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# **Turning the Tide: Strengthening Climate Resilience in Pacific Nations Through the Use of Data, AI, and Technological Innovation**

Scoping Report 2025

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## Researchers

Shanice Da Costa, Ahmed El Saeed, Claudia Saenz, Antonella Sampaio Riberio, Aaron Situmorang, Femmy Soemantri, Maritere Vargas Contreras

## Illustrations

Shanice Da Costa

## Copy & Design

Andini Kamayana



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# EXECUTIVE SUMMARY

Sea level rise (SLR) presents a profound existential threat to the Pacific Island nations, with the impacts already visible and felt today. Significant efforts have already been made to address this issue, especially in disaster risk reduction; however, there is a need to focus on strategic planning that identifies opportunities while recognizing the escalating threats that SLR poses on the lives and livelihoods of approximately 2 million climate-vulnerable people in the Pacific Island nations.

This report presents the findings of a scoping exercise carried out by UN Global Pulse under the *Turning the Tide: Strengthening Climate Resilience in Pacific Nations Through the Use of Data, AI, and Technological Innovation* project. **The aim was to understand how digital decision-support tools, initially piloted in Indonesia by UN Global Pulse Asia Pacific, could be contextualized for Pacific Island nations to strengthen SLR adaptation and resilience.** Notably, this work contributes to the Memorandum of Understanding between the Government of Indonesia and the Government of Australia concerning the trilateral cooperation in the Pacific, paving the way for future activities under this commitment.

The hypothesis guiding this work was that the Indonesia SLR prototype demonstrated how a localized, co-developed platform, grounded in government priorities and national data, can strengthen anticipatory planning. In the Pacific context, building on this success requires additional steps—particularly planning, capacity building, contextual design, and regional partnerships—to ensure the platform is relevant, sustainable, and inclusive. The team addressed the inclusivity aspect through the design of a GEDSI assessment with a focus on people and planet (*see Annex 2*). This report gives an outline of those additional steps to roll out the solution in selected parts of the Pacific (*see Recommendations*).

To gather insights, the scoping took a multi-pronged approach. This included 1) Desk reviews of global and regional frameworks to align with existing commitments; 2) Consultations with UN entities and Resident Coordinator Offices (RCOs) in Pacific Island Countries, following their guidance to identify government counterparts and priorities; 3) Expert interviews to provide insights on data ecosystems, decision-making processes, and regional technical gaps; 4) Initial country-level conversations with national stakeholders, where possible, to validate early entry points; and 5) Stakeholder mapping of actors in the region, including existing regional and global SLR tools.



The scoping exercise, conducted across 14 Pacific Island Countries and Territories, revealed significant diversity in readiness and needs that can be classified into three clusters: **High-Capacity and High-Interest** (Papua New Guinea, Timor Leste), **Moderate-Capacity and Moderate-Interest** (Federated States of Micronesia, Nauru, Kiribati), and **Early-Stage Engagement**.

These findings were collected despite constraints faced by the team, including uneven access to national counterparts, minimal field visits to some countries, and limited visibility of smaller civil society organizations (especially those working at the intersection of climate and gender). These limitations underline the need for deeper engagement and validation in the next phase.





# 1. SEA LEVEL RISE IN THE PACIFIC

## | Introduction to the urgency of sea level rise

Sea level rise (SLR) is one of the most urgent and visible impacts of climate change. According to the Intergovernmental Panel on Climate Change (IPCC), global sea levels rose by approximately 20 centimeters between 1901 and 2018, and the rate of increase has more than doubled in recent decades. Current projections estimate an additional rise of 28 to 55 centimeters by 2100 under moderate emissions scenarios ([UN Climate Change](#), IPCC Sixth Assessment Report). The implications of this trend are especially severe for countries where the land sits only slightly above current sea levels.

## | Why is the Pacific a frontline region for climate impact?

For Pacific countries and territories most exposed to sea level rise—including both Small Island Developing States (SIDS) and larger coastal nations—the impacts are already being felt. Populations, infrastructure, food systems, and freshwater supplies are concentrated in low-lying coastal zones, creating significant vulnerability to flooding, erosion, saltwater intrusion, and eventual displacement. These impacts are not only affecting the environment, but also economies, institutions, and everyday life in ways that require coordinated responses grounded in data, inclusion, and long-term planning.

As United Nations Secretary-General António Guterres has stated: [“If we save the Pacific, we also save ourselves.”](#) What happens in the Pacific is an early warning for the rest of the world—and a reminder that resilience must be built collaboratively, equitably, and with urgency.

**“Surging seas are coming for us all [...] If we save the Pacific, we also save ourselves [...] The world must act, and answer the SOS before it is too late.”**

Antonio Guterres  
UN Secretary-General





## 2. ROLE OF GOVERNMENTS AND DATA TOOLS

### | The challenge for governments and the need for adaptation strategies

Governments across Pacific countries and territories are under increasing pressure to plan for and respond to sea level rise. Effective adaptation requires strategies spanning local, national, and regional levels, from coastal planning, adaptation, infrastructure design to securing disaster risk reduction. According to the UNFCCC's 2024 review of National Adaptation Plans, *“most NAPs identify institutional and technical capacity gaps and needs ... strengthening climate change institutions, collecting and analysing climate data, managing information and knowledge on adaptation and mobilizing resources”* as essential steps to progress. Constraints identified include:

#### **Planning and financing:**

Many ministries operate with limited resources, fragmented coordination across sectors, and few long-term planning frameworks that would allow them to fully embed sea level rise adaptation into development strategies.

#### **Access to data:**

Critical data—such as digital elevation models, high-resolution coastal bathymetry, or updated socioeconomic census information—are often incomplete, outdated, or unavailable. This makes it difficult to answer key questions: Where is safe to build? Which areas may require managed retreat? How should scarce funds be allocated for maximum impact?

#### **Governance and legal frameworks:**

In some cases, governments lack clear legal provisions for data sharing even between ministries. This creates silos that hinder insight generation on cross-cutting issues like sea level rise and slows the ability to design joined-up solutions.

Despite these barriers, several adaptation programmes across the Pacific provide models of progress. The **Pacific Adaptation to Climate Change (PACC) programme**, implemented across 14 countries, demonstrated how embedding climate resilience into national development and sectoral policies—particularly in water, food security, and coastal protection—can drive institutional learning and system-wide change. National projects such as the Tuvalu Coastal Adaptation Project (TCAP) and the Kiribati Adaptation Programme (KAP), supported by UNDP and other partners, have combined infrastructure upgrades with data-driven coastal modelling



and ecosystem-based approaches. The Nauru Highlands Project takes yet another approach, focusing on relocating communities to higher ground while building a more climate-resilient settlement inland—an example of how adaptation can involve reimagining safer places to live, not just protecting existing ones.

These initiatives show that sustained adaptation is possible when supported by long-term planning, adequate financing, and access to tools that translate scientific data into locally relevant strategies. These examples also underscore a clear message: data is a foundational infrastructure for adaptation. When made accessible and actionable, data becomes a critical enabler for governments to shift from reactive to anticipatory planning.

## | How data tools can support governments

Across the Pacific, governments and the United Nations system are working in close collaboration through the United Nations Sustainable Development Cooperation Framework (UNSDCF) 2023–2027. This regional framework sets out shared priorities for sustainable development across 14 Pacific Island Countries and Territories, with a strong focus on resilience, inclusive governance, and digital innovation. Under its “Planet” priority, the UNSDCF emphasizes the importance of strengthening climate resilience and disaster risk reduction through better access to data, science, and technology to support adaptive, forward-looking planning ([UNSDCF 2023–2027](#)).

To address the planning and capacity gaps outlined above, governments increasingly require support not only in accessing reliable data, but also in using that data effectively. This requires moving beyond one-off data collection toward building decision-support tools and analytics platforms that are integrated into government planning systems. To be effective over time, such tools must be underpinned by reliable, long-term data pipelines—rather than short-term project-based efforts, which often leave behind unused dashboards—and strengthened through sustained capacity building so that governments can maintain and apply the knowledge on the ground. This is where digital and technological tools can play a transformative role. When grounded in local needs and co-developed with stakeholders, digital platforms can help bridge capacity gaps and accelerate action by:

- **Model future scenarios** under different sea level rise projections, helping planners anticipate impacts and evaluate trade-offs.
- **Prioritize risks and interventions** by overlaying hazard maps with population, infrastructure, and vulnerability data.



- **Support localized decision-making**, providing tailored insights to national and subnational authorities, including for land-use planning, infrastructure development, and community-based adaptation.

