

From framing to assessment: the NGFS work on nature-related risks

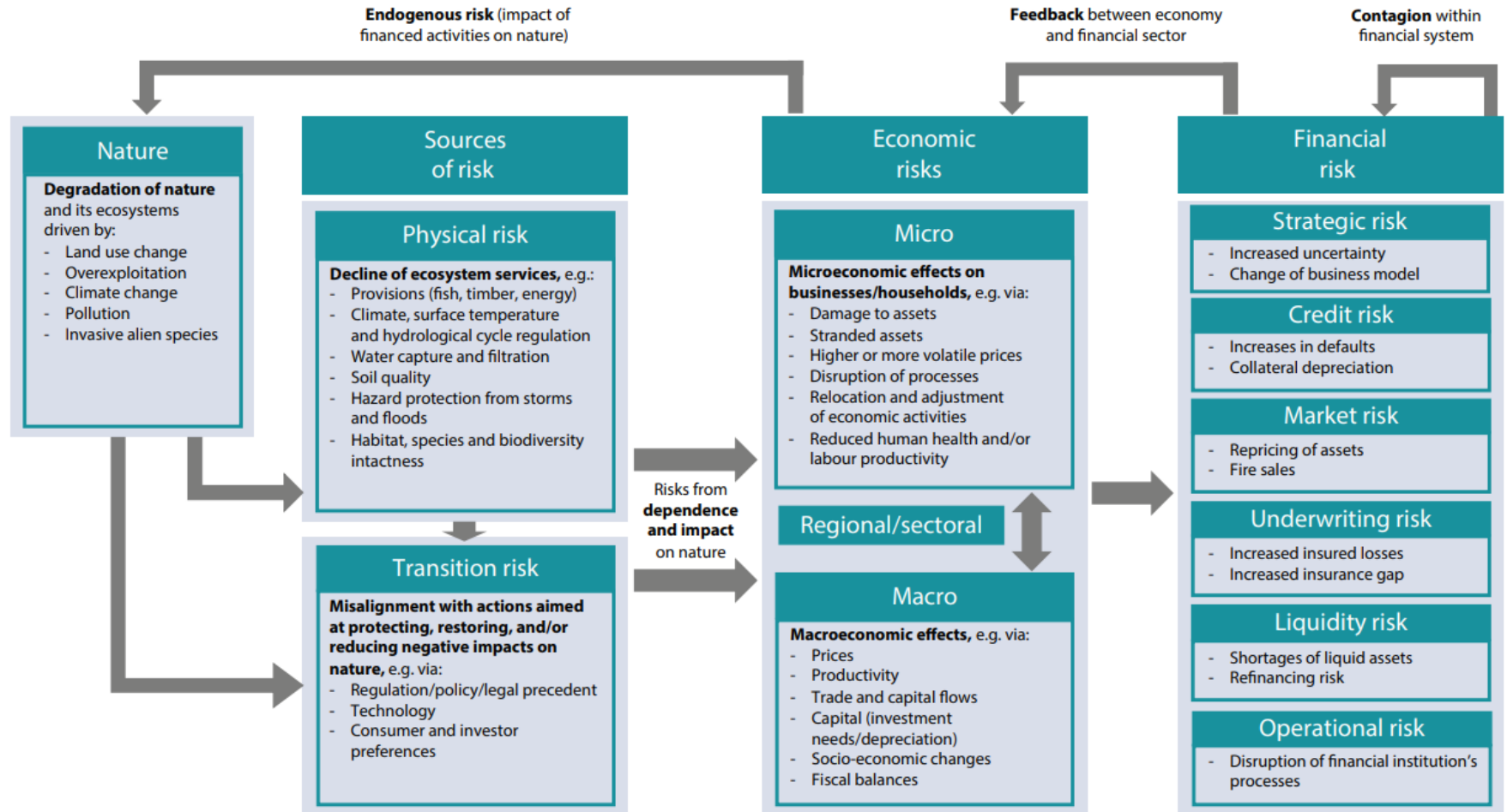
EIOPA stakeholder engagement on nature-related financial risks for insurers
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NGFS nature-risk transmission framework

“...the NGFS is of the view that nature-related risks, including those associated with biodiversity loss, could have significant macroeconomic implications, and that failure to account for, mitigate, and adapt to these implications is a source of risks for individual financial institutions as well as for financial stability.”

