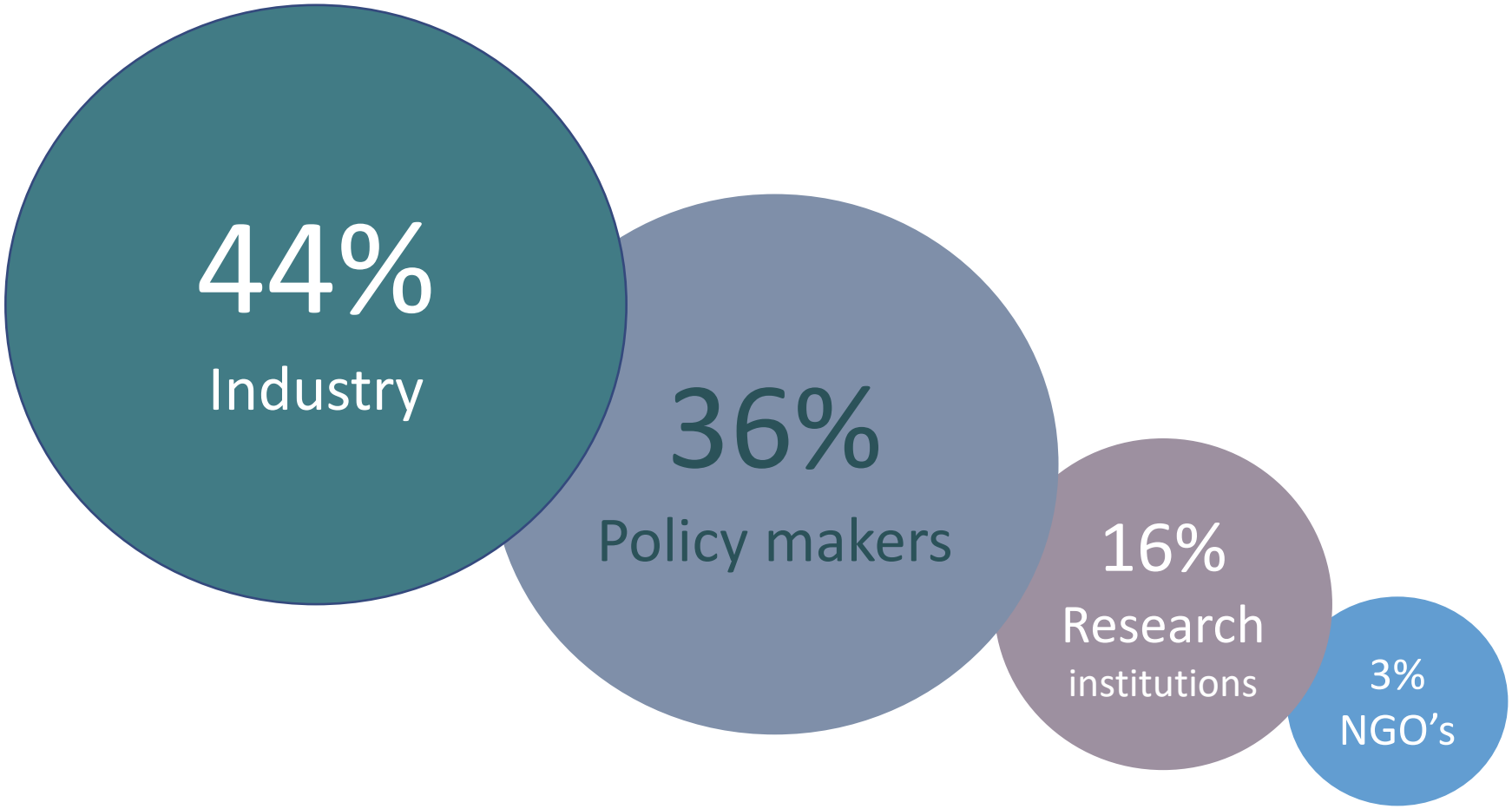


ClimeFish stakeholder events in 2018

Case study	Date	Place	Impact generator
Italian Lake Garda	17 January	Lake Garda	CAP
Spain, Iberian upwelling	22 February	Galicia	CAP
NE Atlantic (fisheries)	6-7 March	Copenhagen	CAP
NE Atlantic (aquaculture)	5 April	Oslo	CAP
West of Scotland	10 April	Aberdeen	CAP + DSS
Greece	18 April	Athens	CAP + DSS
Hungary	23 April	Szarvas	CAP + DSS
European waters overall	10 September	Brussels	CWA standard

112 persons have attended seven stakeholder events



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Lessons learned in stakeholder events

- Where there is evident impact industry is eagerly taking part
- Case leader knowledge and contact with stakeholders benefits the process
- Stakeholder events facilitates discussion and problem solving among actors
- Necessary to fine tune expectations up front
- Distinguish between risk assessment and adaptation measures

