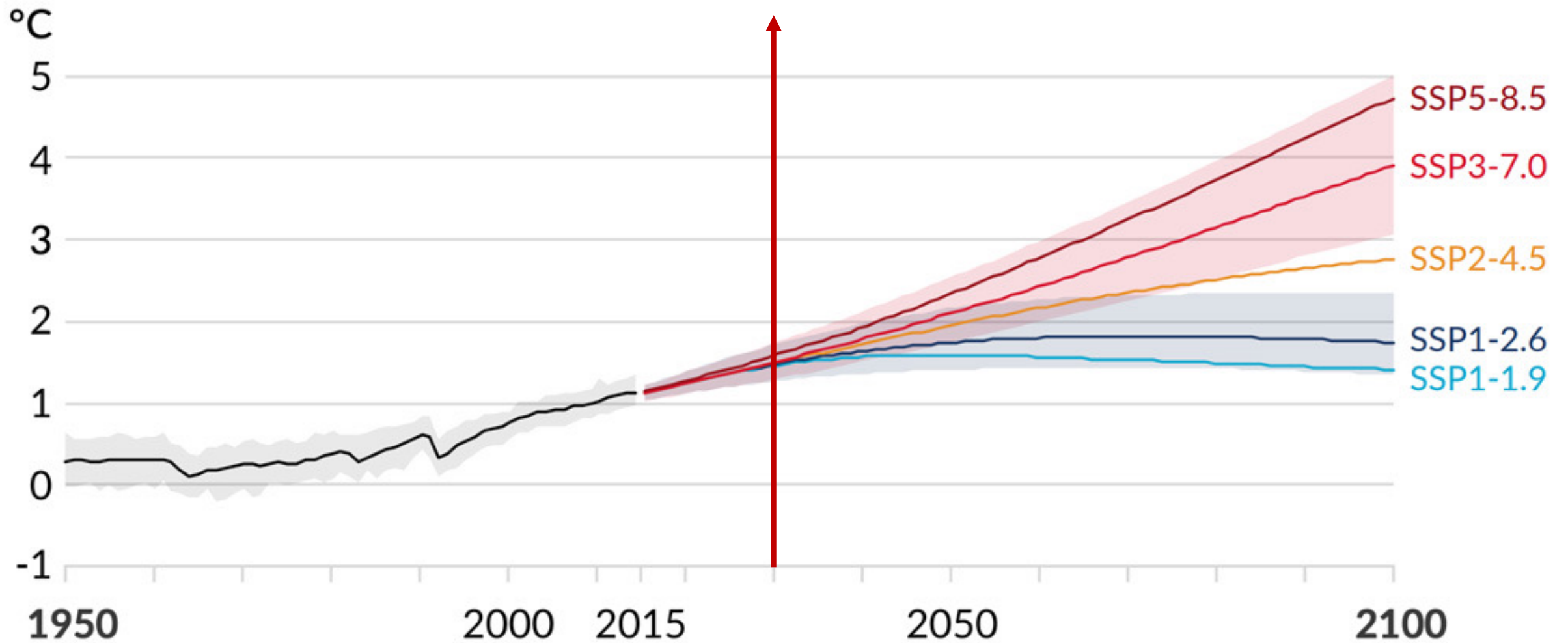


What will it be like to operate in a 1.5C+ world?

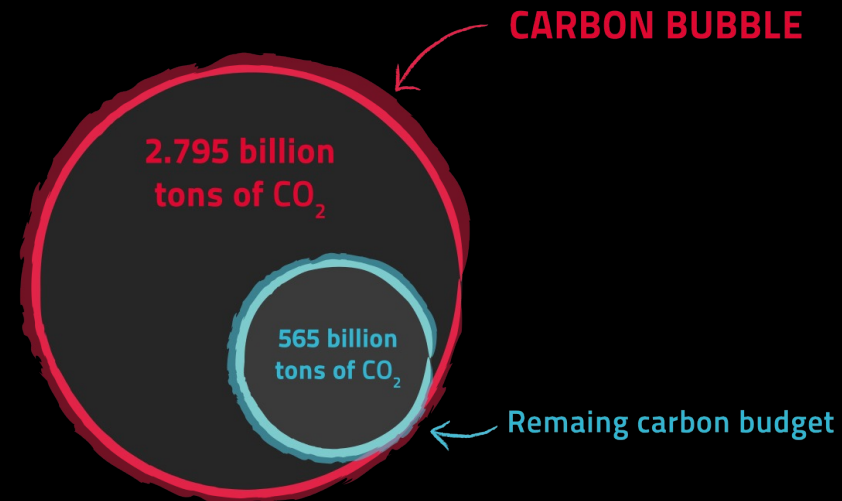
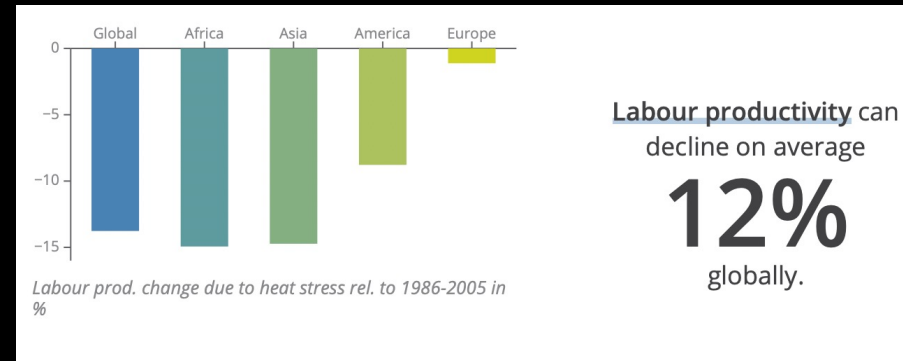




