

SPACE FOR FINANCE

How space technology can support the digitalisation and greening of the financial sector

Leveraging Space Technology for Climate Risk Finance

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✓ WBG Climate Change Action Plan 2021-25

Supporting Green, Resilient, and Inclusive Development:

- 35% of WBG financing with climate co-benefits, of which at least 50% for adaptation and resilience
- Improving and expanding climate diagnostics and analytics (Country Climate and Development Reports)

✓ IDA20

- Building Back Better from the Crisis: Towards a Green, Resilient and Inclusive Future.
- Climate change as one of the special themes



An estimated \$400-600 billion per annum is needed to finance conservation of land, forests and water – to fund projects in renewable energy and energy efficiency. Today, less than 15% of required capital flows to conservation, the bulk of it coming from public and philanthropic entities. It is critical to understand the ways we can leverage additional resources to preserve healthy ecosystems on land and in the oceans.

Disclosure & Reporting

- **Taxonomies and reporting standards** to support transparency for climate-risk informed investments.

Risk Management

- **Climate risk finance instruments** to protect households, businesses and governments against climate shocks and disasters
- **Prudential regulations** to manage risk, increase financial stability, and incentivize greener investments

Green Finance

- **Green financial instruments** (e.g., green bonds, green housing finance) allow for investment which have a positive climate impact as well as generate financial return

Analytical & Advisory Services (FSAPs, Climate and Disaster Risk Finance Diagnostics)

Global Discussions (e.g., FSB, TCFD, NGFS, G7, G20, InsuResilience Global Partnership)

Lending

✓ Climate-related disclosure has limitations

- Data coverage is incomplete
- Lack of standardization and not always adapted to developing countries
- Limited investors' awareness of those limitations and of actual risks and opportunities

✓ Task Force on Climate-related Financial Disclosure (TCFD)

- Game-changer in disclosure about climate risk and opportunity
- Promoting transparent reporting of forward-looking, systemic climate risk

ESG data is critical to inform investments through forward looking and physical impact assessment, including through granular exposure and robust climate risk indicators



Need for comprehensive, open, transparent climate data reporting framework in developing countries

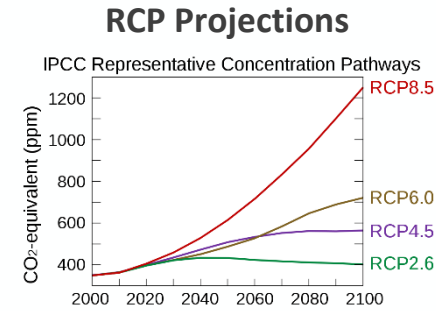
Climate Physical Risk Assessment

Understanding direct & indirect cost of extreme climate events (e.g., drought, flood) at sectoral level and for the financial sector

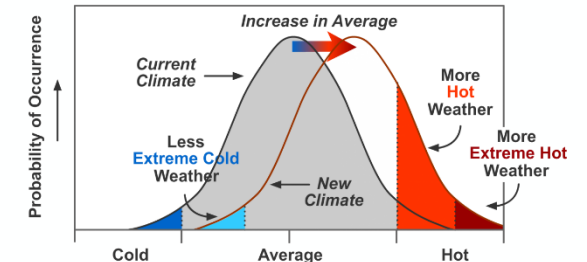
Example of World Bank technical assistance activity for the Moroccan Central Bank on Climate Physical Risk Assessment based on forward-looking scenarios



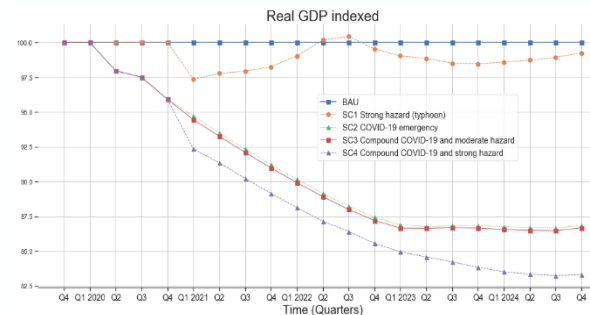
High-res financial exposure mapping of Rabat-Sale, processed from satellite imagery data



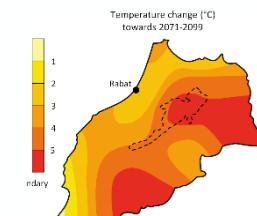
Climate Change Environment by 2030



Macro-Financial Impacts



Climate Scenarios



Stress-test & Impact on banking sector (e.g. credit risk)

Focus on reducing systemic vulnerabilities to the physical, transition and liability risks that will emerge due to climate change.

Leveraging Earth Observation Data

Disclosure & Reporting

- **Climate-risk indicators for ESG and Climate Investing:** subset of Essential Climate Variables (ECV) that are simple and easy to use operationally in developing countries.

Risk Management

- **Support climate physical risk assessment through**
 - (i) financial sectoral exposure mapping
 - (ii) EO-based risk mapping and modelling (e.g., flood extent maps) supported by increased computing capacity and improved modelling of physical systems.

Green Finance

- **Support provision of climate impact indicators** (e.g., GHGSat emissions monitoring)