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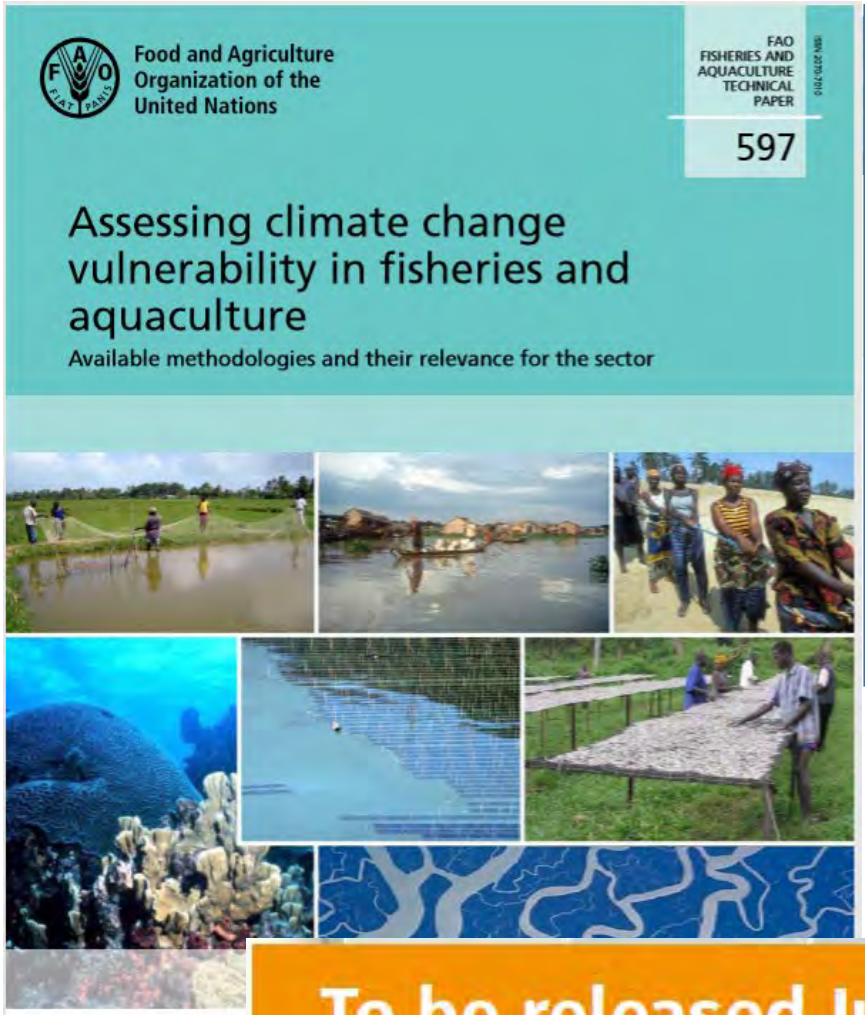
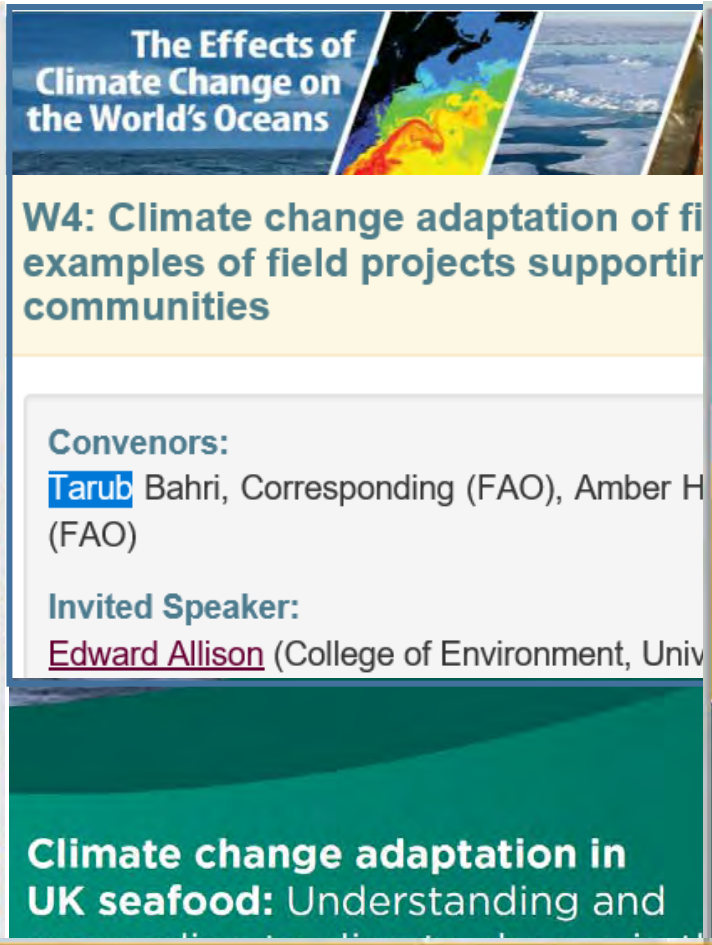
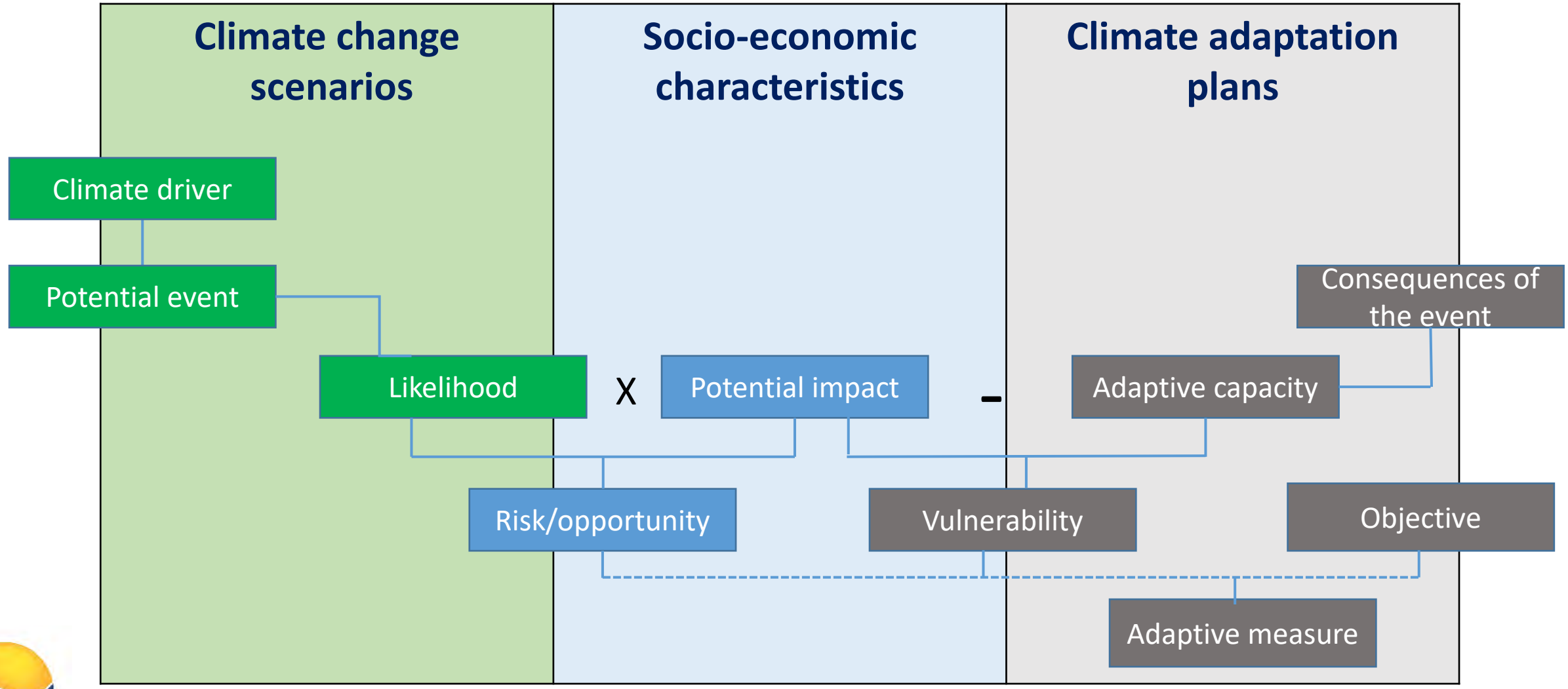
The ClimeFish approach to CAP development applies previously presented principles