Physical risks

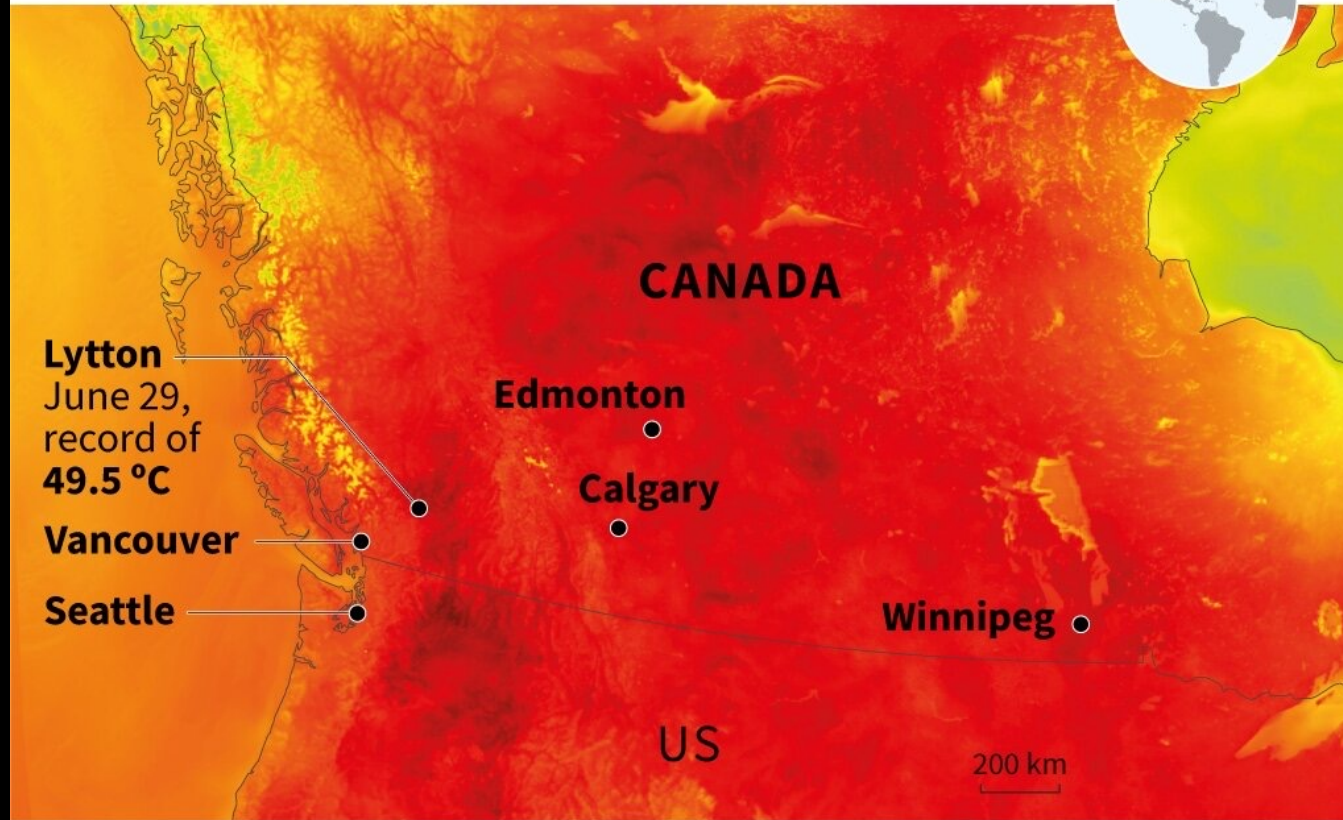
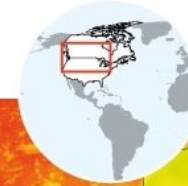


