

STAP Report to the 64th Meeting of the GEF Council

Rosina Bierbaum
STAP Chair



Photo: Martin Köppert

Scientific and Technical Advisory Panel



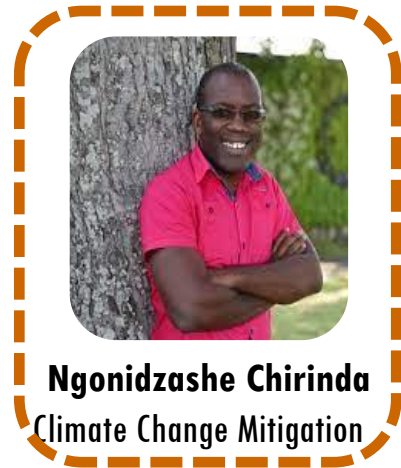
Mark Stafford Smith
Advisor to Chair



Rosina Bierbaum
Chair



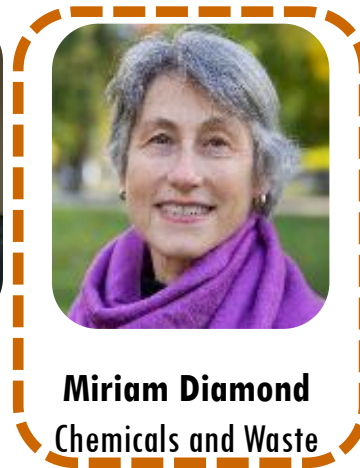
Chris Whaley
Advisor to Chair



Ngonidzashe Chirinda
Climate Change Mitigation



Edward Carr
Climate Change
Adaptation



Miriam Diamond
Chemicals and Waste



John Donaldson
Biodiversity



Graciela Metternicht
Land Degradation



Blake Ratner
International Waters



New Science



**Reports and
recent work**



**Future work
program**



**Observations on
GEF work
program**

New Science



World Economic Forum Global Risk Reports

	1	2	3	4	5
2020	Extreme weather	Climate action failure	Natural disasters	Biodiversity loss	Human-made environmental disasters
2021	Extreme weather	Climate action failure	Human environment damage	Infectious diseases	Biodiversity loss
2022	Climate action failure	Extreme weather	Biodiversity loss	Social cohesion erosion	Livelihood crises
2023	Failure to mitigate climate change	Failure of climate change adaptation	Natural disasters	Biodiversity loss	Large-scale involuntary migration