To be released July 2018 at FAO Committee on Fisheries #COFI33

The development of CAPs is based on EAF, EAA and RBM



Adapted from IPCC (2014) and FAO (2015)

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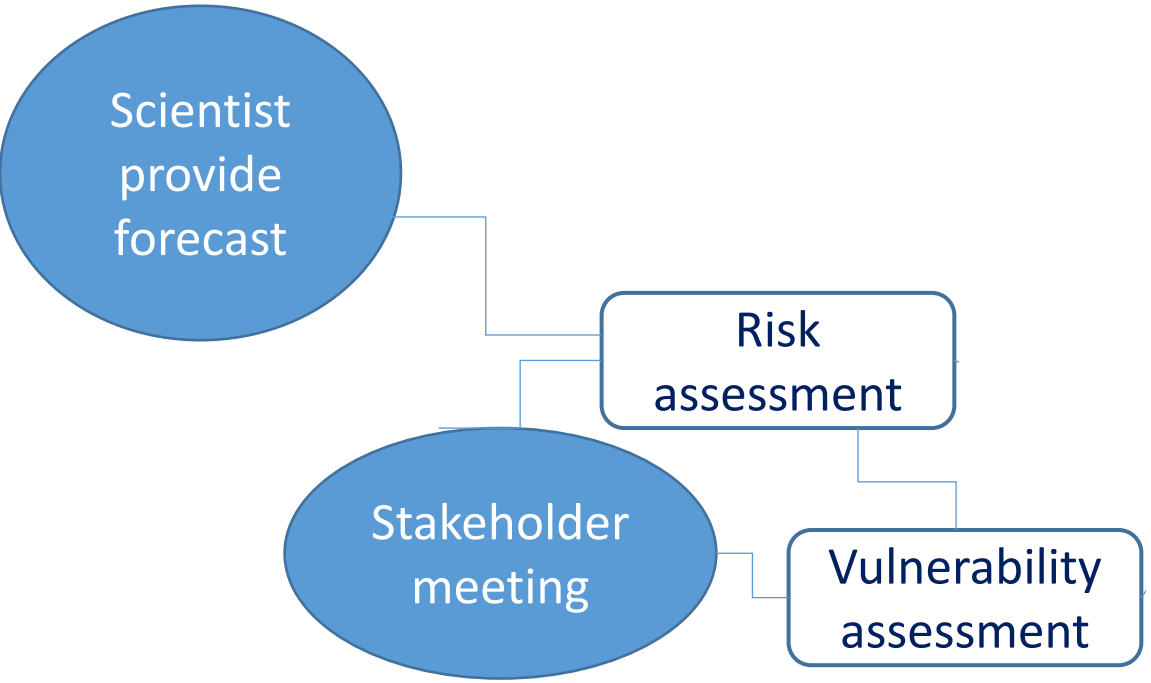
Adaptive measures are identified based on risk assessment and vulnerability assessment

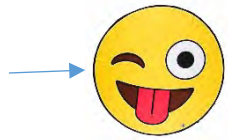


Grafton, 2010
Johnson et al., 2016
FAO, 2015

Time line

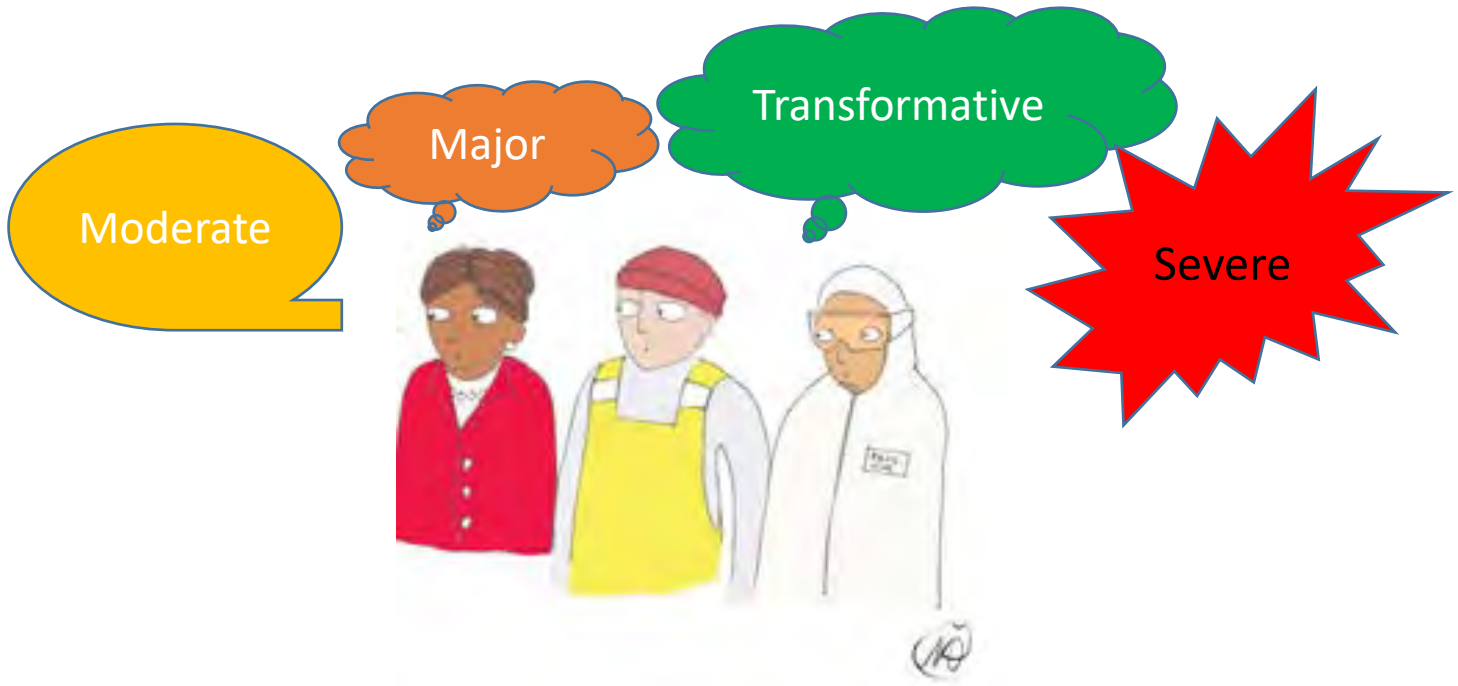
Stakeholders and scientists identify and score risks & opportunities

