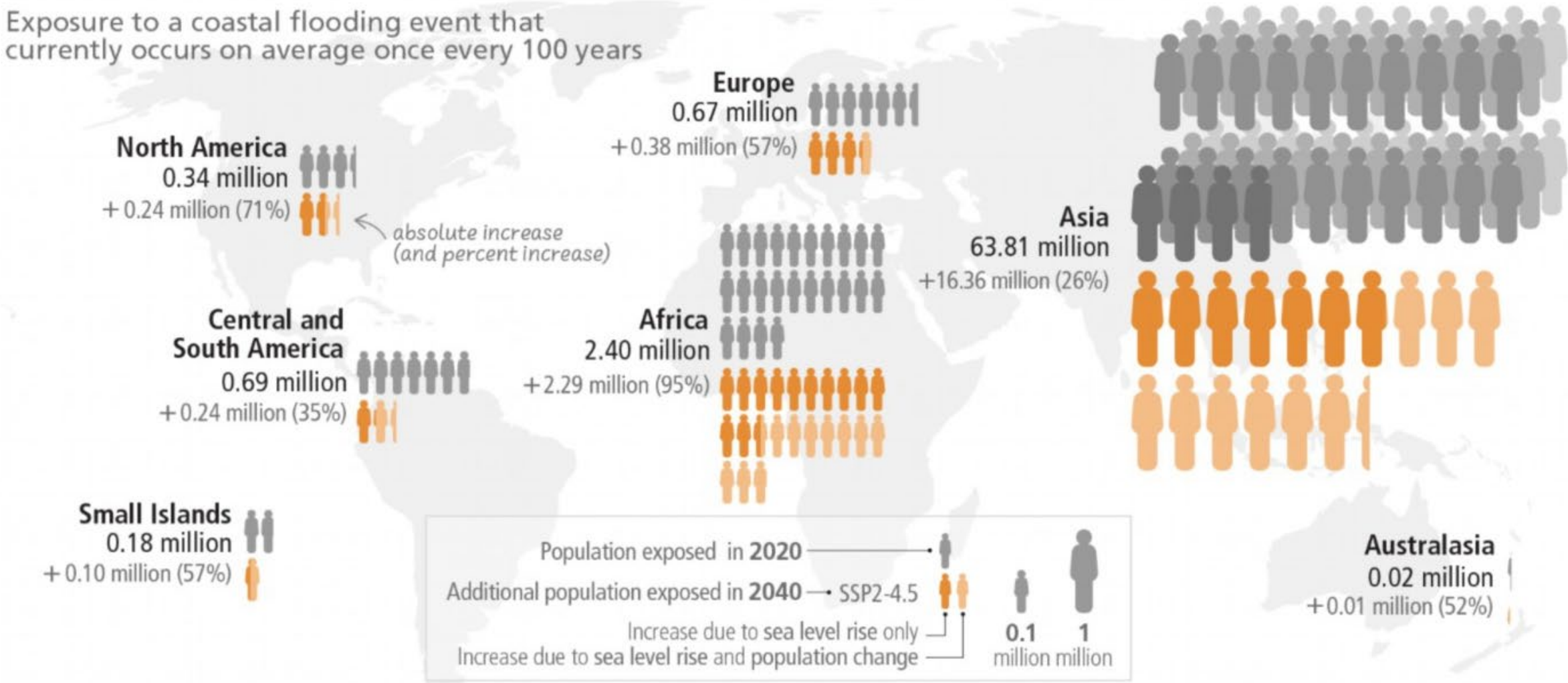
Asia is the region with the largest population exposed to coastal flooding



IPCC SYR Longer Report (2023)