Transition risks



Extreme heat in Canada and the US

Forecast temperatures to July 1



Lytton
June 29,
record of
49.5 °C

Vancouver

Seattle

Edmonton

Calgary

Winnipeg

US

200 km

Source: Canadian Meteorological Service







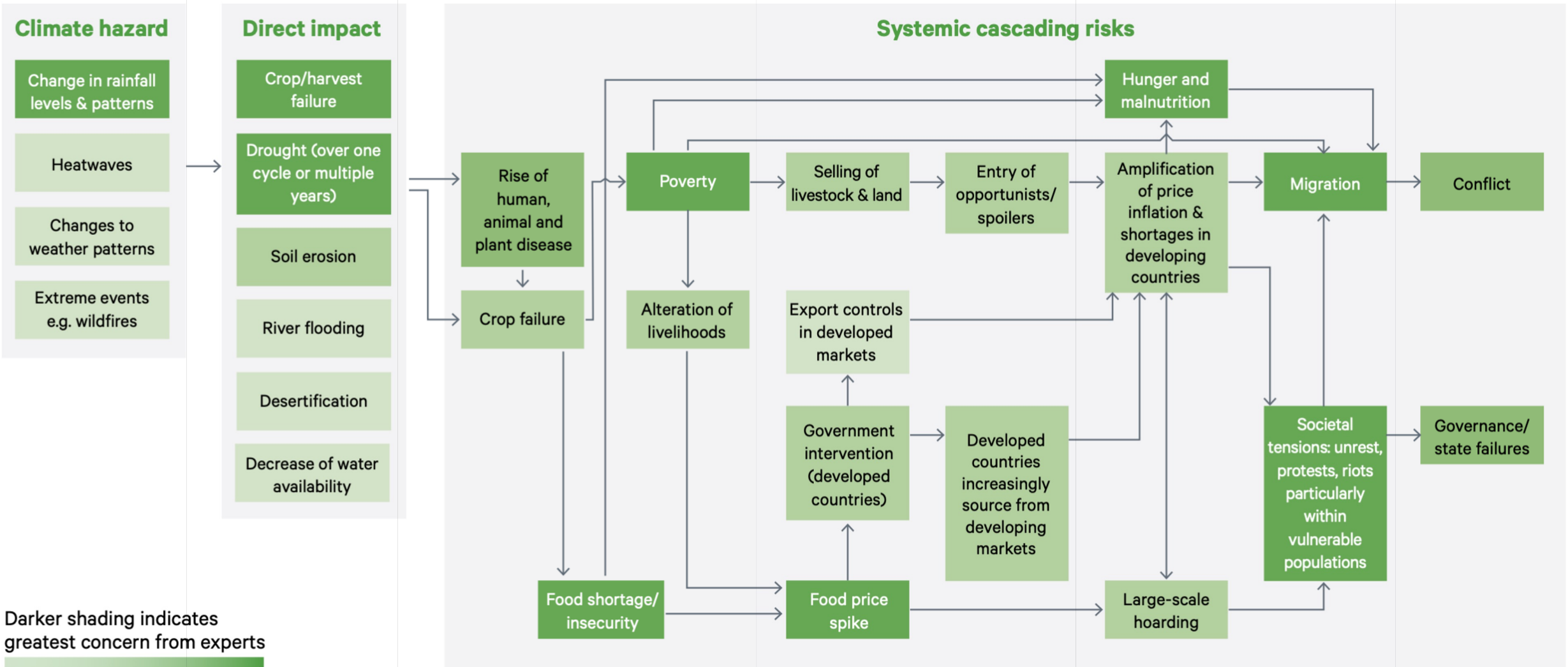
Port of Vancouver ✓

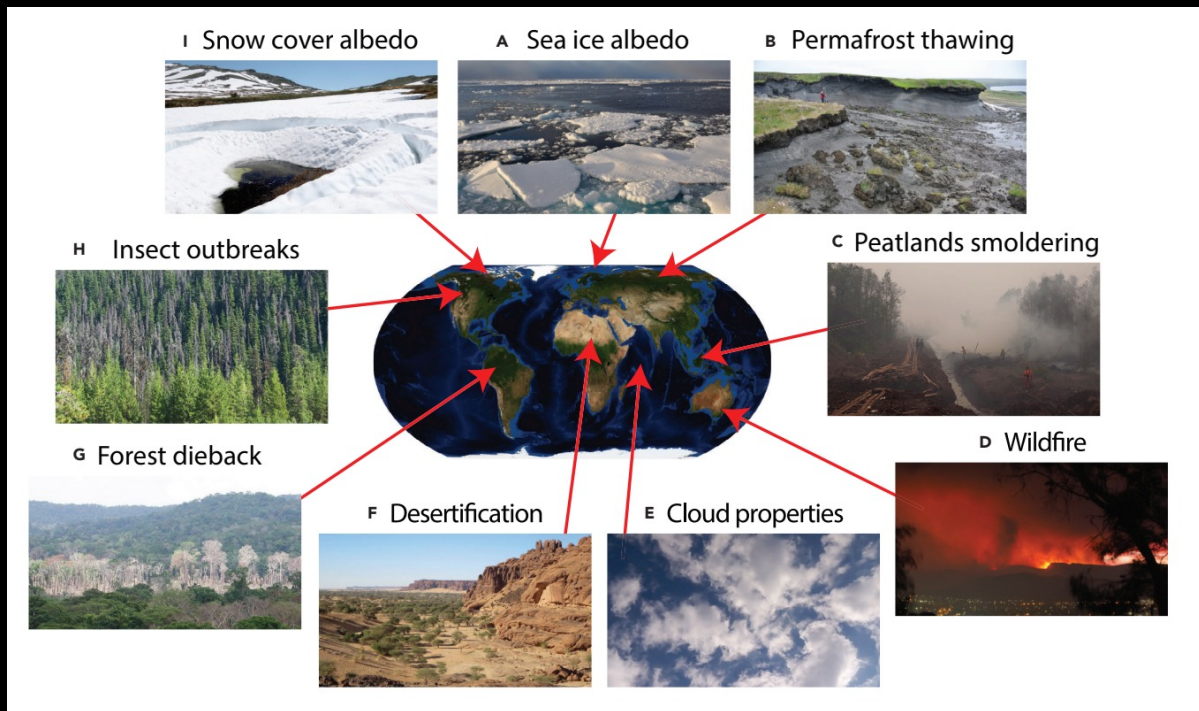
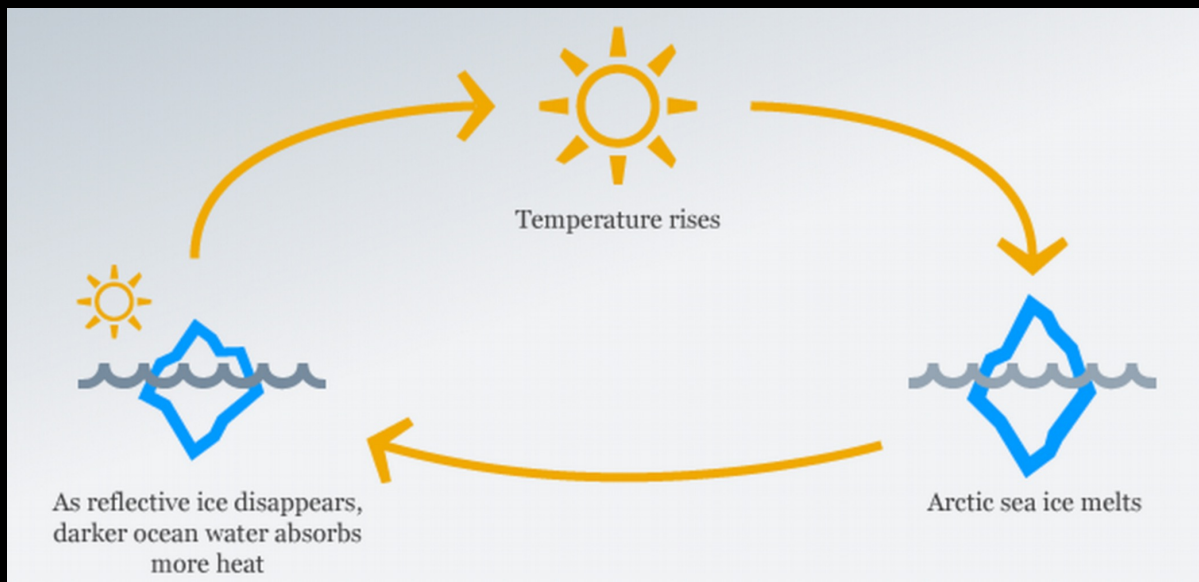
@PortVancouver