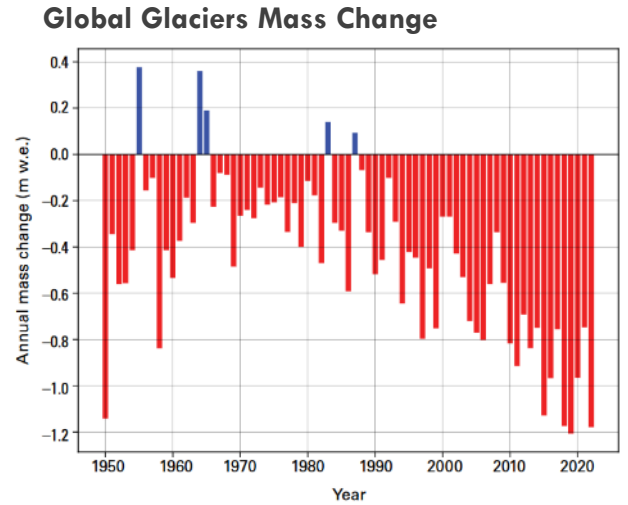
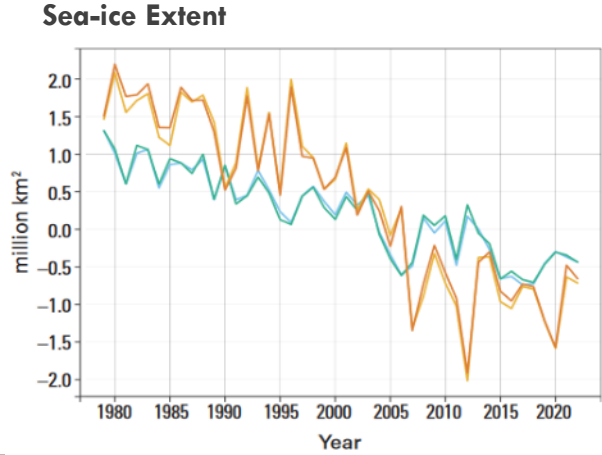
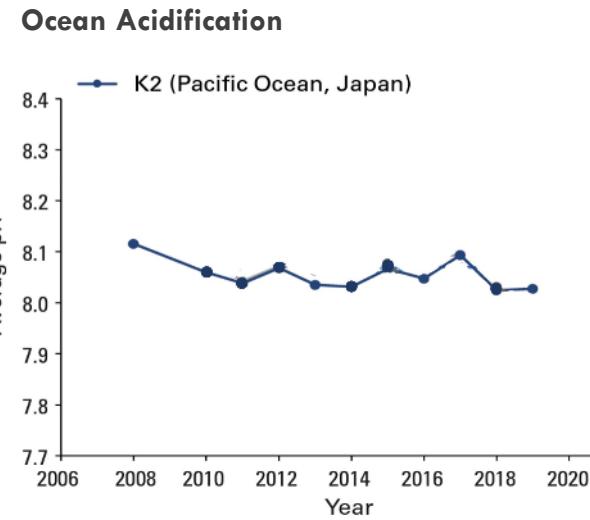
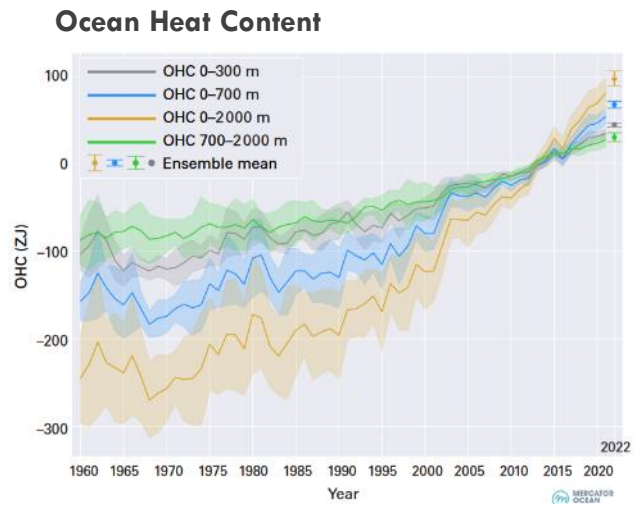
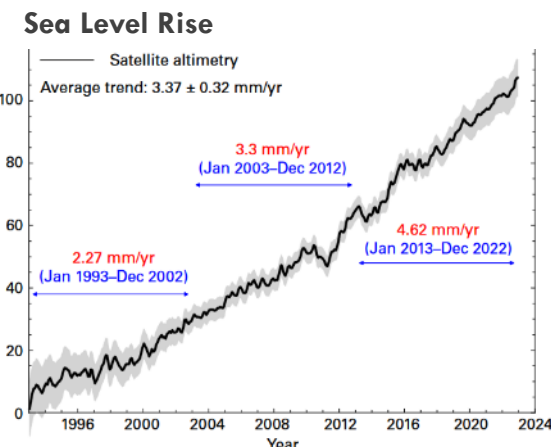
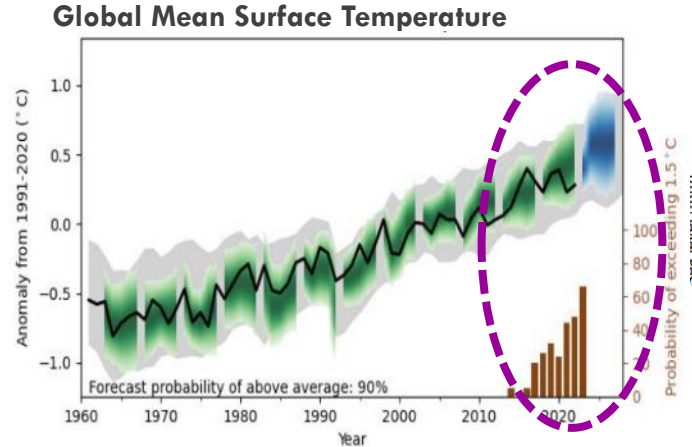
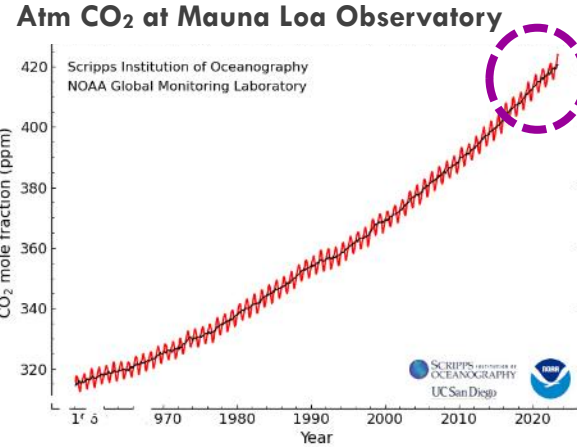
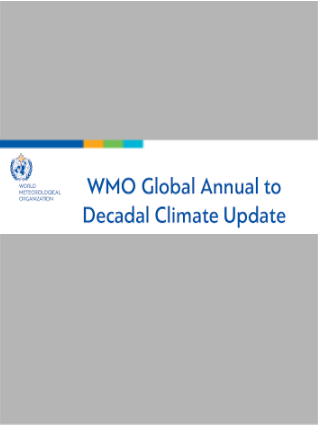
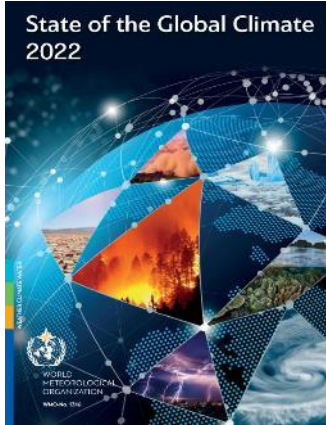