Local relative sea level rise increases the profile of risks to coastal cities

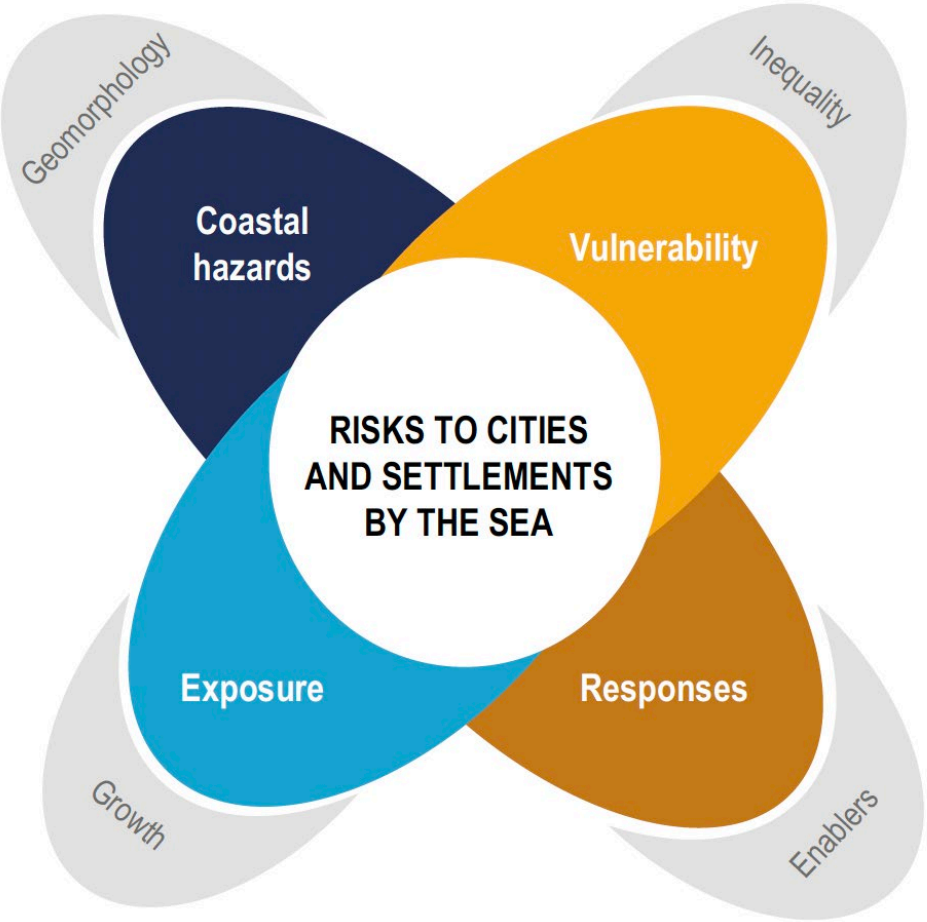
Relative sea level change

Chronic high tide flooding
Extreme sea level events
Coastal flooding
Salinization
Coastal erosion
Submergence

Coastal impacts

Ecosystems
Human livelihoods
Infastructure
Food and water security
Cultural heritage
Existence of cities

↑ *most intense tropical cyclones*
heavy precipitation
marine heatwaves
ocean acidifiation



IPCC WGII report (2022)

Global mean sea level is rising at an increasing rate

Global mean sea level rise from 1901 to 2018 : **+ 0.20 m**

*unprecedented since at least the last **3000 years***

+ 1.3 mm/year

1901 to 1971

+ 1.9 mm/year

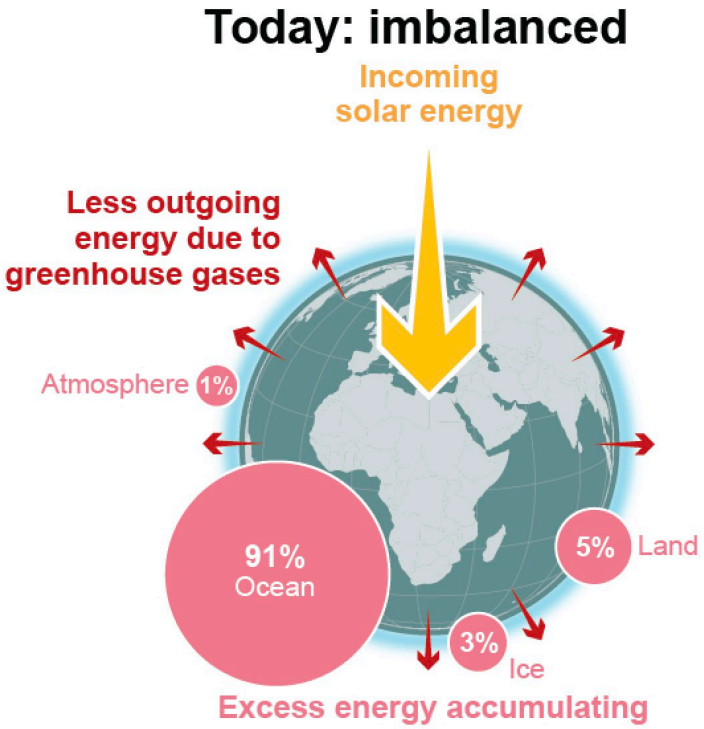
1971 to 2006

+ 3.7 mm/year

2006 to 2018

IPCC WGI report (2021)

