

UN High-Level Political Forum on Sustainable Development

side event organized by the UN Economic Commission for Latin America and the Caribbean (ECLAC)
and the Carnegie Climate Governance Initiative (C2G)

11 July 2023

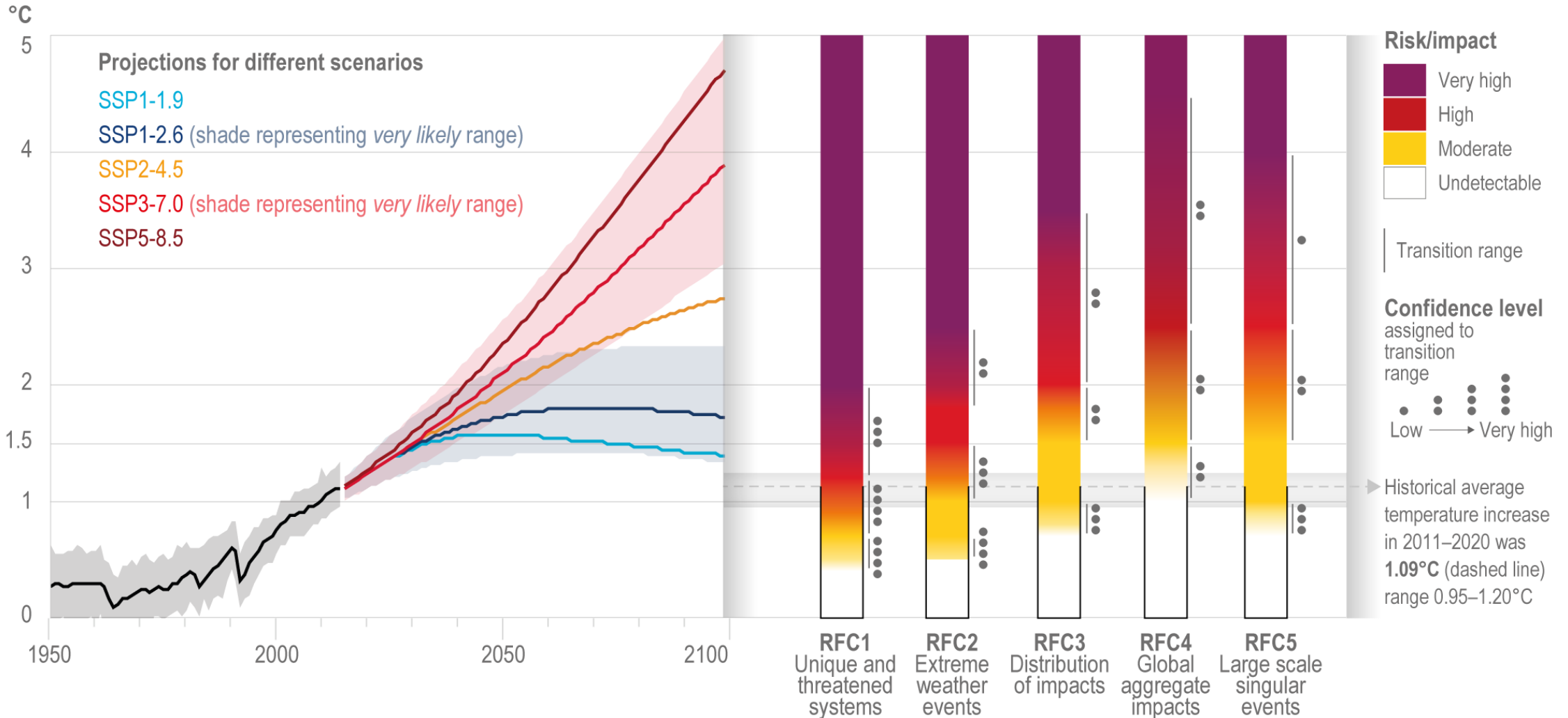
Risk-risk analysis and governance of solar radiation modification to safeguard sustainable development