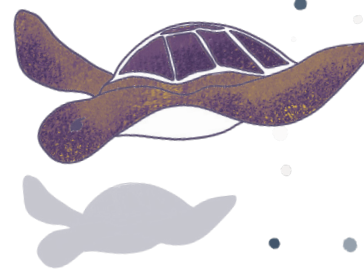
Used well, data tools can enable governments to act with greater confidence, equity, and efficiency. This approach aligns with recommendations across UN adaptation frameworks, which emphasize the importance of integrating digital solutions into National Adaptation Plans, disaster risk strategies, and long-term development planning (UNFCCC NAP Progress Review 2024).

- **Examples of existing tools**

Throughout the research that was primarily focused on the Pacific region though including some global platforms, a variety of initiatives addressing sea level rise were identified. At the regional level, the Pacific Community (SPC) plays a leading role, providing technical expertise, data, and capacity support to Pacific Island countries. SPC has been central in developing and maintaining datasets on climate, oceans, and geospatial information, and in supporting governments to apply these resources for planning and adaptation.

Alongside this, several UN platforms stood out for their engagement with sea level rise, often integrating additional dimensions. One such example is STRATA, which allows users to cross-reference data related to climate and environment, peace and security, population (including gender), and socioeconomic vulnerability. Another significant finding is that the Australian government operates a sea level rise monitoring system across the Pacific, with the exception of Timor-Leste.

**The following table lists all the existing tools addressing sea level rise that were discovered during this study.**





**Table 1. Existing tools addressing sea level rise in the Pacific**

What is the tool?	Who created it?	Which countries participate?	How does it work?	What is it for?	Link
Ocean Portal (Sea Level Rise)	SPC	Pacific	<p>Maps for sea level changes across the Pacific are available from 1950 to present in a relatively low resolution, and a higher resolution from 1993 to present.</p> <p>Historical Sea Level</p> <ul style="list-style-type: none"> <li>• Reconstruction - low resolution (1950 to present)</li> <li>• Altimetry - high resolution (1993 to present)</li> <li>• Tide Gauges - Monthly Statistics</li> </ul> <p>Forecast Waves Information (7-day lead time)</p> <ul style="list-style-type: none"> <li>• Combined sea and swell wave height with direction</li> <li>• Wind-sea wave height with direction</li> <li>• Swell wave height with direction</li> <li>• Peak wave period</li> <li>• Wind Speed and direction</li> </ul> <p>Sea Level Anomaly - Near Real Time</p> <p>Seasonal Sea Level Anomaly - Forecast</p>	<p>The Pacific Ocean Portal is an online tool developed and maintained by the Climate and Oceans Support Program in the Pacific (COSPPac) and supported by the Australian and New Zealand Governments. The ocean portal provides access to historical, near real-time, and future ocean conditions, as well as in situ observations. It has been designed to meet the needs of a wide range of ocean stakeholders across the Pacific, providing customizable maps and graphs, and a vast array of data sets.</p> <p>It provides ocean information related to: tourism, ocean monitoring, coral reefs, sea level, fisheries, shipping and tides.</p>	<a href="#">Link</a>
Critical Infrastructure and Sea Level Rise	UNOSAT	Fiji	GIS. You can see the damage up to 2m. Divided the critical infrastructure (as in schools, health facilities, airports etc.)	This interactive webapp can measure the impact of different sea level rise scenarios on housing and relevant infrastructure. Decision-makers can use the app to visualise areas highly impacted by projected SLR by 2090, which assists with coastal adaptation planning	<a href="#">Link</a>



What is the tool?	Who created it?	Which countries participate?	How does it work?	What is it for?	Link
The Pacific Sea Level and Geodetic Monitoring (PSLGM)	Australian Government	Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Toga, Tuvalu, and Vanuatu (Timor Leste not covered)	<p>Thirteen of the participating countries host a permanent tide gauge facility, which provides information on sea levels and tides. Additionally, the Pacific Sea Level and Geodetic Monitoring network also includes a network of earth monitoring stations for geodetic observations, implemented and maintained by Geoscience Australia. The earth monitoring installations provide Global Navigation Satellite System (GNSS) measurements to allow absolute determination of the vertical height of the tide gauges that measure sea level.</p> <p>With all this information they provide the following products/reports:</p> <ul style="list-style-type: none"> <li>• Tidal Prediction Calendars</li> <li>• Monthly Sea Level and Meteorological Statistics</li> <li>• Hourly Sea Level and Meteorological Statistics</li> <li>• Monthly Data Reports for the Pacific Region</li> </ul>	<p>Generate an accurate record of variance in long-term sea level for the Pacific region.</p> <p>The project also provides information about the processes, scale and implications of sea-level rise and variability of extreme events on South Pacific communities. It also makes sea-level data more readily available and usable to support management of coastal infrastructure and industries.</p>	<a href="#">Link</a>
Global Infrastructure Risk Model and Resilience Index (GIRI)	CIMA Research Foundation (Italy), INGENIAR Risk Intelligence (Colombia), UNEP-GRID Geneva (Switzerland) and Norwegian Geotechnical Institute (Norway) under the management of CDRI and UNDP.	Worldwide	Mapping tool. Has different climate disasters layers. Does not have one specifically for sea rise level, but has for flooding, which you can see predictions up to 1000 years.	Fully probabilistic risk model to estimate risk for infrastructure assets with respect to most major geological and climate-related hazards.	<a href="#">Link</a>



What is the tool?	Who created it?	Which countries participate?	How does it work?	What is it for?	Link
World Environment Situation Room (Map X)	UNEP, the Swiss Federal Office for the Environment, and the University of Geneva	Worldwide	Various data on climate change and how it might affect countries. Divided in drivers (population, power plants), pressures (GHG emissions, deforestation), states, impacts and responses. Sea rise level is in the impact section. It has predictions of 2050 and 2100, best and worst case scenarios. But they are not specific and do not show impacts in the country.	Field applications of MapX are varied and include biodiversity planning, chemicals management, climate change, disaster risk reduction, environmental security, extractive industries, land use planning, and renewable energy, but they are not limited to these topics. MapX targets a wide community of users that are primarily UNEP, the Secretariats of Multilateral Environmental Agreements (MEAs) and other UN agencies mandated to collect and use geospatial data in environmental decision making.	<a href="#">Link</a>
Human Climate Horizons	UNDP	Worldwide	Offers country insights about SLR in 3 different timelines (2020-2039, 2040-2059, 2080-2099), as well as impact (land inundation, population flood exposure). Outside SLR, they also have information about temperature and how this affects mortality, energy consumption, labor impact to high/low risk sectors. You can compare countries as well.	The data platform makes it possible to see where sea-level rise impacts may most threaten homes and infrastructure.	<a href="#">Link</a>
Strata	European Union, UN Environment Program, FAO, Earth Map, Google Earth Engine	Worldwide	They offer 26 indicators (across climate & environment, peace & security, population - including gender - and socioeconomic vulnerability) in 2 climate scenarios. They mentioned a lot how the platform is dynamic and offers an intersection across all those issues. Also they emphasize that the platform is not predictive (but they offer auxiliary data about climate projections) and has no implied causality or cascading impacts. The data is open source, and the datasets they use are global, except the IPC Food security data and the ACLED conflict map. The platform offers an analysis tool, and I believe you can compare regions and districts, depending on the country's data. They also are using AI (beta) to explain the data.	Geospatial platform that integrates climate, environment, conflict and socioeconomic data to help identify and track hotspots of cumulative stress, supporting policymakers and peacebuilding efforts. The platform is designed to support practitioners, analysts and policymakers to assess and monitor where climate and environmental risks are converging with other factors of vulnerability to inform assessments, design and prioritize responses, and monitor impact.	<a href="#">Link 1</a> <a href="#">Link 2</a>



What is the tool?	Who created it?	Which countries participate?	How does it work?	What is it for?	Link
'LiDAR' (Light Detection and Ranging)	UNDP, Fugro and Government of Tuvalu; but also the Australian Dept. of the Environment, CRC for Spatial Information (CRCSI) and NGIS Australia spent four years working with Tonga, Samoa, Vanuatu, and Papua New Guinea to build capacity in spatial information modeling and decision making through Airborne LiDAR and aerial imagery surveys, geographic information systems (GIS) training and the provision of hardware and software.	Tuvalu	Initiatives that address the lack of local data. LIDAR (Light Detection and Ranging) is a form of aircraft-mounted survey that captures very accurate ground height and seafloor information. This data when combined with on-site sea level measurements and ground control surveys is a game-changer.	The data can inform safe development, infrastructure planning, and adaptation. It also provides the best possible baseline to understand climate change impacts such as wave and sea-level rise flooding and shoreline change.	<a href="#">Link 1</a> <a href="#">Link 2</a> <a href="#">Link 3</a>

