



ICCG Webinar Series on Disaster Risk Reduction
***Identifying the Risk and Policy Space for Loss and
Damage: A Broadening Role for Climate Risk Analysis***

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IIASA

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Loss and Damage Network

October 18th, 2017

Overview

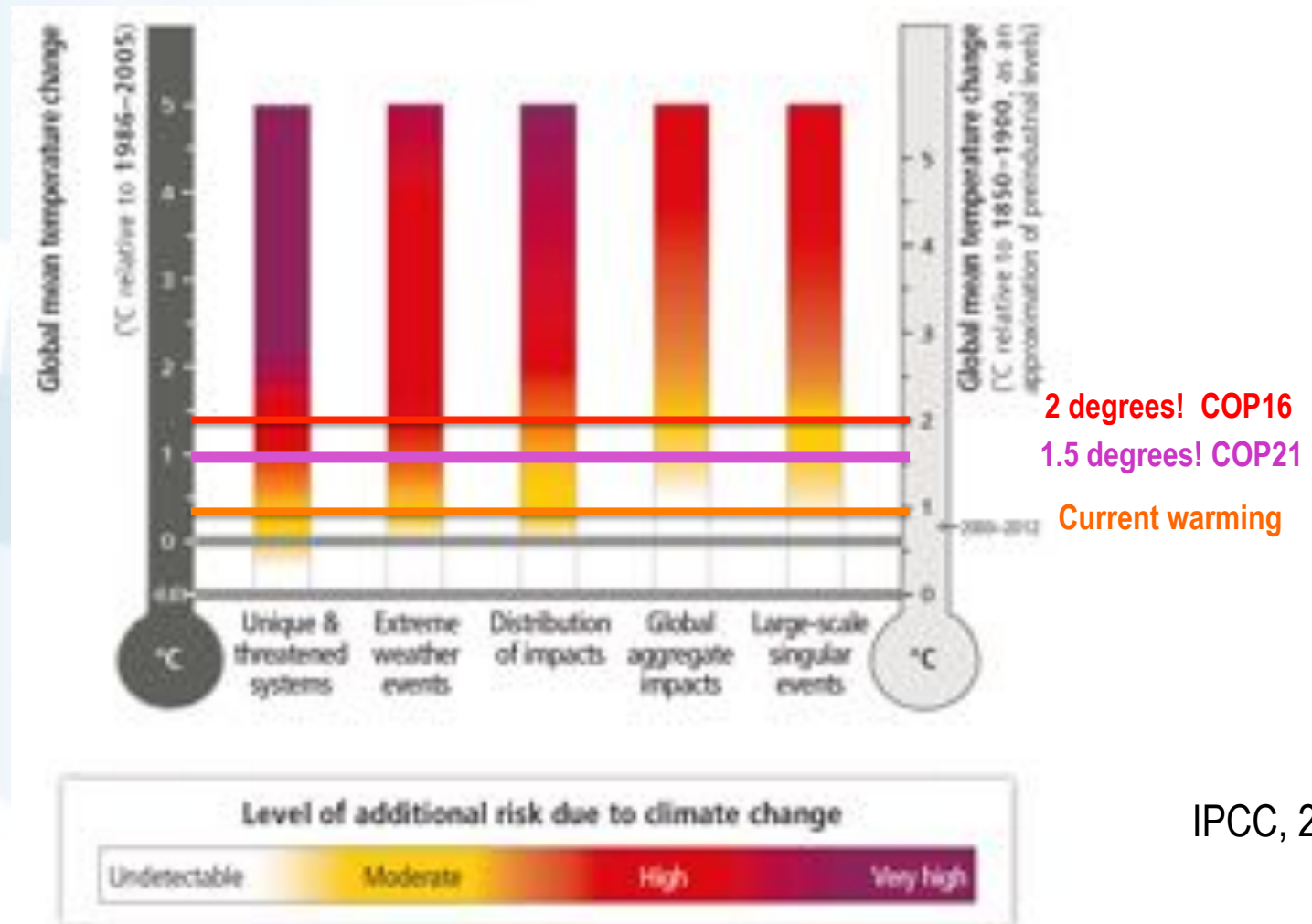
- Background: Dealing with risks beyond adaptation
- Methodological Framework
- Applications
- Conclusions

Policy response to the climate challenge

Paris COP 21



“To avoid dangerous interference with the climate system” IPCC’s reasons for concern



IPCC, 2014

Dangerous climate change-related risks already affecting vulnerable populations and systems



Responsibility and justice?



Policy responses for risks beyond adaptation

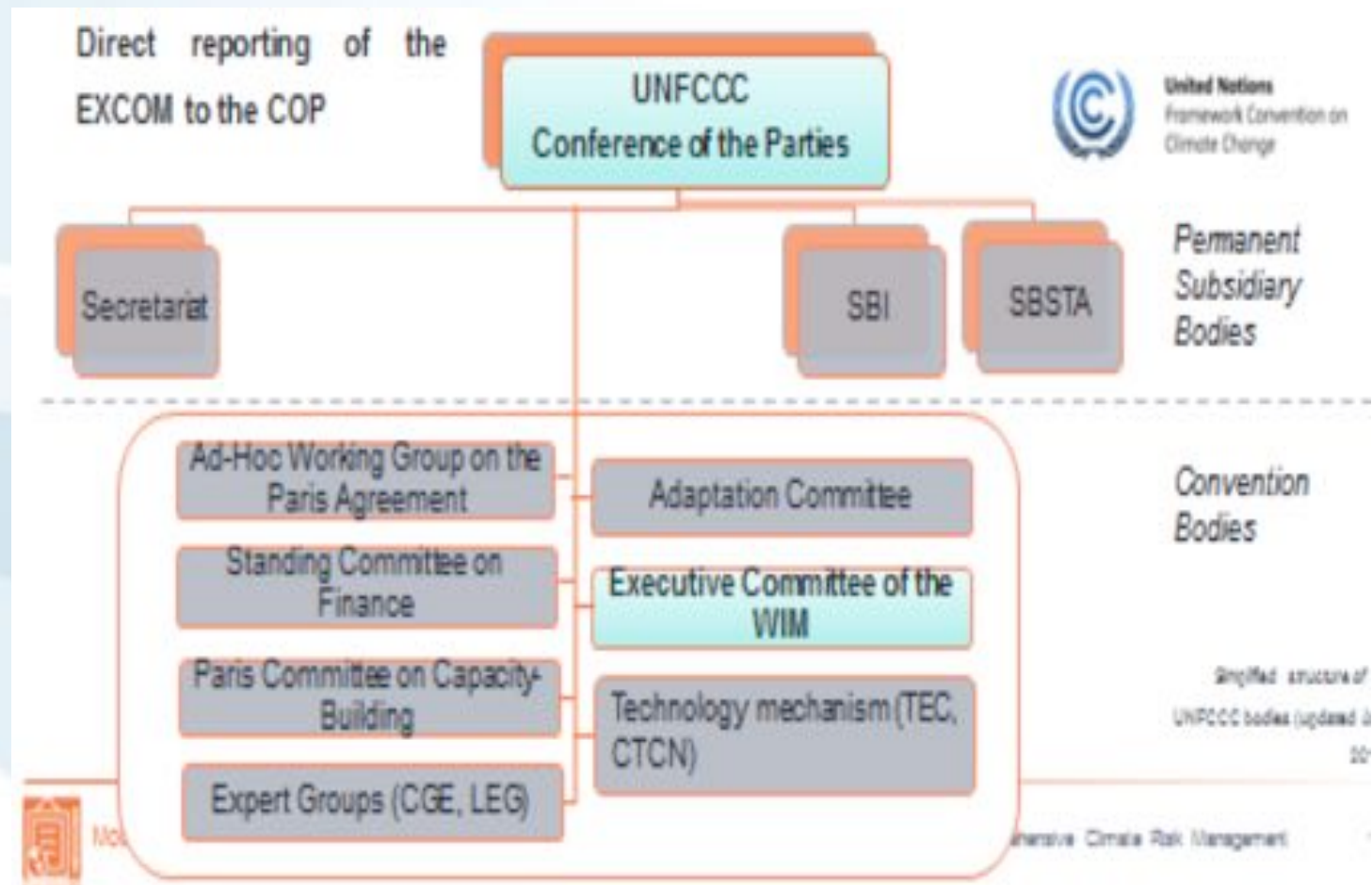
The Loss & Damage Mechanism

- **AOSIS** in **1991** proposed establishment of a compensation scheme for the most vulnerable small island and low-lying coastal states
- Warsaw **Loss and Damage mechanism institutionalised** in **2013**
- L&D with **stand-alone article 8** in **Paris agreement 2015**
- **3rd pillar of deliberations** under the UNFCCC in addition to mitigation and adaptation
- **Contested terrain**
 - ‘Southern countries’ at risk (such as AOSIS) demand **compensation for past impacts**, reject risk management as involves national responsibility
 - OECD negotiators willing to support **risk management for future risks**, part. **insurance**, but liability and compensation considered red lines



Loss and Damage institutionalised

Warsaw Mechanism and Paris Article 8



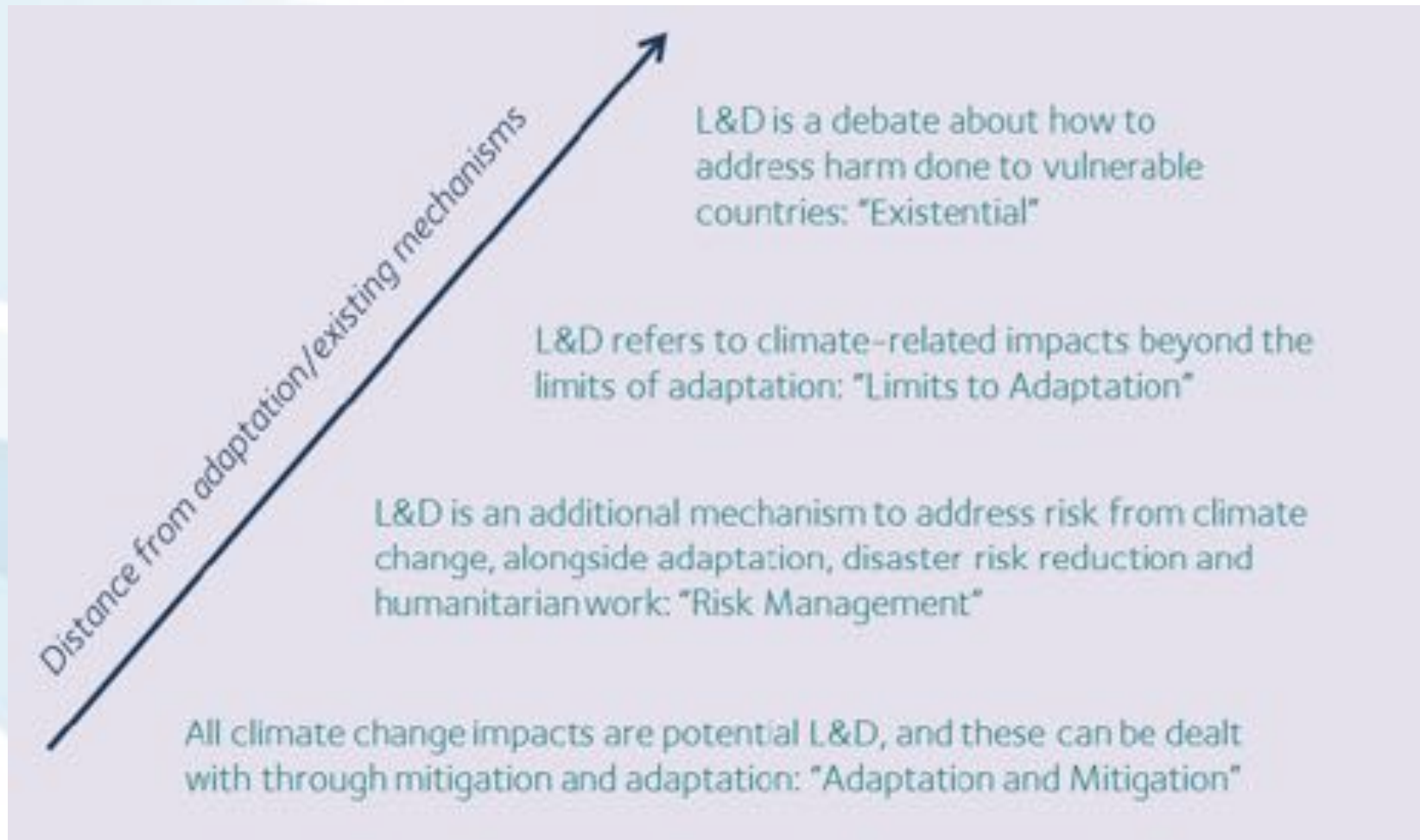
L&D Executive Committee

Action areas of 2 year workplan




UNFCCC, 2016

Perspectives on Loss and Damage



Boyd, James and Jones, 2016

Definitions and questions



Avoided	Unavoided	Unavoidable
Avoidable damage avoided	Avoidable damage and loss not avoided	Unavoidable damage and loss
→ Damage prevented through mitigation and/or adaptation measures.	→ Where the avoidance of further damage was possible through adequate mitigation and/or adaptation, but where adaptation measures were not implemented due to financial or technical constraints.	→ Damage that could not be avoided through mitigation and/or adaptation measures; e.g., coral bleaching, sea level rise, damage due to extreme events where no adaptation efforts would have helped prevent the physical damage.