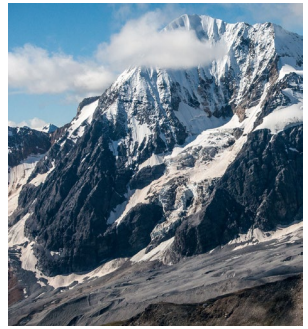
Heating of the climate system due to emissions of greenhouse gases is causing global mean sea level rise through ocean warming and the loss of land ice



Human influence on climate is the main driver of

ocean warming and thermal expansion

Greenland surface meting



glacier retreat

with long lasting responses

IPCC WGI report (2021)

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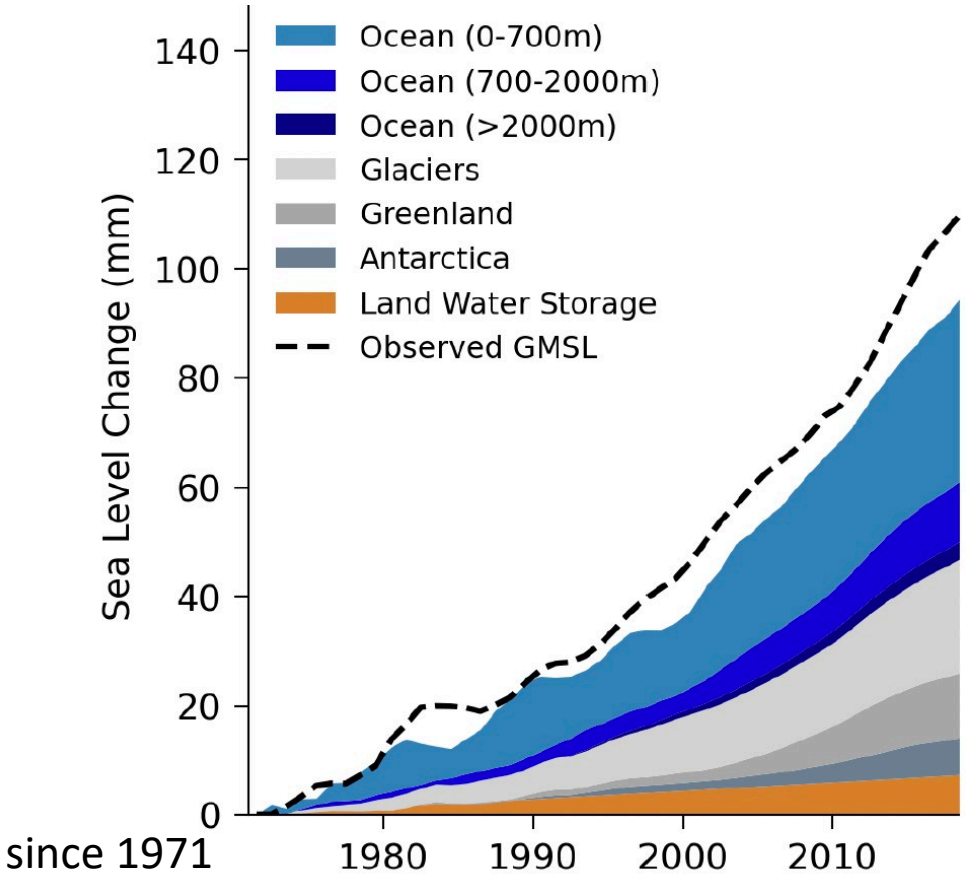