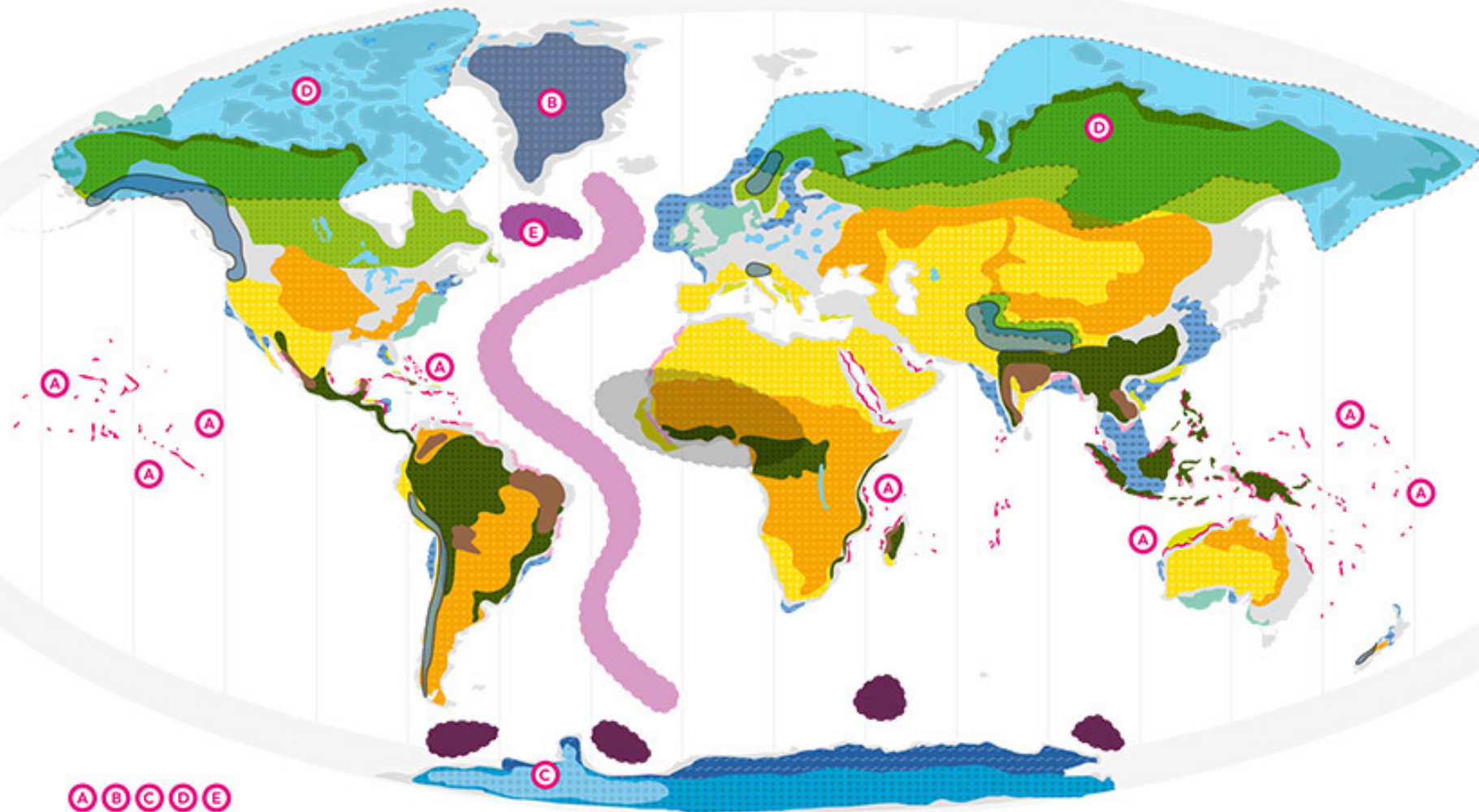


Port operations update #3 – Our supply chain partners and lead agencies at various levels of government are still assessing impact in our region. Vessel delays and heightened anchorage demand due to disrupted terminal operations are expected. bit.ly/3nv1wft









A B C D E

Closest to tipping - due to global warming

BIOSPHERE

- Tropical dry forest
- Tropical rainforest
- Boreal forest
- Tundra
- Savannas & grasslands
- Drylands