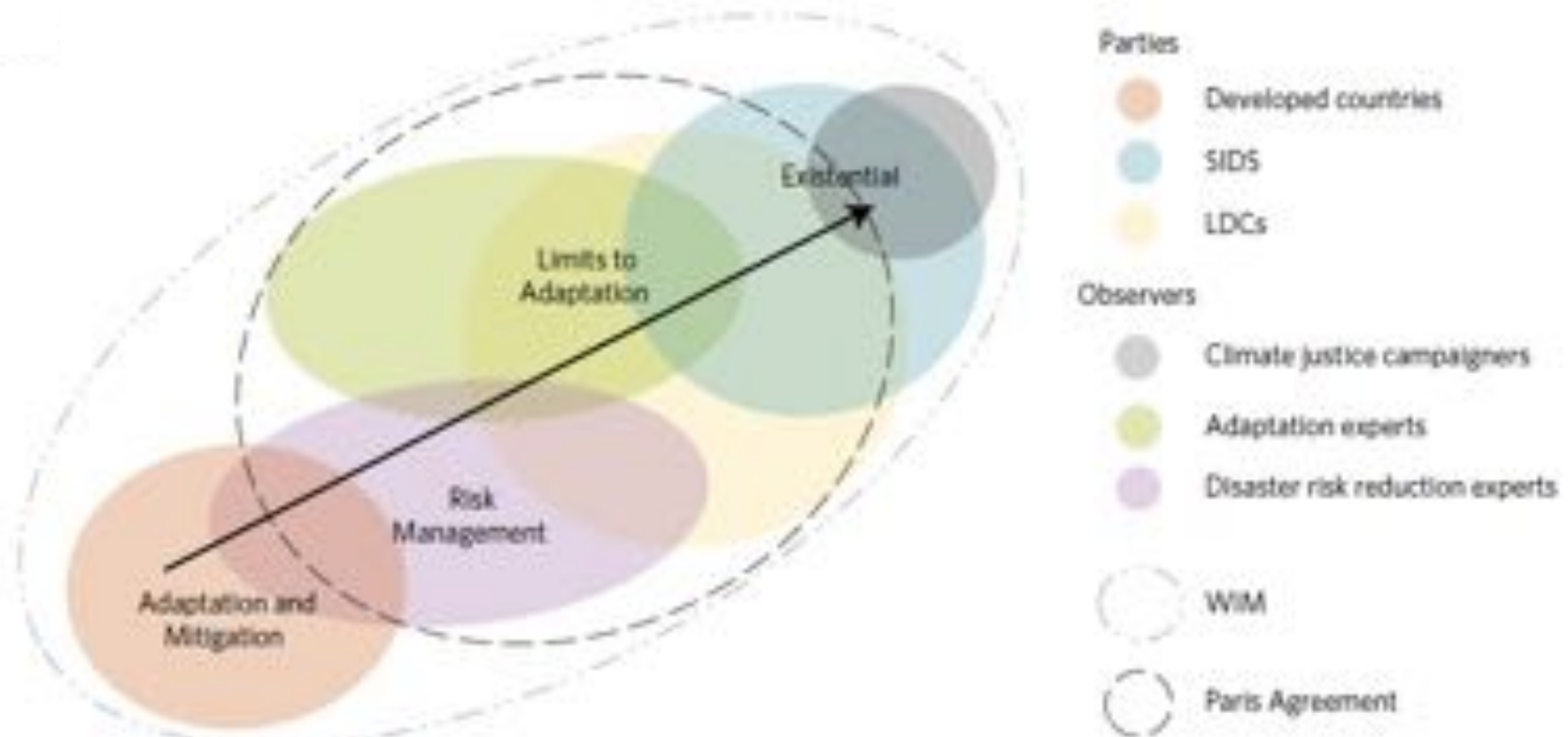
Source: Verheyen, 2008

Dealing with unavoided risks today AND avoiding future risks and preventing unavoidable risks?


How different –or the same- as adaptation and disaster risk management?

What is the risk and options space?

Risk management as a boundary domain of analysis and action?






Expert group on risk management



United Nations
Framework Convention on
Climate Change

UNFCCC Google Search




CC:Net TT:Clear

Your location: Home > Adaptation > Groups & Committees > Loss and Damage Executive Committee

Technical Expert Group on comprehensive risk management and transformational approaches

The Executive Committee established a Technical Expert Group for providing technical support and guidance on comprehensive risk management and transformational approaches.

This Technical Expert Group is established in the context of Action Area 2, activity (d) of the [initial two-year workplan](#) of the Executive Committee and the Group may also support the Executive Committee on its efforts to undertake Action Areas 5 and 7 of the same workplan.

 [Terms of Reference](#) (317 kB) of the Technical Expert Group

Members of the Technical Expert Group (as at September 2016)

Name	Affiliation
Mr. Orville GREY	Executive Committee of the Warsaw International Mechanism for Loss and Damage
Mr. Erling KVERNEVIK	Executive Committee of the Warsaw International Mechanism for Loss and Damage
Ms. Dawn PIERRE-NATHONIEL	Executive Committee of the Warsaw International Mechanism for Loss and Damage
Mr. Malcolm RIDOUT	Executive Committee of the Warsaw International Mechanism for Loss and Damage
(btd)	

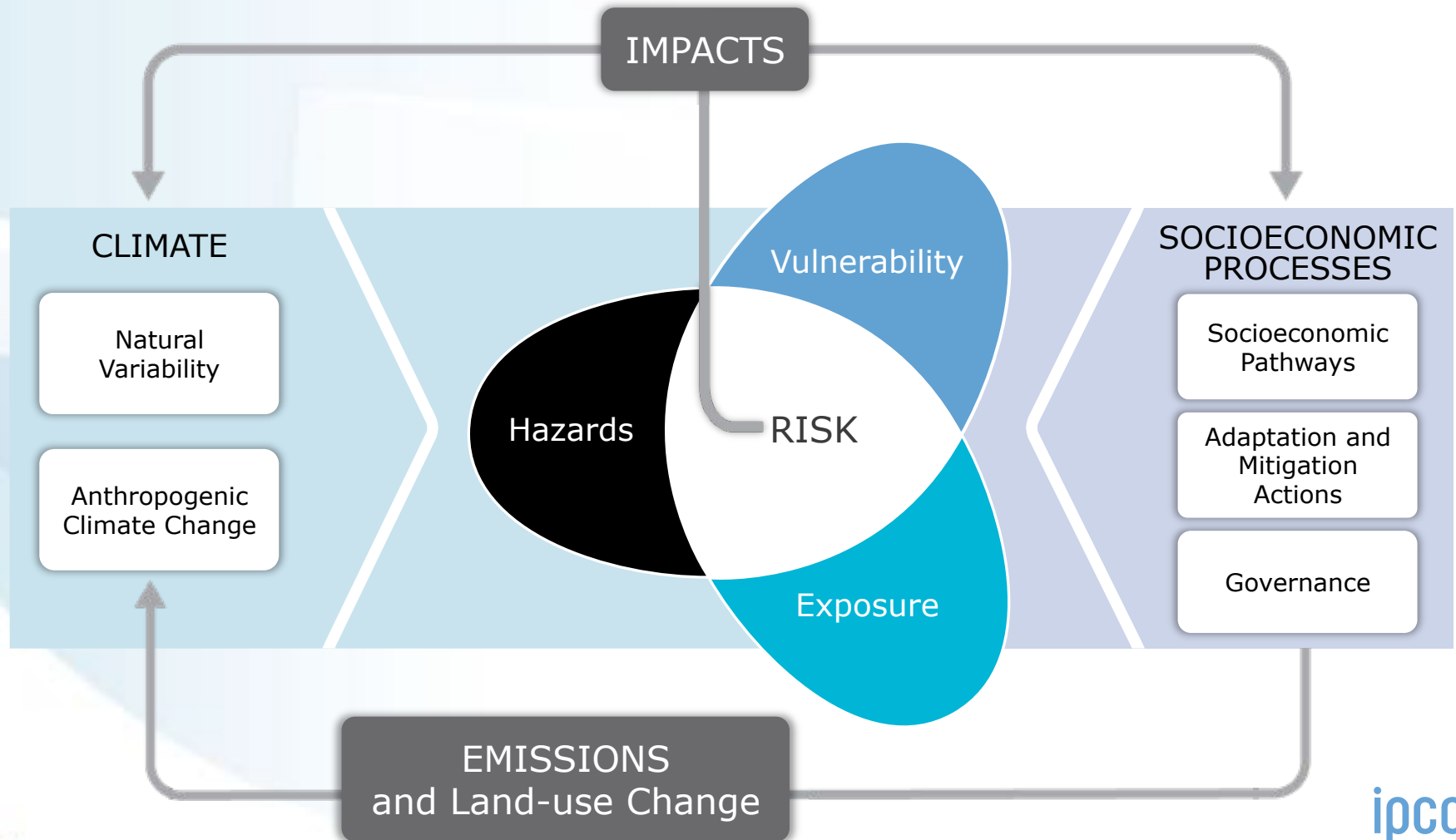


UNEP

Methodological approach for identifying the Loss and Damage space

- Building blocks for policy proposal on Loss&Damage
 1. Comprehensive risk analytics (IPCC, 2014)
 2. Risk evaluation: risk preference and tolerance (Klinke and Renn, 2002)
 3. Justice principles (Wallimann-Helmer et al., 2015; 2017)
- Principled approach to the L&D debate
 - Integrate evidence from attribution studies and work towards **compensatory justice** → curative options
 - Supporting climate risk management via **distributional justice** → transformational options
 - Signaling urgency of 1.5°/2° C ambition

1. Comprehensive risk analytics



Climate-related risk



Hazard

*Intensities, duration and frequencies of some hazards changing (IPCC 2012&14)
Extreme event attribution in early stages (James et al., 2014; Trenberth et al., 2015)*



Exposure

Dominating factor - currently (IPCC, 2012&14)



