

Scientific and Technical Advisory Panel
Report to the 62nd Meeting of the GEF Council
Rosina Bierbaum, STAP Chair
June 22, 2022



A man with short brown hair, wearing a camouflage-patterned jacket, is sitting in a hammock. He is looking off to the side with a thoughtful expression. The hammock is strung between two points, and he is surrounded by lush green tropical foliage, including large palm fronds. The lighting is natural, suggesting an outdoor setting.

*“Before I was fifteen
I understood the
outline of the life on
earth, which today
we call biodiversity.
And I’ve never been
able to get enough of
it.”*

- Tom Lovejoy

STAP



Rosina Bierbaum
Chair



Saleem Ali
*Climate Change
Mitigation*



Edward Carr
*Climate Change
Adaptation*



Miriam Diamond
Chemicals & Waste



John Donaldson
Biodiversity



Graciela Metternicht
Land Degradation



Blake Ratner
International Waters



Mark Stafford Smith
Adviser to Chair

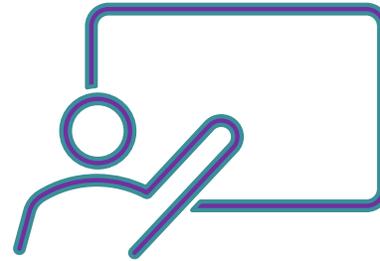
Presentation order



New Science



Reports and Recent Work



Observations on the GEF
Work Program

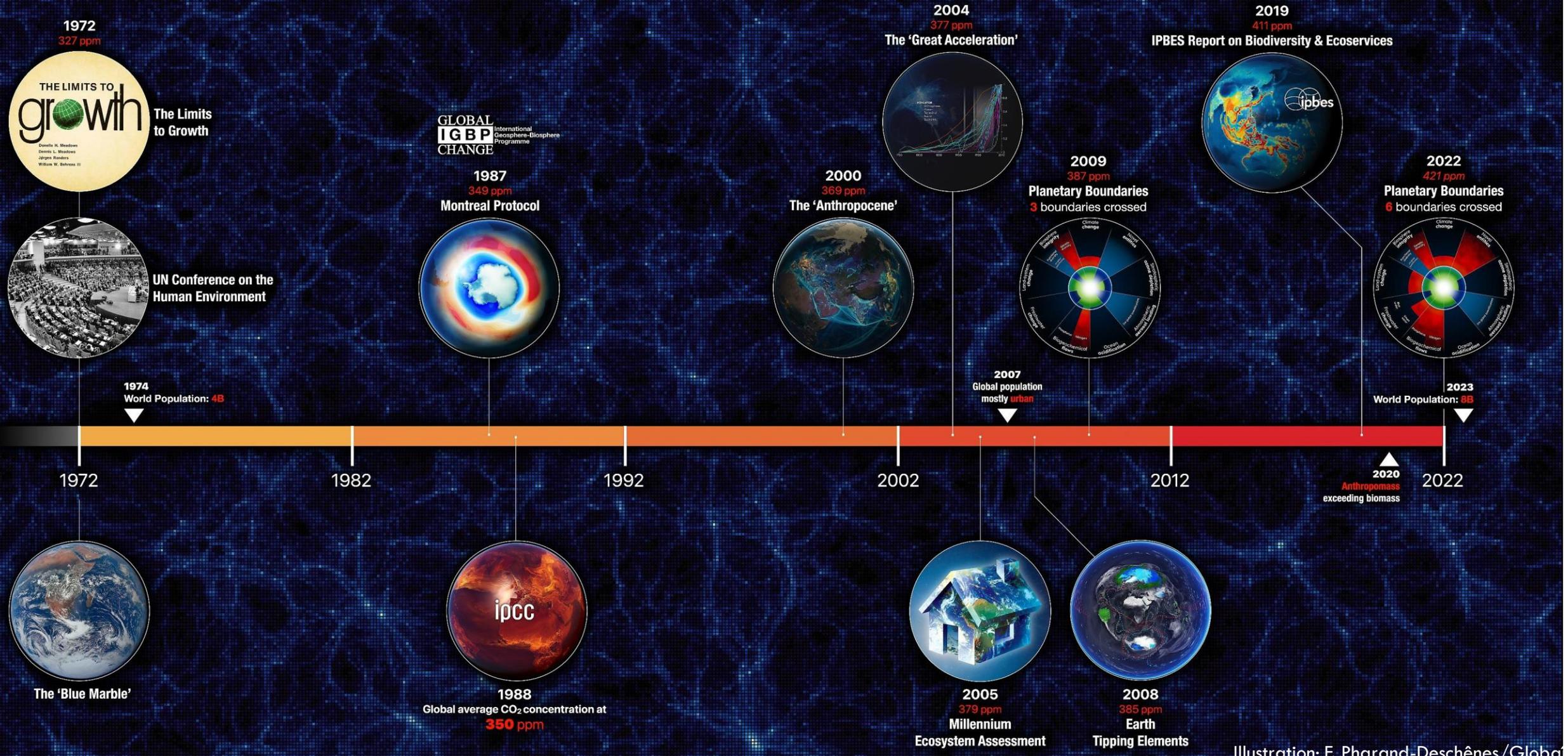


Future Work Program

NEW SCIENCE



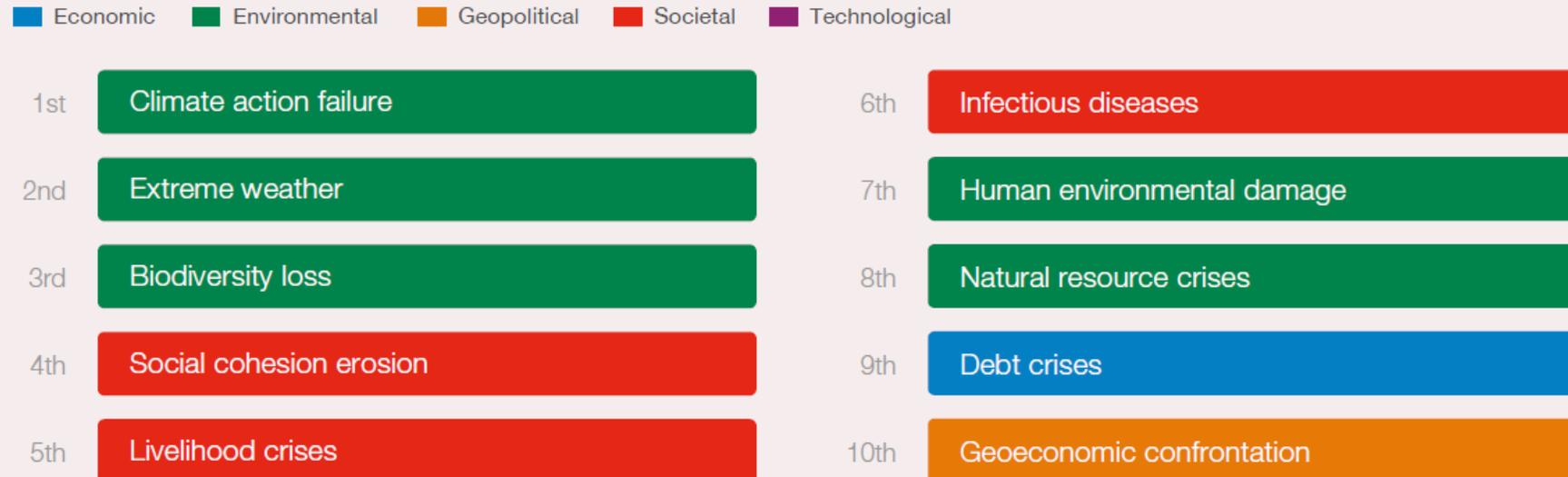
STOCKHOLM + 50



Global Risks Report 2022

FIGURE 1.3

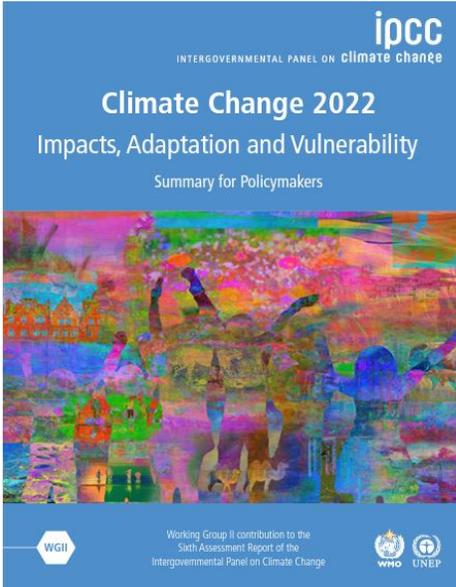
“Identify the most severe risks on a global scale over the next 10 years”



Source: World Economic Forum Global Risks Perception Survey 2021-2022

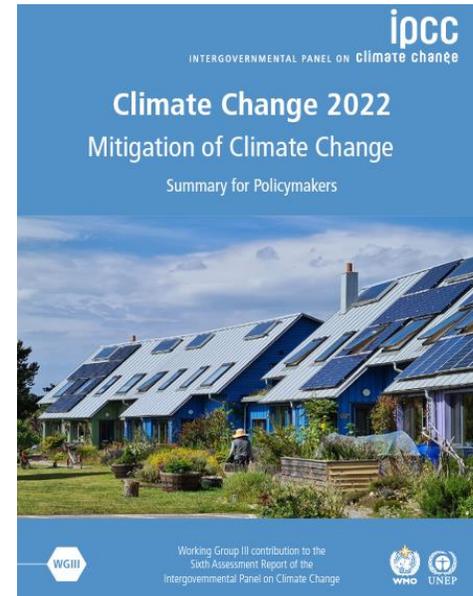
<https://www.weforum.org/reports/global-risks-report-2022/>