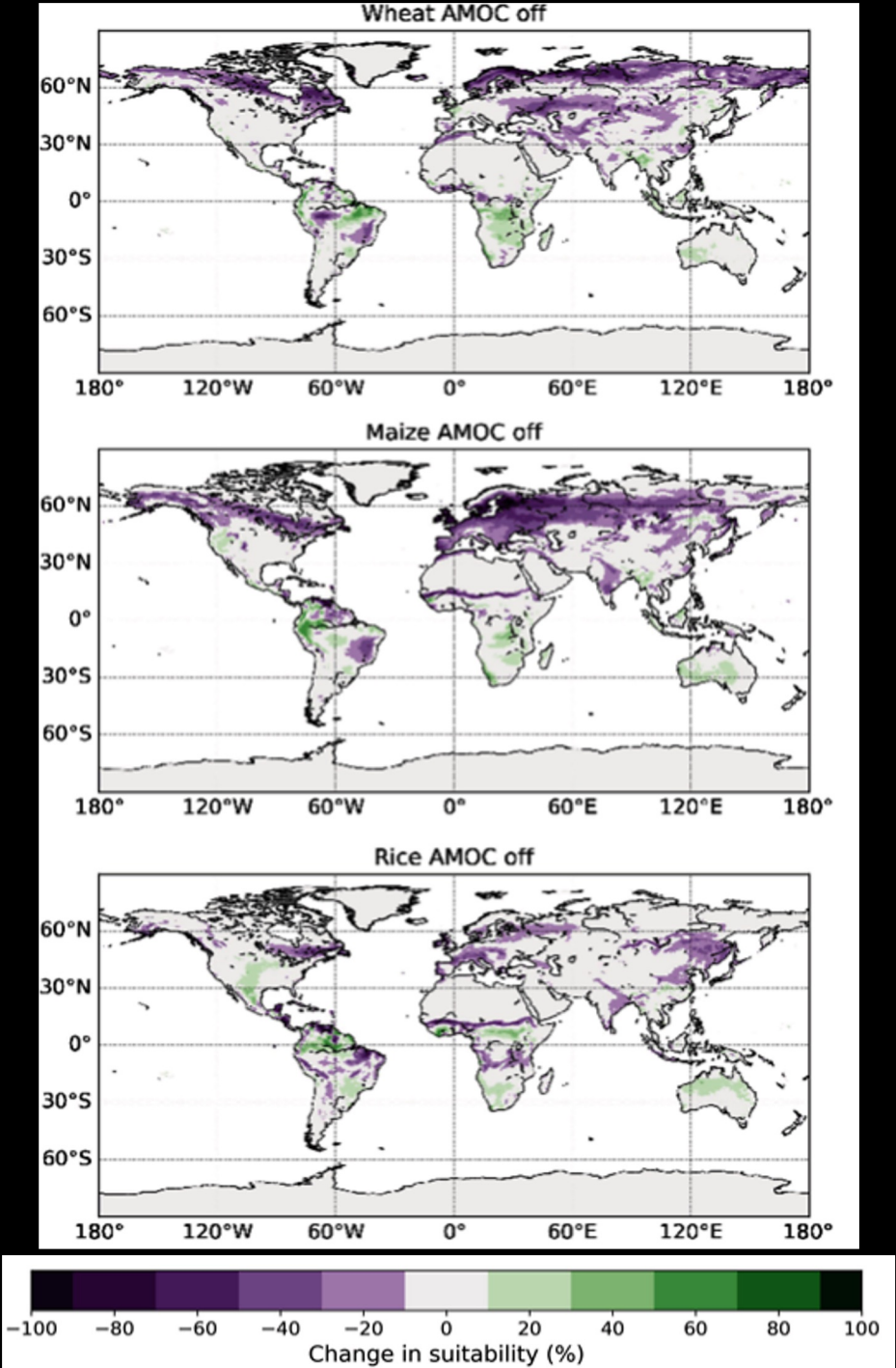
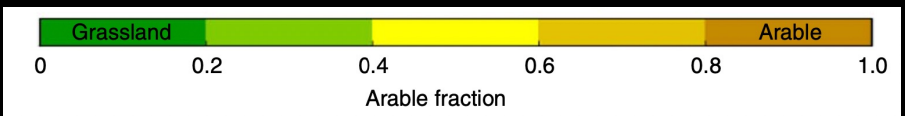
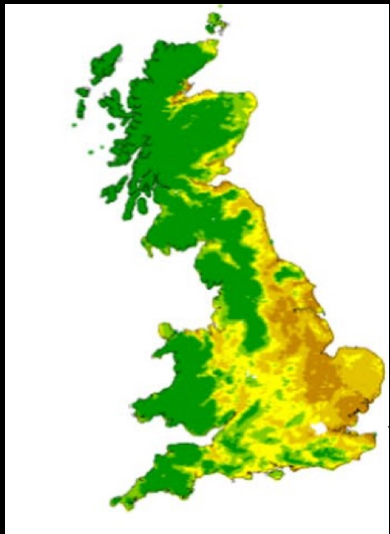
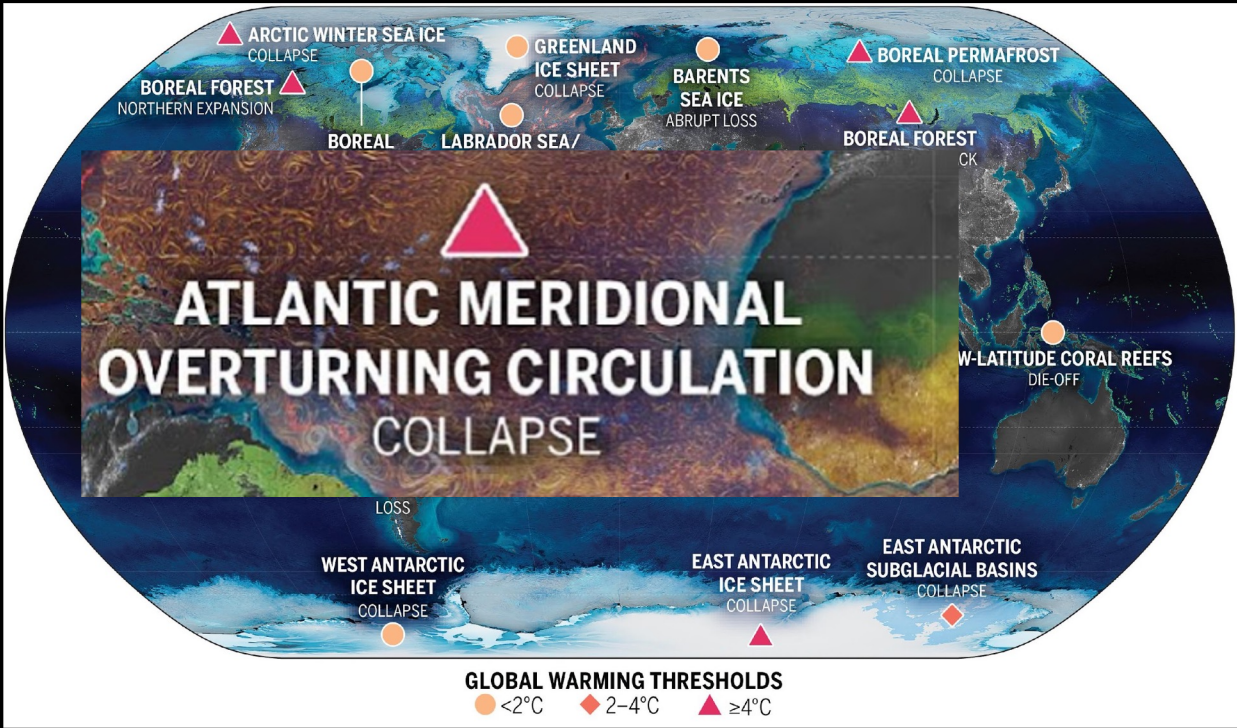
- Lakes
- Coral reefs (A)
- Mangroves
- Fisheries
- Seagrass
- Kelp forest

CRYOSPHERE

- Greenland Ice Sheet (B)
- West Antarctic Ice Sheet (C)
- Non-marine East Antarctica
- Marine basins East Antarctica
- Permafrost (D)
- Mountain glaciers

OCEAN & ATMOSPHERE CIRCULATIONS

- Atlantic Meridional Overturning Circulation (AMOC) (E)
- Subpolar Gyre (SPG) (E)
- Southern Ocean Overturning
- West African monsoon



For eight individual risks, economic damages could exceed £1 billion per year each by 2050 with a temperature rise of 2°C, with the cost of climate change to the UK rising to at least 1% of GDP by 2045.