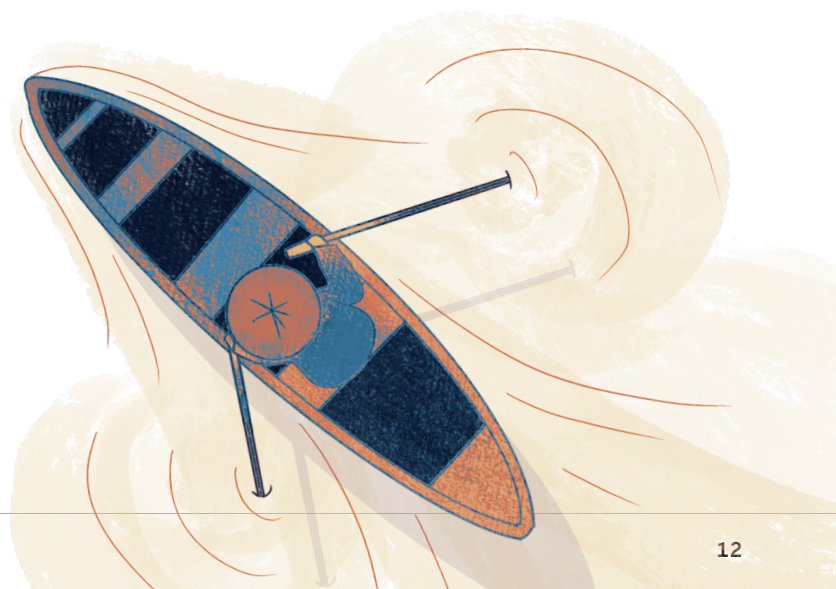


What is the tool?	Who created it?	Which countries participate?	How does it work?	What is it for?	Link
Sea Level Projection Tool (from the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report (AR6))	NASA, UN	Worldwide	The tool allows users to view both global and regional sea level projections from 2020 to 2150, along with how these projections differ depending on future scenario or warming level.	The goal of this tool is to provide easy and improved access and visualization to the consensus projections found in the report. The target audience is intended to be broad, allowing a general audience and scientists alike to interact with the information contained in the AR6.	<a href="#">Link</a>
UNESCO IOC Sea Level Station Monitoring Facility	UNESCO Inter-governmental Oceanographic Commission (IOC)	Worldwide	<p>This Global Sea Level Observing System (GLOSS) data center focuses on collecting and redistributing high frequency, relative sea level data in real-time. Most stations provide values every minute and are updated each 5 minutes.</p> <p>The GLOSS data centers at the Permanent Service for Mean Sea Level (PSMSL), the British Oceanographic Data Center (BODC) and the University of Hawaii Sea Level Center (UHSLC) perform the additional processing steps needed to calculate long-term mean sea level (MSL) data at hourly, daily, monthly and yearly averages. Where available, the station detail page links to these mean sea level data series</p>	GLOSS provides oversight and coordination for global and regional sea level networks that supports the oceanographic and climate research communities based on feedback and direction from within these communities.	<a href="#">Link</a>
NASA Sea Level Change Team Pacific Flooding Analysis Tool	NASA	Chile, Cook Islands, France, Tonga, Fiji, Samoa, Tuvalu, Kiribati, FSM, Nauru, Palau, CNMI, Marshall Islands	This tool provides projections and analysis of high-tide flooding days at the locations of tide gauges. Offers graphs about SLR, floodings (observed and projected) and rise of temperatures (You can select an end-of-century warming level from 1.5°C to 5°C) in some of the cities of the mentioned countries.	Not mentioned	<a href="#">Link</a>



What is the tool?	Who created it?	Which countries participate?	How does it work?	What is it for?	Link
Coastal Risk Screening Tool	Climate Central	Worldwide	The tool shows what regions would be affected by an increase of water level (up to 10m). Climate Central's sea level rise and coastal flood maps are based on peer-reviewed science in leading journals. As these maps incorporate big datasets, which always include some error, these maps should be regarded as screening tools to identify places that may require deeper investigation of risk.	Present and future coastal flood risk for global real estate holdings, insured properties, critical facilities, and much more, by the thousands.	<a href="#">Link</a>
UNOSAT (DRR and Climate Resilience)	UNOSAT, UNITAR	Worldwide	Not a SLR tool, but offers innovative GIS-based applications and decision support platforms to bridge science-policy gaps and to allow decision-makers to understand the spatial distribution of risk at both the national and subnational levels.	By leveraging science and innovative technologies such as Earth Observation (EO), Artificial Intelligence (AI), Machine Learning, and Big Data Analytics countries will have better decision support tools and solutions to inform policies, planning, and decision making.	<a href="#">Link</a>

These initiatives show that sustained adaptation is possible when supported by long-term planning, adequate financing, and access to tools that translate scientific data into locally relevant strategies. Importantly, the scoping confirmed that digital tools cannot simply be transferred from one context to another—they must be embedded within planning systems, supported by regional bodies such as SPC, and co-designed with national users.





# 3. PACIFIC REGION – SCOPED NATIONS AND PRIORITIES

## | Regional highlights and opportunities and challenges to collaborate

The Pacific region is made up of a diverse group of island countries and territories that share common climate risks but differ in their contexts, capacities, and approaches to adaptation. While all are affected by sea level rise, the ways in which this challenge is experienced—and the tools and support needed to respond—vary significantly across the region.

## | Stakeholder mapping

The scoping process included a comprehensive stakeholder mapping exercise, covering government institutions, civil society organizations, and development partners across the region. This confirmed the strong role of regional institutions—particularly the Pacific Community (SPC)—which has led multiple sea level rise initiatives in collaboration with governments such as Australia, Indonesia, New Zealand, China, and Canada. These actors represent essential partners for ensuring regional coordination, scalability, and long-term sustainability.

At the same time, the analysis revealed an important gap: local organizations remain under-represented and often under-resourced, with many operating as small teams. This gap is especially evident among groups working with populations that have been marginalized, such as women, LGBTQIA+/SOGIESC communities, and persons with disabilities. Only in a few cases—such as Nauru and Papua New Guinea—were NGOs identified that explicitly address both gender and climate change. The high-quality stakeholder map (PDF) can be found in [Annex 1](#).

Overall, scoping interviews and regional mapping (April–August 2025) highlight several shared themes:

- **High exposure, high urgency:** Many Pacific governments are seeing the impacts of sea level rise in ways that affect daily life and national development priorities. These include more frequent coastal flooding, land loss, and challenges in planning for safe



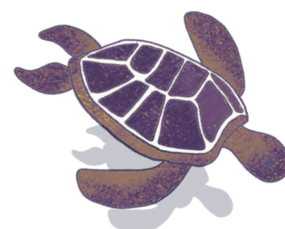
and sustainable communities. As a result, there is growing momentum to move from awareness to concrete, forward-looking action.

- **Different levels of capacity and access to information:** Some countries have teams and systems in place for managing climate-related data, while others are still in the early stages of identifying governance models, interoperability systems or developing digital readiness. This affects the kinds of tools that are useful and the support that may be needed—from basic data access and training to more advanced planning or risk assessment platforms.
- **Interest in practical, user friendly solutions:** Across the region, there is strong interest in tools that can inform national planning, help secure funding, or support conversations with local communities. Governments and technical partners are particularly interested in tools that are adaptable to their needs, easy to update and manage, and able to work with existing systems rather than replace them.
- **The importance of coordination and timing:** In most countries, adaptation planning involves multiple ministries and partners, and aligning these efforts is not always straightforward. Countries with active national development plans, climate strategies, or recent project pipelines may have clearer entry points for tool integration and co-design.

### Countries analyzed and summary table

As part of the scoping process, countries included in this review were examined to capture their priorities, challenges (as highlighted by UN entities and stakeholders), existing initiatives, and potential entry points.