NGFS Statement on Nature-Related Financial Risks (2022)



Source: Adapted from Svartzman, R. et al. (2021) A "Silent Spring" for the Financial System? Exploring Biodiversity-Related Financial Risks in France.

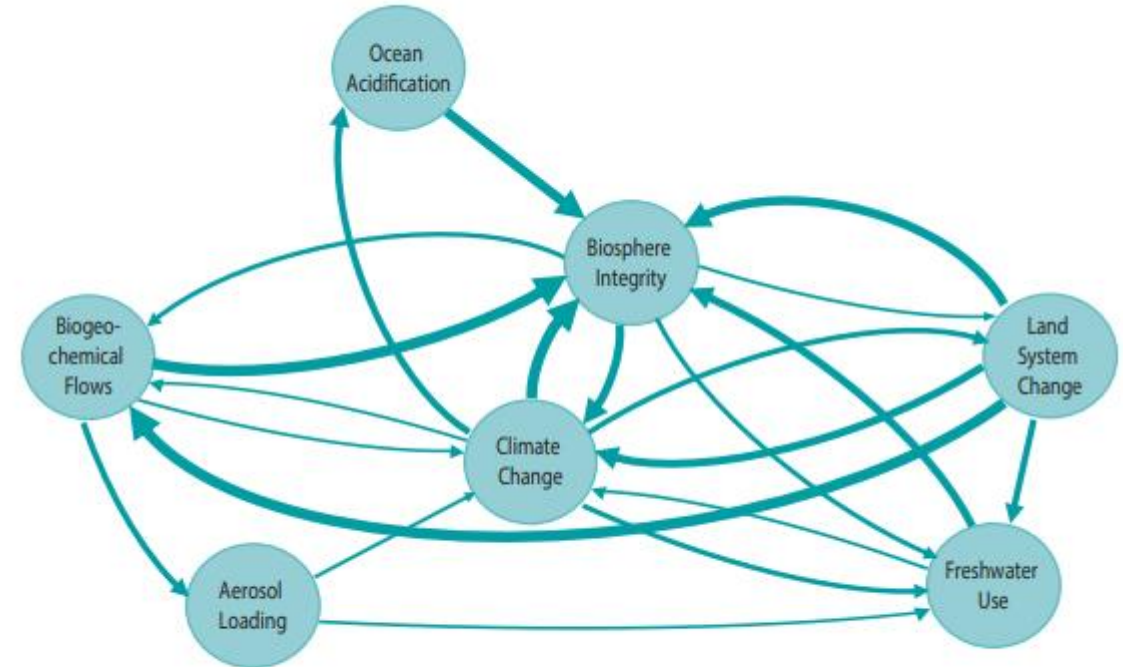
Source: NGFS (2023), Nature-related financial risks: A Conceptual Framework to guide action by central banks and supervisors

Climate change is interconnected with nature loss and should be treated in an integrated manner

NGFS Conceptual Framework:

- ➔ Climate change is a **driver of nature risk**
- ➔ Nature risk is a **driver of climate risk**
- ➔ Climate change **mitigation and adaptation** potentially drive nature risk
- ➔ Nature can be a **solution** to decrease climate risk

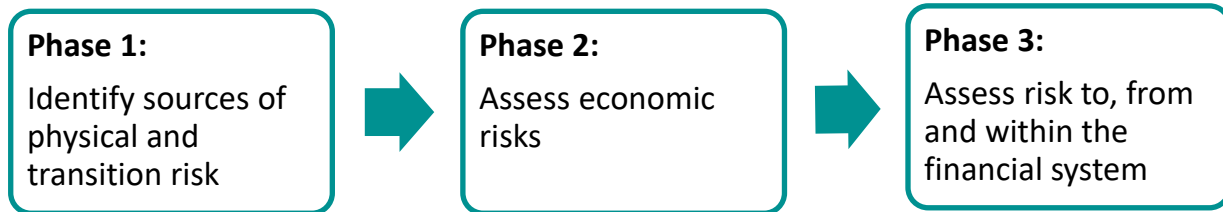
Figure 2.1 Planetary boundaries and their interdependencies