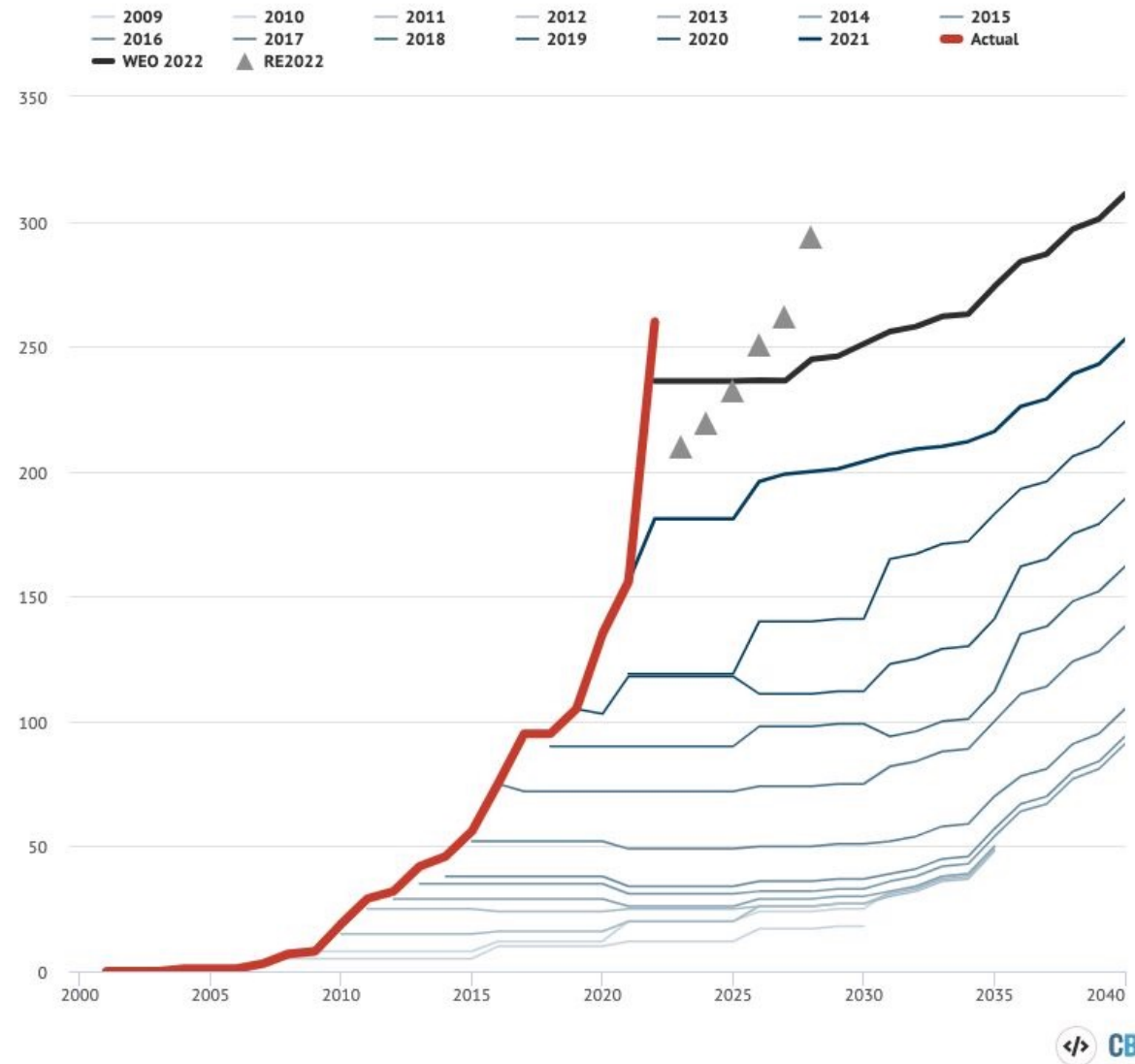
socio-economic interdependencies between them. Despite the potential for damaging cascading impacts, consideration of these interdependencies in adaptation planning is lacking. Currently, there are not clear responsibilities and mechanisms for cross-Government collaboration, which is needed to enable a more systematic assessment of interdependency risks. Consistent minimum resilience standards across sectors, enforced through remits for climate resilience in key sector regulators, are also largely absent.

Assessing the UK's preparedness for climate change Scoring summary



The rapid **rise of solar** continues to **outpace IEA outlooks** – but remains short of what would be needed for 1.5C

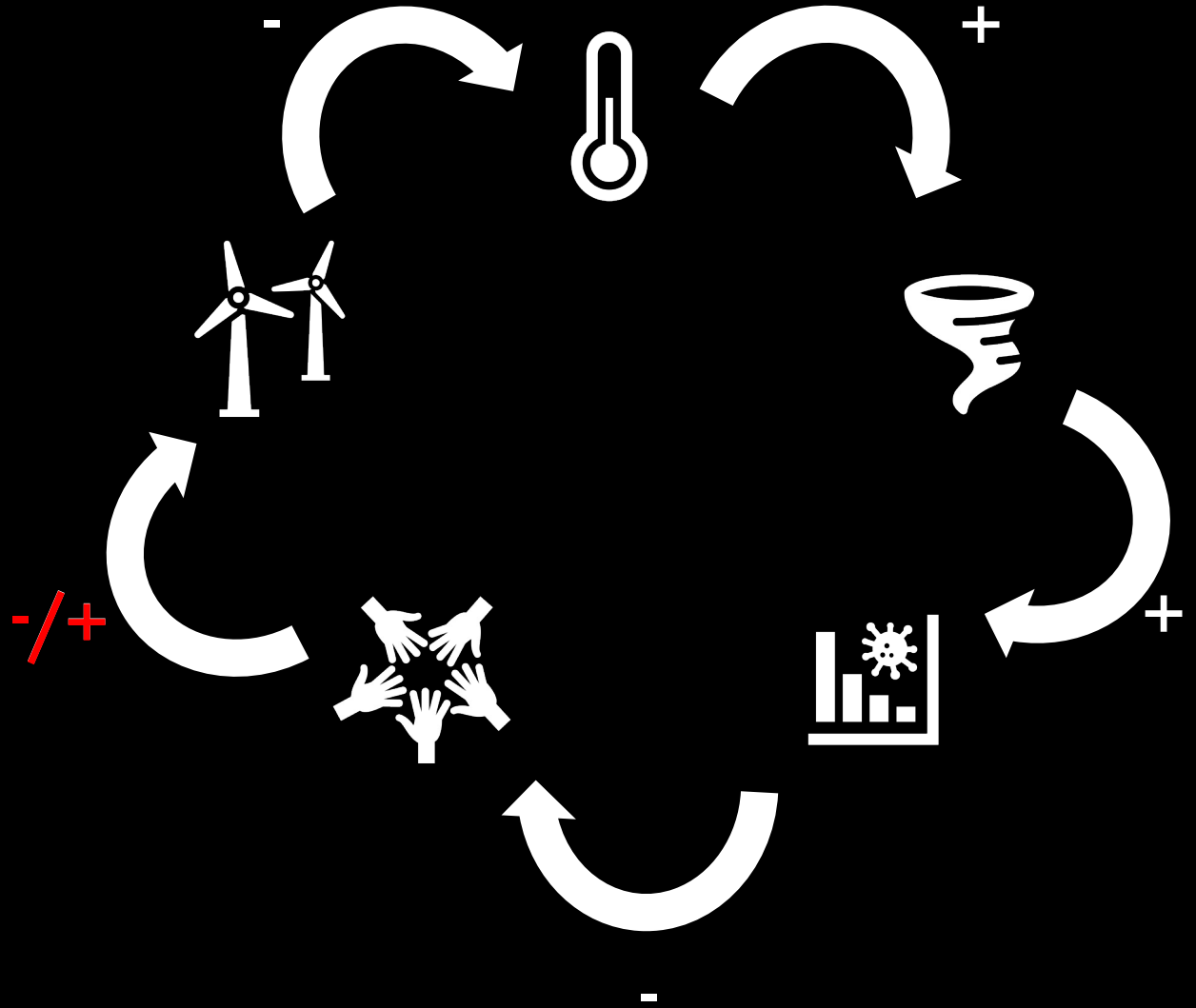
Gigawatts added per year in IEA WEOs, before retirements; Triangles show IEA Renewables 2022 forecast