Ocean thermal expansion

Glaciers

Greenland and Antarctic ice sheets

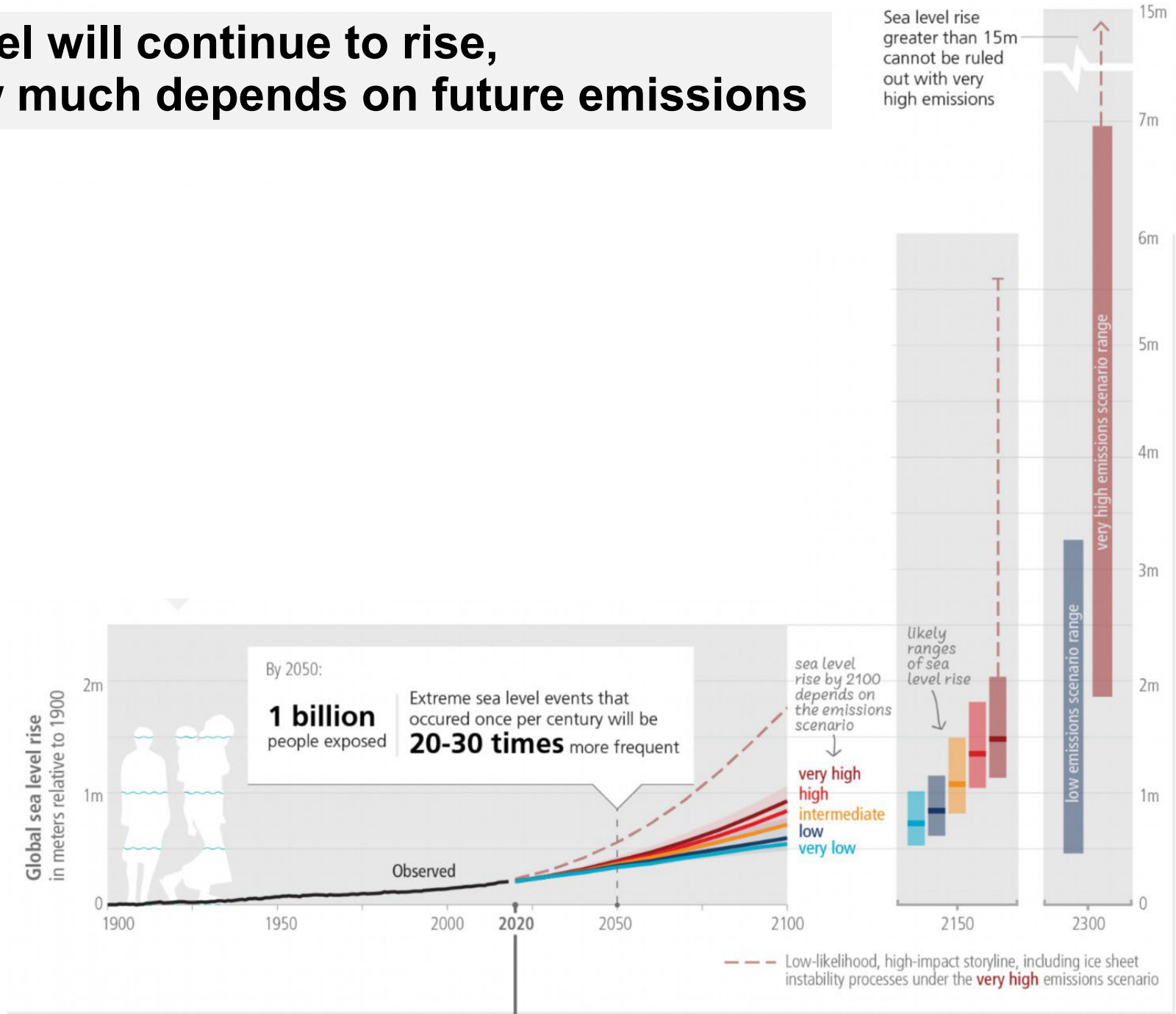
now dominant

x4

1990s to 2020s

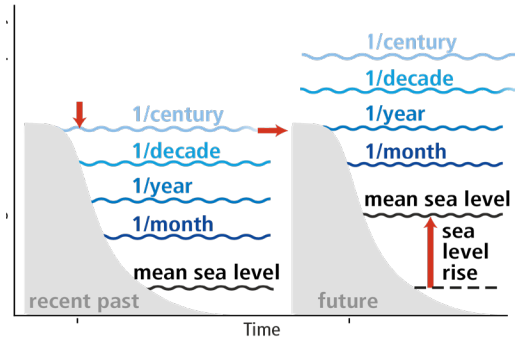
IPCC WGI report (2021)