*Note: Only 7 of 9 planetary boundaries are shown here for readability. Thickness of arrows depicts the relative degree to which one Earth system process impacts another. Further information and methodology for quantifying interdependencies can be found in Lade et al. (2019).
Source: Authors, adapted from Lade et al. 2019.*

Source : NGFS Technical Document providing recommendations toward the development of scenarios for assessing nature-related economic and financial risks, 2023.

Financial actors need to go from exposure analysis to risk assessment



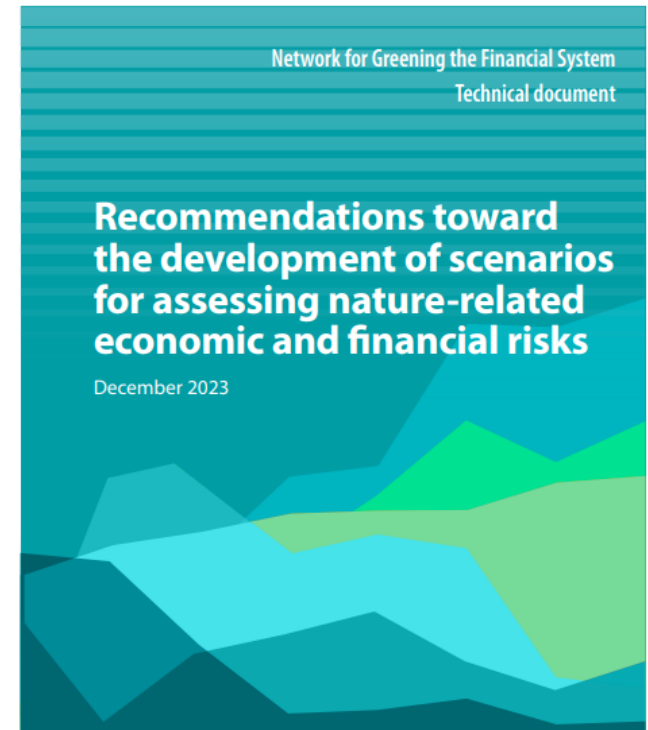
A comprehensive approach to nature-related risks includes an **assessment of economic risks** and **financial risks** (NGFS Conceptual framework)



Exposure through impacts and dependencies **does not fully account** for a risk (NGFS Technical document on scenarios)

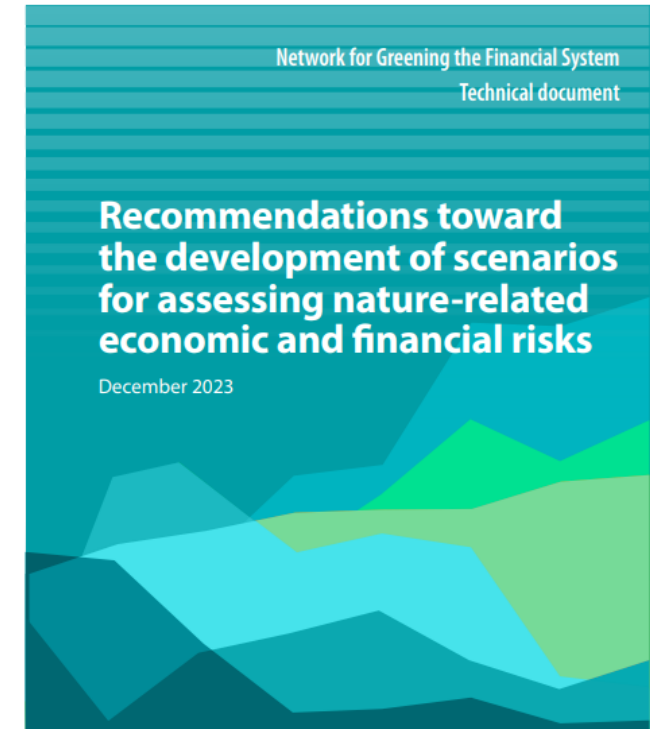
We need to work on narratives to identify the most material risks