**The table below summarizes the initial findings from this broad review.**





**Table 2. Countries analyzed during the scoping process**

Country	SLR priorities and challenges (identified by UN entities and stakeholders)	Initial Opportunities for Engagement (Entry points)	Aligned Government Strategies, Policies and Plans	Existing Data Systems or Initiatives	Validated? (Y/N)
The Federated States of Micronesia	<p>Environmental security, with a main focus on risk assessment to address existential threats from sea-level rise.</p> <p>There are capacity and resource limitations within the FSM government to work on the SLR issue. The FSM government has competing priorities that require their immediate attention, such as health, education, and out-migration.</p>	<p>The concept of the SLR Dashboard was pitched to the Department of Environment, Climate Change and Disaster Management + Environmental Protection Agency Pohnpei during the fieldwork to FSM.</p> <p>However, there was no concrete need related to UNGP’s SLR dashboard.</p>	<p>SLR was mentioned in FSM’s Strategic Development Plan 2024-2043, but there’s no concrete target or activities to back the SLR goal.</p> <p>While FSM and its four states are experiencing sea level rise (SLR) in several areas, competing priorities have resulted in SLR receiving limited attention compared to other pressing challenges.</p>	<p>The FSM government, in collaboration with SPC and SPREP, undertook several initiatives to assess SLR in FSM. However, it seems that there was no follow up from there.</p>	<p>Yes, their collaboration with SPC and SPREP involved the FSM government.</p>
Kiribati	<p>SLR is an issue in Kiribati but not a new one.</p> <p>At the moment the scoping is still at the initial stage where UNGP discussed with the UN Head of RCO in Kiribati.</p> <p>Every island in Kiribati is affected by climate change and SLR. Relocation of communities from coastal and erosion-prone areas is ongoing—some planned, some organic.</p>	<p>There is potential engagement with the Kiribati government, particularly the Ministry of Foreign Affairs and Office of the President, this is still being coordinated through the UN Micronesia team.</p>	<p>The Kiribati government acknowledges the risk of SLR for Kiribati in the future, mentioned in their 20 year vision document. But there is no concrete plan related to the SLR.</p>	<p>According to our respondent, SLR data are available within the Kiribati Ministry of Finance, Health and Education.</p>	<p>No</p>
Nauru	<p>SLR may not be a top concern for Nauru, which might already have its own SLR strategies.</p>	<p>It’s unclear if UNGP’s SLR solution aligns with Nauru’s priorities.</p>	<p>Nauru has a flagship program called Higher Ground. The program aims to reallocate infrastructure to elevated terrain, due to SLR in the country.</p>	<p>Nauru Higher Ground initiative.</p>	<p>No</p>



Country	SLR priorities and challenges (identified by UN entities and stakeholders)	Initial Opportunities for Engagement (Entry points)	Aligned Government Strategies, Policies and Plans	Existing Data Systems or Initiatives	Validated? (Y/N)
Timor Leste (TL)	<p>There is a lack of data on sea level rise, tidal flow and other relevant datasets.</p> <p>Recently, a project led by UNEP, and technically supported by RIMES, is building a data center at a government facility to help bring together raw data for informing decision making. Furthermore, sensors have been recently installed to collect and share data relating to sea level rise and ocean health.</p>	<p>A request was made by the Ministry of Planning and Strategic Investment, channeled through RCO is being further explored. The type of tool requested may have a different function compared to the Indonesia model. Working closely with other actors is a priority so we avoid overlap and maximise the benefits of limited resources.</p>	<p>The Government is in the process of administrative reform, and building its capacity to work more with data decision support tools. This is a timely request in order to help the government build sustainable data pipelines and tools and build their capacity in the process.</p>	<p>Existing UNEP led projects in coordination with RIMES (there is potential for complementing efforts in this space).</p>	Yes
Papua New Guinea (PNG)	<p>SLR is a concern, and several relocation exercises are taking place especially for remote islands.</p> <p>No current data driven system has been identified for informing those decisions.</p>	<p>The University of Technology of PNG (UoTPNG), based in Lae, has showed interest in hosting the project as part of a longer term collaboration with UN Global Pulse to advance the university's capacity in Data Innovation and evidence based policy.</p> <p>The UoTPNG has pledged initial resources, and further resources are being explored to support future engagement.</p>	<p>PNG has policies and plans that directly and indirectly acknowledge and address sea level rise, specifically adaptation measures.</p> <p>In its 2020 Nationally Determined Contributions (NDC) document, sea level rise is one of nine pillars mentioned.</p> <p>Other projects with multi-laterals and international organisations have focused on coastal adaptation.</p>	<p>No current existing system has been identified by stakeholders including UN Resident Coordinator and University of Technology at PNG</p>	Yes



Further in depth scoping was not conducted for countries such as Fiji, Tuvalu, Palau, Samoa, as initial scoping has shown that there are already existing early stage initiatives, and as such, no further needs were identified or additional requests for support were received. These countries can be further assessed based on future needs at a later stage.

Following the country-level scoping, which mapped priorities, challenges, and existing entry points across all nations, the analysis moved toward identifying where deeper engagement would be most feasible and impactful. To do this, the team developed a set of prioritization criteria to complement the descriptive findings and guide a more strategic pathway forward.

### Assessment approach and country clustering

Building on the Indonesia experience, the scoping considered three main aspects to understand how an SLR platform could be contextualized in the Pacific: (1) national capacity (data systems, institutional structures, technical readiness); (2) national interest in engaging with an SLR platform; and (3) exposure of population and land to sea level rise.

Rather than serving as strict criteria for clustering, these aspects were used to identify commonalities and differences across countries and to place them into groups with similar needs and opportunities. This allows for differentiated pathways forward while ensuring that no country is excluded.

An X/Y matrix was applied to visualize these clusters, with capacity on the X-axis and interest on the Y-axis. Projected sea level rise exposure of population and land was incorporated as a background layer to provide context on vulnerability.

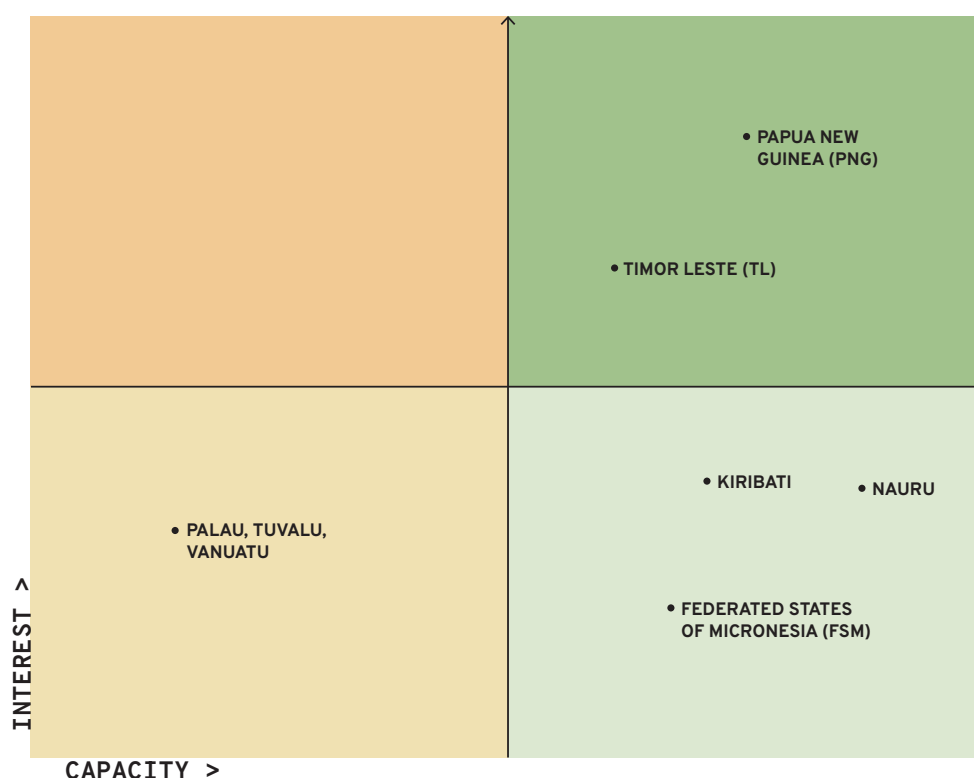


Figure 1. Interest and Capacity Matrix with Country Clustering



### **Cluster 1: Higher capacity and interest: Papua New Guinea, Timor-Leste**

These countries have relatively stronger institutional frameworks, data ecosystems, or active climate strategies, alongside demonstrated willingness to engage with digital planning tools. They represent strong entry points for prototyping and piloting, with opportunities to build on existing momentum.

### **Cluster 2: Moderate capacity and moderate interest (Federated States of Micronesia, Nauru, Kiribati)**

These countries share the challenge of limited institutional and data capacity, coupled with competing national priorities. While willingness is present, it often requires deeper co-design processes and stronger capacity-building support before a tool can be fully embedded. Regional partners such as SPC are particularly important anchors for this group.

### **Cluster 3: Moderate capacity or less-defined interest (Palau, Vanuatu, Tuvalu)**

These countries require foundational work—such as relationship-building, trust development, and initial data governance strengthening—before digital tools can be introduced. Here, regional and multi-country approaches may provide the most immediate value while national pathways are developed.

### **Cluster 4: Moderate capacity, high interest**

These countries have been identified as needing further assessment based on future needs at a later period.



## 4. THE UN GLOBAL PULSE PEOPLE & PLANET GEDSI ASSESSMENT

The Pacific Islands are facing a crisis. Sea levels are rising, and we need solutions that work for everyone—not just those with the most power or resources. As such, we have considered that one point of entry for initiating Gender Equality, Disability, and Social Inclusion (GEDSI) into our data platform is a good place to begin so as not to perpetuate risks or aggravate the very same inequalities that our platform aims to shed light on.