Global risks ranked by severity over the long term (10 years)

https://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf
https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf

https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf
https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf

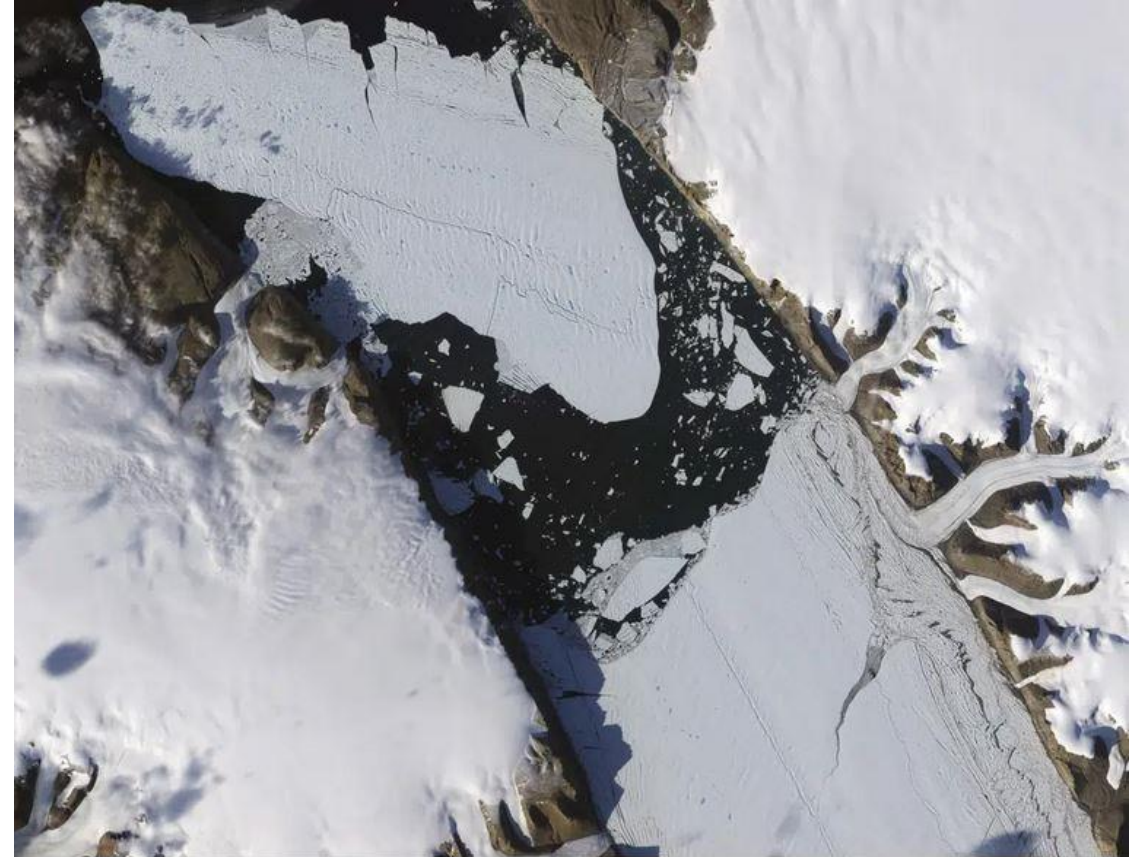
Climate Change



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https://library.wmo.int/index.php?lvl=notice_display&id=22272
<https://www.noaa.gov/news-release/broken-record-atmospheric-carbon-dioxide-levels-jump-again>

Accelerated Loss of Ice – on land and sea

- Summer Arctic sea ice extent is retreating by $\sim 13\%$ per decade.
- Arctic could be ice-free in summer by 2030-2050, even in a low-emission scenario
- Warming oceans around Greenland increases glacial retreat and sea level rise



(Jesse Allen and Robert Simmon/NASA Earth Observatory via AP)