Vulnerability

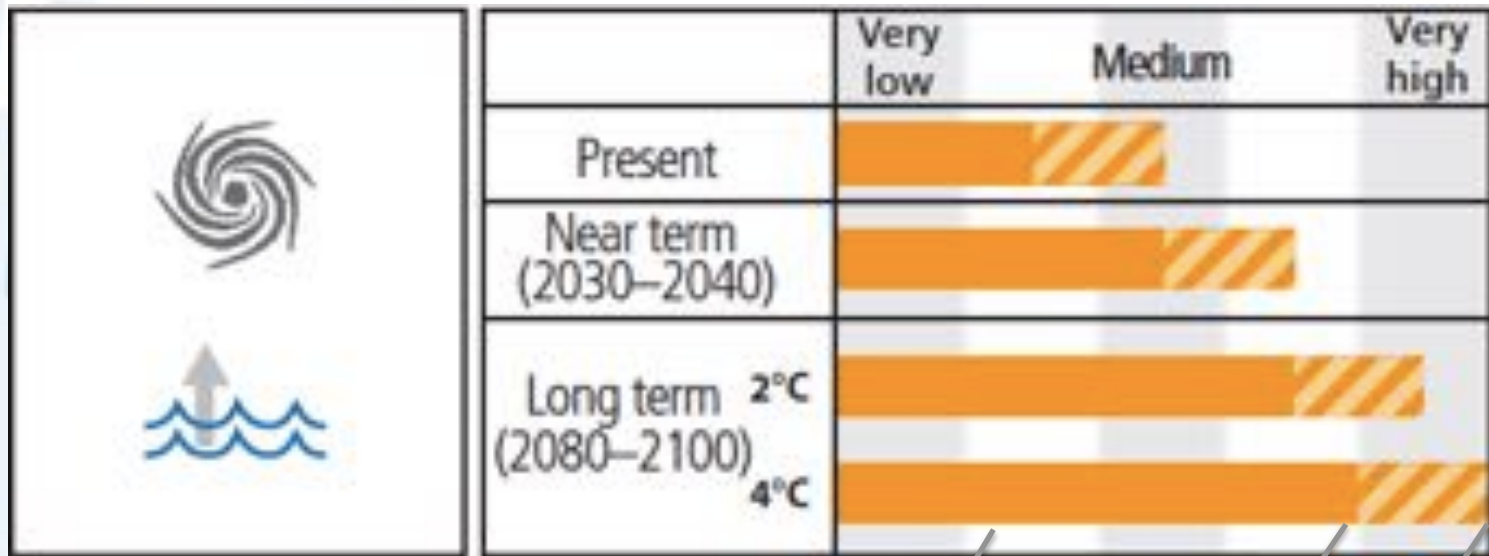
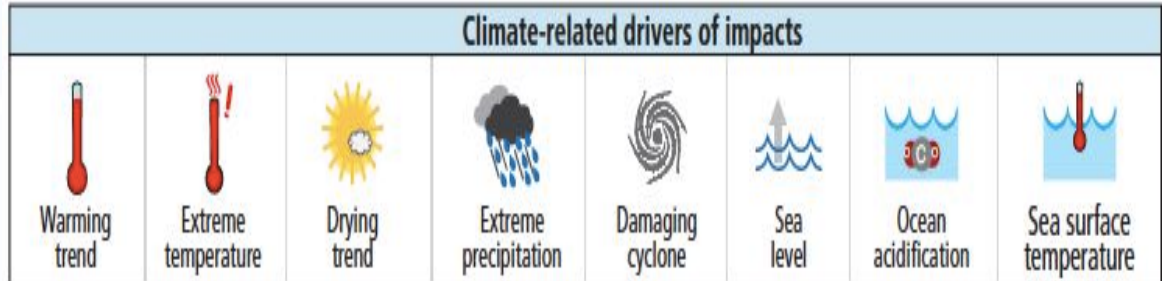
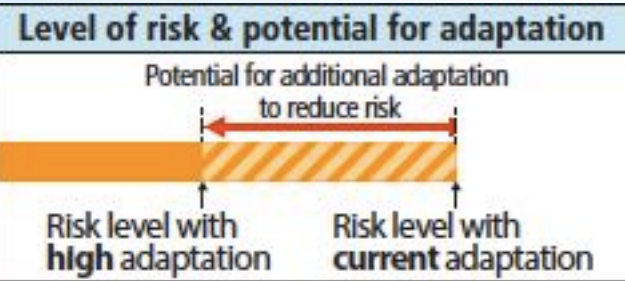
Key driver, knowledge gaps, significant adaptation deficit (IPCC, 2012)

Images:
IPCC, 2014

Risk

Climate attribution very complex (Schaller et al., 2016)

IPCC Risk language

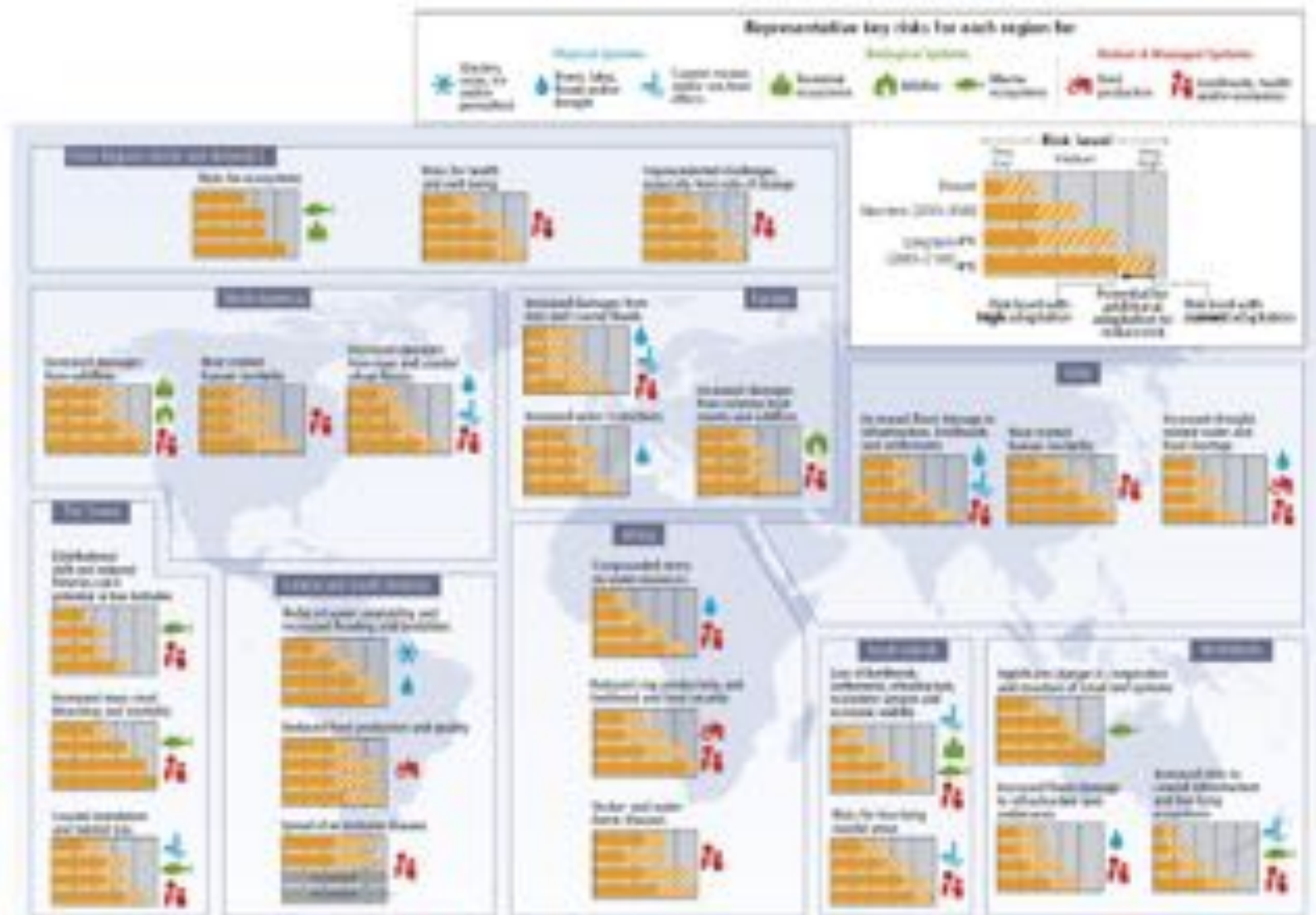


SIDS
Rising global mean sea level in the 21st century with high-water-level

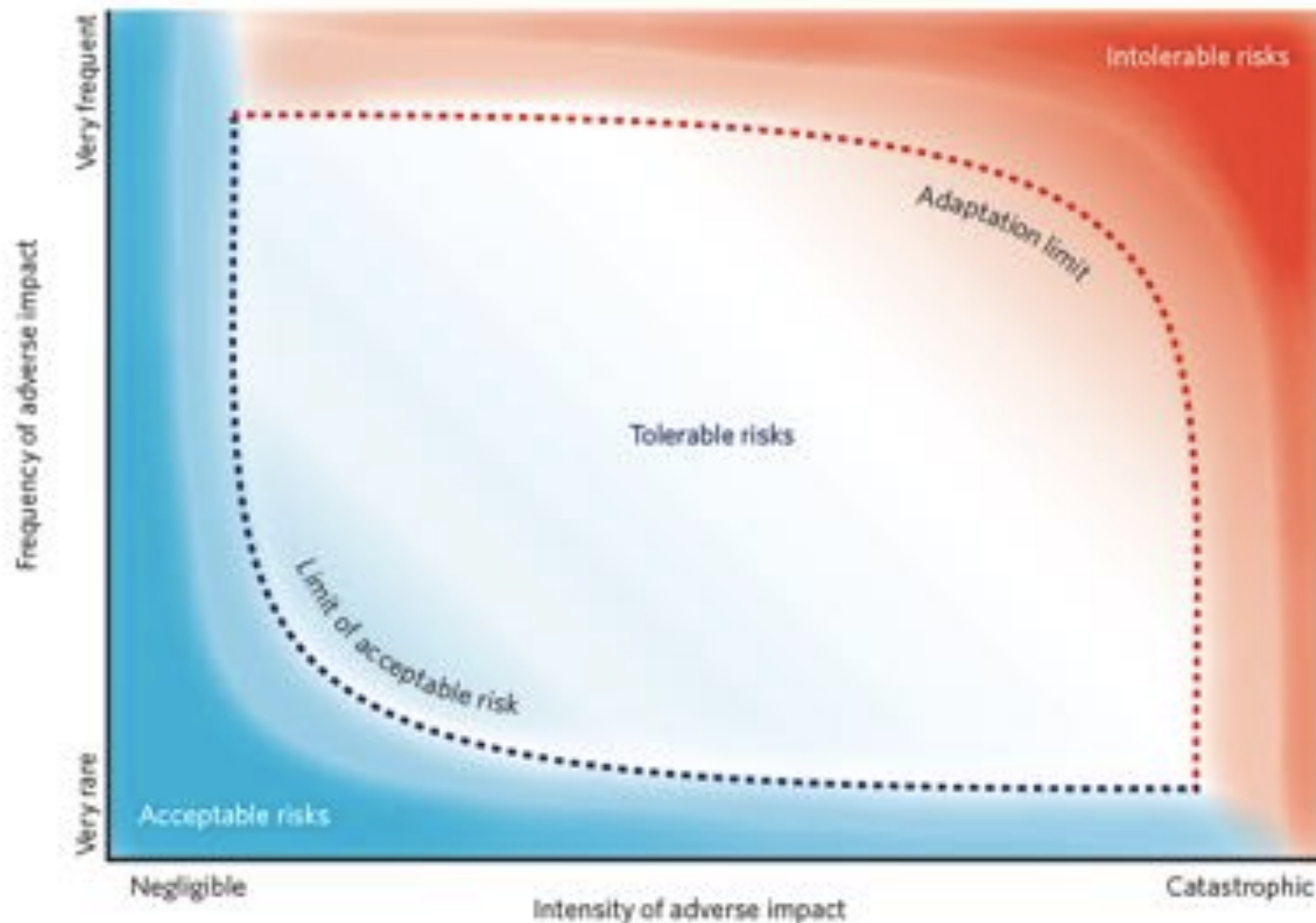
IPCC, 2014

Unavoidable Avoided Unavoided

Future risk: IPCC Working II regional climate risk analysis



2. Risk evaluation



Acceptable, tolerable and intolerable risks

Dow et al. 2013b after Klinke and Renn 2002; Renn and Klinke 2013)

3. Climate Justice

- Identifying roles and responsibilities for dealing with risks involves attention to climate justice principles
- *Compensatory justice*
 - Polluter-pays principle,
 - due to the unequal distribution of historical and current emissions, as well as potential irreversible loss,
 - attributing impacts to anthropogenic climate change and identifying harm-doing.
- *Distributive justice*
 - Burden sharing necessary as many vulnerable countries in need of international support for tackling today's adaptation deficits
 - Does not require climate attribution of past, present and future risks for generating international support, such as provided via the Global Facility for Disaster Risk Reduction (GFDRR).