CLIMATE SCIENCE – IPCC WGII & III



- Strong focus on need to ramp up adaptation.
- Increased understanding of linkage between climate change, extreme weather, disease, and damages
- Calls out the importance of conserving, restoring, and safeguarding nature to meet goals of UNFCCC

<https://www.ipcc.ch/report/ar6/wg2/>



- Achieving 1.5°C target require GHG emissions to peak before 2025
- New policies, laws, and market instruments are enhancing energy efficiency, reducing deforestation, and expanding green energy
- Important linkages between mitigation, adaptation, and sustainable development

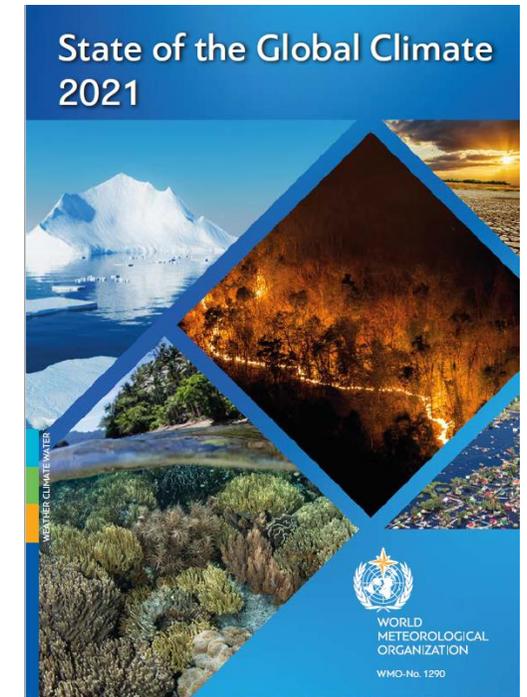
<https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/>

Transformational change needed!

CLIMATE SCIENCE – WMO

NEW RECORDS IN 2021:

- Greenhouse gas concentrations
- Sea level rise
- Ocean heat
- Ocean acidification



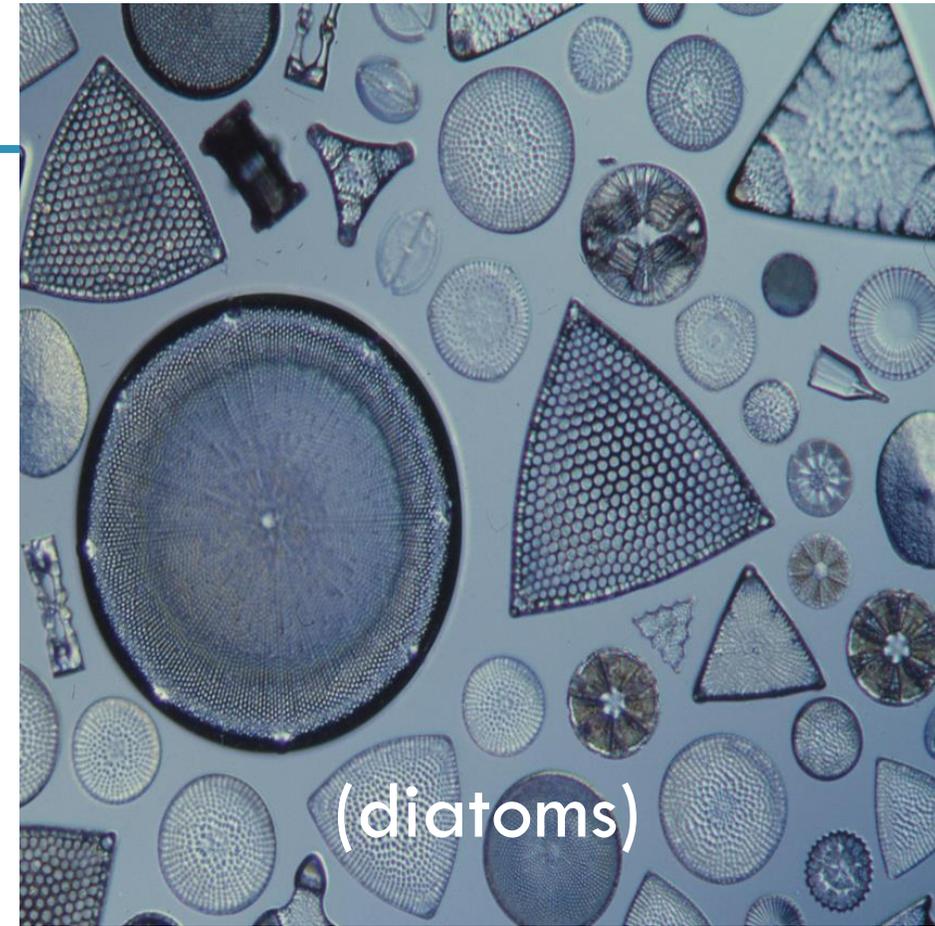
https://library.wmo.int/doc_num.php?explnum_id=11178