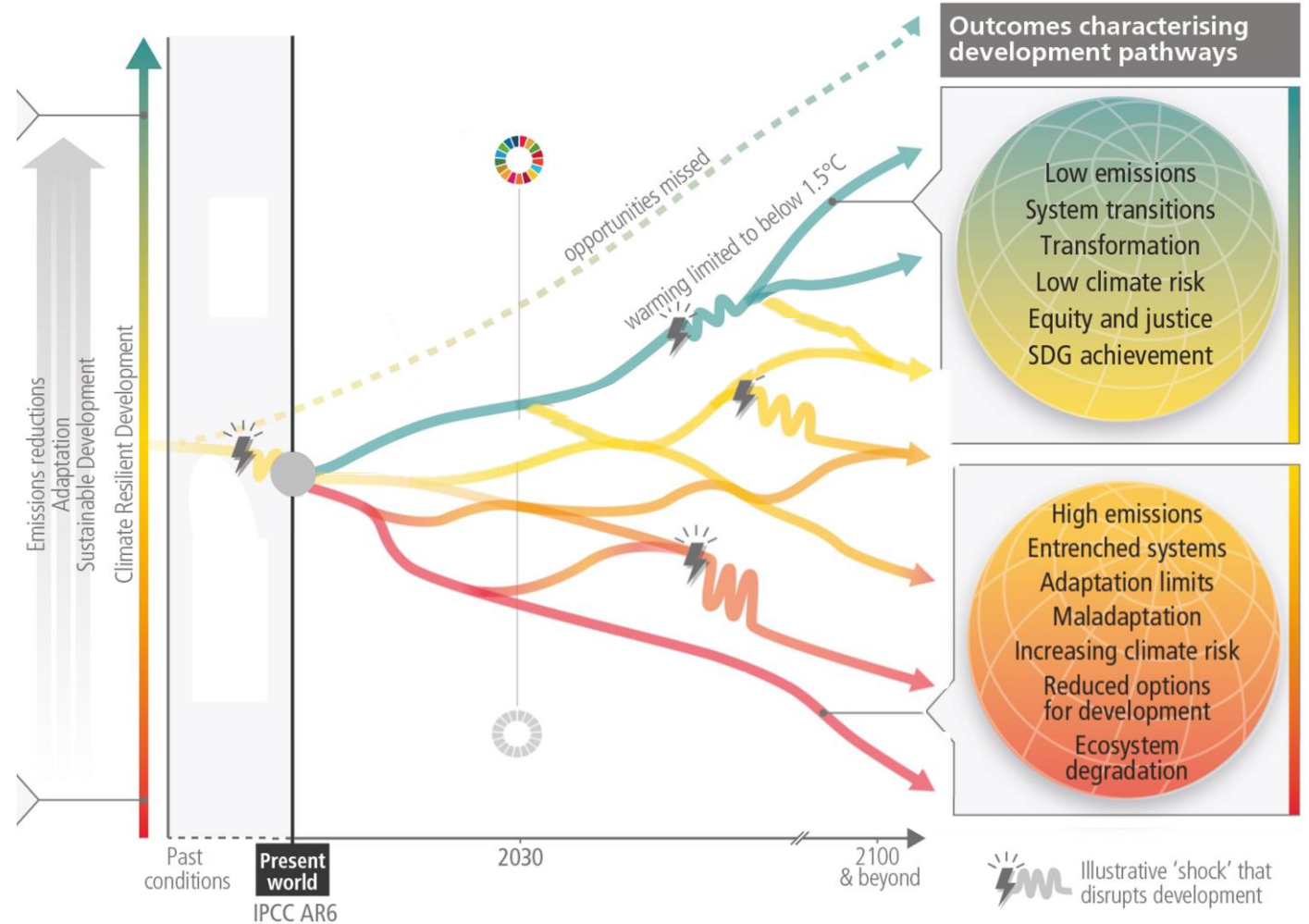
Climate Change



Water scarcity and food production

Health and wellbeing

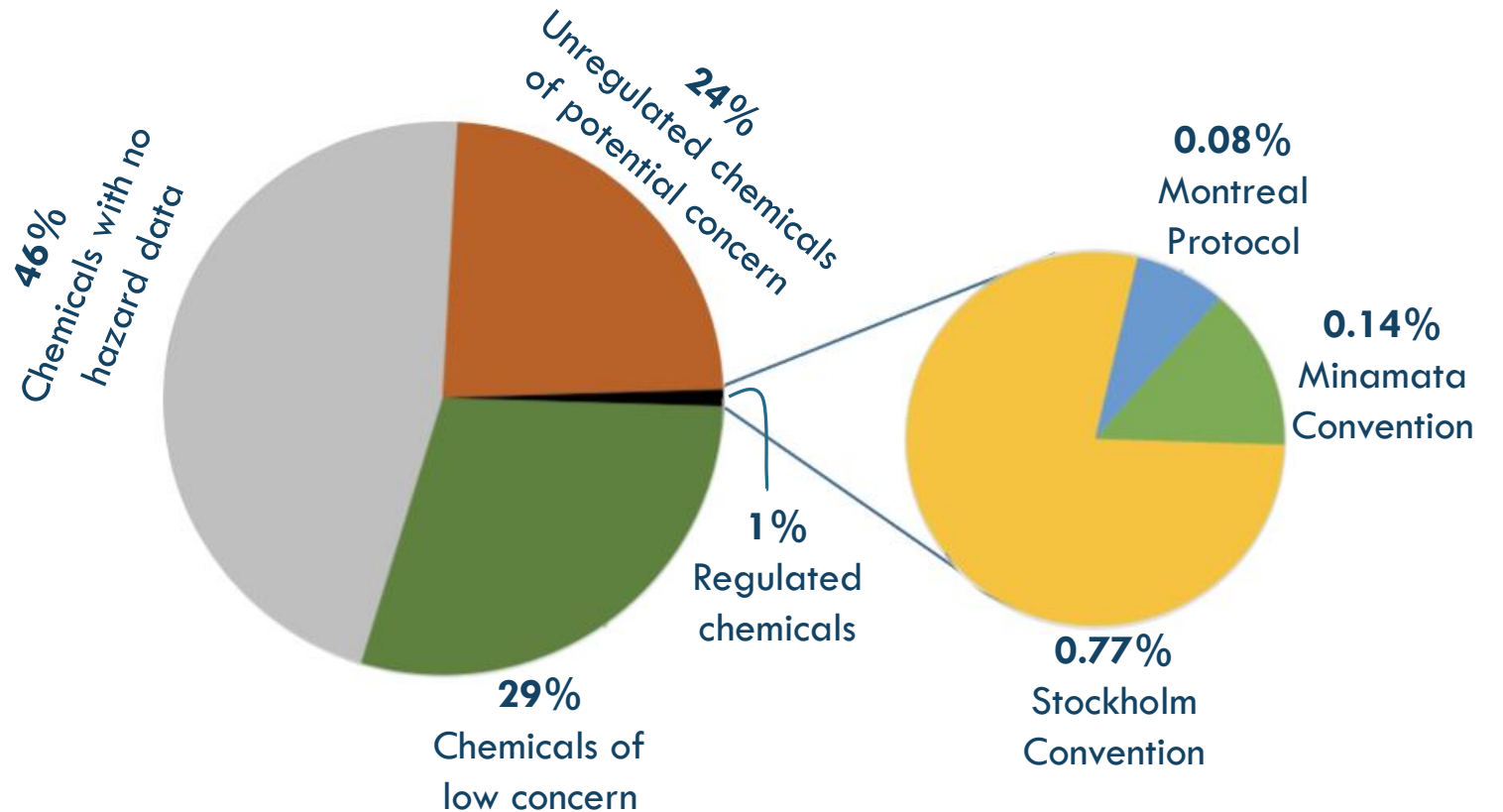
Cities, settlements and infrastructure



Chemicals in Plastics



> 13,000
so far identified or
detected in plastics as
monomers, additives
and processing
aids



Tree Diversity Helps Store More Carbon



- High diversity of plants increases the accumulation of soil carbon and nitrogen over decadal timeframes
- Observed carbon increase of about 30% and nitrogen increase of about 40%.
- Confirms a number of biodiversity manipulation experiments
- Forest soils are critical to climate change mitigation and ecosystem productivity.