Derailment risk

Worsening
conditions
erode action

Times of
dislocation can
drive rapid,
positive change





Toyota, CATL Shut Plants in Sichuan as Power Crisis Worsens

- Japanese carmaker closes Chengdu factory through Aug. 20
- Top EV battery maker CATL halts lithium output in province

Net zero 'not politically feasible' expert tells GB News as government fails to tell consumers what cost will be

Rishi Sunak weaponizes net zero as election looms

Business leaders and fellow Conservatives sound alarm over softening of green agenda.



FRANCE

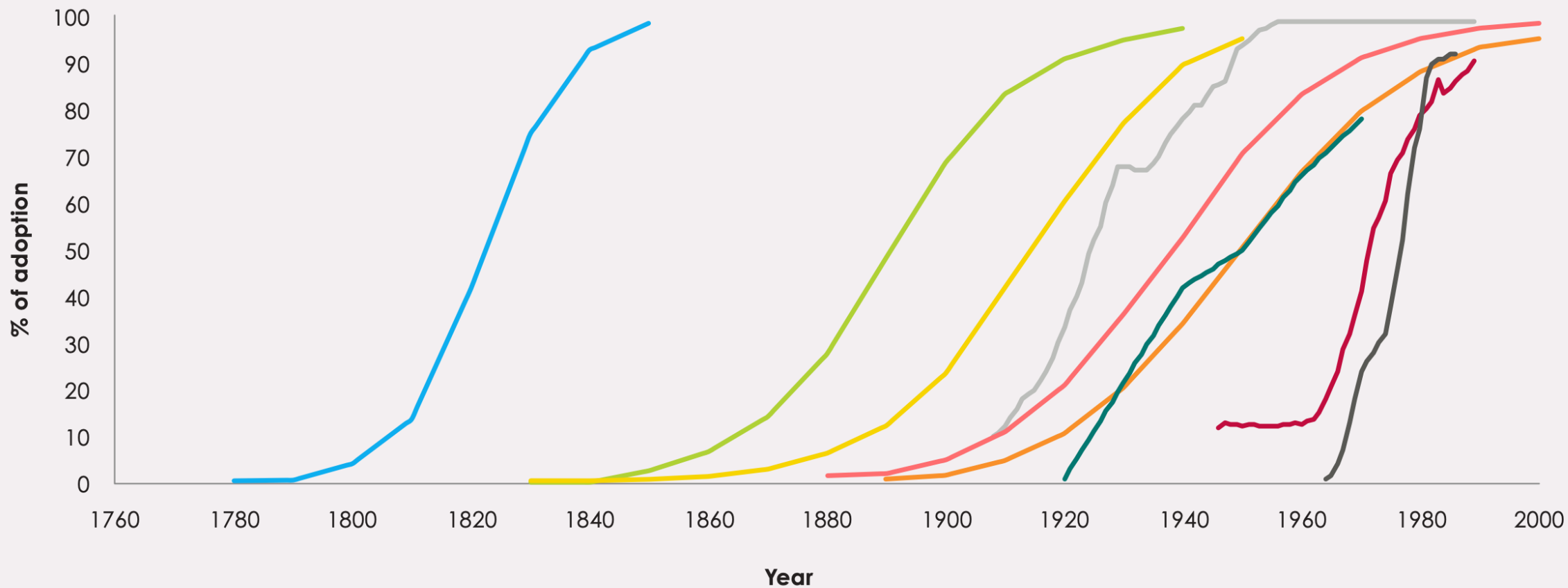
Le Pen's National Rally goes green in bid for European election votes

Falsehoods Follow Close Behind This Summer's Natural Disasters

Misattributed videos, recycled lies and warped fears are fueling unfounded claims about the recent record-breaking heat, floods and wildfires.