Founded on principles of climate justice, decoloniality, and data ethics, UN Global Pulse's People & Planet GEDSI assessment goes beyond the traditional one by providing a phased, systematic approach to ensuring that data collection, analysis, and decision-making processes are inclusive, participatory, and equitable, and ecologically sound. It is organized in **three phases**—*Tool Design and Planning, Implementation, and Scaling*—and is guided by **six thematic pillars**: *Ethical Data Collection, Ethical Community Engagement, Ecological Considerations, Accessibility, Tool Design, and Internal Team Dynamics*. Preliminary research shows a significant deficit in the use of a GEDSI perspective for digital tools in the Pacific and cites the need for this approach.

By building this assessment from the beginning, we genuinely attempt to put human rights and diverse needs of the Pacific's most vulnerable at its core.

### | Defining a traditional GEDSI model and its importance in Sea Level Rise approaches

GEDSI is an analytical approach that goes deeper than a checklist of categories. It's intention is to provide perspective on how power relationships and social norms shape an individual's experience and availability of resources through multiple, intersecting identities (1). These may be but are not limited to, for instance, gender, age, disability, income, ethnicity, race, sexual orientation, and migration status. As a method, GEDSI points out the interrelatedness of these ideas to address inequitable development and humanitarian environments (2). A robust GEDSI analysis is a requirement for any humanitarian or development project, one that prevents unintended exclusion and harm and actively upholds the rights and equal



opportunities of socially excluded groups. The approach recognizes that one identity factor, such as gender, does not fully capture an individual's experience; rather, it is at the intersection of various identities that a differential experience of privilege or exclusion is formed. While GEDSI is universal, some focus groups are always prioritized by large donors and NGOs.

The Australian Government, for instance, deliberately highlights women, girls, LGBTQIA+, and people with disabilities, citing the fact that these individuals are systemically discriminated against (3). The New Zealand Government's focus, being just as inclusive of these groups, includes the added priority of First Nations peoples, recognizing the growing recognition of Indigenous rights and knowledge systems. Use of "First Nations communities" in the New Zealand government strategy (4) and the broader emphasis on "Pacific-centric" decision-making are substantial changes in global development (5). Development work typically has a top-down, donor-driven approach to project design. The shift, as evidenced in these policy briefs, reflects a new recognition that equity can only function when there is respect for the self-determination and cultural sovereignty of affected communities. This means moving beyond just adding marginalized groups to a project to empowering them as proprietors and agents of the solutions that will directly affect them. Sea level rise (SLR) is not a threat to everything equally; its impacts are wildly disparate, affecting most severely those with the fewest resources and least ability to adjust. For the Pacific Islands, where they contribute a very minor (less than 1% (6)) portion of total greenhouse gas emissions, this is a bitter truth of climate injustice. The seriousness is compounded by the fact that sea levels in the Pacific have increased at nearly twice the global rate since 1993, threatening land, identity, and human rights (7,8,9).

A GEDSI-informed approach is therefore a strategic imperative to effective and sustainable climate action. Without it, attempts to address SLR risk increase current inequalities by: excluding communities with vulnerabilities from decision-making processes, leading to maladaptation and inefficient solutions; reinforcing strong systematic barriers hindering vulnerable populations from accessing vital information and resources; and failure to harness the unique and useful knowledge that is within such groups, critical to building climate resilience (10, 11).



## | Beyond traditional GEDSI models

UN Global Pulse works at the intersection of innovation and human sciences to support the United Nations system and the population they work with in being able to anticipate, respond, and adapt to the challenges of today and tomorrow. With our SLR platform, UN Global Pulse has proposed adding to traditional GEDSI approaches. Information from interviews and sub-regional analysis about where social exclusion and environmental risk overlap.

Initial studies of GEDSI were conducted before the assessment was established. Research referenced reports from potential donors—the Australian, New Zealand, British, and German governments—and organizations and NGOs operating in the Pacific with such governmental funding assistance. Findings indicated that until now, only analyses of development project contexts have employed GEDSI and not digital tools specifically.

Foci on specific groups varied by government. The Australian Government, for instance, targets women, girls, LGBTQIA+/SOGIESC, and people with disabilities. The New Zealand Government cites the same groups as focus but places specific emphasis on First Nations.

Comparing GEDSI-related NGO reports, most shared a similar methodology: with preliminary desk research, followed by interviews with the target groups. Some reports also included youth and the elderly. One of the shared issues that was reported was the lack of disaggregated data for many of these groups. In one report about Vanuatu, for example, it was noted that SOGIESC individuals are not just mentioned as being covered in government census reports, and that plural gender and sexualities are not normally included in sex-disaggregated data bases by government and non-governmental agencies. Lastly, although the Australian Government positively promotes an intersectional approach—appreciation for the fact that individuals can possess several identities at once—the most reports consulted were not probing this approach extensively. Rather, they were singling out these identities without examining how they intersect. We believe that we are able to anchor our GEDSI assessment with climate justice principles addressing the ethics and morality of climate change. Climate justice recognizes that the consequences of climate change are not equitable and that just responses have to be informed by the needs of the most exposed ([12](#)).

Apart from placing the assessment in terms of climate justice principles, we have also tried placing it in decolonial principles that challenge power and hegemonic narratives to galvanize conversation around the urgency of local knowledge systems and environmental vulnerabilities ([13](#)). It advocates for mitigation of the reasons for unequal risk, such as historical disadvantage and present-day economic exploitation, and in the process, this approach resists



“data colonialism” and promotes information gathering from communities with their active involvement or ownership. It demands Free, Prior, and Informed Consent (FPIC) and promotion of data sovereignty ([14](#), [15](#)).

The following section is a summary of the principles we have derived from the traditional GEDSI models, Climate Justice, and Decolonial theories. Below the summary, we have outlined what the assessment design is.

## | The UN Global Pulse People & Planet GEDSI Assessment

The [UN Global Pulse People & Planet GEDSI assessment](#) has been guided by four principles:

### “Do No Harm” Approach



One of the foundational principles to ensure interventions do not unintentionally reinforce or create new drawbacks for marginal groups.

### Data Ethics



Data collection and utilization must respect privacy, foster transparency, and prevent bias. It requires proactive safeguards to prevent dangers of abuse inherent in large datasets and AI systems.

### Decolonial Principles

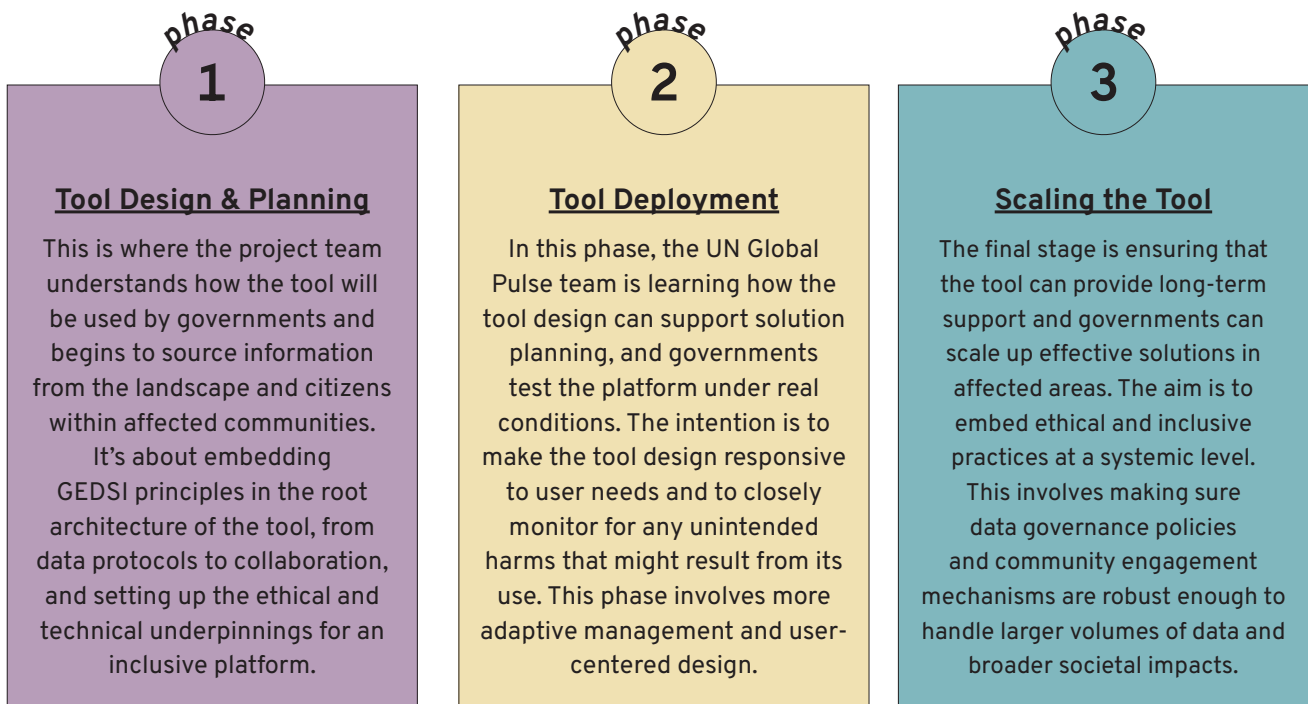


Challenges colonial legacies in environmental discourse. Refuses extractive practices and holds Indigenous and local knowledge systems as key to solutions.