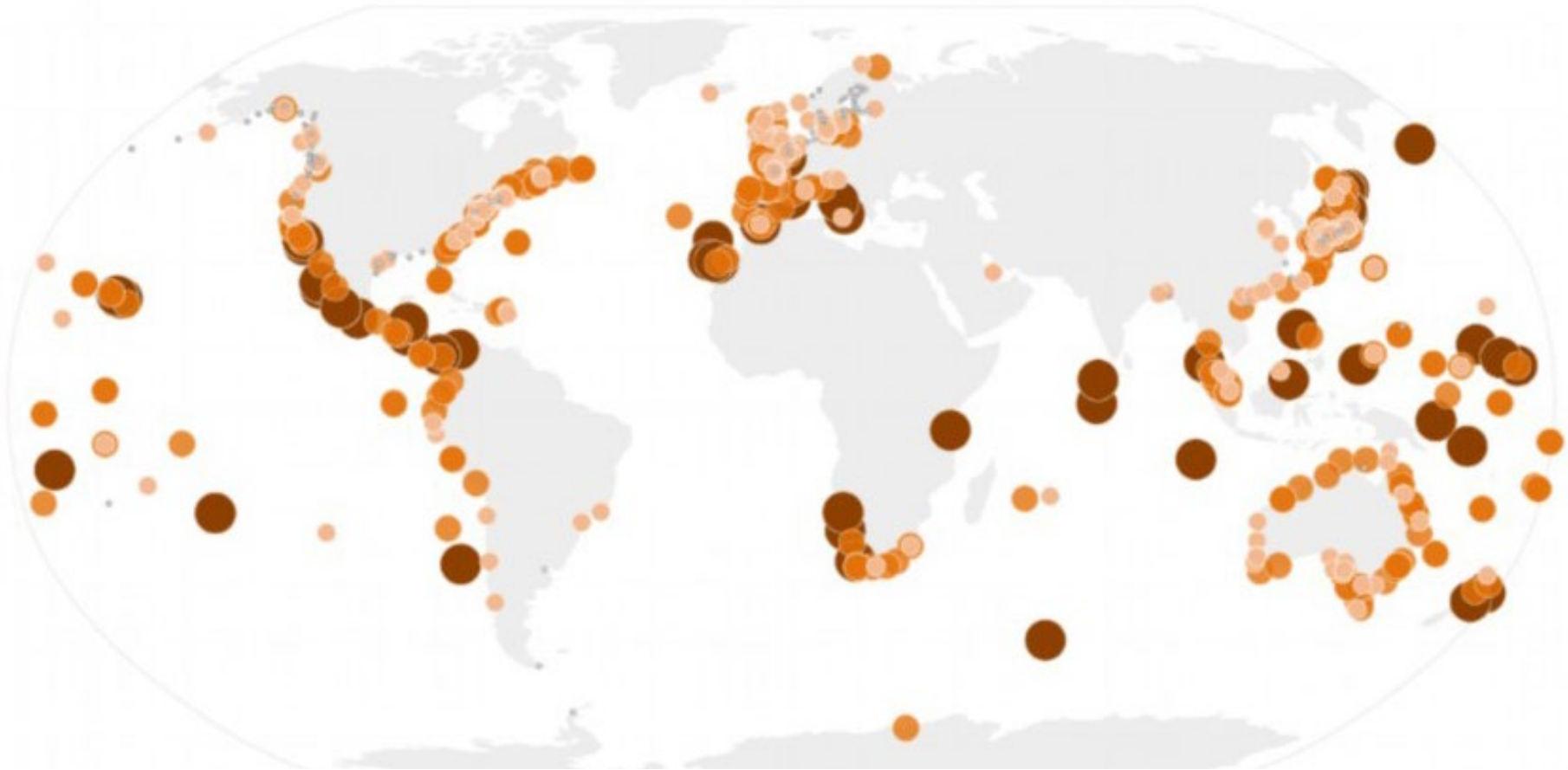
Sea level will continue to rise, but how fast and how much depends on future emissions



IPCC SYR Longer Report (2023)

