

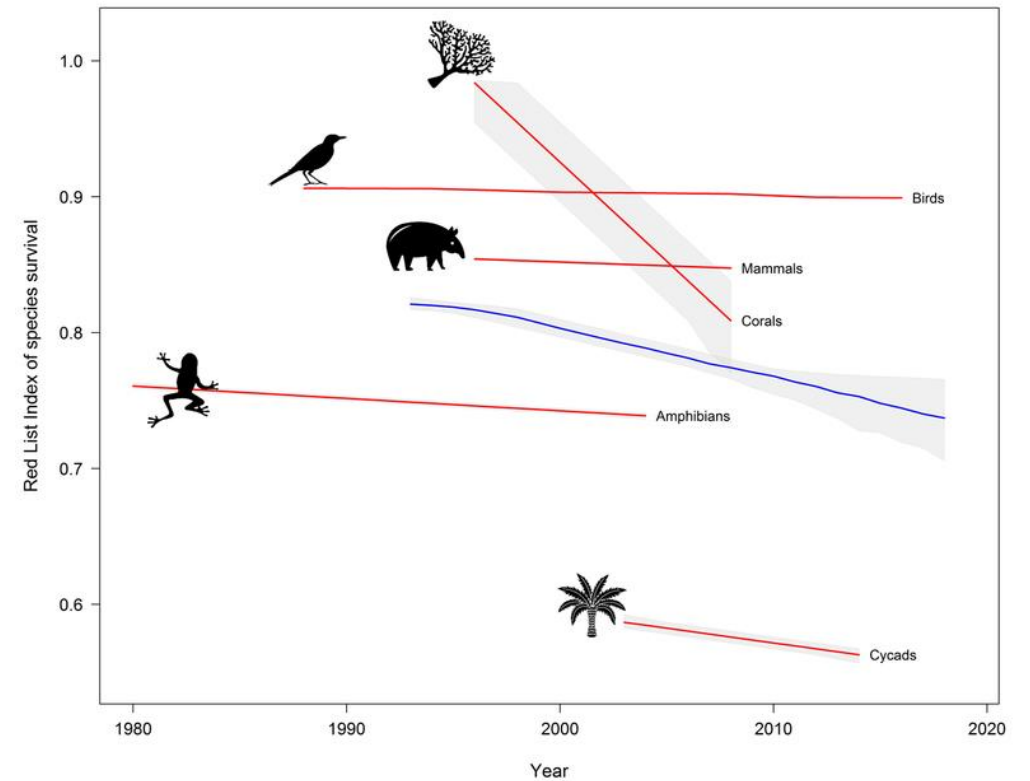
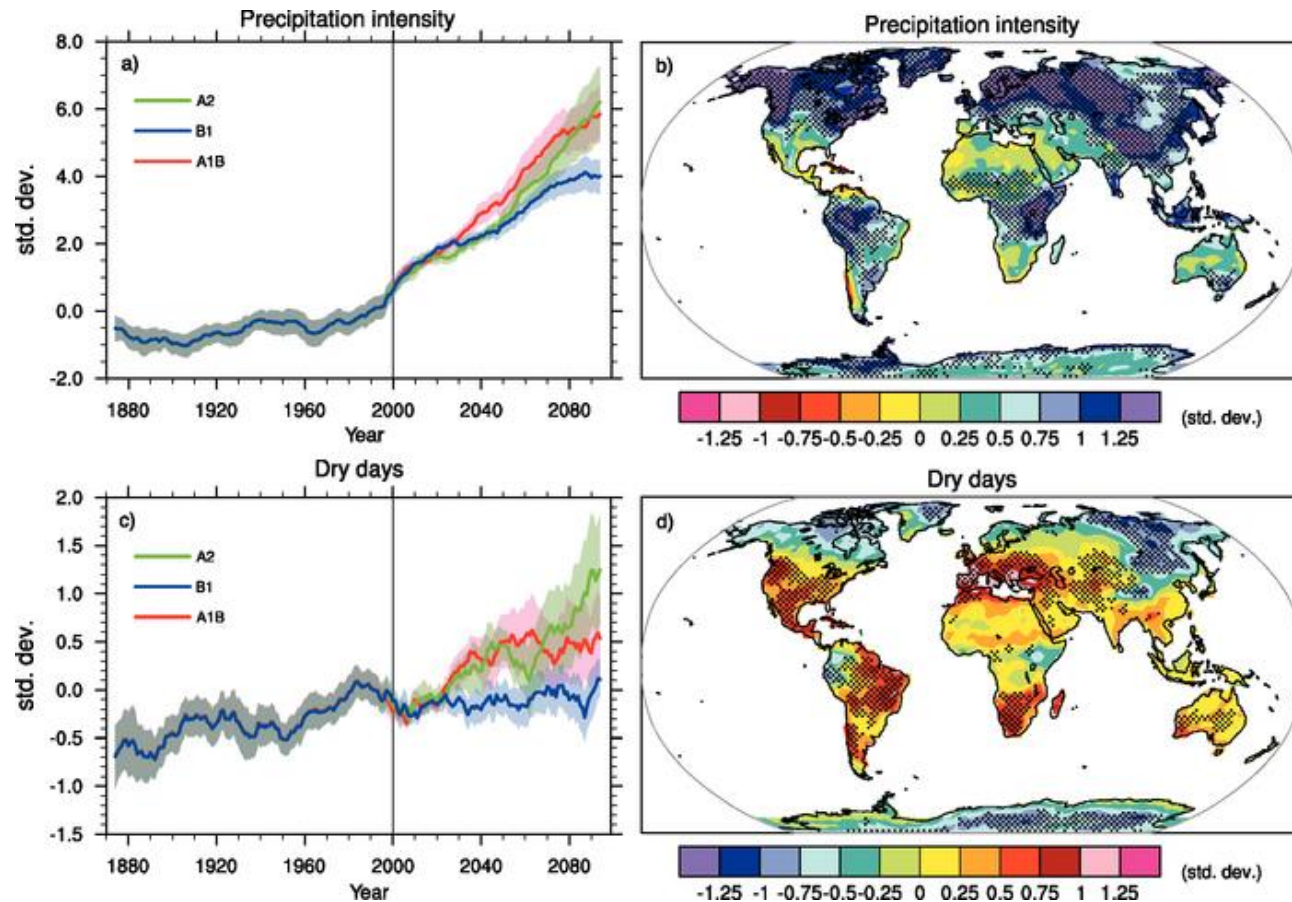