Category	Climate Change Drivers	Potential Impact	R/O	Stakeholder severity score	Stakeholder consensus	Severity Analysis	Consequence ranking	Likelihood Score	Risk score	Risk rating
				S	Std. Dev	A	C = (S, A)	L	R = (C, L)	
The Fisheries	Storminess and waves	11. Deployment and performance of fishing gear reduced due to storminess	R	2	↔ 1.27	2	2	Possible	C2, L Possible	Major
			O	-1		0	-1		C-1, L Possible	Moderate
	Temperature - changing distribution	12. Potential new fisheries due to emerging species	R	2	↔ 1.26	0	1	Possible	C1, L Possible	Moderate
			O	-2		-2	-2		C-2, L Possible	Major
	Temperature	13. Changes to catchability of target species	R	2	↔ 1.53	1	2	Possible	C2, L Possible	Major
			O	-2		-2	-2		C-2, L Possible	Major
Socio-economics and governance	Storminess and waves	14. Reduced safety at sea for crew due to waves and storminess	R	3	↔ 1.15	2	2	Possible	C2, L Possible	Major
	Storminess and waves	15. Reduced days at sea due to severe weather conditions	R	2	↗ 0.76	2	2	Unlikely	C2, L Unlikely	Moderate
	Increasing rainfall, storminess and waves, sea level rise	16. Damage to ports and land-based facilities due to weather conditions and sea level rise	R	2	↗ 0.83	2	2	Possible	C2, L Possible	Major
	Temperature - changing distribution	17. Increased complexity in negotiations on allocations of shared stocks	R	3	↗ 0.86	3	3	Likely	C3, L Likely	Severe
	Temperature	18. Overfishing of shared pelagic stocks due to unilaterally set quotas	R	3	↗ 0.69	3	3	Likely	C3, L Likely	Severe



In case of stakeholders express different opinions

- We provide transparency through the stakeholder consensus index
- Explain the differing stakeholder perspectives on the impacts
- We revisit the science