Global Marine Kelp Forests Multiple Benefits

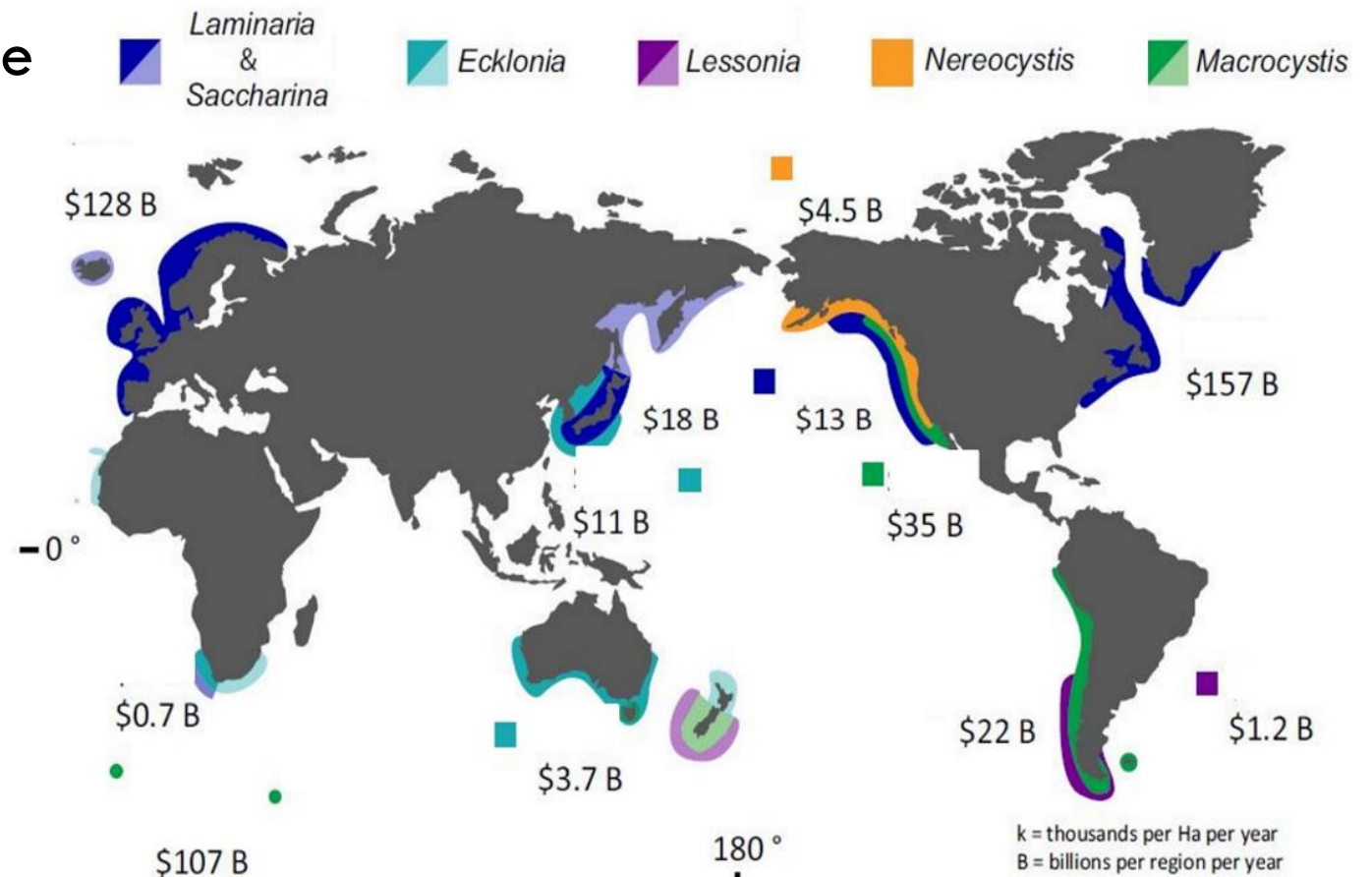
Kelp distribution & regional value

5 kinds of kelp = about \$500 B

Values from fisheries, food, carbon sequestration

About 5 MT of carbon: ‘blue carbon’ potential

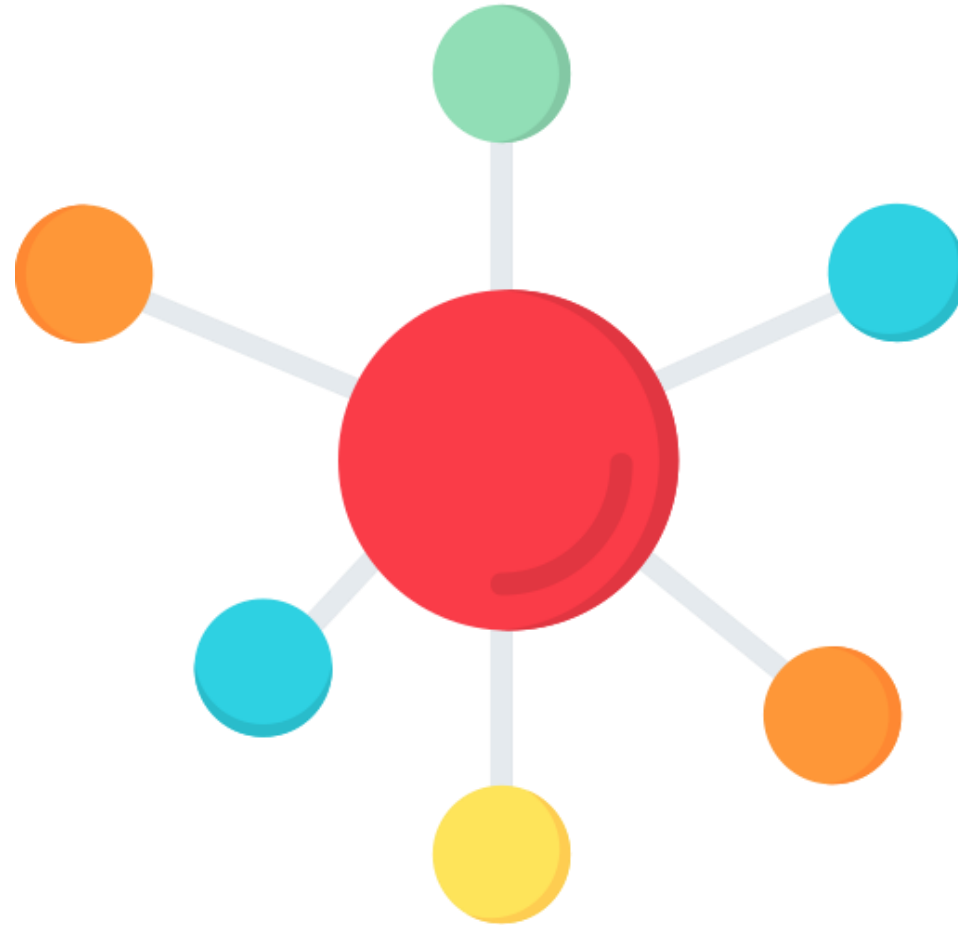
Coastal protection, habitat, & ocean acidity reduction



Eger, A.M. et al. (2023). The value of ecosystem services in global marine kelp forests. Nature Communications 14:1894.

Cotas, J. et al. (2023). Ecosystem Services Provided by Seaweeds. Hydrobiology 2023, 2(1), 75-96

Reports and Recent Work



Training and Workshops



Metrics for transformation
Mar 30, 2023



PIF Template Training
Apr 04, 2023



Knowledge Management and Learning
May 4th, 2023

...and STAP participated in 9 IP design workshops in March and April.

Policy Coherence

Framing Policy Coherence for the GEF

The GEF objectives for policy coherence should be to ensure that GEBs are not undermined or negated because of:

- misaligned policies or
- misaligned investment decisions, both public and private.