# Ecosystem monitoring and interlinkages between Climate and biodiversity crisis

**Angela Andrade, Chair IUCN Commission on Ecosystem  
Management**



# Climate crisis and Biodiversity Crisis



Source IPCC (Adapted from Tebaldi et al. (2006))

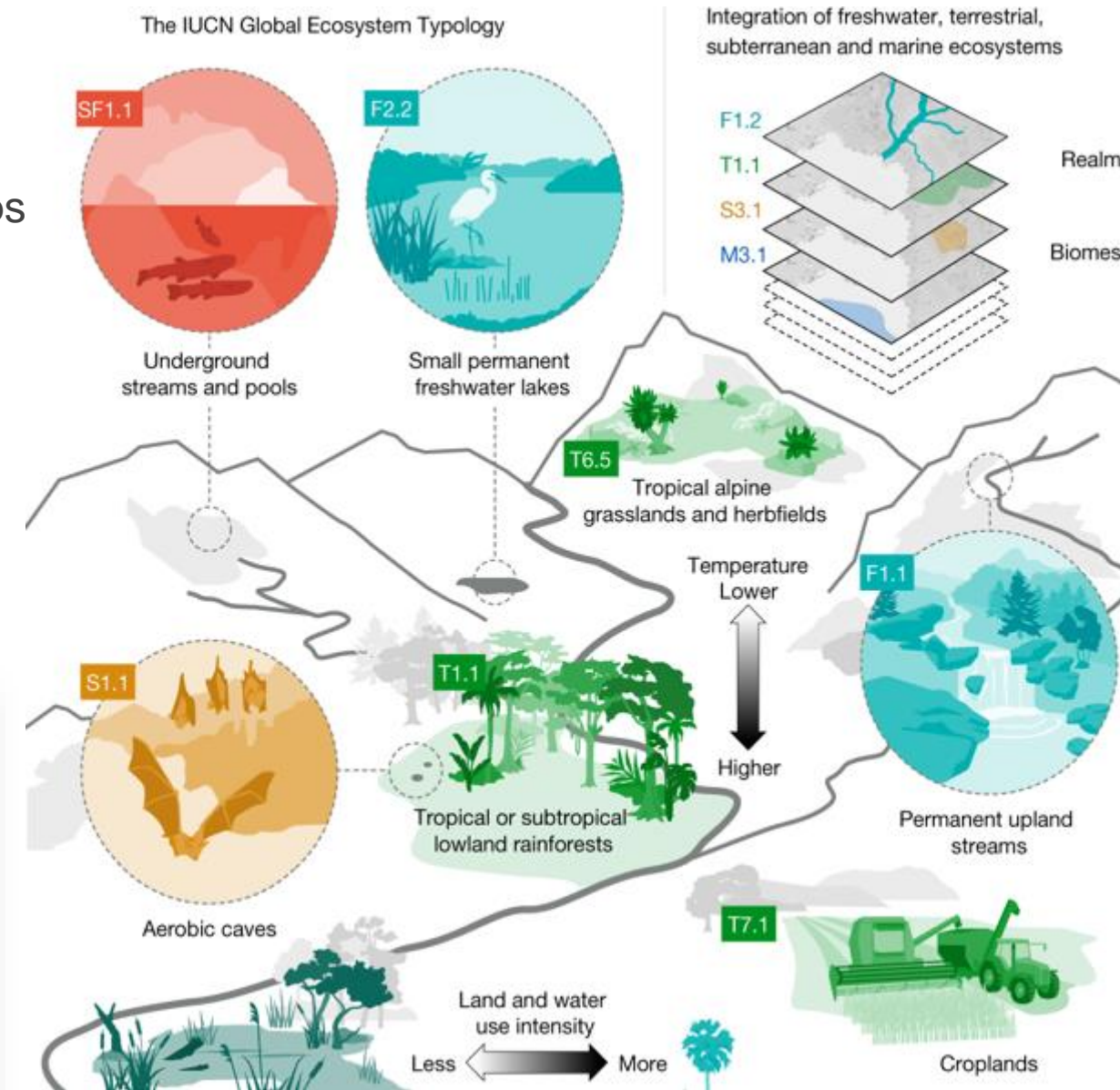
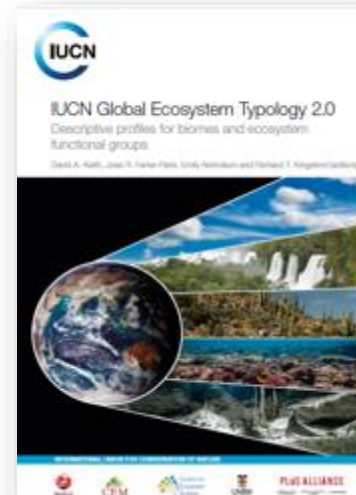