Options space: Curative options

- Support increasing costs attributable to climate change (e.g., coastal defense)
- National-level L&D mechanisms/pools being set-up: Bangladesh, Philippines etc.
- Yet, many risks non-monetary and immaterial
- Displacement coordination facility:
 - Legal protection by international law and finance for forced migration
 - Nansen Initiative: state-led effort for tackling disaster-induced cross-border displacement

Options space: Transformative measures for risk management

- Debate largely on insurance
 - Pooling and sharing risks to diversify risks integrated with a broader view towards comprehensive DRM and building resilience
 - Innovative instruments involving Public Private Partnerships
- Livelihood transformation (+up-side risk taking, .e.g. Eastern Africa)
- Migration
- Building resilience throughout while aligning with SDGs

What are the risks we are talking about and what set of measures can be used?



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Source: Verheyen, 2008

Transformative measures

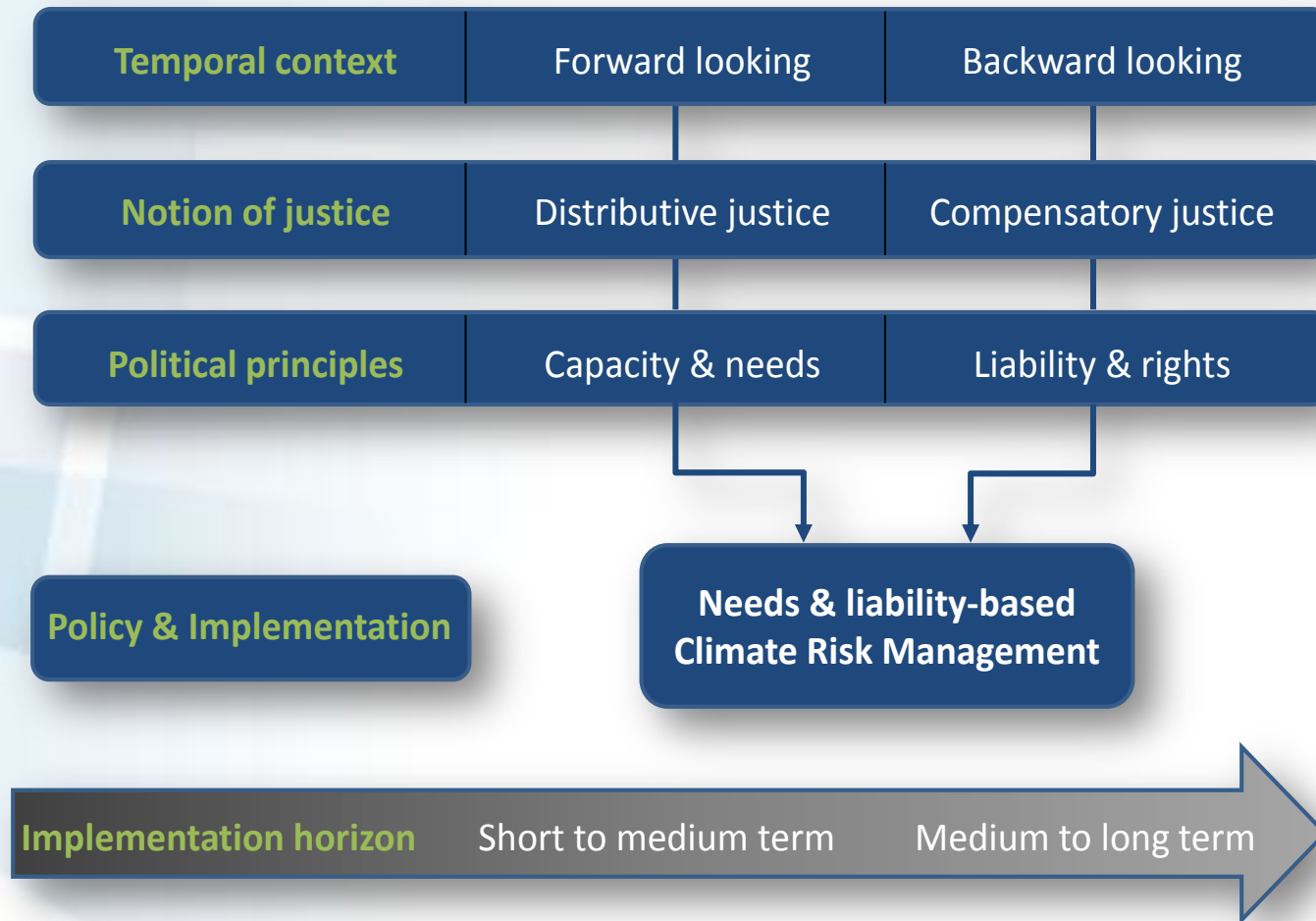
Avoiding risks *ex-ante* through transformative risk management (building on DRR and CCCA)