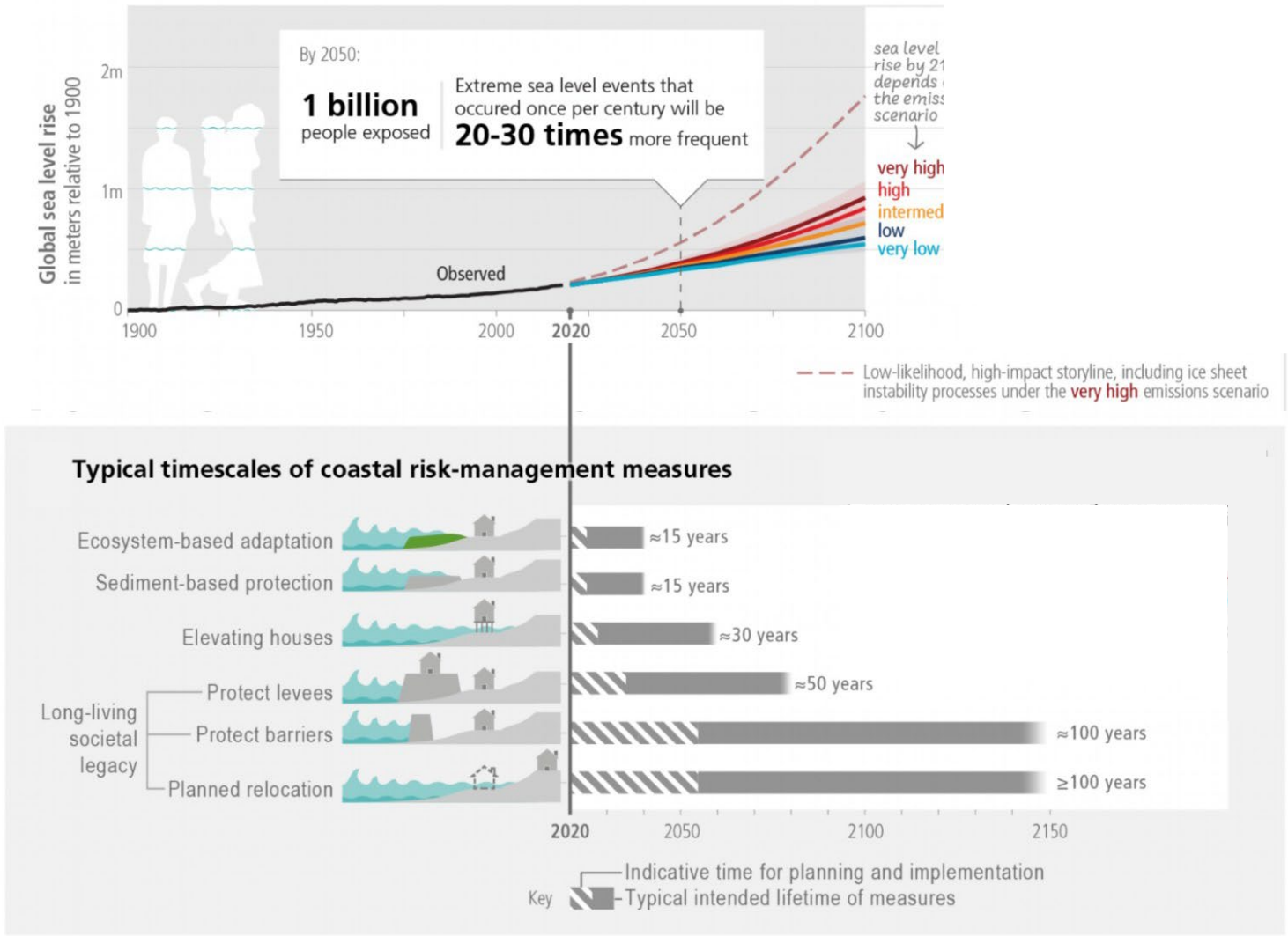
Increased frequency of extreme sea level events by 2040





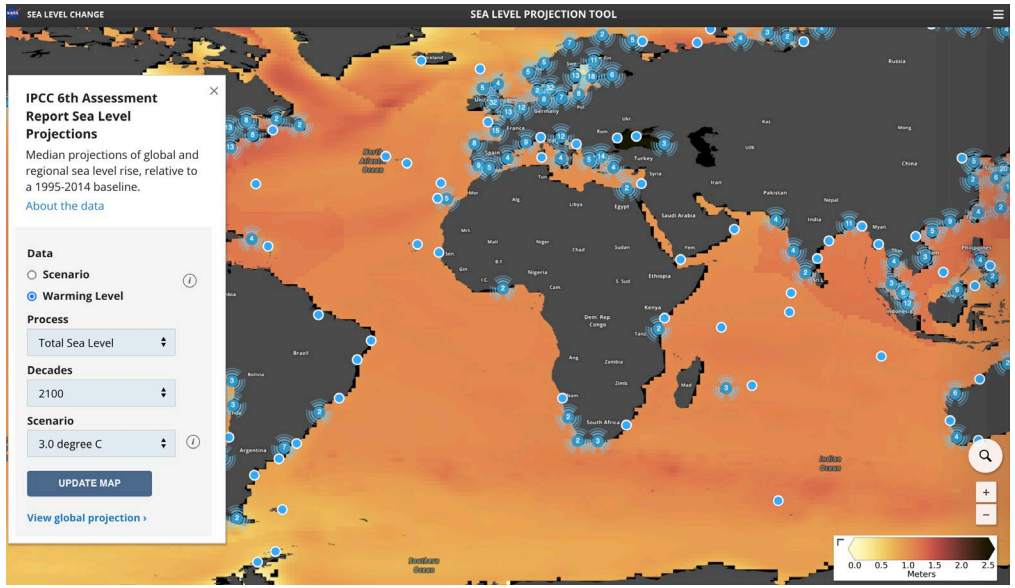
IPCC SYR Longer Report (2023)