Possible decline in the most important producer of plant biomass in the ocean (diatoms) due to ocean acidification [10.1038/s41586-022-04687-0](https://doi.org/10.1038/s41586-022-04687-0)

CLIMATE SCIENCE –

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CLIMATE SCIENCE – CONTINUED



Siberian tundra thawing – only ambitious climate action will save a third

<https://doi.org/10.7554/eLife.75163>



Australia's rainforests dying at double the previous rate since the 1980s due to climate impacts

[10.1038/s41586-022-04737-7](https://doi.org/10.1038/s41586-022-04737-7)



La Niña could become Australia's norm due to climate change

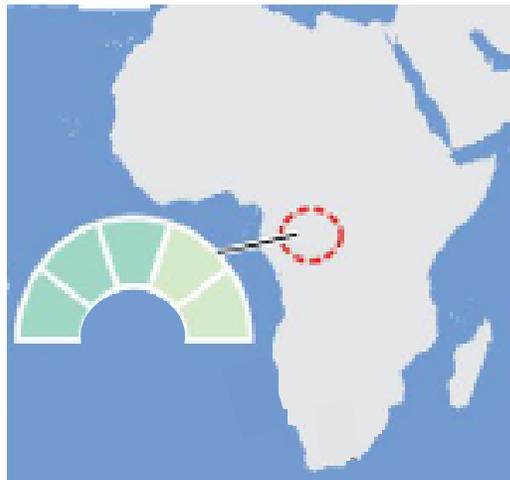
<https://doi.org/10.1038/s41558-022-01380-y>

BIODIVERSITY & CLIMATE



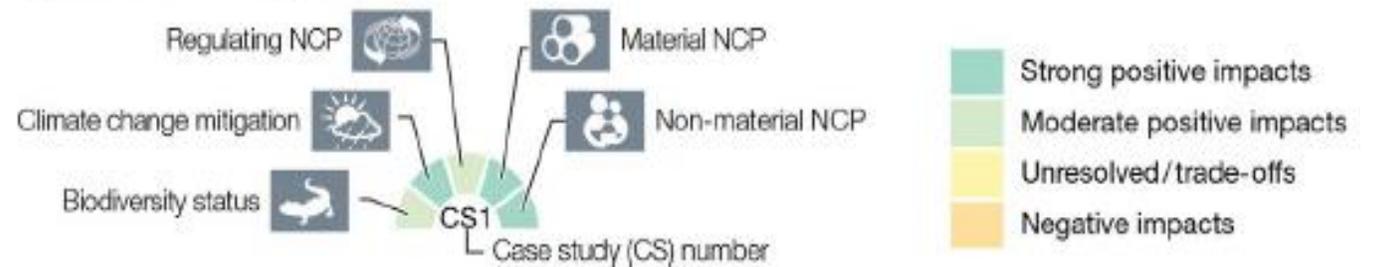
- Until now biodiversity and climate challenges have largely been addressed separately
- Actions to address biodiversity loss can simultaneously slow anthropogenic climate change significantly

BIODIVERSITY & CLIMATE



- Evidence shows direct climate co-benefits in 14 of the 21 action targets of the draft post-2020 Global Biodiversity Framework of the CBD
- Interlinkages between biodiversity and climate change mitigation are seldom integrated in management plans and policies

Impacts of biodiversity measures



Microplastics

- Microplastics now found in fresh Antarctic snow
- 13 different types of microplastic particles identified
- 80% is PET: commonly used in soft-drink bottles and clothes
- High microplastic concentration in near-surface water of Tropical Indian Ocean
- Paint particles made up about 50%; PET 25%
- Microplastics have now been detected in almost all studied organisms