Curative measures

Dealing with unavoidable and unavoidable impacts *ex-post*

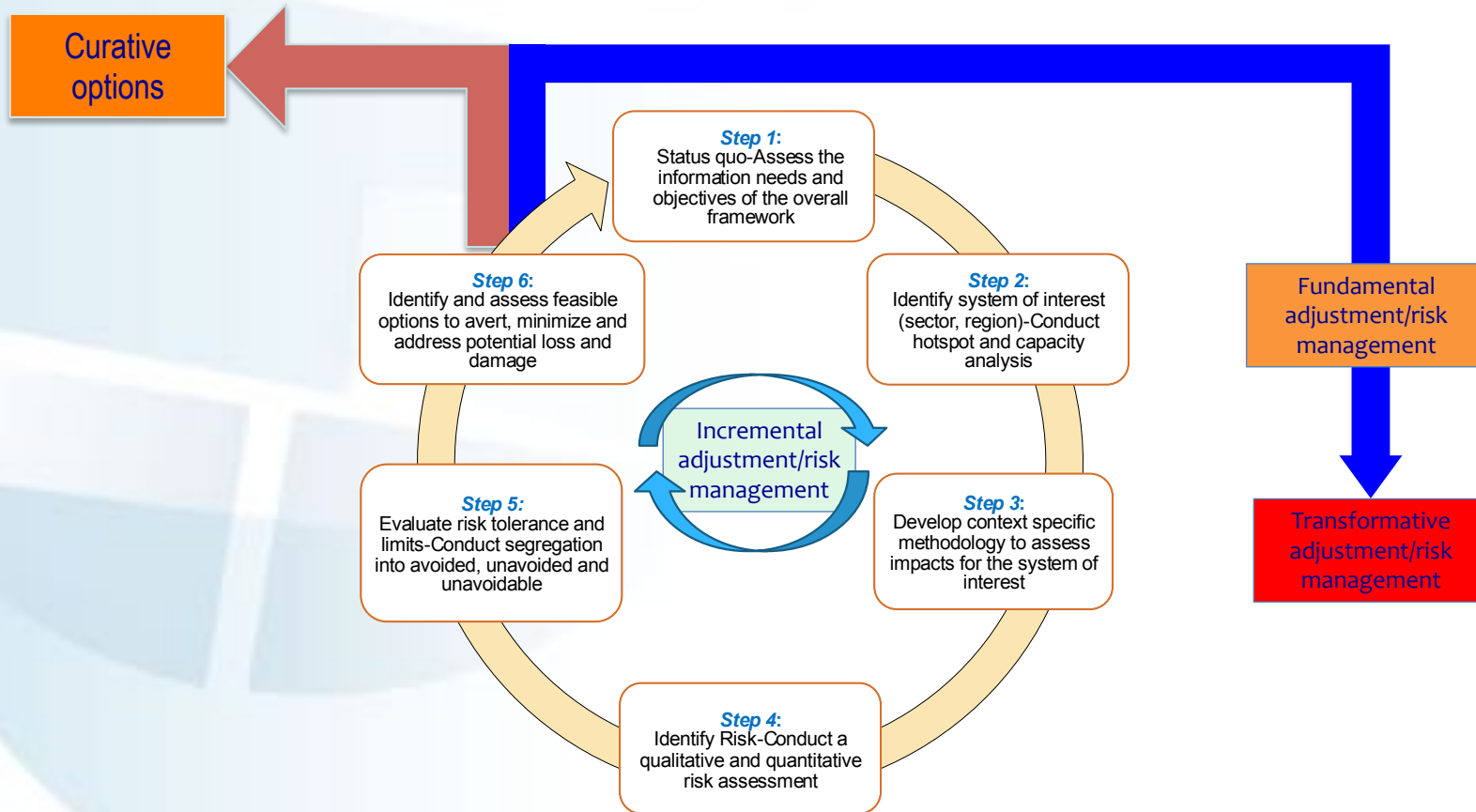
Mechler and Schinko, 2016

A broad climate risk analytical perspective

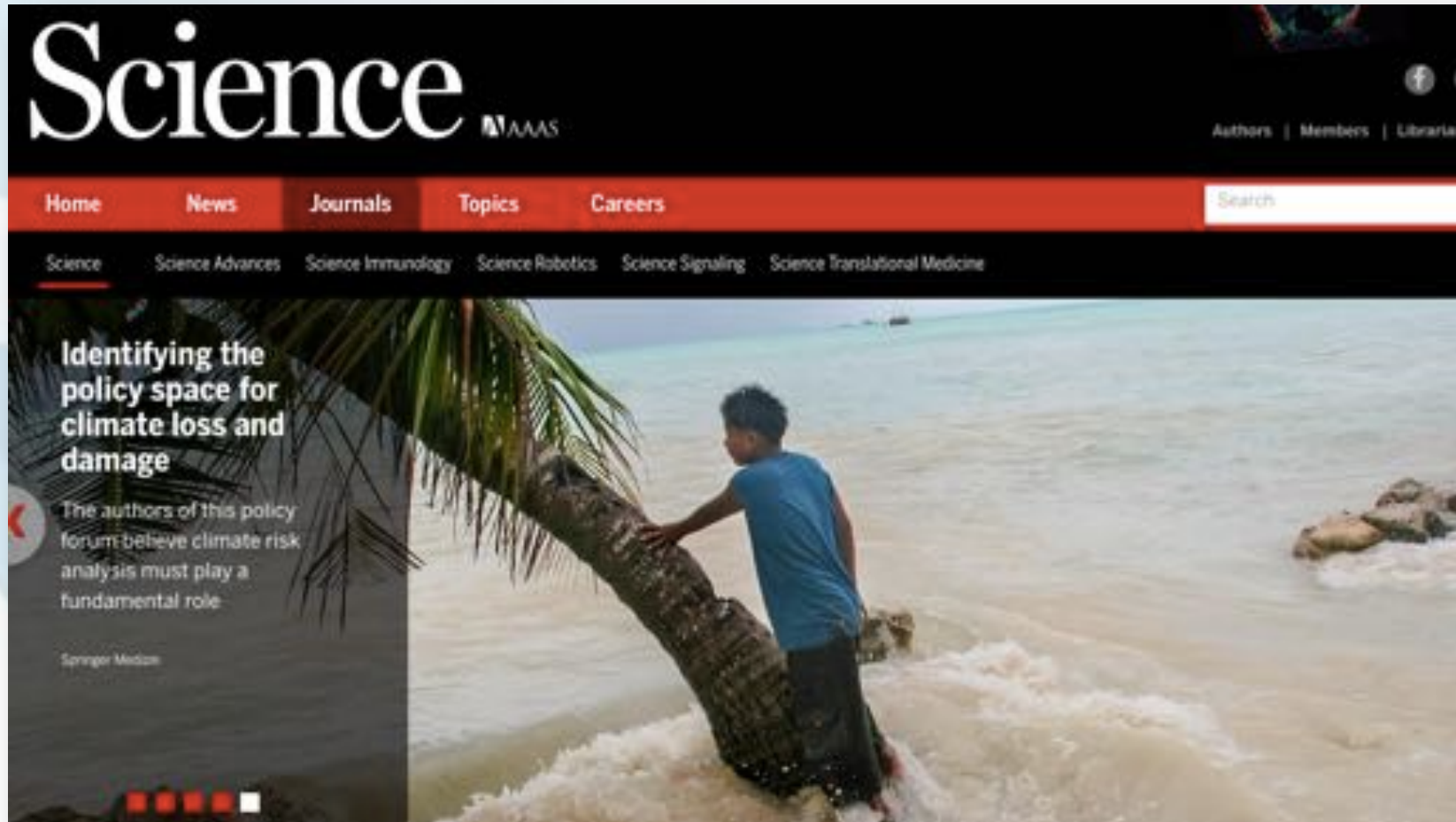


Process for operationalisation

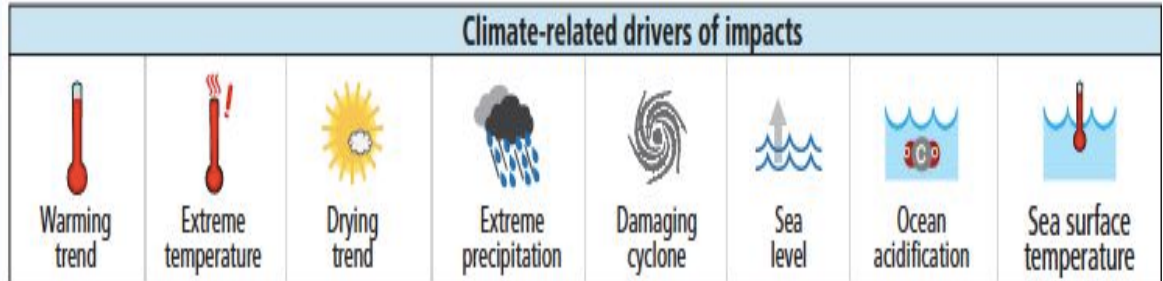
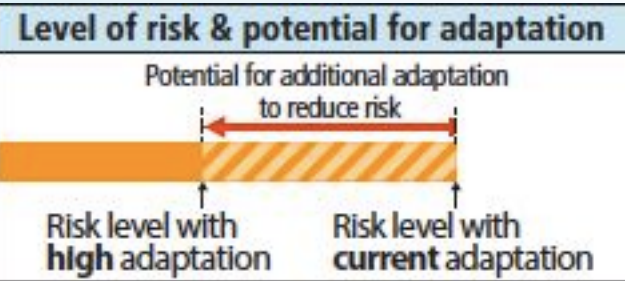
Risk management cycle



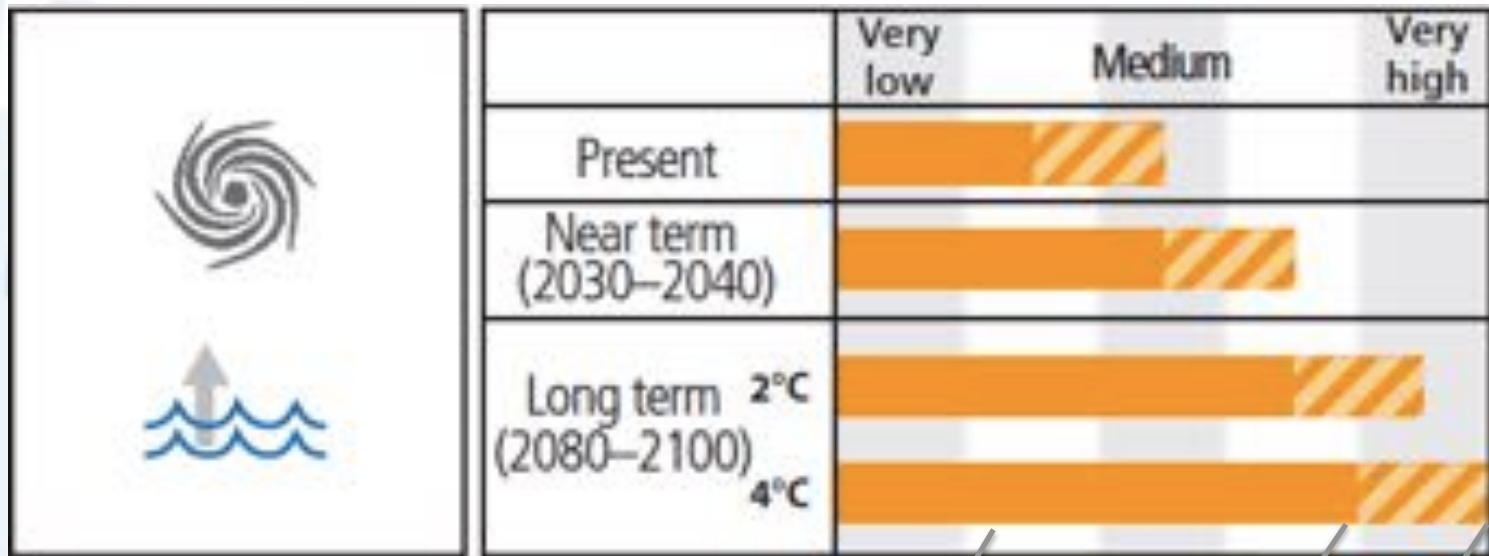
Risk and Policy space for the Small Island States



Case 1: SIDS

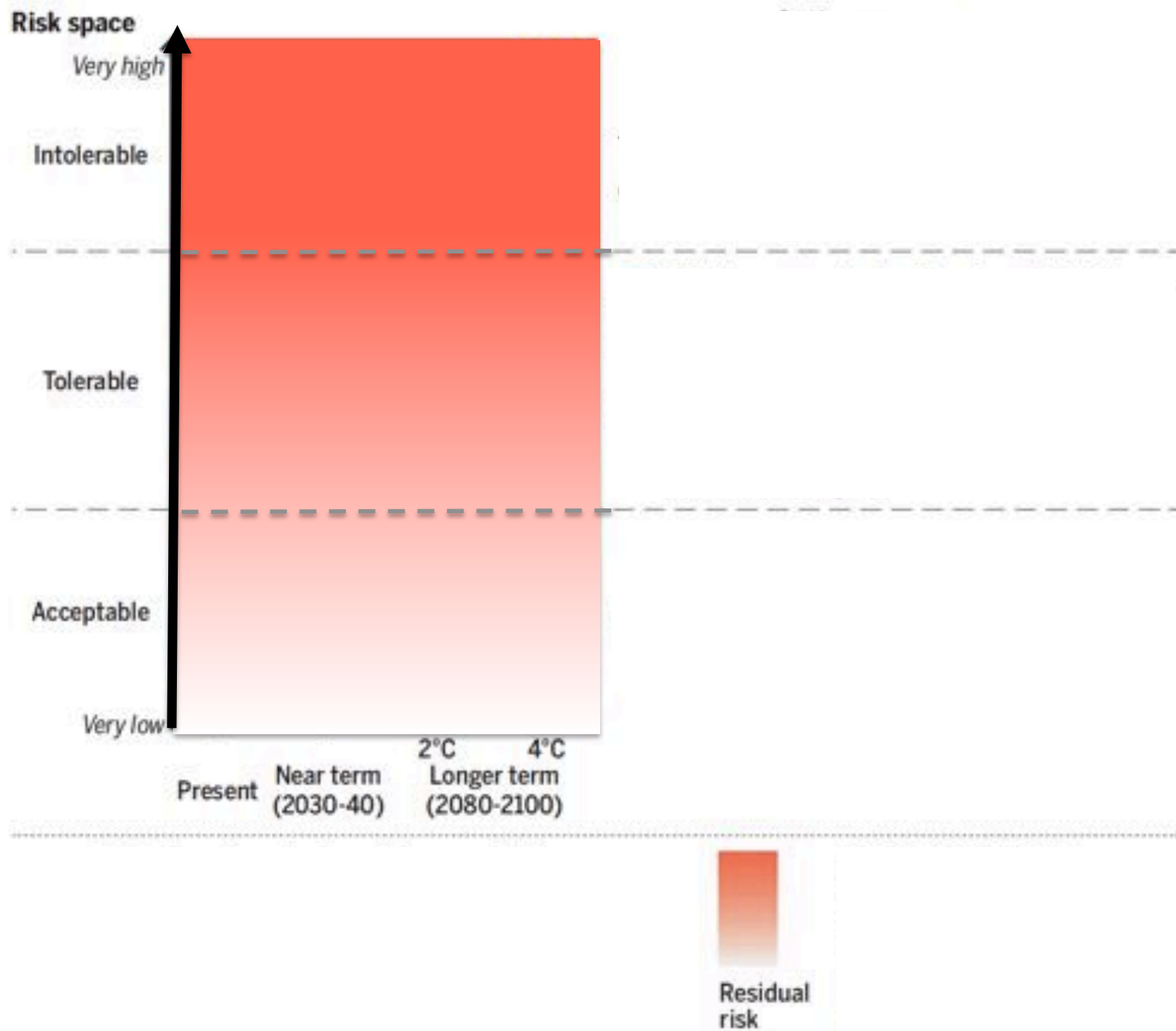


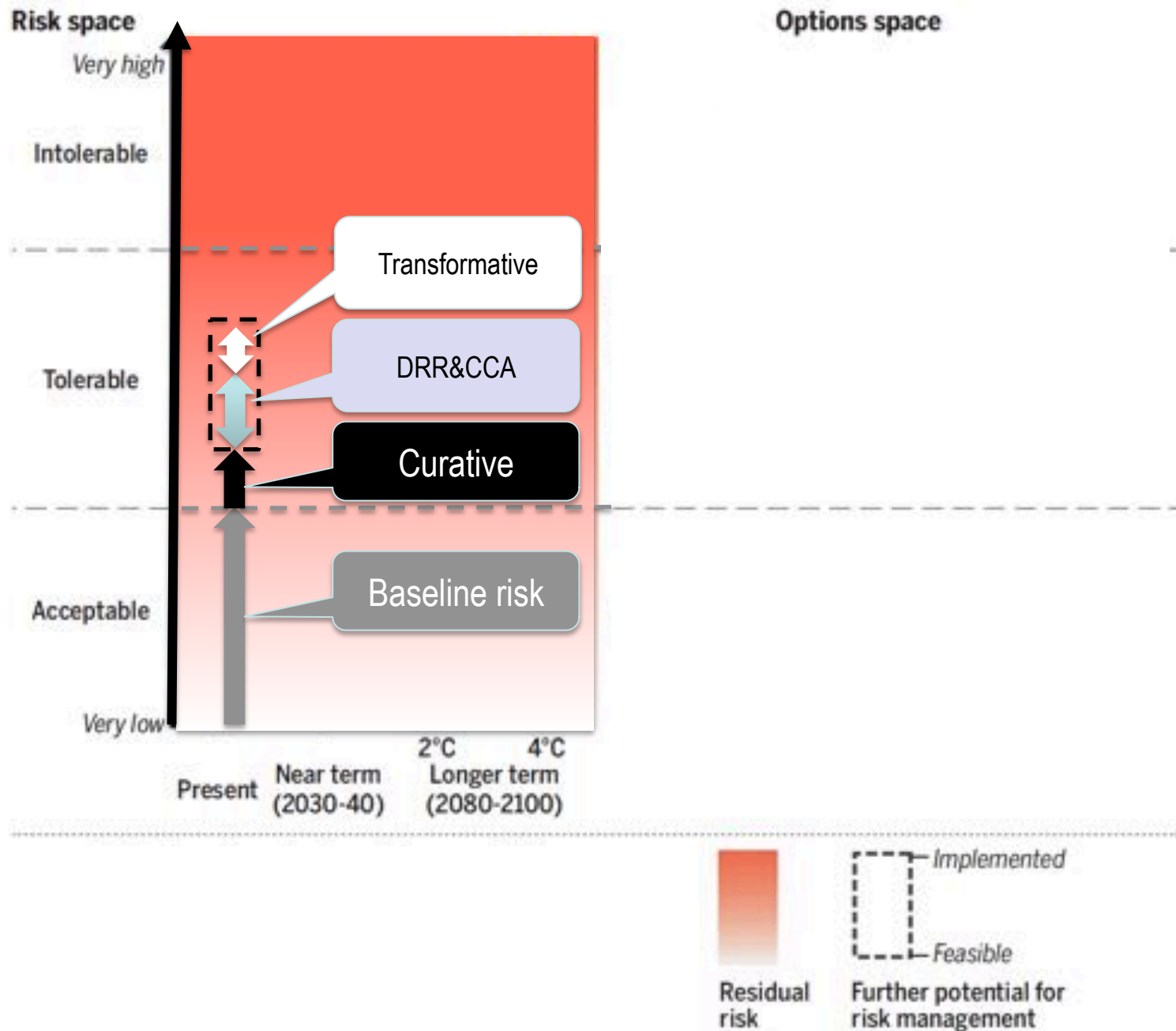
SIDS
Rising global mean sea level in the 21st century with high-water-level