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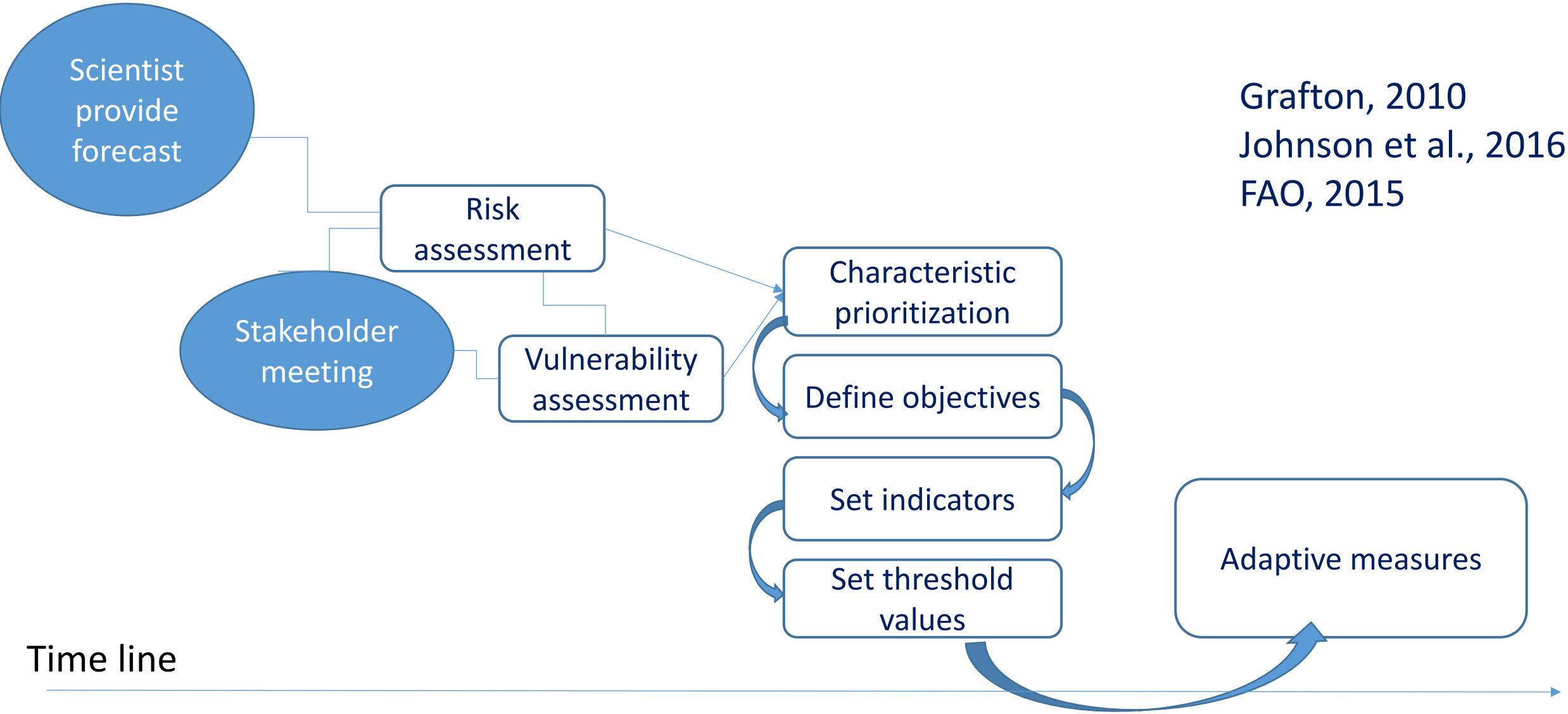
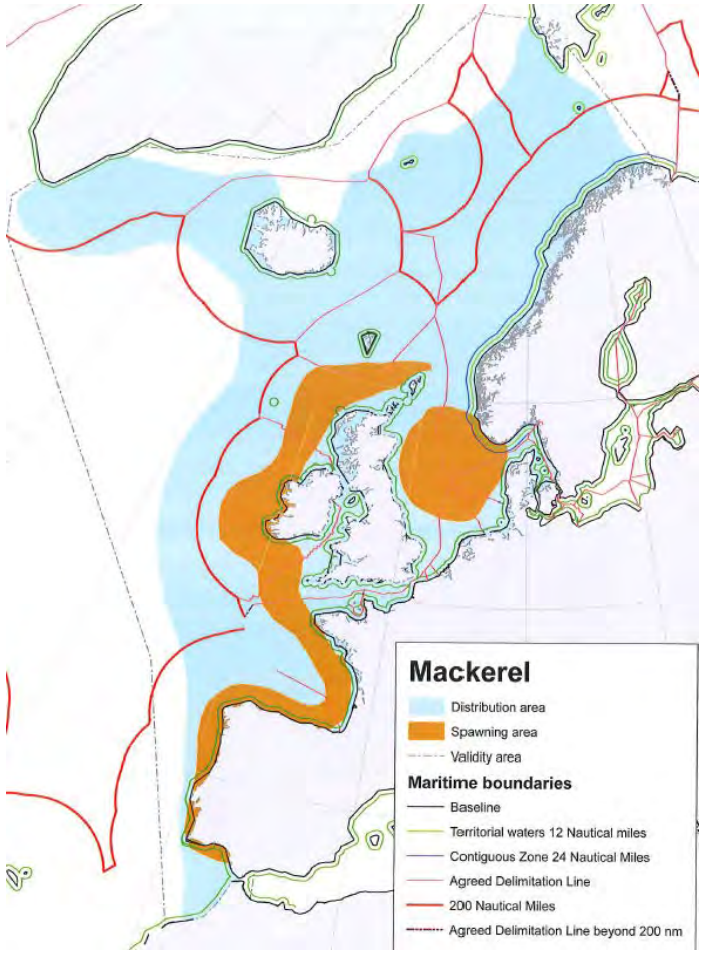
Adaptive measures are identified based on risk assessment, vulnerability assessment, and setting objectives