<https://tc.copernicus.org/articles/16/2127/2022/tc-16-2127-2022.html>

<https://doi.org/10.1016/j.envpol.2022.119547>

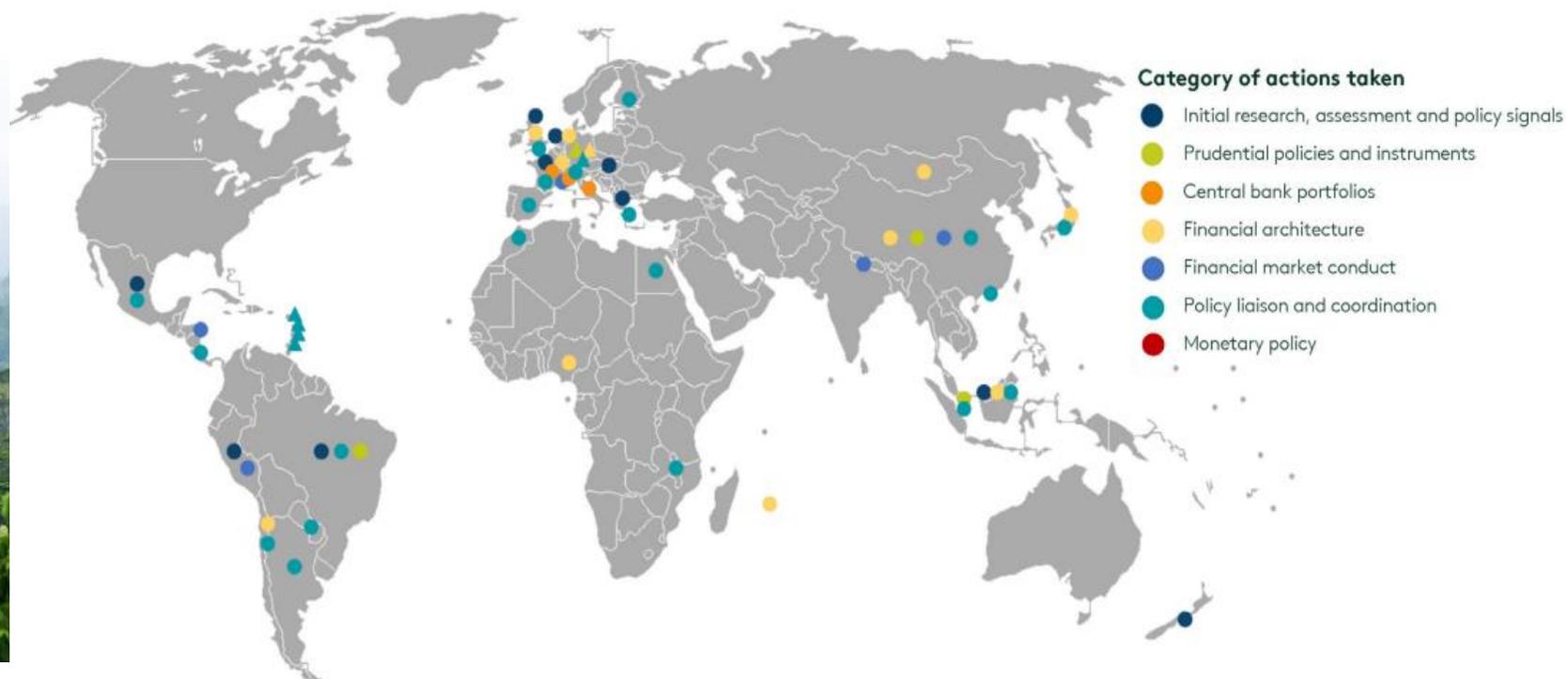
Central banking and supervision in the biosphere:

An agenda for action on biodiversity
loss, financial risk and system stability

Final Report of the NGFS-INSPIRE Study Group on
Biodiversity and Financial Stability



Biodiversity-related actions taken by Central Banks and Financial Supervisors



www.ngfs.net/sites/default/files/medias/documents/central_banking_and_supervision_in_the_biosphere.pdf

REPORTS AND RECENT WORK



The TRIO: Transformation/Risk/Innovation

- “The vision for GEF-8 is the achievement of a healthy, productive, and resilient environment underpinning the well-being of human societies.”
- The GEF-8 strategy seeks to transform global systems – including food, urban, energy, nature, and health – to deliver durable global environmental benefits.
- Transformational change will often require innovation which entails higher risk.

