United Nations Small Island Developing States Partnerships Awards

CDRI Coalition for Disaster Resilient Infrastructure

IRAF Infrastructure Resilience Accelerator Fund | IRIS



Strengthening Data Management Foundation for Disaster Risk Preparedness in Belize

Location:
Belize

Period:
2024-2026



About IRIS

Infrastructure for Resilient Island States (IRIS) is a flagship initiative of the Coalition for Disaster Resilient Infrastructure (CDRI) which aims to equip Small Island Developing States (SIDS) with knowledge, tools, and partnerships to build climate- and disaster-resilient infrastructure.

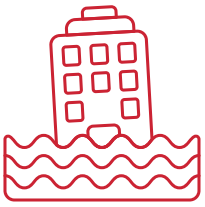
SIDS face severe climate risks in addition to challenges posed by geographic remoteness, poor connectivity, and limited economies of scale. Strengthening infrastructure resilience is key to sustainable development and safeguarding livelihoods.

Through IRIS, CDRI advocates for resilient infrastructure, deploys experts, shares best practices, and funds technical support to enhance infrastructure resilience in SIDS.

Context and Background

- Belize's location along the Caribbean Sea makes it especially prone to tropical cyclones, flooding, and sea level rise—with projections indicating up to 80 cm of sea level rise by 2100. Approximately 40.5% of the population lives in coastal areas, heightening exposure to storms and flooding.
- The country's nine urban centres, including Belize City and San Pedro, are highly exposed due to rapid urbanization in low-elevation coastal zones. Limited drainage infrastructure, exposure of public assets, and lack of building stock data hinder disaster preparedness and recovery.
- Belize has experienced repeated flood events and hurricanes—Hurricane Earl (2016), Eta (2020), and Lisa (2022)—causing extensive infrastructure damage and population displacement. Most damages remain poorly forecasted due to outdated or insufficient data.
- Belize lacks a digital inventory of its infrastructure, preventing tailored early warning systems or targeted resilience investments. Accurate geospatial data and vulnerability assessments are essential to breaking the cycle of damage and rebuilding in the same vulnerable areas.

Contact Details:
iris@cdri.world
https://cdri.world/sids/



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Objective and Outputs

- Increase the use of data and information in adaptation planning and disaster risk management through capacity building and the sources of crucial data sets and information products contributing to informed decision making.
- Promote use of data in adaptation planning and disaster risk management to improve efficiency in the targeting of resources as well as enable informed planning and decision making for resilience building.
- Improve the national data sets of building footprints in coastal zones for informing policy and planning in the coastal areas of Belize.
- Enhance the capacity and tools to support adaptation planning and strengthen disaster risk management through development of storm surge model and vulnerability maps for selected coastal zones.
- Conduct gender sensitive training with key stakeholders to support resilience building in communities.

Impact

- The project will strengthen Belize's disaster preparedness and response capacity by enhancing national data systems, including building footprint maps in coastal zones, enabling faster, real-time decision-making during climate-related events.
- Through targeted training and outreach, the project will build the resilience capacity of at least 40 representatives across 10 government ministries, benefiting 400 people directly and an estimated 2,400 indirectly, while promoting inclusive, gender-sensitive planning.
- Comprehensive building data will inform Belize's national climate vulnerability assessment of infrastructure and support the development of national early warning systems for flooding and storm surge.
- By embedding resilience into spatial, social, and economic planning, the project will reduce exposure and vulnerability to climate change impacts across urban and rural areas, while supporting co-benefits like social inclusion and improved governance.





Nodal Government Agency

Ministry of Sustainable Development, Climate Change and Disaster Risk Management

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