### Climate Justice



Confronts the unjust impact of climate change on vulnerable groups and demands equitable solutions. It is a human rights-based moral imperative.



Within the phases, we pulled out **six themes** from the principles that we believe are reflective of best practices in making such an effort:

**Theme 1: Ethical Data Collection and Safeguarding**

This theme ensures all data—whether community interviews or satellite images—is collected, processed, and stored in a manner that upholds respect for privacy, is open, and does no harm. UN Global Pulse’s own research ([16](#), [17](#), [18](#), [19](#), [20](#)) points to a central paradox: although big data can be harnessed for the common good, it can also be used to expose individual behavior, aid biased decision-making, and be inscrutable. During Phase 1, ethical guidelines for datasets and AI are put at the forefront, ensuring transparent consent and transparency around data utilization. Data must be disaggregated by GEDSI groups to observe and prevent discriminatory outcomes. Robust data governance policies and safe storage infrastructure are implemented right from the start. In Phase 2, vigilant monitoring for unforeseen harms, particularly to vulnerable populations, is implemented. Compliant systems for feedback are established for users to report concerns about data accuracy or utilization. Finally, in Phase 3, when the project expands, data governance policies and secure systems have to be scalable to handle increasing volumes of sensitive data.

**Theme 2: Ethical and Just Community Engagement**

This theme ensures the platform ensures the needs and perspectives of communities, particularly groups which are experiencing vulnerabilities, by examining and redressing power relations in the decision-making process. The framework’s emphasis on “meaningful participation” and “integration of scientific integrity & local knowledge” directly addresses



failings of past “public participation” efforts. Most climate adaptation guides acknowledge the necessity of public participation but fail to address drivers of inequity or provide concrete strategies for participatory planning at the community scale ([21](#), [22](#)). Phase 1 entails consideration of who is being included or excluded when deciding on the tool and under what influence participation is subject to power dynamics. During Phase 2, the tool is tested to ensure that it captures learning, needs, and experience of the most impacted communities by SLR, and is responsive to evolving user needs through direct community feedback. During Phase 3, the assessment provokes a discussion on whether inclusive, ongoing engagement by all impacted groups is being brought to center stage. This acknowledges communities as a source of invaluable knowledge, rather than a source of information.

### **Theme 3: Ethical Ecological Considerations**

This theme traces the global implications of SLR and ensures the platform integrates environmental considerations without increasing its ecological footprint. The framework links the conservation of important ecosystems to the rights of Indigenous peoples and the safeguarding of traditional livelihoods. Indigenous lands are biodiversity hotspots and climatic buffers of prime importance. SLR threatens them, and in turn, puts the economic and cultural ways of life of the people dependent upon them at risk ([23](#), [24](#)). During Phase 1, the framework requires mapping loss and damage to the environment and culture by SLR, as well as data collection related to biodiversity conservation. During Phase 2, it promotes sustainable and accountable technology design grounded on low-carbon and energy-efficient technologies. It lays emphasis on the identification and the acceptance of Indigenous land rights during Phase 3.

### **Theme 4: Accessibility of the Tool**

This theme ensures that the platform is accessible to everyone, including people with diverse needs and abilities ([25](#), [26](#)). During Phase 1, all the digital tools are made perceivable, operable, understandable, and robust for people who have vision, hearing, cognitive, and motor impairments. This includes the use of clear, accessible, and culturally appropriate language so that various users can use it to their benefit. During Phase 2, user access to the tool is measured, ensuring that it supports government stakeholders in addressing climate-related needs of persons with disabilities. Finally, during Phase 3, the tool is “future-proofed” for accessibility and compatibility with emerging assistive technologies and standards.

### **Theme 5: Design of the Tool**

This theme makes the tool’s purpose, assumptions, and limitations explicit and reduces its own environmental footprint ([27](#)). During Phase 1, the evaluation asks project teams



to detail the tool’s purpose, users, and assumptions, providing openness about its limitations. It also assesses and minimizes the environmental footprint of the digital technologies themselves, such as data processing energy consumption. In Phase 2, the carbon footprint of digital operations is monitored and minimized. In Phase 3, as the project scales up, power dynamics and participation inclusive of all are re-evaluated to ensure that scaling up does not reinforce existing inequities.

**Theme 6: Internal Team Dynamics**

This theme addresses the internal tasking and resource mobilization required to mainstream a GEDSI-aware approach. In Phase 1, certain roles and lines of responsibility for all team members and partners are defined in the conduct of ethical behavior. Dedicated financial resources are held aside to ensure GEDSI support for the entire project. In Phase 2, regular reports on activities vis-a-vis stipulated ethical and justice norms are in place. Finally, during Phase 3, established roles and responsibilities are maintained as the project grows, and budgeting for GEDSI continues to be a priority.

**Summary:**

Phases	Themes	Key Activities	Key Indicators
Phase 1: Tool Design & Planning	Ethical Data Collection & Safeguarding	Prioritize ethical considerations for datasets and AI used in digital tools. Ensure data is disaggregated by GEDSI groups. Create clear and robust data governance policies.	Ethics review completed; Data protocols defined; Disaggregated data collection plan in place.
	Ethical & Just Community Engagement	Examine power dynamics in who is included/excluded from shaping the tool. Conduct due diligence on tech partners and align with local needs.	Power dynamics assessment report; Community consultation plan confirmed.
	Ethical Ecological Considerations	Map loss and damage, collecting data on biodiversity from Indigenous-managed lands.	Ecological data collection plan completed.
	Accessibility of the Tool	Design tools to be perceivable, operable, and understandable for diverse needs. Use clear, culturally appropriate language.	Accessibility checklist completed.
	Design of the Tool	Define the tool's purpose, limitations, and assumptions. Assess and minimize the environmental footprint of the technology.	Project charter and limitations document; Digital carbon footprint assessment.
	Internal Team Dynamics	Define clear roles and responsibilities for ethical conduct. Allocate dedicated financial resources for GEDSI.	Team charter and accountability matrix; GEDSI budget line item confirmed.



Phases	Themes	Key Activities	Key Indicators
Phase 2: Implementing the Tool	Ethical Data Collection & Safeguarding	Implement continuous monitoring for unintended harms to vulnerable groups. Establish accessible feedback mechanisms for data accuracy and use.	Continuous monitoring reports; Feedback logs maintained and reviewed.
	Ethical & Just Community Engagement	Assess if the tool reflects community needs and experiences. Ensure the tool is responsive to evolving user needs based on feedback.	User satisfaction surveys; Feedback-driven tool updates tracked.
	Ethical Ecological Considerations	Promote sustainable and responsible technology design to minimize ecological impact.	Tech-stack review for energy efficiency; Carbon footprint monitoring.
	Accessibility of the Tool	Assess the tool's accessibility for users with disabilities. Ensure it supports government actors in addressing the needs of persons with disabilities in planning.	Accessibility audit report; Government training curriculum updated.
	Design of the Tool	Continuously monitor and minimize the carbon footprint of digital operations.	Regular carbon footprint reports; Energy reduction targets met.
	Internal Team Dynamics	Implement regular reports on project activities against ethical criteria.	Regular project reports with a GEDSI section; Findings integrated into adaptive management.
Phase 3: Scaling the Tool	Ethical Data Collection & Safeguarding	Ensure data security and privacy policies are scalable for larger volumes of sensitive information. Systematically learn and share knowledge about GEDSI/climate justice outcomes.	Scalable data governance policies; Institutional knowledge-sharing plan.
	Ethical & Just Community Engagement	Establish mechanisms for inclusive, ongoing participation from all impacted groups. Facilitate deliberative dialogue on trade-offs and promote collective benefit.	Community participation metrics; Deliberative dialogue transcripts and outcomes.
	Ethical Ecological Considerations	Prioritize recognizing Indigenous land rights. Build a repository of Ecological Knowledge. Prioritize Nature-based Solutions (NbS).	Environmental repository established.
	Accessibility of the Tool	Ensure the tool is "future-proofed" for accessibility, including compatibility with evolving assistive technologies.	Accessibility roadmap for long-term maintenance; Compatibility with new technologies.
	Design of the Tool	Re-evaluate power dynamics to ensure scaling does not reinforce existing inequities.	Power dynamics assessment report; Inclusion metrics at scale.
	Internal Team Dynamics	Ensure clear roles and responsibilities are maintained. Continue to prioritize budgeting for GEDSI.	Updated team charter for scaling; Budgeting for GEDSI maintained in long-term plan.