The risks from the lack of formal and robust SRM governance

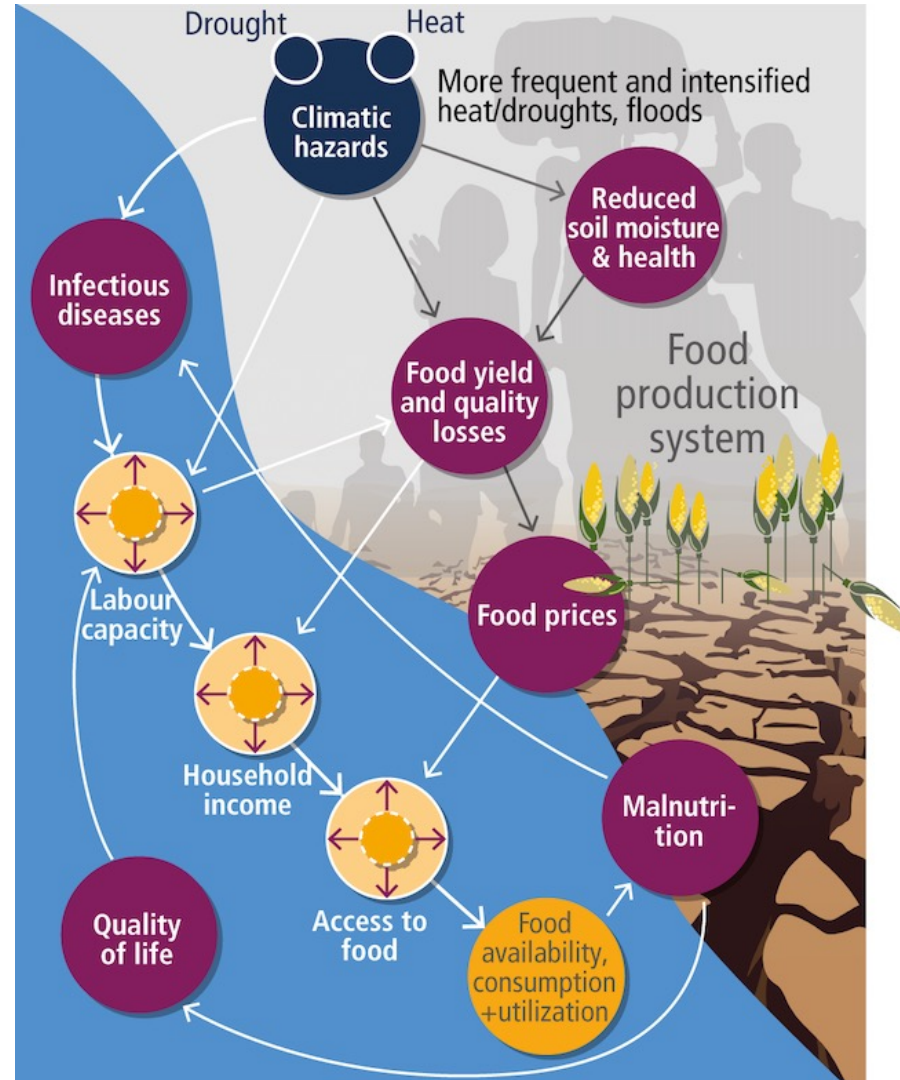