Grafton, 2010
Johnson et al., 2016
FAO, 2015

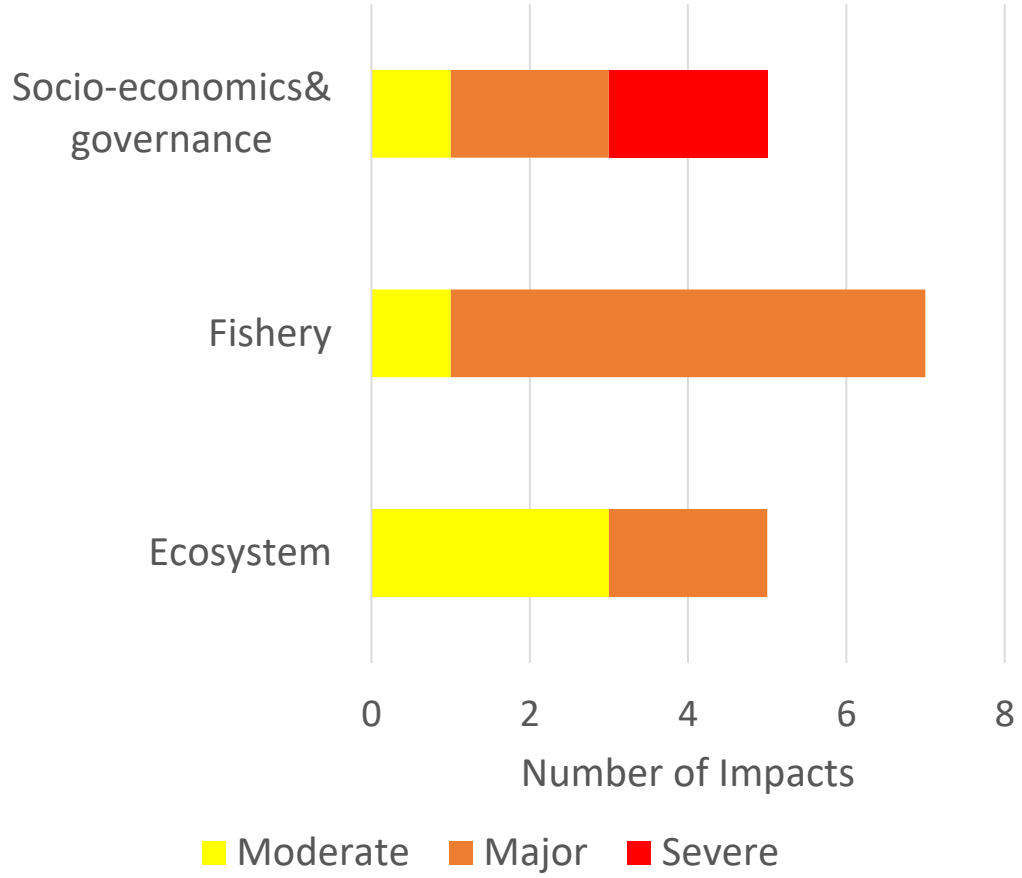
Case studies representing two sectors

NE-Atlantic Pelagic fisheries

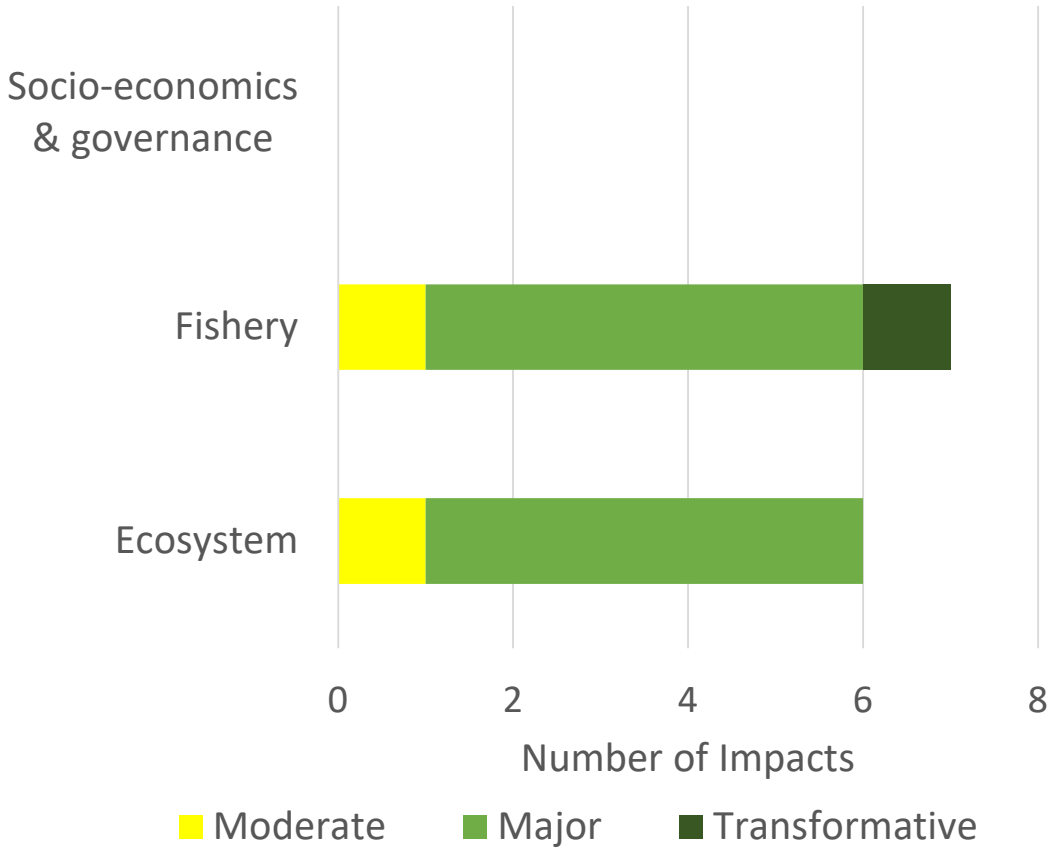


Greek aquaculture

Identified risks and opportunities in NE Atlantic fisheries



Risks



Opportunities

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NE Atlantic fisheries:

Main challenge when making CAP:

- Quota sharing agreements not applicable because of changes in fish distribution