Photo: Sue Chin
Topi (*Damaliscus lunatus*), Kenya

STAP's Recommendations on Policy Coherence



- Articulate a policy coherence strategy
- Support countries through Country Engagement Strategy and National Dialogues
- Encourage countries with similar challenges to work together
- Adopt criteria to review proposals in the competitive window
- Use the competitive window to test different approaches

Knowledge Management: Workshop Conclusions

Need for common principles:

- Accessible
- Searchable
- Interoperable
- Durable

And...

Evaluation

Avoid proliferation

IP platforms as the basis for GEF's new KM&L system?



Photo: Sue Chin

Giant River Otter (*Pteronura brasiliensis*), Brazil

Innovation

To foster more innovation in the GEF:

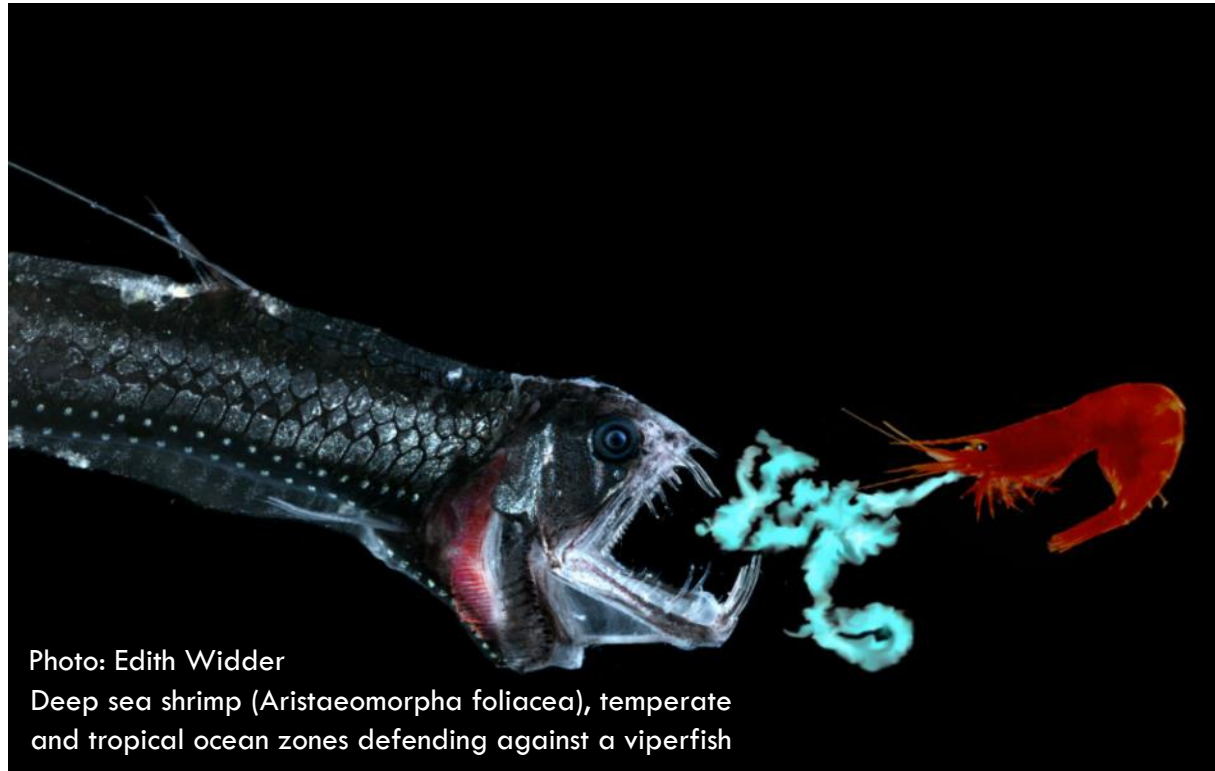


Photo: Edith Widder

Deep sea shrimp (*Aristaeomorpha foliacea*), temperate and tropical ocean zones defending against a viperfish

- Adopt a risk appetite framework
- Use targeted funding windows strategically
- Embed innovation in the design cycle
- Use knowledge and learning to drive innovation

Incorporating Co-benefits in GEF Projects

GEF options paper for the December Council meeting: *“to improve the capturing of human and socioeconomic well-being co-benefits, as well as climate change adaptation co-benefits...”*

STAP brief identifies potential local environmental, social, and economic co-benefits and how these could be incorporated into project design



Photo: Sue Chin
Grizzly bear (*Ursus arctos horribilis*), Alaska, United States

Simple Future Narratives



Photo: Sue Chin
Jabiru stork (*Jabiru mycteria*), Brazil

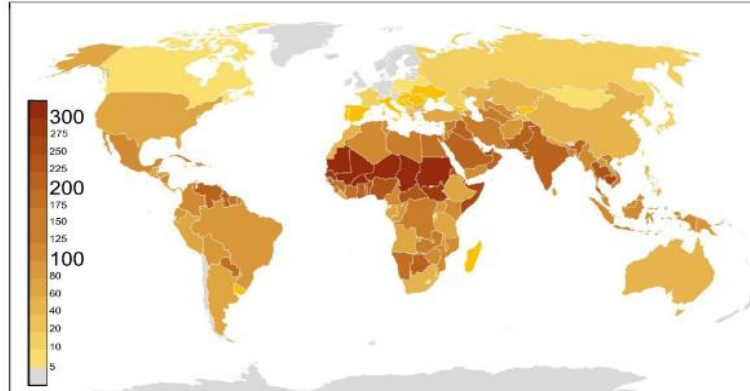
- Durable GEBs require projects to be resilient to plausible alternative futures
- Design projects which are robust to plausible futures
- Developing narratives helps stakeholder engagement and buy-in
- Becoming a standard practice in sustainability and development projects