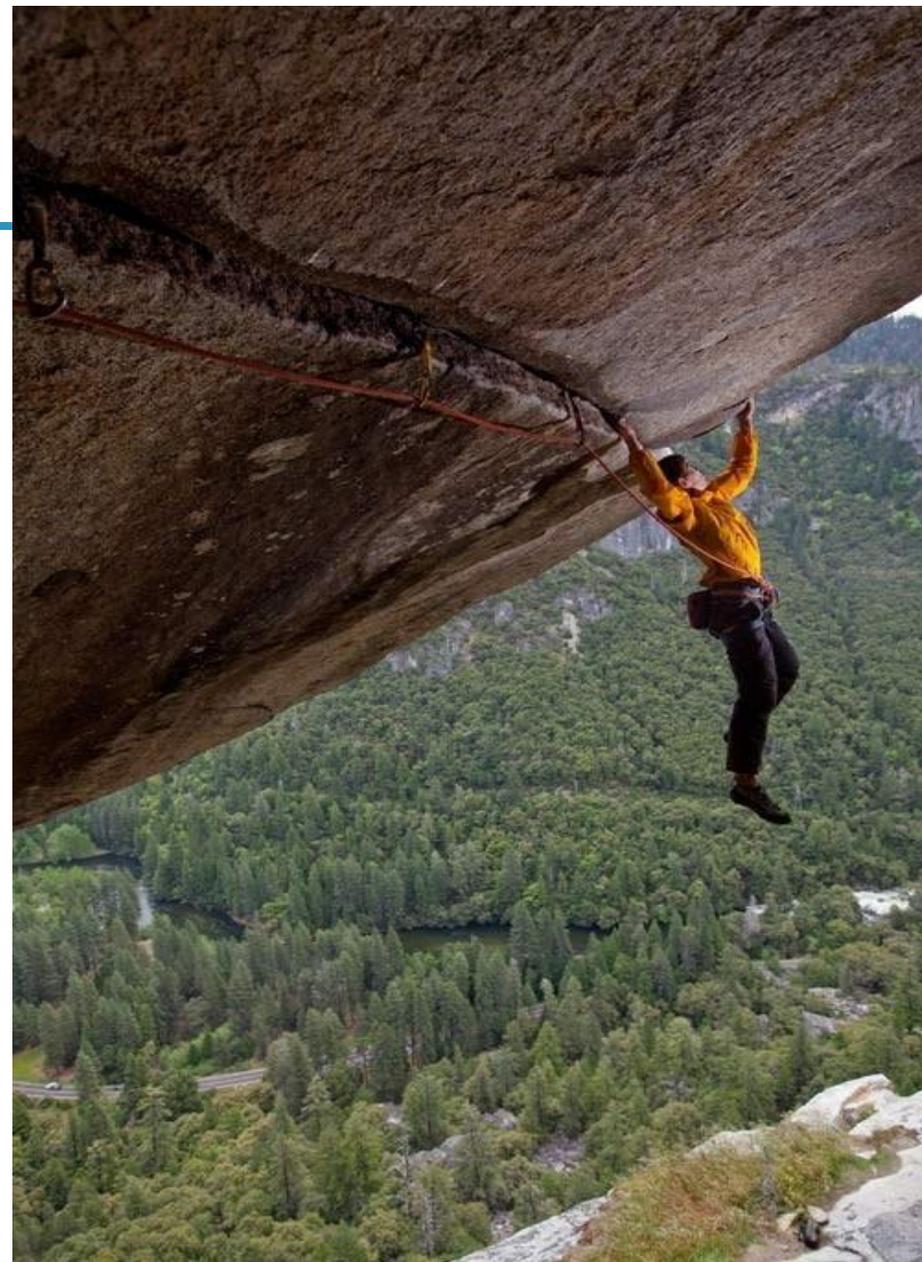


Trio Da Kali, a griot music group from Mali.

Risk appetite

Develop “a clear baseline for risk acceptance in GEF-8 programming”

- Widely adopted in finance sector for better risk monitoring and decision-making, methods readily available
- STAP paper discusses:
 - **why** it is helpful to articulate what kinds of risk GEF is prepared to take on, in a well-informed way. E.g. very risk-averse to financial fraud; but risk-embracing for innovation targeted at transformational impacts on GEBs and in IPs
 - **how** to develop a risk appetite statement, with a framework to inform the GEF’s operations
- Accepting some risk around driving innovation is particularly important to support transformational change
- Where risk is desirable, the risk appetite strategy can focus on mitigating it, with more intense monitoring, faster learning, etc.



Innovation

“an idea, embodied in a technology, product or process, which is new and creates value...[and] to be impactful, innovations must also be scalable, not merely one-off novelties”

5 STAP domains: technological; business model; institutional and social; policy; financing

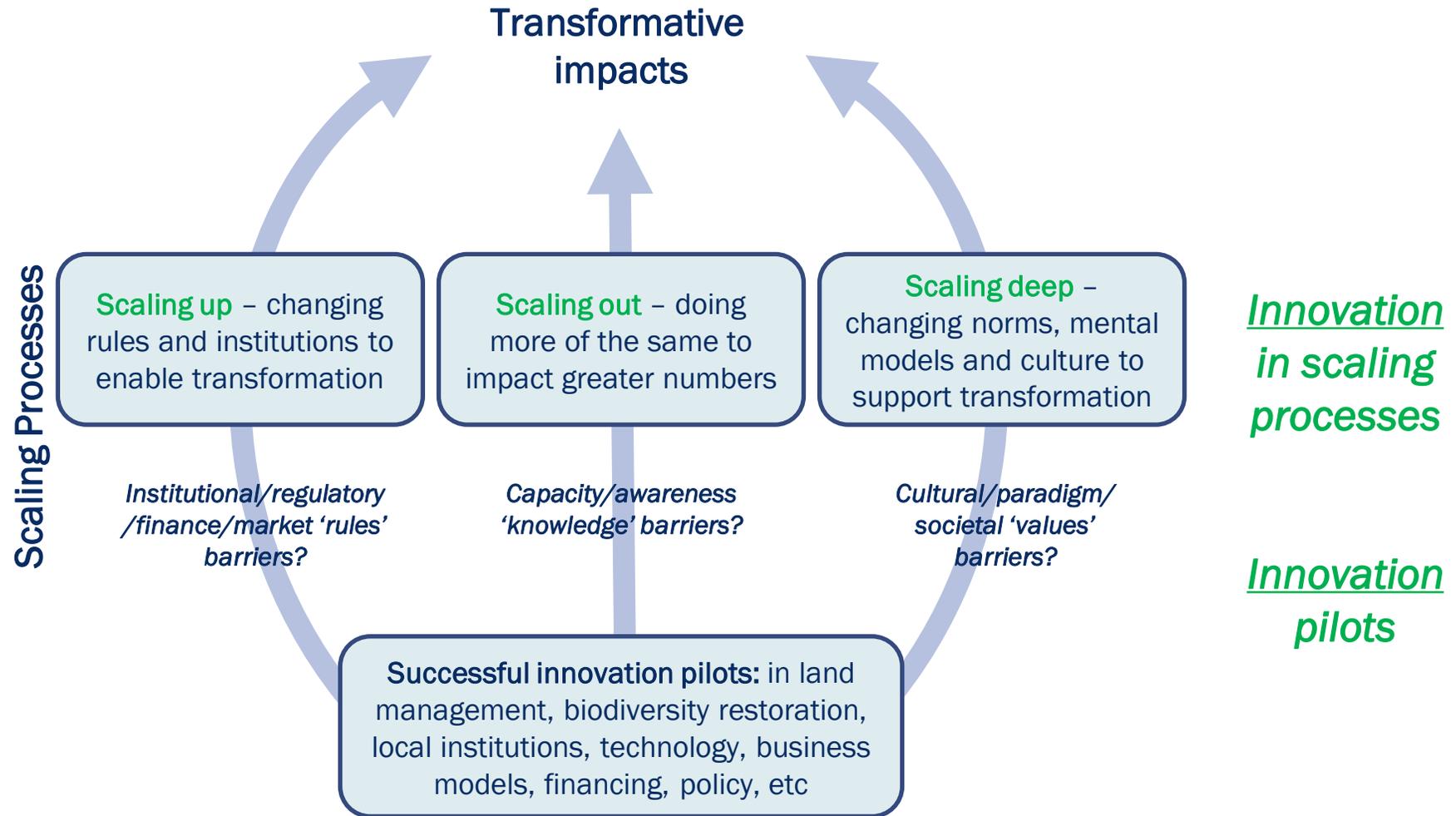
STAP is looking at:

- Innovation in the IPs
- New window for innovation
- How MSPs have been innovative
- Where is innovation most needed?



floating solar-panel farm, Singapore

Transformation



Transformation: metrics for monitoring and learning

- A transformative investment leads to durable change at a sufficient scale to deliver a step improvement in GEBs
- STAP suggests lead indicators that track the following aspects of transformation:
 - Governance and policies
 - Multi-stakeholder dialogues
 - Innovation and learning
 - Financial leverage
 - Capacity for change



Possible GEFSEC/STAP Workshop later this year on transformation metrics for IPs?

<https://stapgef.org/resources/advisory-documents/achieving-transformation-through-gef-investments>

Some co-benefits are necessary for durable GEBs

STAP distinguishes between two types of co-benefits:

- necessary (prerequisite)
- secondary (incidental)

As GEF considers improving Results Measurement Framework, STAP suggests including necessary co-benefits

<https://stapgef.org/resources/advisory-documents/refining-tracking-co-benefits-future-gef-investments>



There is more than one plausible future!



Photo: Shutterstock

<https://stapgef.org/resources/advisory-documents/theres-more-one-plausible-future-using-simple-narratives-help-ensure>

- Importance to incorporate simple future narratives in project design
- Durable GEBs require project design to consider several drivers of change - not just climate risk
- Otherwise, project outcomes less resilient, short-lived, or even damaging
- Simple future narratives widen options, including options robust to future changes

Knowledge management & learning (KM&L)

- STAP proposes a theory of change to guide the development of a new KM&L strategy, framed around the following elements:
 - Exercise strong governance and leadership
 - Facilitate durable learning
 - Promote empowerment and exchange
 - Adopt knowledge mining
 - Encourage tracking and adapting



Photo: Image courtesy of Federico Pardo/Field Museum

- STAP to organize a workshop with GEF Agencies and GEF Secretariat on KM&L?

<https://stapgef.org/resources/advisory-documents/knowledge-management-and-learning>

Policy coherence

- Policy coherence matters to the GEF because it:
 - creates synergies
 - helps manage trade-offs
 - avoids damaging behaviors
 - ensures GEBs are not undermined due to misaligned policies
- STAP suggests the GEF could operationalize policy coherence:
 - in areas it influences directly
 - working with countries
 - within its wider sphere of influence

<https://stapgef.org/resources/advisory-documents/framing-policy-coherence-gef>



<https://www.youtube.com/shorts/dKlrblnpLoo>

GEF and the Blue Economy

- 4 of the new IPs support the blue economy, and IW, BD, and CC focal areas also contribute
- STAP suggests that investment priorities be pursued through the 4 'transformation levers' in the GEF-8 theory of change
- STAP suggests some possible priorities for investment, including circular economy approaches to marine pollution, BBNJ, de-risking finance, and using innovation to mobilize investment



New conservation areas are in Maluku province, Indonesia. Fish market on Moa Island, Maluku.