- Provides **recommendations** towards the development of nature-related scenarios, seeking as **much synergy as possible with the NGFS climate scenarios** while accounting for the **specific features related to nature loss**
1. Two main objectives:
 - Suggest avenues to **develop consistent narratives** for physical and transition hazards
 - Assess the ability of different **methodologies, models, and tools** to account for nature-related risks
 2. Main challenges identified :
 - **Complexity of ecosystem functions** and processes at stake
 - **No single metric** (e.g. akin to CO₂) **or policy/measure** (e.g. pricing natural capital)
 - Existence of a **local-global tradeoff**



We need to find models that take into account the specificities of nature

- **Current models** likely **underestimate the risks**, because they:
 - account for a **limited fraction** of potential hazards
 - use **assumptions** that **mitigate** the consequences of nature loss
- The tools most efficient to capture **indirect impacts along value chains** (MRIOs):
 - Provide only a **static** picture
 - Might not be **granular enough**
- **NGFS “ID cards”**: summary of assessment criteria for 6 models
- **NGFS Technical document**: long-term recommendations for changes in models



Options exist on the short term for developing nature scenarios

Short-term program for central banks and supervisors

Static analysis

*Building scenarios with short-term horizon
& Conducting exposure analysis*

- Using IO models to obtain sectorial exposures to hazards (Chapter 3.2)
- Using biophysical models to obtain static maps of physical hazards (Chapter 3.3)

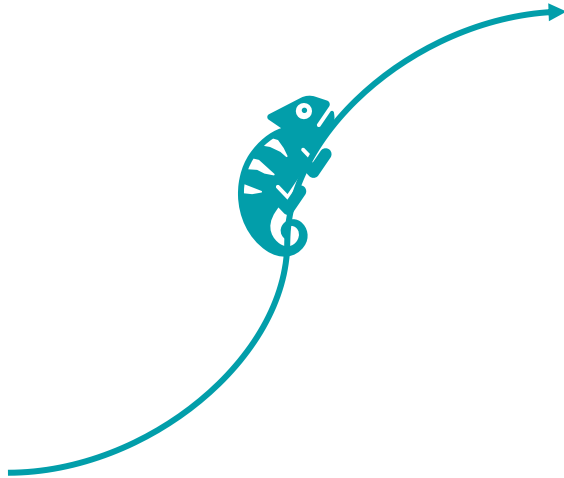
Dynamic analysis

Building scenarios with longer-term horizons, but with great caution

- Using a carefully chosen nature-economy modelling framework (reviewed in Chapter 3.2)
- Taking the following precautions:
 - Designing ad hoc shocks in multiple sectors (narratives developed in Chapter 2)
 - Using assumptions of various SSPs for calibration (not SSP2 only) and co-develop or build on new existing frameworks to go beyond SSP (e.g., IPBES)
 - Conducting sensitivity analyses, in particular on elasticities of substitution
 - Better transparency of underlying assumptions and communication of implications on results

Source : NGFS Technical Document providing recommendations toward the development of scenarios for assessing nature-related economic and financial risks, 2023.

What's next for the NGFS ?



1. Nature scenario work

- **Short/medium term:** work on the short-term recommendations made in the Technical document, work on narratives;
- **Longer term:** work on the improvement of modelling tools, development of capacity-building instruments.

2. Framework refinement and implementation

3. Mainstreaming of nature-related considerations within the NGFS

- Work on **suggestions** for workstreams to **bridge existing gaps**
- **Capacity-building** work
- **Start of work on nature** in other workstreams and expert networks

Also at DNB we are integrating nature-related risks across our core tasks

Supervision

Economic advice

Financial stability

Reserve management

DeNederlandscheBank

EUROSYSTEM



Thank you !