## How to use our framework: A guide

The **UN Global Pulse People&Planet GEDSI Assessment** is an assessment designed to integrate Gender Equality, Disability, and Social Inclusion and Climate Justice principles into projects that are supported by our SLR platform. It moves beyond a simple technical checklist to encourage a deeper, more intentional reflection on ethical data collection, community engagement, and environmental considerations.

The assessment is a living document, meant to be used iteratively and collaboratively with project teams, government partners, and communities. It consists of closed-ended (Yes/No/Partially) and open-ended questions across six thematic areas.

### **Scoring & Interpretation**

- **Closed Questions:**
  - Yes: Indicates strong alignment with the thematic goal. (2 points)
  - Partially: Shows some effort or partial alignment. (1 point)
  - No: Indicates weak or no alignment. (0 points)
- **Open-Ended Questions:** These are for qualitative insights and cannot be scored. Use them to document notes, context, and future actions.

### **Overall Score:**

The scores for each theme are calculated and converted into a percentage to provide a quantitative snapshot of the project's alignment with the framework.

- Excellent: Score of 4
- Good: Score of 3
- Adequate: Score of 2
- Poor: Score of 1





## **Phase 1: Tool Designing and Planning**

**Objective:** To understand how the tool is used by project teams and to guide ethical planning and data collection. This phase focuses on designing a tool with a justice-oriented approach from the very beginning.

### **Steps:**

1. Review the Assessment Phase 1 tab in the sheet.
2. Collaborate with the project team. Go through each question and discuss the project's current status and plans. Use the "Comment" column to record notes, rationales, and next steps.
3. Complete the assessment. For each closed question, select "Yes," "No," or "Partially" based on the discussion. For open-ended questions, fill in the "Response" with detailed qualitative information.
4. Calculate the score. Sum the points for each theme and the overall score to get an initial baseline.
5. Identify gaps and plan actions. Use the results, especially the "Partially" and "No" responses, to identify areas for improvement. For example, if the response to "Has the dataset been reviewed for potential biases?" is "Partially," the team should plan a formal bias audit.

### **PHASE 1 EXAMPLE USE CASE**

#### **Question:**

*"Is there an easily available explanation for the users to know what data is being used...?"*

#### **Response:**

The team selects "Partially" and notes in the comment section that "the intention has been for technical users, we provide links for the users to the publicly available datasets. We don't explain in that much detail how we are using the data; it was decided with the government."

#### **Actionable Insight:**

This highlights a need for clearer documentation, even if the primary users are government officials. The team can decide to create a more accessible "Data Explained" section in a future update.



## Phase 2: Implementing the Tool

**Objective:** To test the tool and explore how its design supports solution planning, while continuously monitoring for unintended negative impacts.

### **Steps:**

1. Review the Assessment Phase 2 tab in the sheet.
2. Assess during testing. As the project team tests the tool on the ground, use these questions to evaluate its performance from an ethical and inclusive perspective.
3. Conduct user feedback sessions. The questions on feedback mechanisms (e.g., “Does the tool offer clear, accessible channels for users to report data issues?”) are crucial here. Actively seek input from a diverse range of users.
4. Monitor for unintended harm. The questions are designed to help the team identify if the tool is reinforcing biases or causing harm. This is a critical, ongoing process.
5. Document and adapt. Use the “Yes/No/Partially” scale and the comment sections to document findings. Use these findings to make real-time adjustments to the tool’s design or methodology.

### **PHASE 2 EXAMPLE USE CASE**

#### **Question:**

*“Is there a process in place to monitor for unintended harms...?”*

#### **Response:**

The team might select “Partially” if they have an informal process but no formal documented one.

#### **Actionable Insight:**

The team should create a formal process with clear steps for reporting, reviewing, and addressing unintended harm, especially concerning marginalized communities.





### **Phase 3: Scaling the Tool**

**Objective:** To ensure the tool provides long-term, ethical assistance and can be successfully scaled to new areas.

#### **Steps:**

1. Review the Assessment Phase 3 tab in the sheet.
2. Focus on long-term sustainability. This phase is about institutionalizing the ethical principles established in the previous phases. The questions cover aspects like sustained community participation, ethical data sharing, and respecting Indigenous rights at a larger scale.
3. Engage with government partners. This phase heavily involves government actors. The questions are framed to assess their capacity and commitment to upholding GEDSI and climate justice principles as the project expands.
4. Document best practices. Use the “Comment” section to document lessons learned and success stories related to ethical scaling. These can be used to inform future projects and broader policy.
5. Plan for the future. Use the responses to identify institutional and financial barriers to ethical scaling. This phase helps the team and its partners plan for the long-term sustainability of the tool and its positive impact.

#### **PHASE 3 EXAMPLE USE CASE**

##### **Question:**

*“As the platform is scaled, are government partners ensuring that communities... continue to participate meaningfully...?”*

##### **Response:**

This is an open-ended question that prompts a detailed response. The team might note that while participation was high initially, it has dropped off as the project scaled.

##### **Actionable Insight:**

This finding can lead to a new strategy for sustained community engagement, such as creating a community liaison role within the government agency or establishing a formal community advisory board.



# 5. RECOMMENDATIONS AND WAY FORWARD

The next phase should focus on moving from scoping to action: translating research insights into practical prototypes, strengthening partnerships, and embedding inclusive design processes. The upcoming implementation phase should be structured around strengthening country readiness, contextualizing user engagement, design, and sustainability of the tool, and overall ensuring that activities match the unique realities of Pacific Island countries.

## | Country Readiness and Differentiated Pathways for Piloting

A successful digital platform must align with the existing technical, institutional, policy, and socio-political contexts of each country. Therefore, the next phase should begin with structured readiness assessments in each country, covering technical infrastructure, data systems, institutional capacity, and—critically—policy alignment with national climate strategies and adaptation plans. These assessments will guide tailored entry points, ensuring relevance and avoiding a one-size-fits-all approach.

- **Conduct Readiness Assessments:** Evaluate each country’s digital infrastructure, data availability (e.g., topographic, hydrological, social vulnerability data), institutional capacity, typology, and legal frameworks for data sharing and climate adaptation. Special attention will be placed on policy frameworks—such as National Adaptation Plans (NAPs), SLR priorities, and UNSDCF commitments—to ensure that any platform directly supports government policy timelines.
- **Identify Implementation Champions:** Work with national focal points, such as Ministries of Environment, Planning, or Disaster Management agencies, to anchor ownership and leadership.
- **Phase by Readiness Level:** Adopt a phased approach, beginning prototyping in countries with robust ecosystems while focusing on foundational activities (capacity building, institutional coordination, and policy mainstreaming) in lower-capacity contexts.



- **Integrate with National Adaptation Strategies:** Explicitly embed pilots into existing climate strategies and related sectoral policies (e.g., disaster risk reduction, land use planning, infrastructure development), ensuring policy relevance and increasing the likelihood of government uptake.

**Countries have been clustered by shared characteristics, which determines their entry points for collaboration:**

#### **High-Capacity & High-Willingness Contexts**

- **Papua New Guinea (PNG):** An entry point recommended could be early prototyping, anchored in partnerships with national universities and technical agencies identified by UN entities. Engagement may focus on concrete policy use cases such as relocation planning and infrastructure zoning. Academic partnerships could also help localize methodologies developed in the Indonesia pilot, as the PNG University of Technology has already expressed interest in collaborating.
- **Timor-Leste:** Stakeholder interviews highlighted strong interest from ministries and the Civil Protection Authority, alongside recognition of challenges with data-sharing policies and poor connectivity. Possible ways forward include: (a) partnering with UNEP to align with the Green Climate Fund pipeline; (b) convening co-design workshops with the Ministry of Planning and Civil Protection Authority; and (c) exploring integration with ongoing EU and DFAT-funded governance and digitalization projects.

#### **Moderate-Capacity & Moderate-Willingness Contexts**

- **Federated States of Micronesia (FSM):** While SLR is recognized in long-term planning, competing national priorities limit bandwidth. Potential entry points include focusing on capacity-building workshops, trust-building, and engaging SPC to strengthen data systems. Collaboration with the Department of Environment and partners already working on SLR assessments could provide an initial pathway.
- **Nauru:** The Higher Ground Initiative to relocate infrastructure offers a natural entry point. A possible way forward is to explore integration of multi-sector planning tools into this initiative, with a focus on infrastructure and urban planning. Engagement could begin with the Ministry of Finance and the President's Office, supported by targeted data workshops and coordination with the Micronesia Island Forum.
- **Kiribati:** Interviews confirmed that the Office of the President and Ministry of Foreign Affairs lead on SLR, with immediate opportunities linked to the Kiribati Development Plan and the June 2025 Joint Steering Committee. Options for the next phase



include: (a) formal engagement through the Office of the President; or (b) designing participatory design workshops to embed local government and community voices.