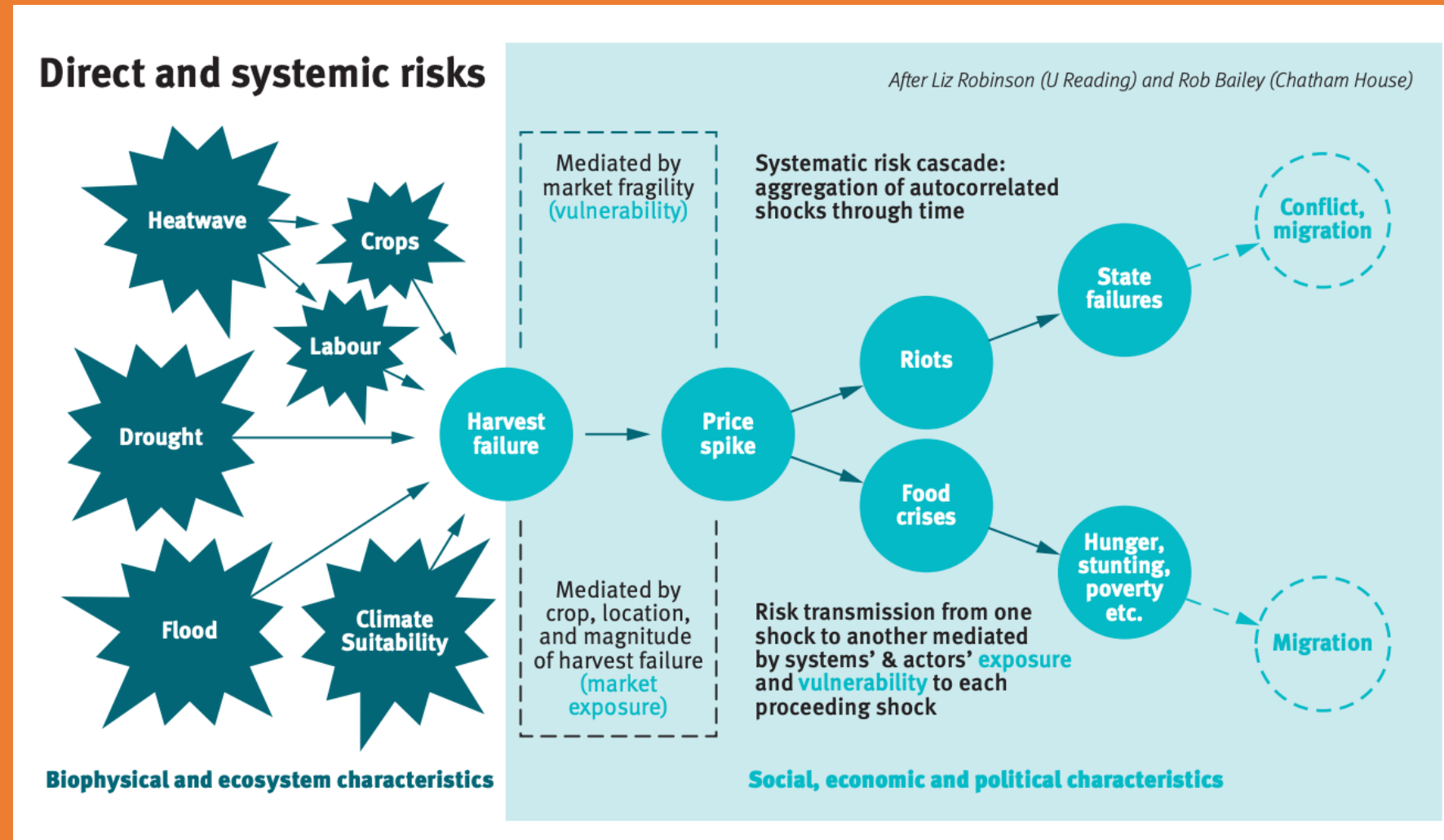


- | | | |
|-----------------|-----------------------------------|----------------------|
| Canals (US) | Oil pipelines (US) | Electric power (US) |
| Railways (US) | Roads (US) | Gas for heating (UK) |
| Telegraphs (US) | Shipping port infrastructure (US) | Central heating (US) |

Improvement in model development and use

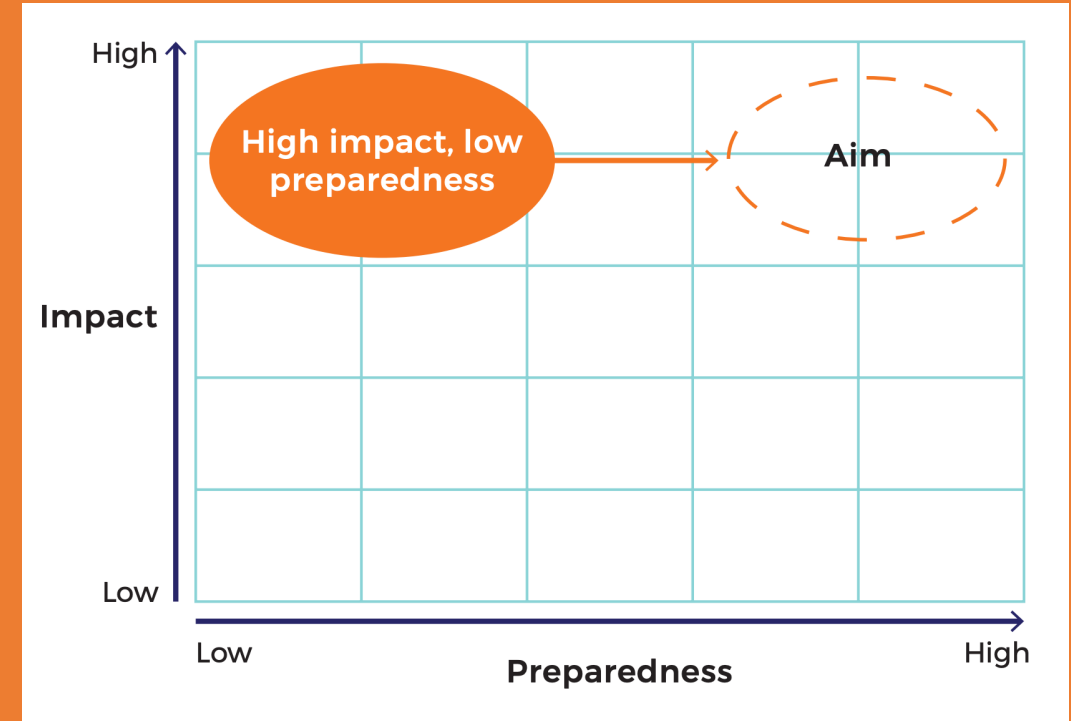


Development of more realistic qual-quant scenarios



Better to be roughly right than precisely wrong

Apply stress tests based on plausible high impact scenarios



Increasing recognition of risks to national security

NATIONAL INTELLIGENCE ESTIMATE

Climate Change and International Responses Increasing Challenges to US National Security Through 2040

Risk		2021	2030	2040
Geopolitical Tensions Over Climate Responses	Perception of Insufficient Contributions to Reduce Emissions			
	Carbon Dioxide Removal not at Scale for Countries' Net-Zero Pledges			
	Developing Country Demands for Financing and Technology Assistance			
	Petro States Resisting Clean Energy Transition Away From Fossil Fuels			
	Competition With China Over Key Minerals and Clean Energy Technologies			
	Contention Over Use of Economic Tools To Advance Climate Interests			
Climate Exacerbated Geopolitical Flashpoints	Miscalculation Over Strategic Competition in the Arctic Leading to Conflict			
	Cross-Border Water Tension and Conflict			
	Cross-Border Migration Attributed to Climate Impacts			
	Ungoverned Unilateral Geoengineering			
Climate Effects Impacting Country-Level Instability	Strain on Energy and Food Systems			
	Negative Health Consequences			
	Internal Insecurity and Conflict			
	Greater Demand for Aid and Humanitarian Relief			
	Strain on Military Readiness			