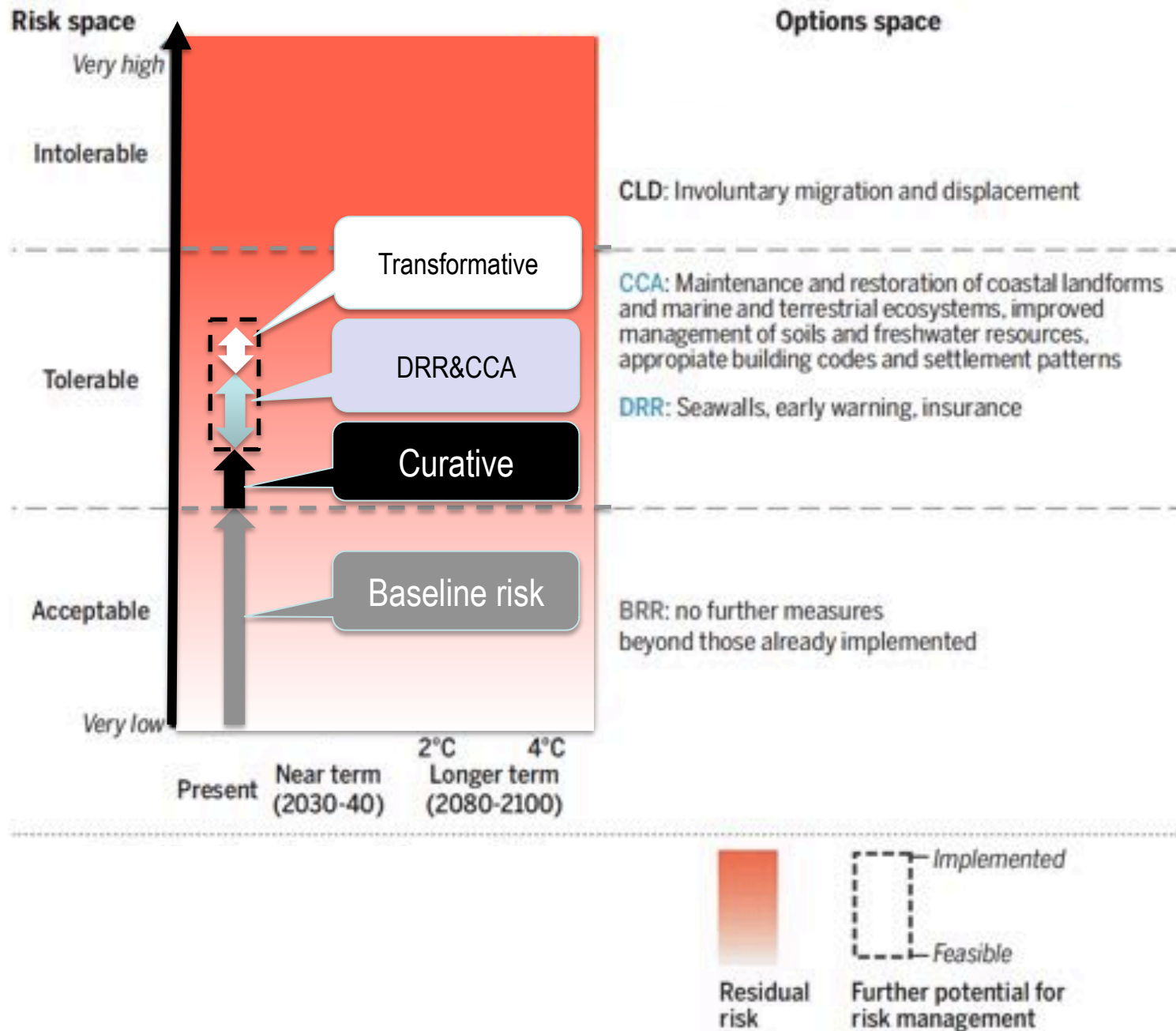


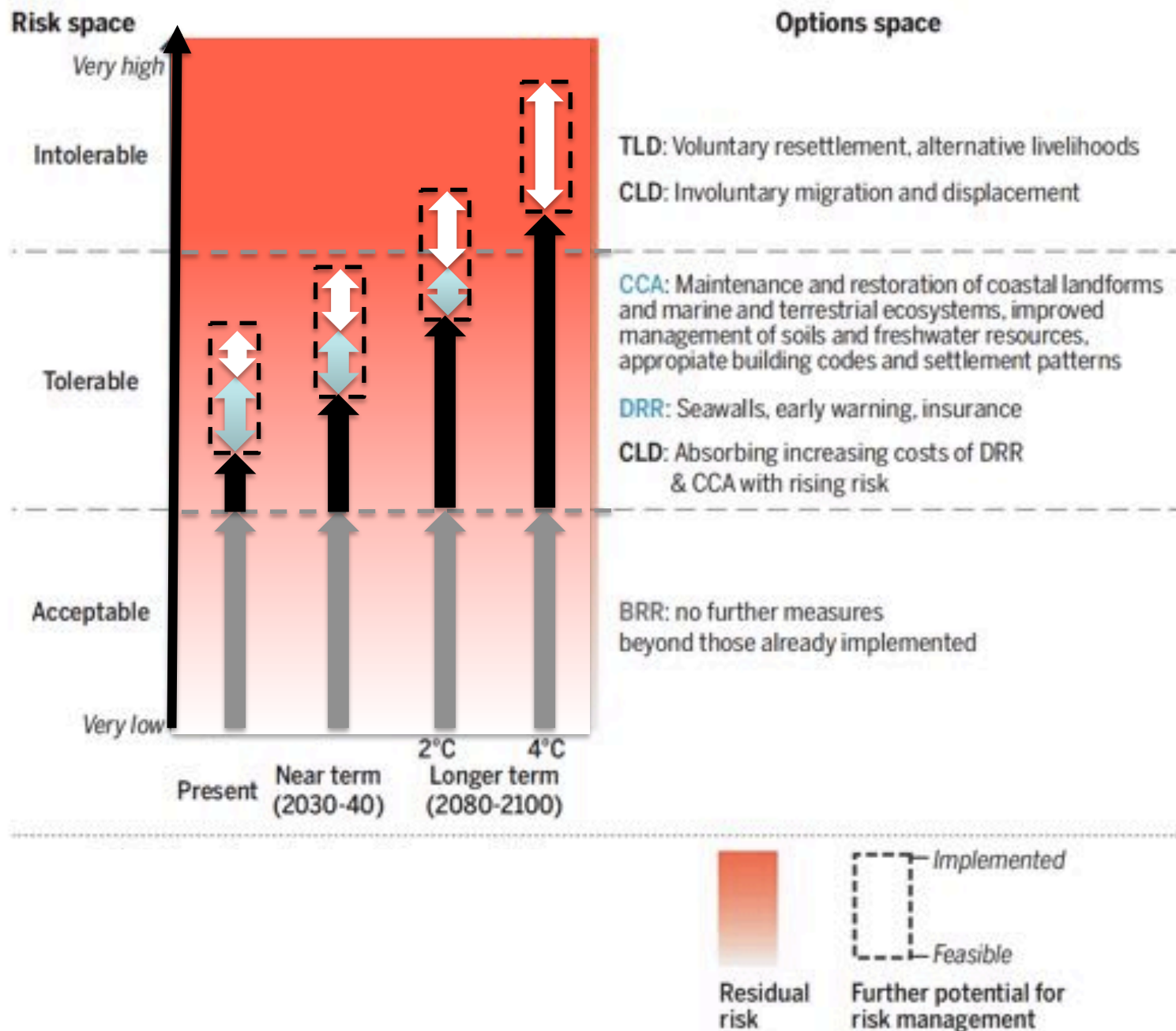
IPCC, 2014

Unavoidable Avoided Unavoided





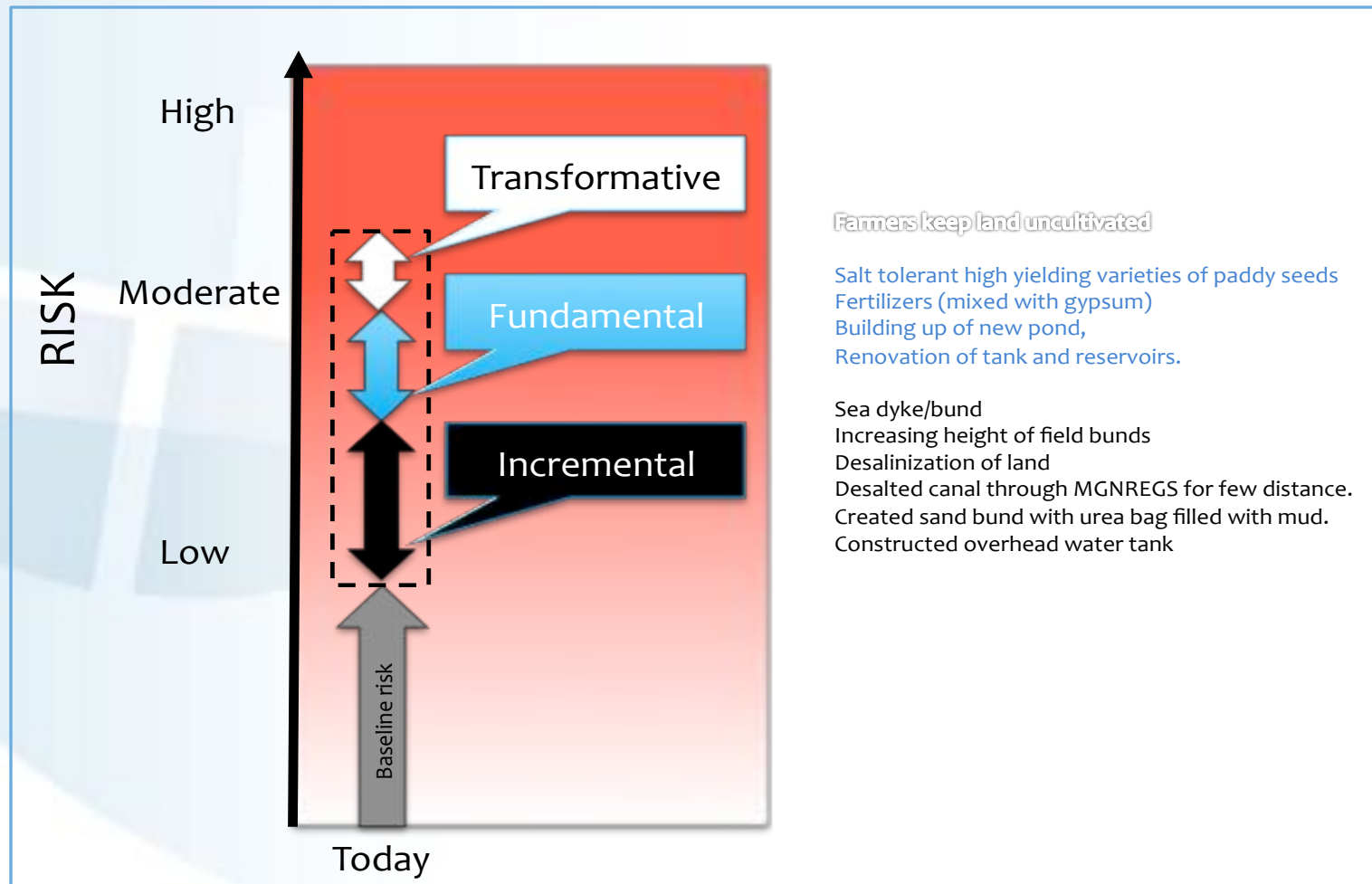




Case 2: Local level risk and options space in Tamil Nadu (cyclones and salinization)