Need guidelines for establishing legal good practice when resources move

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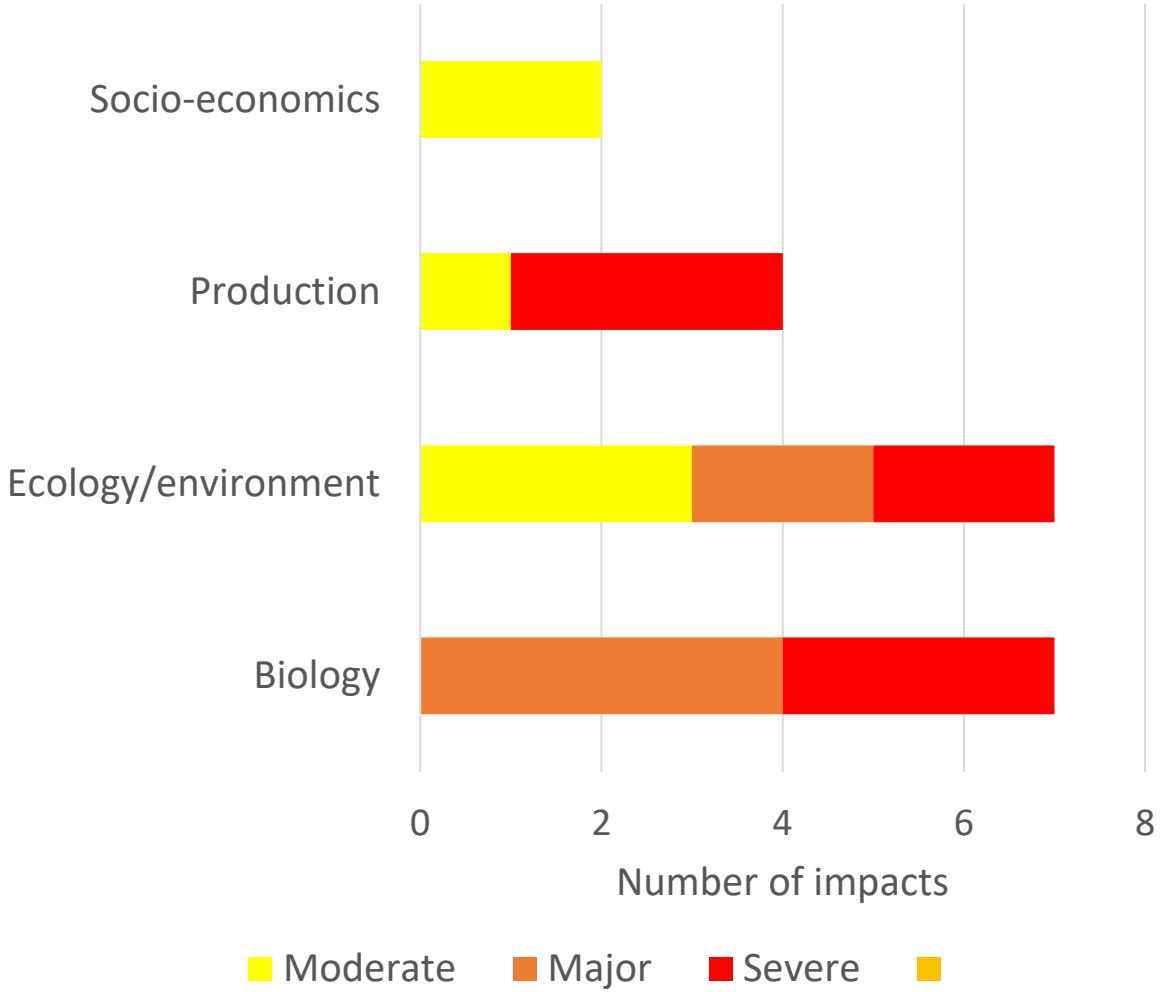
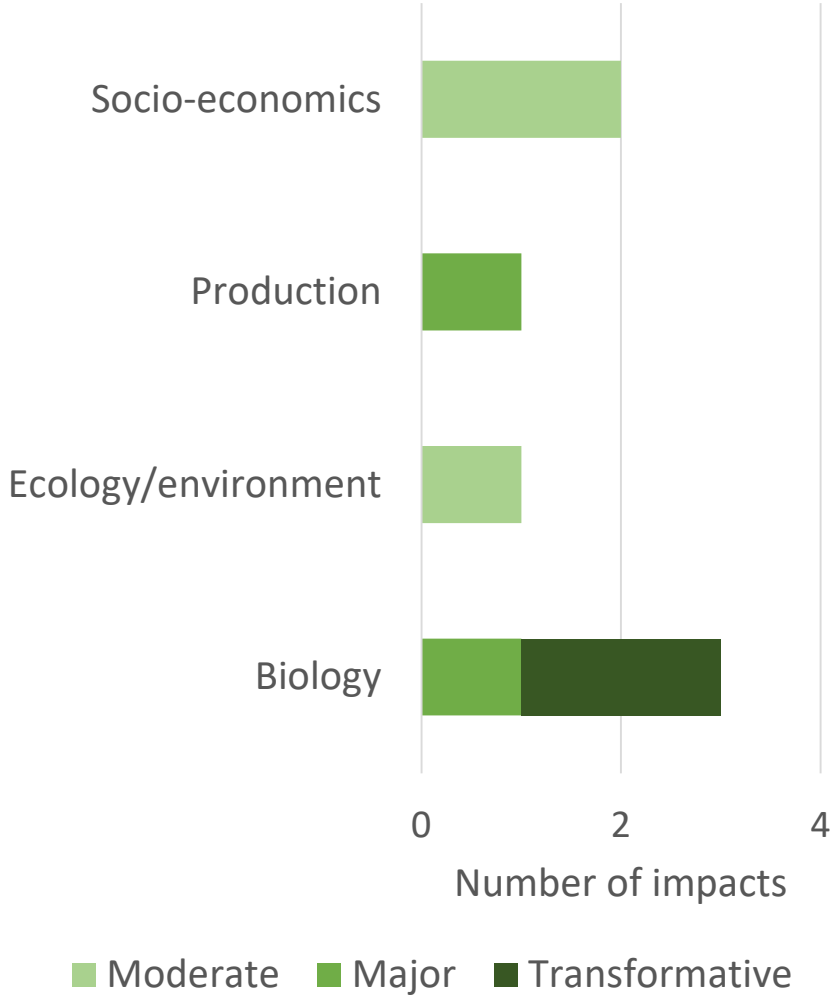
Identified risks and opportunities in Greek aquaculture



Risks



Opportunities

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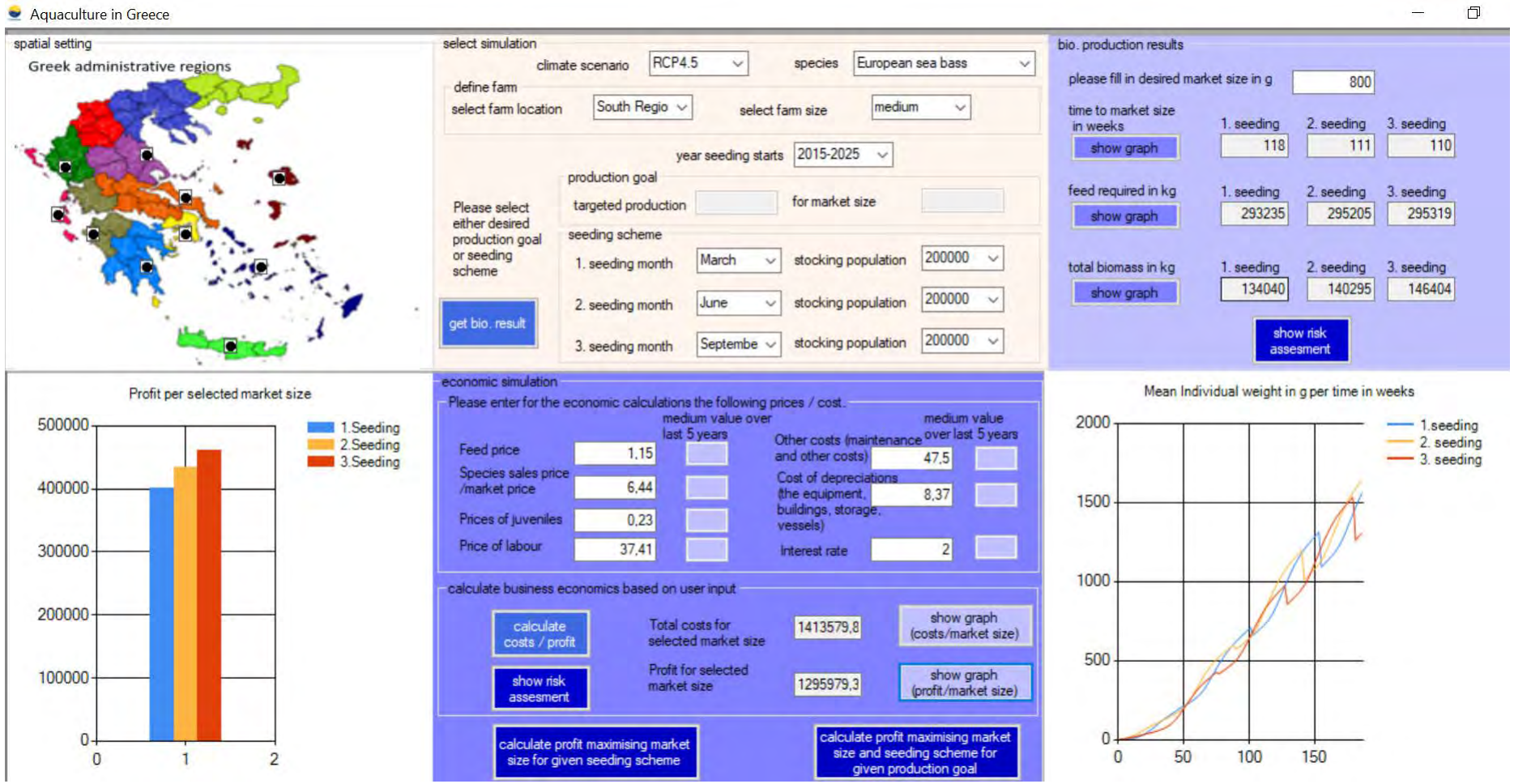
Decision support software for Greek aquaculture supports CAP