Responding to sea level rise requires long-term planning

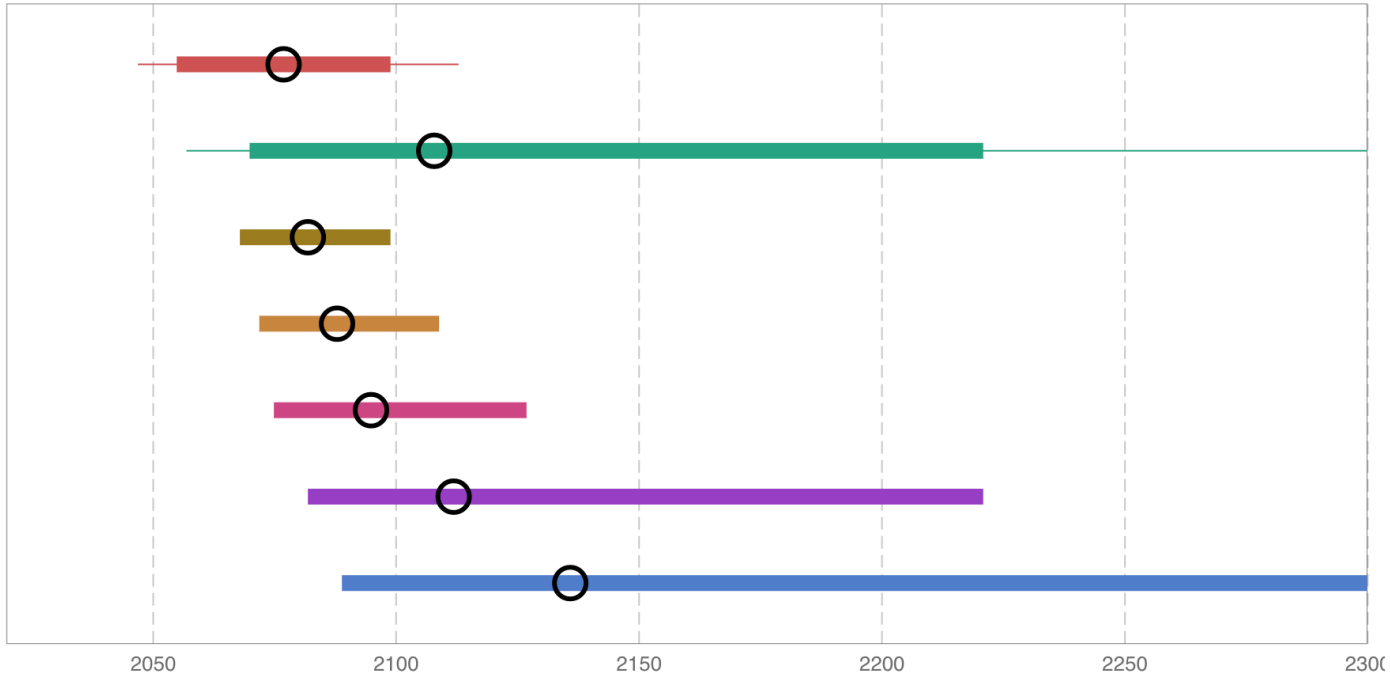


IPCC SYR Longer Report (2023)

Higher greenhouse gas emissions lead to larger and faster sea level rise, demanding earlier and strong responses, reducing the lifetime of some options