Importance of Narratives

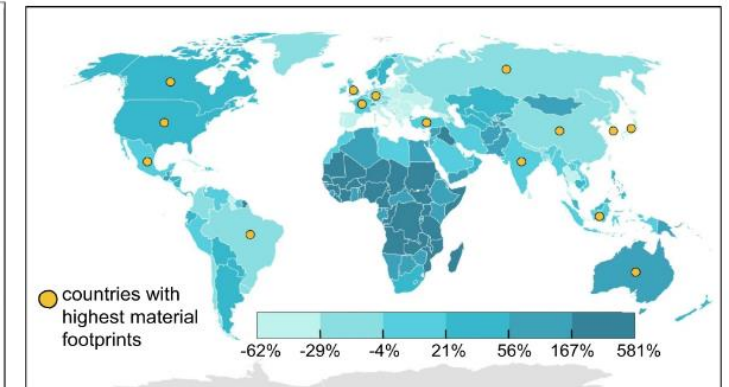
Restoration Commitments



Climate change: no of hot days > 35C



Overexploitation of resources: pop growth

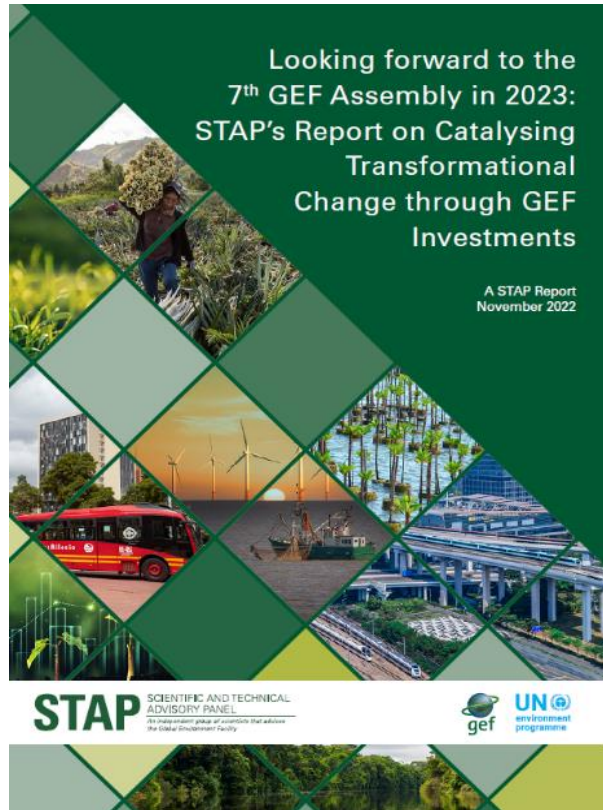


Additional challenges important in project design of **Ecosystem Restoration** projects:

- **Climate change**
- **High demand for resources**

Globally, climate change and the high resource demand **coincide** with restoration commitments.

GEF Report to the 7th GEF Assembly



Recommendations

1. Adopt a clear [risk appetite framework](#)
2. Develop an [innovation](#) strategy
3. Develop a [policy coherence](#) strategy
4. Identify, track, and report [co-benefits](#)
5. Establish a [knowledge management & learning](#) system
6. Include **youth, women, and indigenous people** in project design
7. Invest in **external partnerships**

GEF Assembly: Day 1- STAP Science Day

Youth Leaders Learning Exchange - to inspire action

Indigenous and Local Knowledge for greater GEBs

Case studies from the Arctic and Amazon



Photo: Sue Chin
Green and rufous Kingfisher with fish (Chloroceryle inda), Brazil

Future STAP Work Program



Future STAP Work Program

Short-term

- Risk Appetite
- Agrivoltaics
- Environmental security
- Citizen science
- Alternative livelihoods
- Adaptation

Medium-term

- Metrics
- Blended finance
- Indigenous and Local Knowledge

Long term?

- Carbon markets
- Healthcare waste



Observations on GEF Work Program



Overall, PFDs Well-prepared

Some observations:

- Systems thinking
- Theory of change
- Policy coherence
- Knowledge management and learning
- Innovation
- Transformational change



Observations on PIFs



Photo: Sue Chin

Shoebill Stork, or King whale stork
(*Balaencipes rex*), Uganda

- Use of new PIF template
- Improvements needed
 - Lessons from past and ongoing projects
 - Drivers vs. risk to project implementation
- Exemplary Projects
 - Plastic in Oceans, FAO, GEF-ID 11166
 - Integrated E-mobility, UNEP, GEF-ID 11074



**Thank
You**

***See you in
Vancouver***