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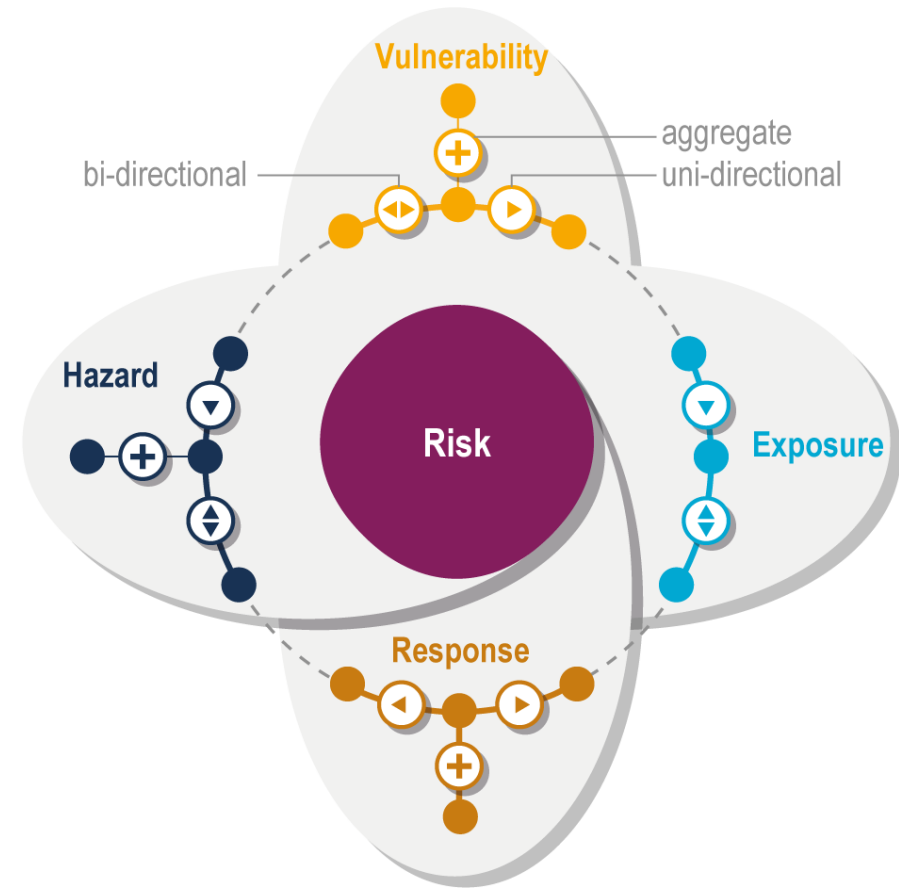
CLIMATE CHANGE RISKS



