

Climate and Disaster Risk Tools

Inventory of public domain tools, prepared for the "Regional Workshop on Climate and Disaster Risk-Informed Investments", organized by the Asian Development Bank

Date: June 2023



Type of tool	Name	Organization	Link	Allows downloading data	Summary
1. Risk information exploration and visualisation	Natural Hazards Viewer	NOAA – National Centers for Environmental Information	https://www.noaa.gov/maps/hazards/2layers-0	No/limited	The National Centers for Environmental Information (NCEI) archives and assimilates tsunami, earthquake and volcano data to support research, planning, response and mitigation. The viewer presents significant hazard events (earthquakes, tsunami, volcanic explosions). Key information (date of event, location, hazard intensity, recorded losses, published references) is provided.
1. Risk information exploration and visualisation	WESR-RISK Data Platform	UNEP GRID-Geneva (United Nations Environment Programme - Global Resource Information Database - Geneva)	https://wesr.unepgrid.ch/?project=MX-XVK-HPH-OGN-HVE-GGN&language=en	Yes	The WESR-RISK Data Platform is a multiple agencies effort to share spatial data information on global risk from natural hazards. Users can visualise, download or extract data on past hazardous events, human & economical hazard exposure and risk from natural hazards. Risk is expressed as average annual loss (in USD\$ million) and relative average annual loss (%). Hazards covered include earthquakes, flooding, tropical cyclones and tsunani.
1. Risk information exploration and visualisation	ClimateWizard	The Nature Conservancy	https://climatechange.lla.org/tnc-climate-wizard/	No/limited	Offers historical and projected climate data visualization and exploration.
1. Risk information exploration and visualisation	Climate Data Online (CDO)	NOAA	https://www.ncdc.noaa.gov/cdo-web/	Yes	Provides access to historical climate data, climate monitoring tools, and climate indices.
1. Risk information exploration and visualisation	Climate Explorer	World Climate Research Programme (WCRP)	https://climexp.knmi.nl/start.cgi	Yes	Offers access to various climate data sets, including observations, reanalysis, and model simulations.
1. Risk information exploration and visualisation	OpenEI (Open Energy Information)	National Renewable Energy Laboratory (NREL)	https://openei.org/	No/limited	Provides access to a wide range of energy and climate-related data, tools, and resources. Focuses on energy sector
1. Risk information exploration and visualisation	Asia Pacific Climate Change Adaptation Information Platform	National Institute for Environmental Studies of Japan	https://ap-plat.nies.go.jp/	No/limited	A hub for sharing and visualizing risk data and tools, policy information and good practices
1. Risk information exploration and visualisation	Climate Change Knowledge Portal	World Bank	https://climateknowledgeportal.worldbank.org/	Yes	Provides global data on historical and future climate, vulnerabilities, and impacts. Allows exploration via Country and Watershed views. Synthesized Country Profiles can be accessed.
1. Risk information exploration and visualisation	Climate Impact Lab	Climate Impact Lab	https://impactlab.org/	No/limited	Integrates climate data and economic modeling to estimate the impacts of climate change on various sectors and regions.
1. Risk information exploration and visualisation	PREPdata	The Partnership for Resilience and Preparedness	https://www.prepdata.org/explore	No/limited	PREPdata is a map-based, open data online platform that allows users to access and visualize spatial data reflecting the past and future climate, as well as the physical and socioeconomic landscape for climate adaptation and resilience planning.
1. Risk information exploration and visualisation	INFORM Climate Change	European Commission	https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Climate-Change/INFORM-Climate-Change-Tool	No/limited	INFORM Climate Change incorporates climate and socioeconomic projections using the INFORM Risk Index methodology. "Facts and Figures" provide information on global distribution of countries by INFORM Risk classes, income group and scenarios. "Key Changes" visualizes the variations in Risk, Hazard & Exposure, Natural Hazard, Human Hazard, vulnerability gap and population density. "Country Profiles" contain more in-depth information on each country.
1. Risk information exploration and visualisation	Aqueduct Water Risk Atlas	World Resources Institute	https://www.wri.org/applications/aqueduct/water-risk-atlas	Yes	Aqueduct's global water risk mapping tool helps companies, investors, governments, and other users understand where and how water risks and opportunities are emerging worldwide. The Atlas uses a robust, peer reviewed methodology and the best-available data to create high-resolution, customizable global maps of water risk.
1. Risk information exploration and visualisation	WWF Biodiversity and Water Filter	World Wildlife Fund	https://riskfilter.org	No/limited	Corporate and portfolio-level screening tool to help companies and investors to prioritise action on what and where it matters the most to address water risks for enhancing business resilience and contributing to a sustainable future, incorporating climate change projections