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Greek aquaculture

Main challenges when making a CAP:

- Complexity of the climate drivers involved
- High dependency of the profit on the market

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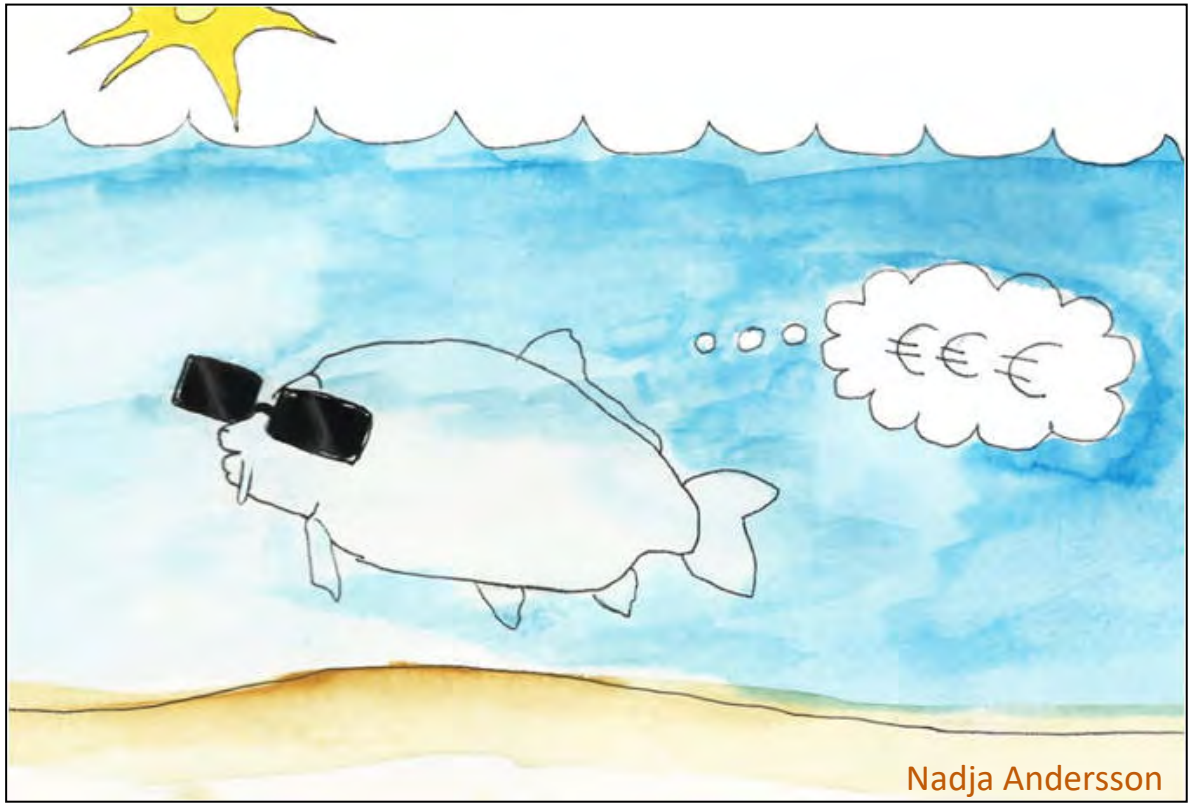
Common conclusions after the first loop in seven cases

- Aquaculture is perceived to be more vulnerable than fisheries
- Temperature is considered the main driver across sectors
- CAP objectives: more monitoring, and better governance



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Country information

EEA Member countries are at different stages of preparing, developing and implementing national adaptation strategies and plans.

See in the map below the information provided by each Member State of the European Union under the European mechanism for monitoring and reporting information relevant to climate change (Regulation (EU) No 525/2013).

For other EEA Member countries, the information provided is based on voluntary submissions to EEA.

Filter by any of the topics in the drop-down list ('Choose Thematic Map') and the map will indicate if links on the topic are available for each country. To navigate to the information just scroll over to one country on the map and a pop-up window will show the existing link(s) and allow clicking on them.

Select a country to go to country's page: Choose a country

Choose Thematic Map:

Action plans

Show Thematic Map

No links availabe for this theme
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Currently no information available

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Guidelines for how to make Climate Adaptation Plans for fisheries and aquaculture will become an European voluntary standard (CWA)

- A CEN Workshop Agreement (CWA) is developed and approved in an open CEN process during one year

- The first CEN work shop, in Brussels 10.10.2018

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Join this iterative process and co-create guidelines to make Climate Adaptation Plans with stakeholders

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http://climefish.eu

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THANK YOU

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