COMPLEX, COMPOUND AND CASCADING RISKS



RISKS AND RESPONSES

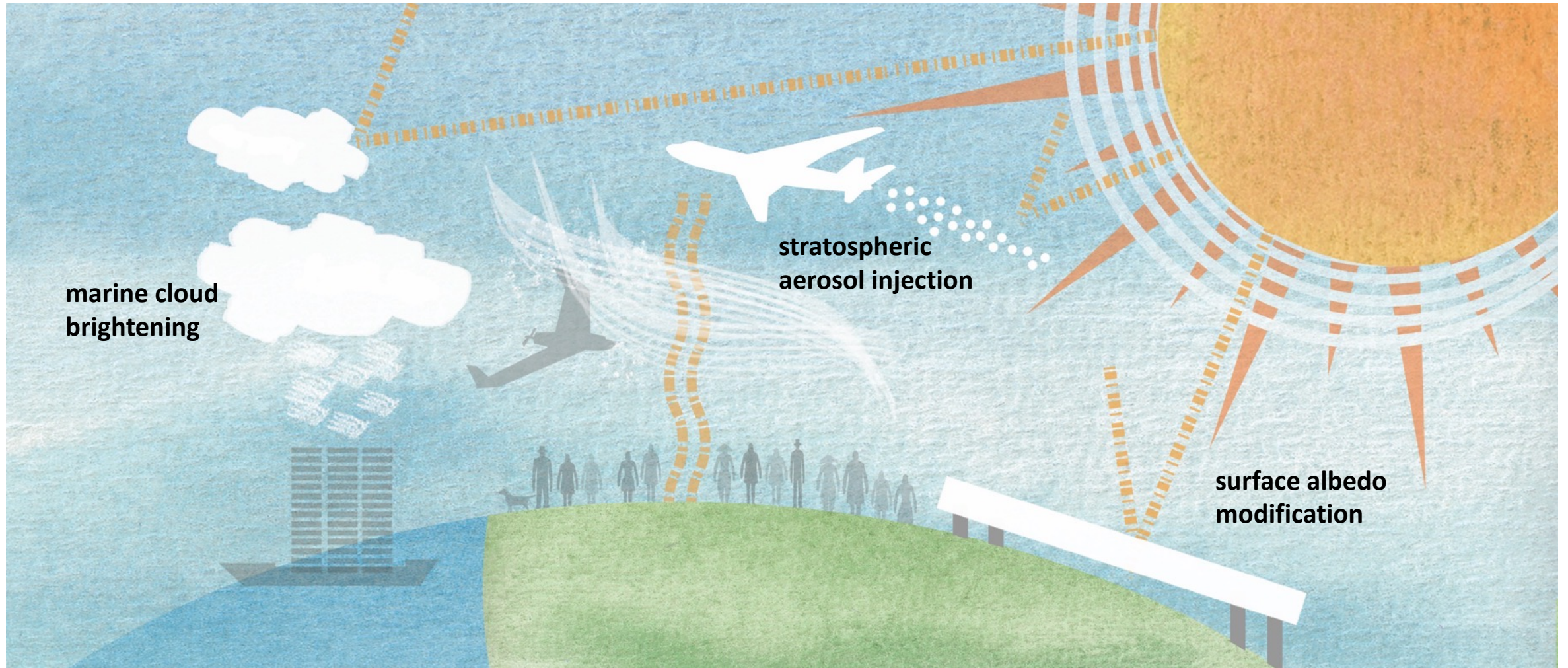


$$\text{Risk} = \text{Hazard} \pm \text{Exposure} \pm \text{Vulnerability} \pm \text{Response}$$

SOME RESPONSES BECOMING RISKS

- maladaptation
- side effects of mitigation
- and possibly SRM

SOLAR RADIATION MODIFICATION (SRM)



SRM *and* CLIMATE HAZARDS

- Research mostly on climate hazards, much less on overall risk.
- Effects highly dependent on deployment scenarios
- Potential to offset warming and reduce some climate hazards, but other substantial changes would occur at regional scales and seasonal timescales

SRM *and the* CAUSES OF CLIMATE CHANGE

- SRM would not stop atmospheric CO₂ concentrations increasing *or* reduce the resulting ocean acidification.
- for addressing climate change risks SRM is, at best, a supplement to achieving sustained net zero or net negative CO₂ emission levels globally.

SRM *and* CLIMATE CHANGE RISK REDUCTION

- Much less research on SRM potential to reduce climate risks.
- Large uncertainties and knowledge gaps around SRM's potential to reduce climate change risks.
- If implemented, SRM approaches would introduce new risks to people and ecosystems, which are not well understood.

SRM *and* INTERNATIONAL GOVERNANCE

- SRM poses novel risks for international collaboration
 - Uni- or mini-lateral deployment?
 - Who controls temperature?
 - Counter measures?
- Governance objectives range from prohibition to enabling research and potential deployment.

SRM *and* INTERNATIONAL GOVERNANCE

- Research predominantly by Global North experts
- unequal power relations could influence SRM governance and policy decisions.
- Co-evolution of SRM governance and research
- Some multilateral agreements partially cover SRM but none are comprehensive.



Convention on
Biological Diversity



Vienna Convention
MONTREAL PROTOCOL

SRM *lack of* **INTERNATIONAL GOVERNANCE**

- No dedicated formal international governance for SRM research, development, demonstration or deployment.
- This poses risks.



Further resources available from:

www.c2g2.net

www.c2g2.net/intergovernmental-panel-on-climate-change/

www.c2g2.net/managing-the-risk-of-temperature-overshoot/

www.c2g2.net/solar-radiation-modification/

C2G SRM Global status update brief: https://bit.ly/GlobalSRM_TB