# IUCN Global Ecosystem Typology (GET)

## Design criteria & outcomes:

- A scalable structure (nested/hierarchical):
  - 10 realms, 25 biomes, 110 ecosystem functional groups (EFGs)
  - ecosystem types nested within EFGs
- Represent ecosystem functions & variation in biota
- Conceptual consistency throughout the whole biosphere
- Spatially explicit (*mappable* units): some EFGs are well mapped but others not
- A conceptual framework NOT a map product

- [IUCN publication 2020](#)
- [Nature publication 2022](#)
- <https://global-ecosystems.org>

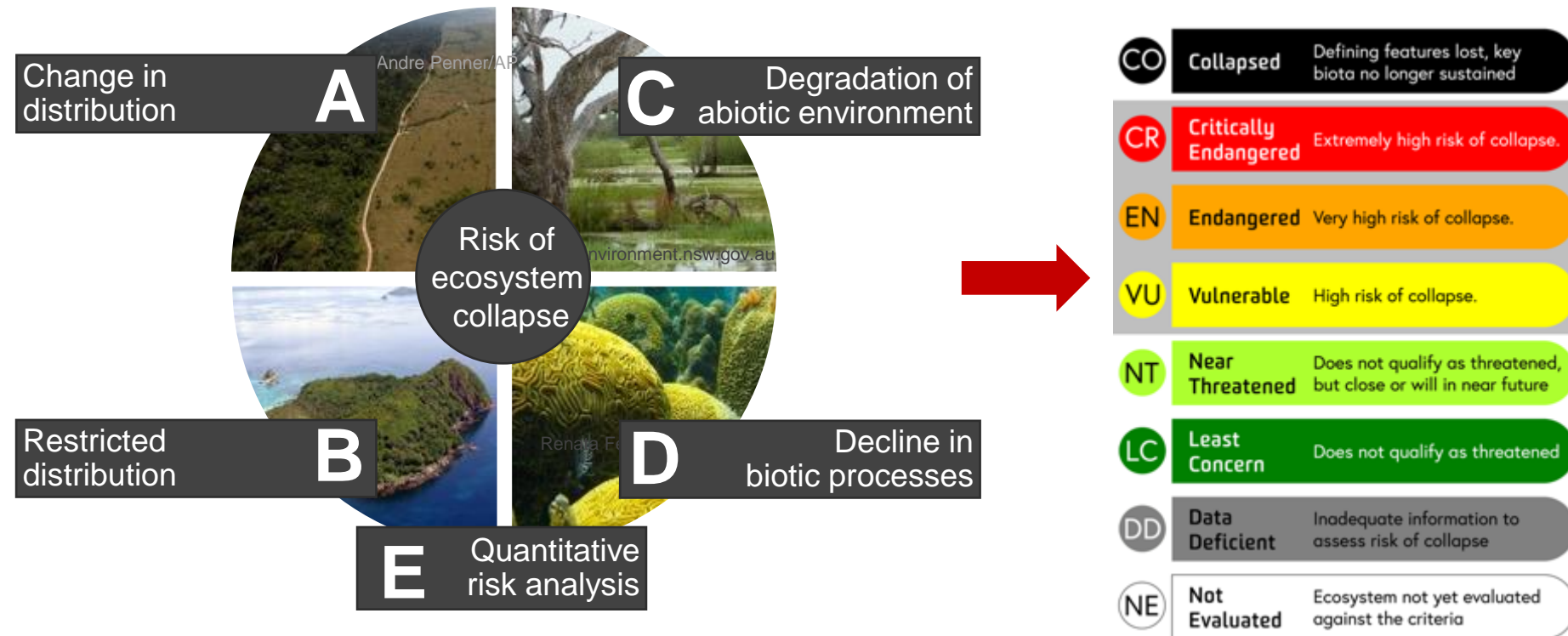




# Red List of Ecosystems – the standard

It is a *global standard* for assessing the **ecosystems risk** of **collapse**

- Assessed against past, ongoing and projected future change (including under climate change)
- Can support knowledge sharing, capacity building, and consistency of approach globally.



1. Keith et al. (2013) *PLOS ONE*;  
Keith et al. (2015) *Cons Lett*
2. Bland et al. (2018) *Frontiers*;  
Rowland et al. (2018) *Cons Biol*