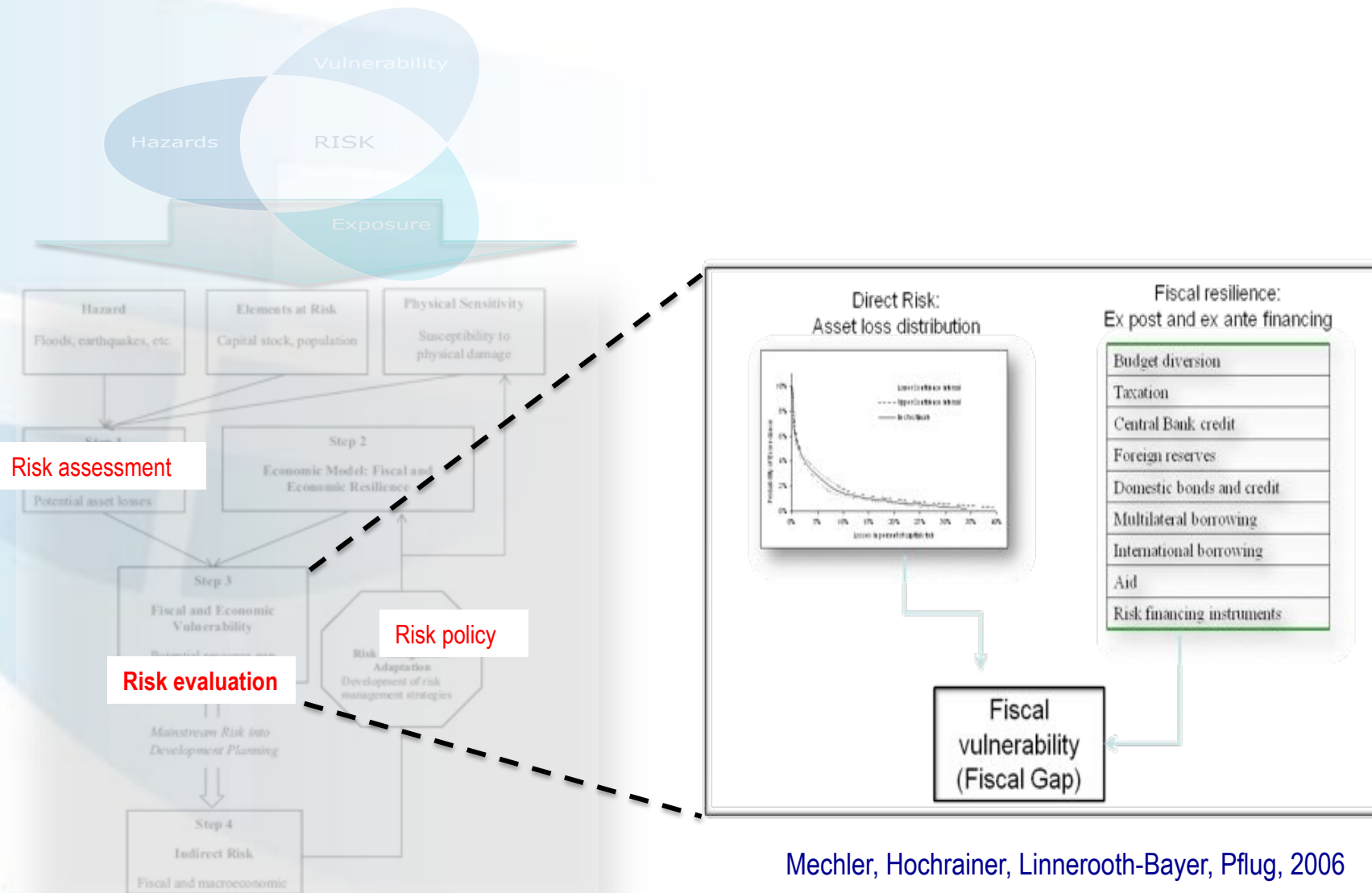


Case 2: Local level risk and options space in Tamil Nadu (cyclones and salinization)