<https://stapgef.org/resources/advisory-documents/gef-and-blue-economy>



A decision tree for adaptation rationale

- Climate adaptation projects benefit from having a clear rationale
- STAP has developed a 'decision tree' to aid project with four main elements:
 - Decide whether adaptation is required
 - Identify projects to meet a recognized need
 - Ensure projects complement current efforts
 - Maximize synergies and minimize trade-offs



A rickshaw puller covers his face from the heatwave as temperature touches 44 degrees, in New Delhi on Wednesday. (ANI Photo)

India recorded the [hottest March in 122 years](#) in Delhi.

<https://stapgef.org/resources/advisory-documents/decision-tree-adaptation-rationale>

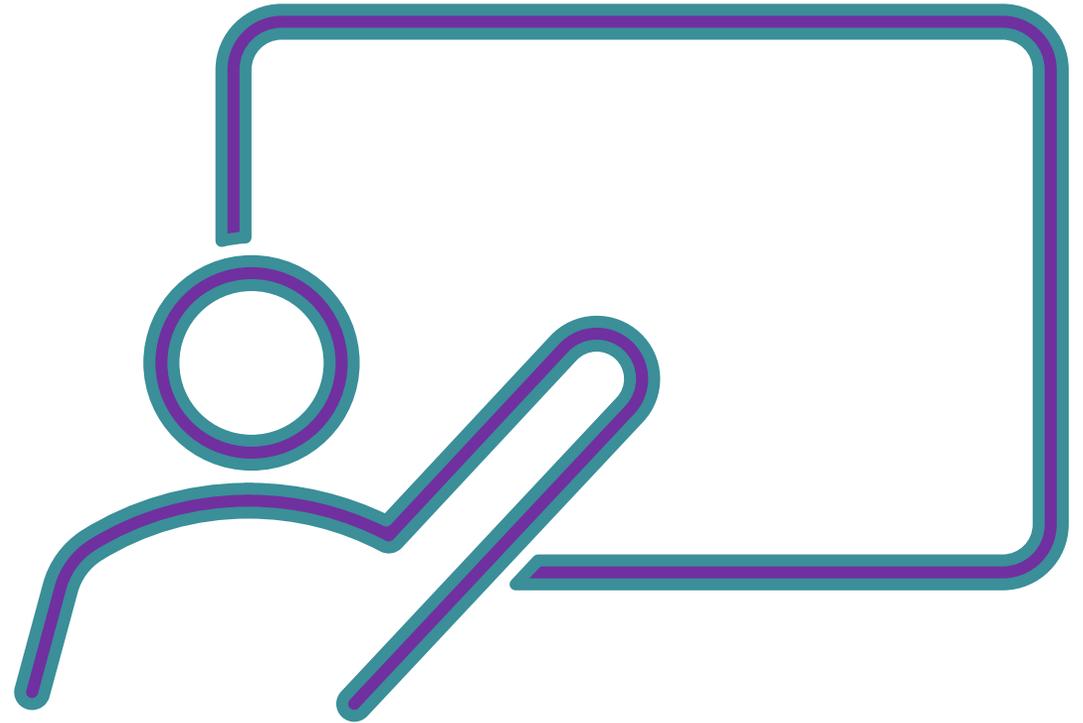
Natural Capital approaches (NCA)

- NCA can contribute to greater policy coherence by ensuring that natural capital is included in policy and decision making
- STAP commissioned Stanford to look at increasing NCA uptake
- Stanford identified key factors for success, including a proposed technical assistance facility
- MSP to increase uptake of NCA, and build capacity in 10 pilot countries



<https://stapgef.org/resources/advisory-documents/natural-capital-approaches>

OBSERVATIONS ON GEF WORK PROGRAM



Observations on the GEF Work Program

- STAP screened 16 GEF projects: 3 concur, 13 minor
- Many projects reflected a good theory of change although underlying assumptions could often be strengthened
- Most projects included a climate risk analysis, and methods are improving
- Chemicals and waste projects often had climate change and international waters GEBs but these were generally not recorded – important cobenefits!

Highlights from the GEF Work Program

Enduring Earth: Accelerating Sustainable Finance to Achieve Durable Conservation, WWF (GEF ID 11014)

- a clear logic related to scaling
- an innovative sustainable finance approach for biodiversity
- facilitates learning and south-south knowledge exchange

Sustainable Land Management to Strengthen Social Cohesion in the Drylands of Burkina Faso, UNDP (GEF ID 11003)

- good analysis of LDN
- systematic analysis of gender
- plans for continuous monitoring of LDN and GEBs to generate learning

Strengthening the Resilience of Climate-Smart Agricultural Systems & Value Chains in the Union of Comoros, UNDP (GEF ID 10997)

- extensive engagement with the intended beneficiaries at the project design stage
- inclusion of multiple plausible climate futures
- detailed understanding of gendered differences at the household level

FUTURE WORK PROGRAM



Future Work

- Assembly report
- Contribute to developing the IPs
- Further advice on policy coherence
- Further work on innovation
- Revised screening guidelines
- Workshop on metrics for transformational change
- GEF's contribution to the economy
- Training courses on theory of change and multi-stakeholder dialogues
- Data and knowledge management platform on mercury
- Adaptation services