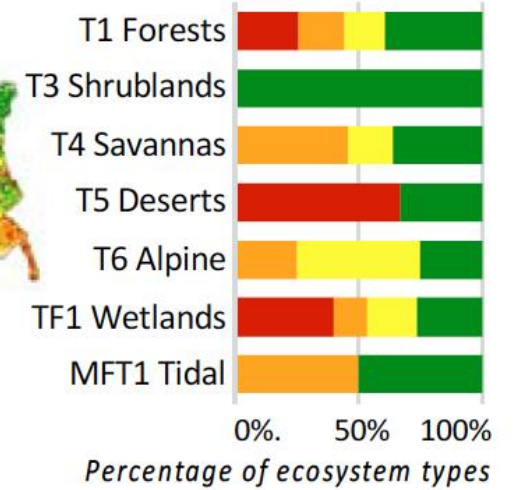
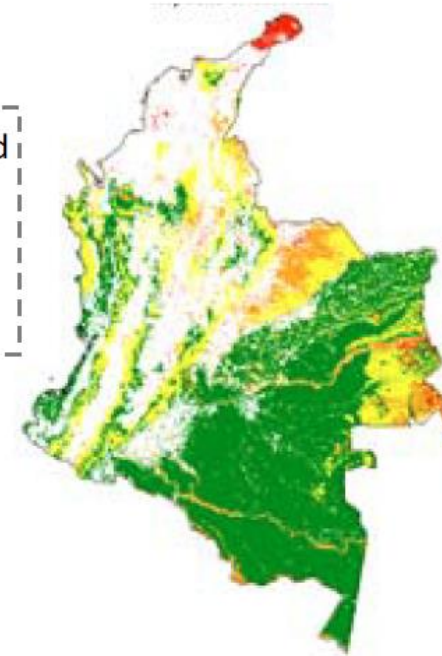
Damage remaining 10 year after Super Typhoon Haiyan (2013) in central Philippines (photo credit: Severino Salmo III)



**c) Risk assessment outcomes**

- CO** Collapsed
- CR** Critically Endangered
- EN** Endangered
- VU** Vulnerable
- NT** Near Threatened
- LC** Least Concern
- DD** Data Deficient
- NE** Not evaluated

**d) Colombia assessment outcome**





## Red List in Mangrove Ecosystems

About 50% of the Mangrove Ecosystems are at risk of collapse (Vulnerable, endangered or critically endangered).

Mangrove ecosystems loss and possible collapse, would mean the loss of large benefits to humans, such as:

- 1.8 billion tons of C storage.
- 2 million people vulnerable from coastal related risks.
- 17 million days of fishing effort.
- Carbon and disaster risk losses amount.

Sea level Rise is the main threat affecting mangrove ecosystems. 20% of mangroves will be submerged in the next 50 years. Adaptation strategies need to account for those expected changes.



(photo credit: Haicho Zhou)