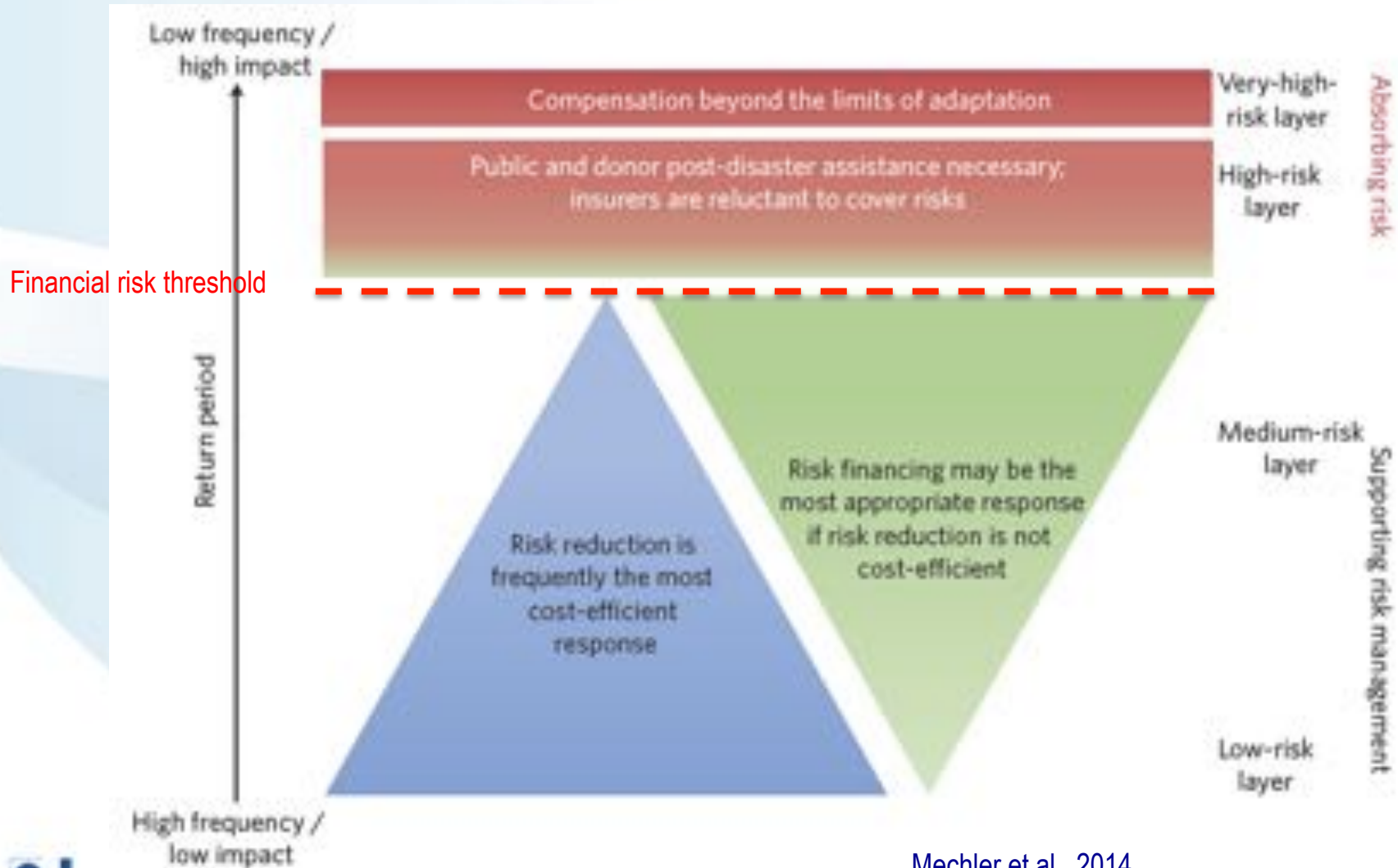
Case 3: Model-based analysis

CATSIM model



Mechler, Hochrainer, Linnerooth-Bayer, Pflug, 2006

Risk evaluation: risk layering



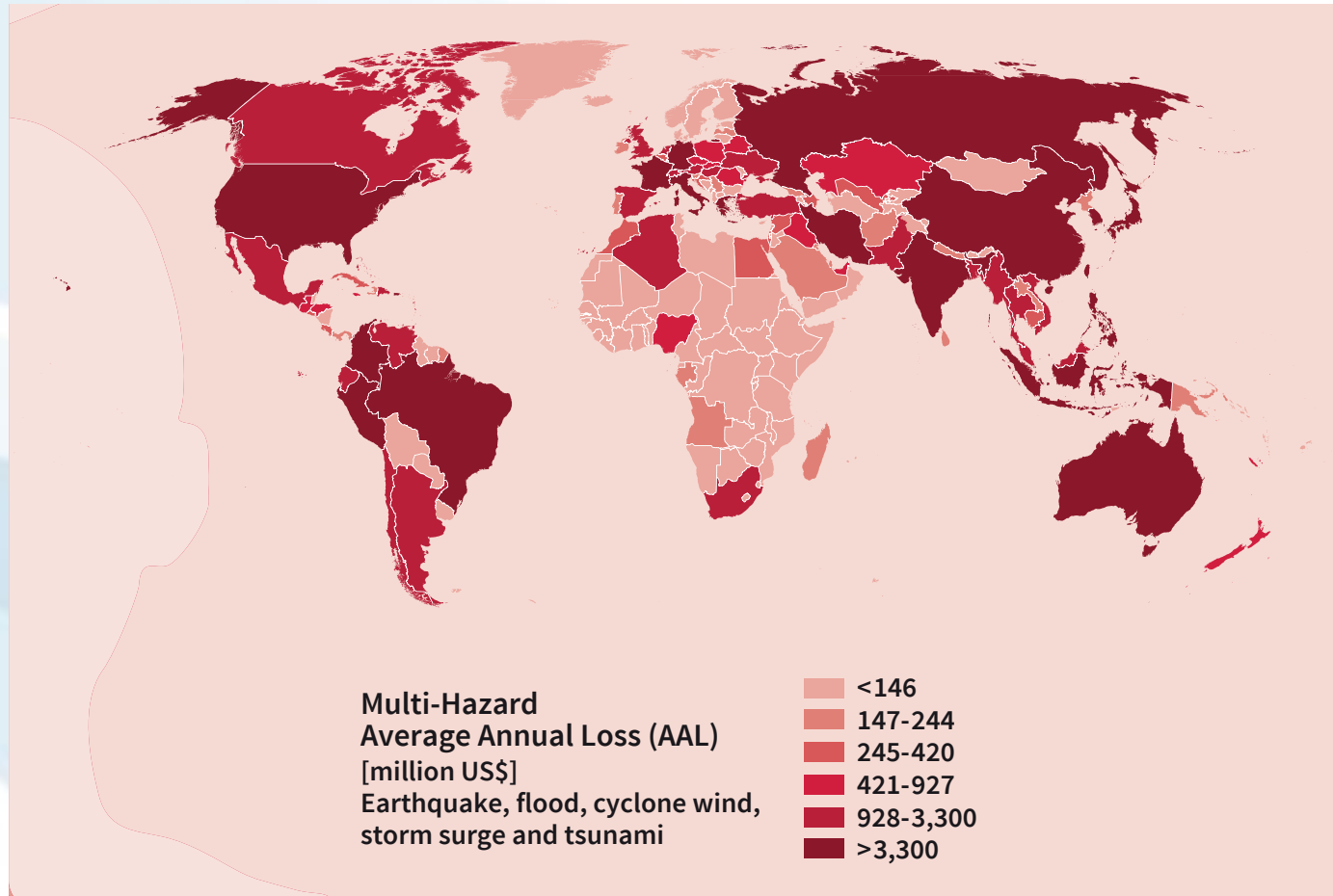
Global perspective

Disaster risk

GAR

Global Assessment Report
on Disaster Risk Reduction

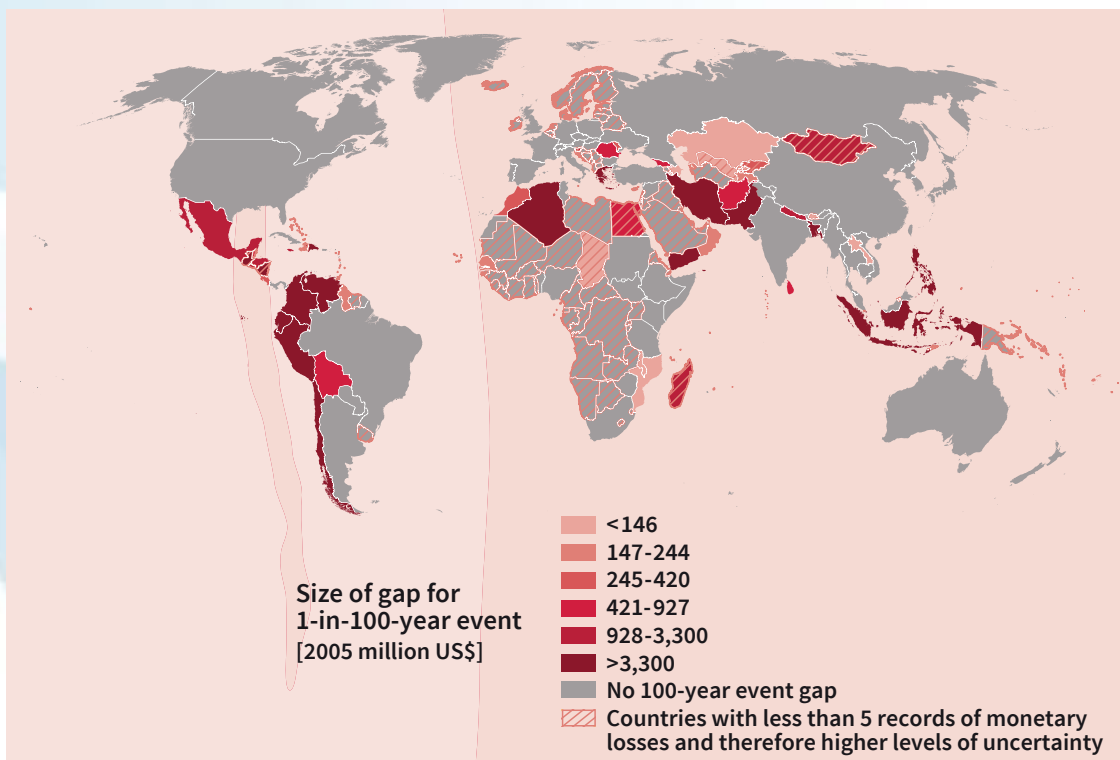
2015



GAR-Global Assessment Report, 2015

Global perspective

Fiscal tolerance

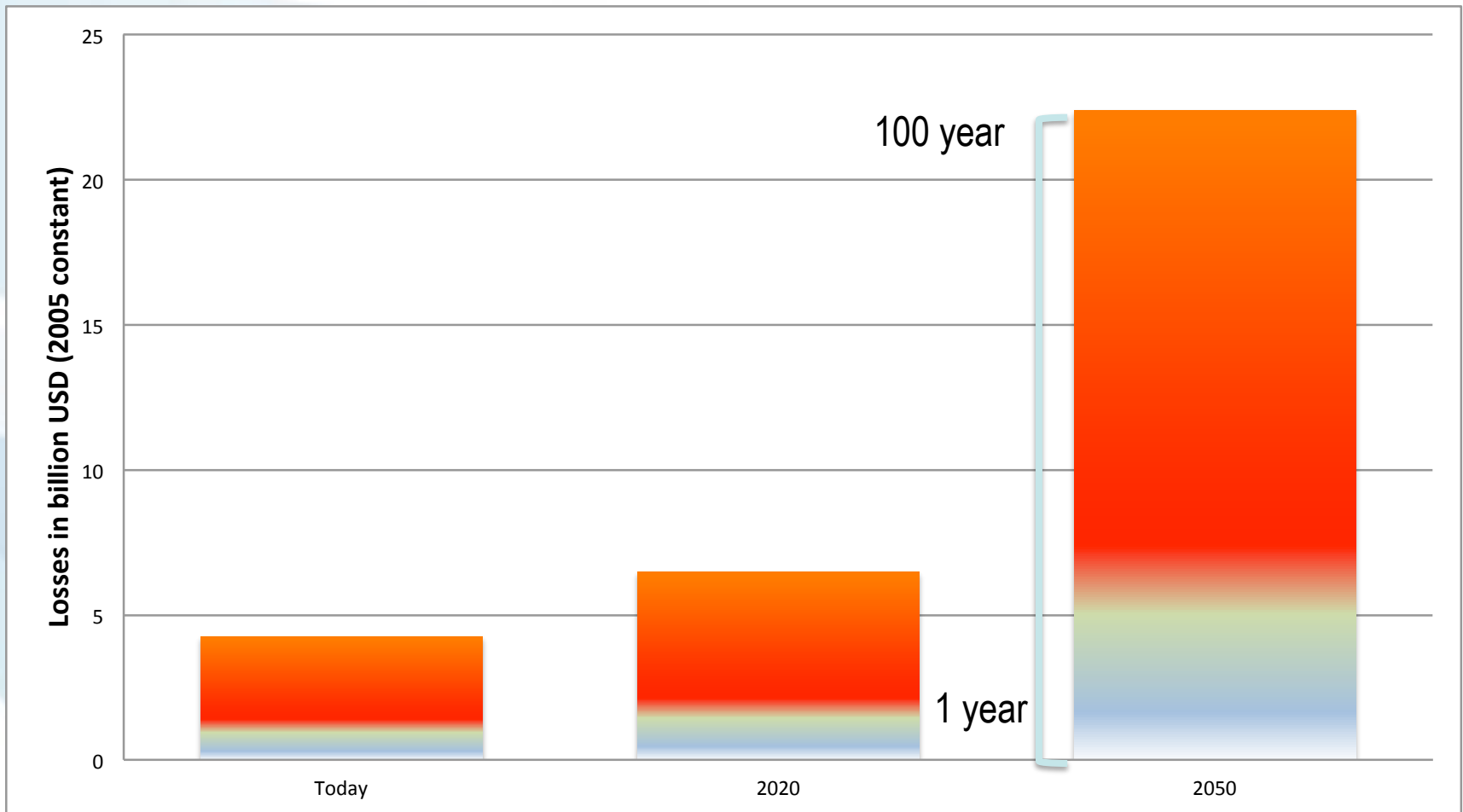


- Compensating all countries for loss and damage beyond their coping capacity
- Increasing over time
- Signal for mitigation challenge

Stress testing for 1-in-100 year events

Bangladesh

Future risks and liabilities



Risk layers with climate change
(B1 scenario and no additional risk reduction)

Based on Mechler and Bouwer, 2015

Epilogue: from symbolic to real action?

- Broad risk management (governance) approach as boundary device
- Aligning compensatory and distributive justice considerations for a step change beyond symbolic action
- L&D as link to SDG debate: Transformative risk management
- L&D to provide compensatory justice where attribution possible: curative component
- L&D as “Canary in the coal mine:” Avoid dangerous interference with the climate system

Fiji this Monday

Pre-COP 23



Fiji last year



Fiji

Cyclone Winston: tens of thousands homeless in Fiji a week after storm

Unicef says 51,000 people still in shelters with many others staying with relatives after cyclone tore across South Pacific



This article is 1 year old

137

Oliver Holmes in Bangkok

Monday 29 February 2016 08:16 GMT



A Fijian resident looks at the damage caused by Cyclone Winston. Photograph by Oliver Holmes

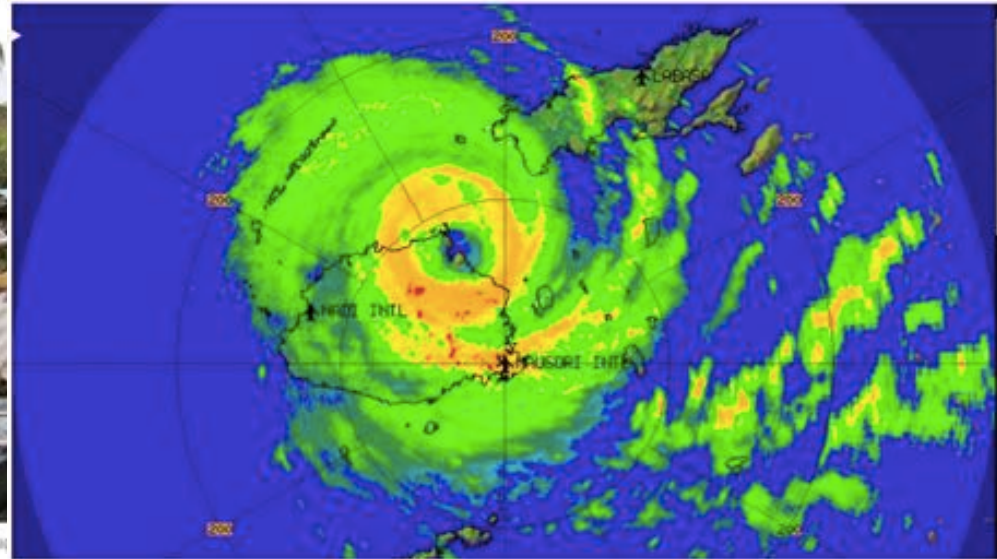


IMAGE: FIJI WEATHER SERVICE



BY ANDREW FREEDMAN

FEB 20, 2016

Tropical Cyclone Winston made history when it tore across Fiji's main island of Viti Levu early on Sunday morning. It hit with staggering intensity, with estimated maximum sustained winds of up to 185 miles per hour, with gusts to 225 miles per hour.

This made it the strongest tropical cyclone on record in the entire southern hemisphere, based on wind speed estimates from the Joint Typhoon Warning Center. (However, the period of reliable records in this part of the world is short, dating back to 1980 at the earliest.)

Loss and Damage research network

Members' institutional affiliations



Upcoming book



Climate Risk Management, Policy and Governance

Series Editors: Mechler, Reinhard, Surminski, Dierke

ISSN: 2510-1390



ABOUT THIS SERIES

TITLES IN THIS SERIES

This book series is devoted to the growing body of studies that provide analytical insight for policy-making and implementation for bridging climate change adaptation, disaster management and development sectors. It is reflective on all aspects of the climate risk management process, including assessment, mapping, identification, communication, implementation, governance and evaluation of climate risks and management responses.

Topics may span across global, national, regional, sectoral and local scales. The series invites multi-disciplinary and transdisciplinary approaches, combining insights from natural science, engineering and social sciences; emphasizing existing gaps, particularly in the area of decision-making, governance and international relations.

The series furthermore offers both theoretical and practical contributions, with the aim to further academic study and thinking, as well as advancing policy making and implementation of climate risk management processes and tools.

Fall 2017 Book #2:

Mechler, Bouwer, Linnerooth-Bayer, Schinko, Surminski

"Loss and Damage from Climate Change. Concepts, Principles and Policy Options."

Springer

Recent publications

- Mechler, R. (2017). Transparency for Loss and Damage. *Nature Climate Change* 7, 687–688
- Schinko, T. and Mechler, R. (2017). Applying Recent Insights From Climate Risk Management to Operationalize the Loss and Damage Mechanism. *Ecological Economics* 136: 296-298. doi:10.1016/j.ecolecon.2017.02.008.
- Mechler, R. and T. Schinko (2016). Identifying the policy space for climate loss and damage. *Science* 354 (6310), 290-292
- Mechler R. and Bouwer, L. (2015). Reviewing trends and projections of global disaster losses and climate change: Is vulnerability the missing link? *Climatic Change* 33 (1) : 23-35

Q&A

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For time management reasons, we don't assure that all questions will be answered.

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