1. Risk information exploration and visualisation	Google Earth Engine	Google	https://earthengine.google.com	Yes	Advanced spatial data analysis platform including wide range of base data, hazard data and climate projections data.
1. Risk information exploration and visualisation	Asia Pacific Risk & Resilience Portal	Economic and Social Commission for Asia and the Pacific (ESCAP)	https://rrp.unescap.org/	No/limited	The Risk and Resilience Portal, under the Asia Pacific Disaster Resilience Network, has been established to deepen policymakers' understanding of cascading risks from the disaster-climate-health nexus, provide evidence based analytics to strengthen regional cooperation frameworks to conduct and produce actionable risk assessments, and strengthen capacity of multiple sectoral ministries to develop risk informed planning and budgeting.
2. Risk screening and assessment	Climate Information	Swedish Meteorological and Hydrological Institute	https://climateinformation.org/	No/limited	The portal provides summary reports of climate change for any location of interest. It gives access to pre-calculated climate indicators, including also discharge and runoff, based on CMIP5 projections
2. Risk screening and assessment	Climate and Disaster Risk Screening Tool	World Bank	https://climatescreeningtools.worldbank.org/	No/limited	The World Bank Climate and Disaster Risk Screening Tools offer two types of project risk screening and assessment. The In-Depth assessment provides a detailed evaluation of current and future climate and geophysical risks. The Rapid Assessment Screening Tools provide a faster assessment of current and future climate and disaster risks.
2. Risk screening and assessment	ThinkHazard	Global Facility for Disaster Reduction and Recovery (GFDRR)	https://thinkhazard.org/en/	No/limited	ThinkHazard! is a web-based tool enabling non-specialists to consider the impacts of disasters on new development projects. Users of ThinkHazard! can assess the level of river flood, earthquake, drought, cyclone, coastal flood, tsunami, volcano, and landslide hazard within their project area. ThinkHazard! also provides recommendations and guidance on how to reduce the risk from each hazard within the project area, and provides links to additional resources
3. Decision support	Climate Innovations Window	European Commission	https://climateinnovationwindow.eu/	No/limited	A database with climate change innovations and adaptation solutions, which searched and filtered based hazard and sector.
3. Decision support	DRMKC - Disaster Risk Management Knowledge Centre	European Commission	https://drmkc.jrc.ec.europa.eu/	No/limited	The European Commission Disaster Risk Management Knowledge Centre integrates existing scientific multi-disciplinary knowledge and co-develops innovative solutions for existing needs. Activities of the EC DRMKC support the translation of complex scientific data and analyses into usable information and provides science-based advice for DRM policies.
3. Decision support	Enabling Resilience Investment Guidance	CSIRO	https://research.csiro.au/enabling-resilience-investment/tools-products-services/guidance/	No/limited	The Enabling Resilience Investment approach comprises methods, tools, frameworks and processes to support planning and analysis that incorporate value creation and systemic risk mitigation into the inclusive design and delivery of future investments. It can be used to generate new opportunities and outcomes for value creation (jobs, social cohesion, productivity, income) and risk mitigation in cities, suburbs, and rural areas
3. Decision support	Climate resilient planning toolkit	The Overseas Development Institute (ODI)	https://odi.org/en/publications/climate-resilient-planning-toolkit/	No/limited	The Climate Resilient Planning Toolkit (CRPT) is designed to help community based organisations and implementing agencies develop and deliver health, education, water and sanitation hardware interventions that are more resilient to climate extremes and disasters. It provides a generic framework to figure if and what kind of resilience planning is necessary, and what kind of measures can be taken to reduce risk. CRPT consists of three downloadable booklets
3. Decision support	Adaptation Support Tool	European Commission and the European Environment Agency	https://climate-adapt.eea.europa.eu/en/knowledge/tools/adaptation-support-tool	No/limited	The Adaptation Support Tool (AST) assists policy makers and coordinators on the national level in developing, implementing, monitoring and evaluating climate change adaptation strategies and plans. It also supports sub-national actors and trans-national actors to prepare for, develop, implement and monitor and evaluate adaptation strategies. It refers to relevant resources and dedicated tools in climate change adaptation.

The views expressed in this presentation are the views of the author/s and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this presentation and accepts no responsibility for any consequence of their use. The countries listed in this presentation do not imply any view on ADB's part as to sovereignty or independent status or necessarily conform to ADB's terminology.