



# OPENING THE WORLD OF CATASTROPHE MODELS

## POTENTIAL USE CASES FOR THE ACPR AND BANQUE DE FRANCE

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05/16/2023

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# INTRODUCTION - OPPORTUNITIES OF OPEN SOURCE NAT CAT AND CLIMATE MODELS

- Double scope of interest of the supervisor regarding open source NatCat models:
  - **NatCat modelling** in the classical sense, assessment of current risk
  - **Climate physical risks**, including but not limited to insurance liabilities
- Some advantages of open source NatCat models are particularly relevant for supervisors:
  - **Transparency**
  - **Accessibility**
  - **Modularity**

# POTENTIAL APPLICATIONS FOR INSURANCE SUPERVISION (1/2)

- Providing context to help supervisors assess the **internal models** of supervised entities
  - More of a training purpose ; not mature enough to be considered as benchmarks
- Helping supervisors monitor the **evolution** of NatCat risk, in light of climate change

# POTENTIAL APPLICATIONS FOR INSURANCE SUPERVISION

## (2/2) – CLIMATE RISK STRESS TESTS

### Context:

- ACPR climate pilote exercise conducted in 2020-2021
- New exercise planned for 2023-2024

### Use cases for stress-testing climate risk, liability side:

1. Open source modeling to provide **additional tools and information** (ex: ISIMIP, CLIMADA)
2. Open source modeling as a way to **harmonize** climate variables used by participants (ex : Climate Impact Explorer)
3. Strengthening the tools of the supervisor to **cross-check** participants' submissions



# IMPROVING TOOLS FOR CLIMATE RISK ASSESSMENT, BEYOND INSURANCE LIABILITIES

Open source NatCat modelling can/could be applied to the broader assessment of physical risks (assets, macroeconomy):

1. Applying the framework to new exposure data :
  - Exploiting **exposure** data that may only be accessible by supervisors/central banks (ex: prudential data on assets)
  - Considering new **perils** (ex: wildfires)
2. Better accounting for acute physical risks in climate scenarios
  - Ex: CLIMADA may be used in NGFS and Banque de France work on short term climate scenarios
3. Developing climate risk statistics on an aggregated level
  - Ex: climate change indicators published in 2023 by the ECB