Year by which **rise of 0.5 m above 1995-2014** is expected at Ko Si Chang

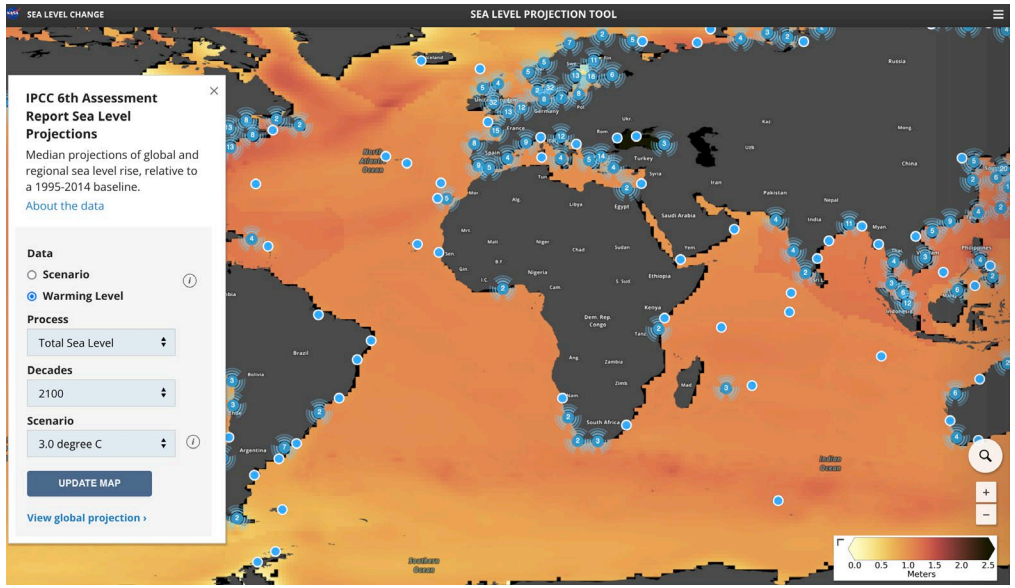


Greenhouse gas emissions scenarios

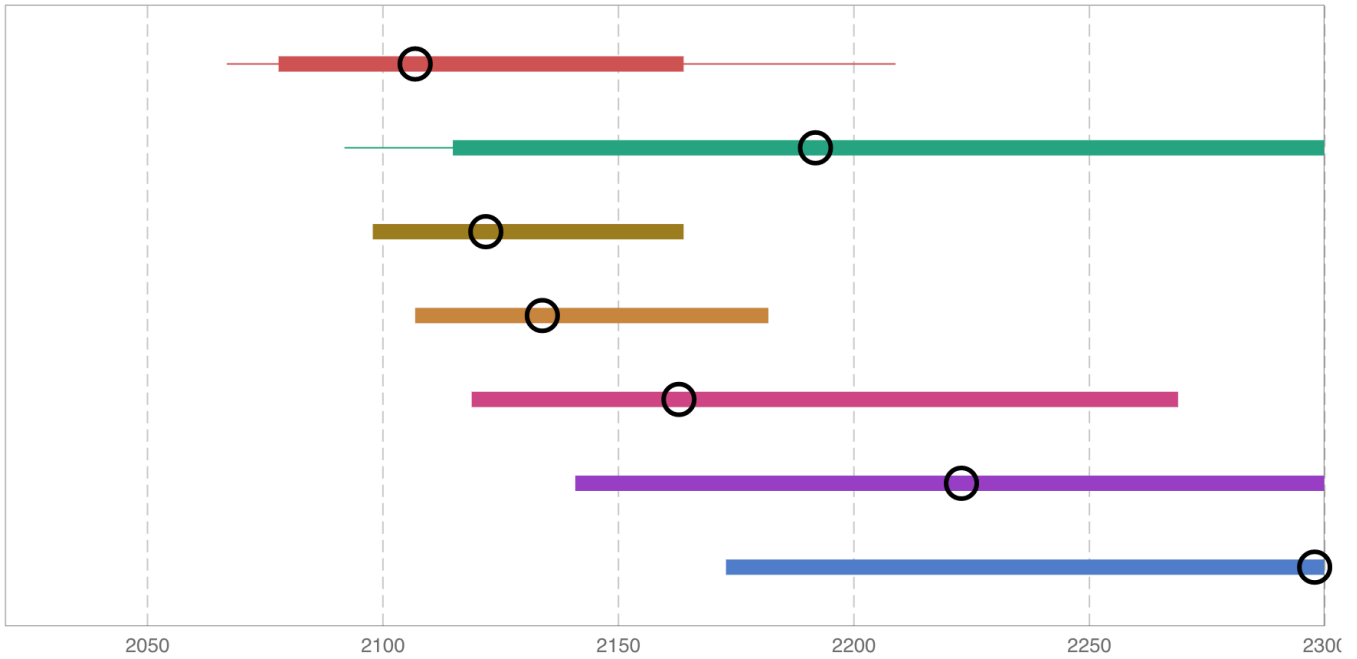
- SSP5-8.5 Low Confidence
- SSP1-2.6 Low Confidence
- SSP5-8.5
- SSP3-7.0
- SSP2-4.5
- SSP1-2.6
- SSP1-1.9

https://sealevel.nasa.gov/ipcc-ar6-sea-level-projection-tool

Higher greenhouse gas emissions lead to larger and faster sea level rise, demanding earlier and strong responses, reducing the lifetime of some options



Year by which **rise of 1 m above 1995-2014** is expected at Ko Si Chang



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