### **Early-Stage Engagement Contexts**

Foundational activities— capacity building, knowledge sharing, regional sparring or technical peer support, and additional scoping research for readiness assessment—will precede tool introduction. Regional-level partnerships through regional organizations, for example through Pacific Islands Forum (PIF) or The Pacific Community (SPC), will ensure that no country interested in participating will be left behind.

## | Lessons from the Indonesia Pilot

The Indonesia prototype demonstrated that government-owned, policy-anchored platforms, co-developed with national agencies and grounded in local data, can deliver significant value for development and anticipatory planning. These lessons—policy anchoring, co-development, and national data integration—will be critical in shaping Phase 2 in the Pacific.

- 1. Policy Anchoring:** Designing platforms that support specific government policies ensures usability, and that the findings can be used in concrete decision making and anticipatory planning.
- 2. National Ownership is Key:** Co-creating the platform together with the stakeholder—in the Indonesia case with the Ministry of National Development Planning/Bappenas, was key. Doing this fostered a sense of ownership and ensured that the tool meets actual needs while simultaneously building internal capacity for increased sustainability.
- 3. Integration of National Data:** The platform uses both national official datasets and other open data sources, thus it makes the analysis and outputs more context specific and relevant for the national policy makers.

To that effect, the following steps are recommended for rolling out:

### **1. User Engagement Priorities**

*Designing user-centered solutions that address the actual needs and decision-making processes of local stakeholders is critical. Proposed priorities include:*

- **User Research and Mapping:** Identify and prioritise key users, e.g., high-level government officials, local planners, disaster offices, village leaders, community groups, and women’s networks. Recognise differentiated needs and digital access levels.



- **Co-Design Workshops:** Facilitate participatory design workshops at the outset and throughout development to integrate local knowledge, validate assumptions, and build trust.
- **Accessibility and Usability Testing:** Ensure the platform is comprehensible and usable by non-technical users, including those with limited literacy or digital skills.

## 2. Early Design Needs

*Digital solutions must be designed with clear purpose, modularity, and resilience. Key early design considerations include:*

- **Define Priority Use Cases Early:** Identify core policy questions (e.g., relocation planning, early warning, coastal zoning, infrastructure development).
- **Data Interoperability:** Build systems using open standards and APIs to enable integration with other climate portals and GIS platforms.
- **Offline Functionality:** Ensure tools can function in low-connectivity contexts with periodic syncing.
- **Realistic Approach:** Start with minimum viable features aligned to actual capacity, avoiding over-engineering.

## 3. Localization and Sustainability Considerations

*Long-term relevance and sustainability require cultural fit, institutional embedding, and financial planning. Potential strategies include:*

- **Respect for Cultural and Land Use Context:** Integrate traditional governance systems and customary land practices in the tool's design and outputs.
- **Local Capacity Building:** Develop training modules for government and community users, embedding digital literacy and data governance strengthening.
- **System Custodian Modality:** Identify national or regional institutions—particularly SPC—to host, maintain, and manage the platform.
- **Sustainability Financing:** Explore blended finance models (bilateral climate aid, public-private partnerships, climate grants) to fund scaling and long-term maintenance.
- **Open Source & Local Ecosystems:** Consider open-source licensing and engage local developers and universities to foster innovation and ownership.



## GEDSI Assessment Recommendations

The preliminary test of the GEDSI assessment, while limited in scope (we only tested Phase 1), revealed critical gaps for project teams seeking to use such an approach. The findings are:

- **Limited Application to Digital Tools:** GEDSI has primarily been applied in the context of traditional development projects, and its application to digital tools and platforms specifically has been largely unexplored. This gave our team the impression that our assessment is still not as tested in this context, and the need to establish best practices exists.
- **Lack of Disaggregated Data:** A persistent and recurring issue is the lack of disaggregated data for many groups experiencing vulnerabilities to climate-induced disasters and slow violence in the Pacific, particularly SOGIESC individuals. This makes it difficult to fully understand their specific vulnerabilities and needs, hindering the development of targeted, effective solutions and making this approach ineffective in its goal to be ethically inclusive.
- **Absence of In-Depth Intersectional Analysis:** While donors like the Australian Government promote an intersectional approach, most reviewed reports treat identities in isolation rather than examining how they intersect to create unique experiences of marginalization. Data is just data when it isn't harnessed to tell authentic stories of real people and their communities and their shared experiences. There is still a critical gap in skills needed to address the ability to connect different data sets and tell stories of individuals/groups in relation to climate change and its exacerbating challenges.

As such, we recommend the following ways to effectively utilise our assessment:

- **Prioritize Disaggregated Data Collection:** Allocate dedicated resources in Phase 1 to conduct targeted surveys and qualitative research using tools like the Washington Group Short Set of questions to collect disaggregated data on disability, age, gender, and other social markers, going beyond what is available in standard census data. This will provide a crucial evidence base for identifying and addressing the specific needs of different groups.



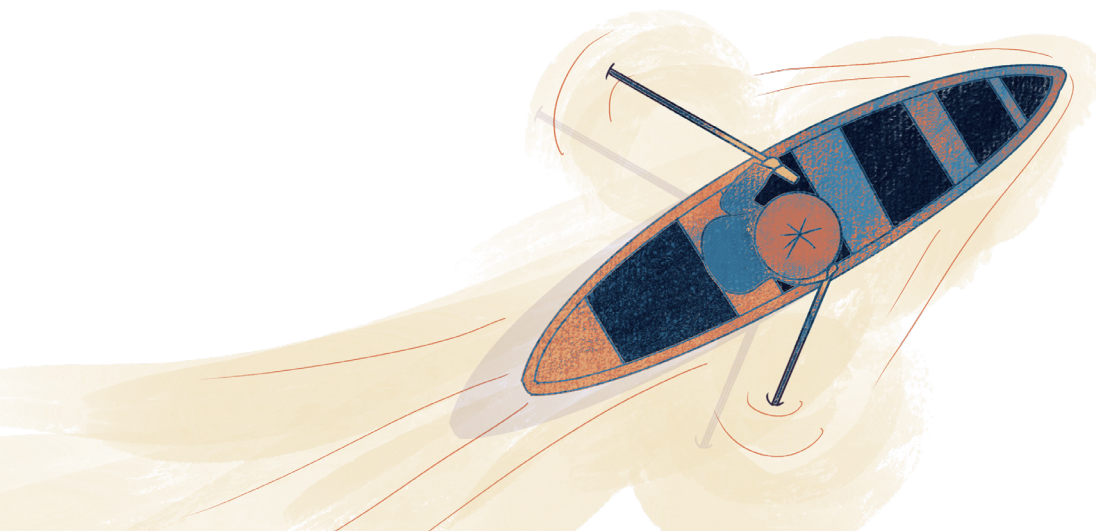
- **Establish a Multi-Disciplinary Coordination Committee:** In Phase 1, create an oversight body with representatives from local communities, academia, civil society organizations, and project partners. This committee would conduct ethics assessments for new projects and provide guidance on personal and societal impacts. This formalizes a mechanism for accountability and continuous ethical review.
- **Invest in Local Capacity and Knowledge Co-Production:** The assessment must be supported by a dedicated budget for capacity-building initiatives that empower local actors and community-based organizations to lead on data collection and project implementation. This is crucial for shifting from an extractive model to one of genuine knowledge co-production, ensuring that the communities affected are also the owners of the solutions.

## | Conclusion

This scoping exercise shows both the urgency and the entry points for advancing anticipatory planning for sea level rise in the Pacific. Countries are expressing clear interest in practical, digital solutions, but readiness levels and contexts vary widely—underscoring the need for a differentiated, partnership-based approach.

Building on the success of the Indonesia pilot and grounded in the insights captured across this scoping report, the implementation phase offers a unique opportunity to move from scoping to action: piloting in high-readiness contexts, laying foundations in lower-capacity ones, while embedding inclusivity through the GEDSI assessment.

Investments in prototyping, co-design, and regional partnerships will generate immediate policy value for participating governments, but also establish a scalable, sustainable model for climate adaptation and planning across the Pacific region and other small island contexts.

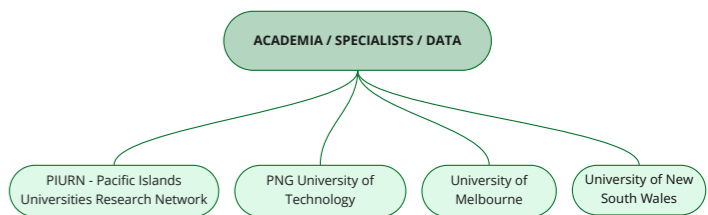
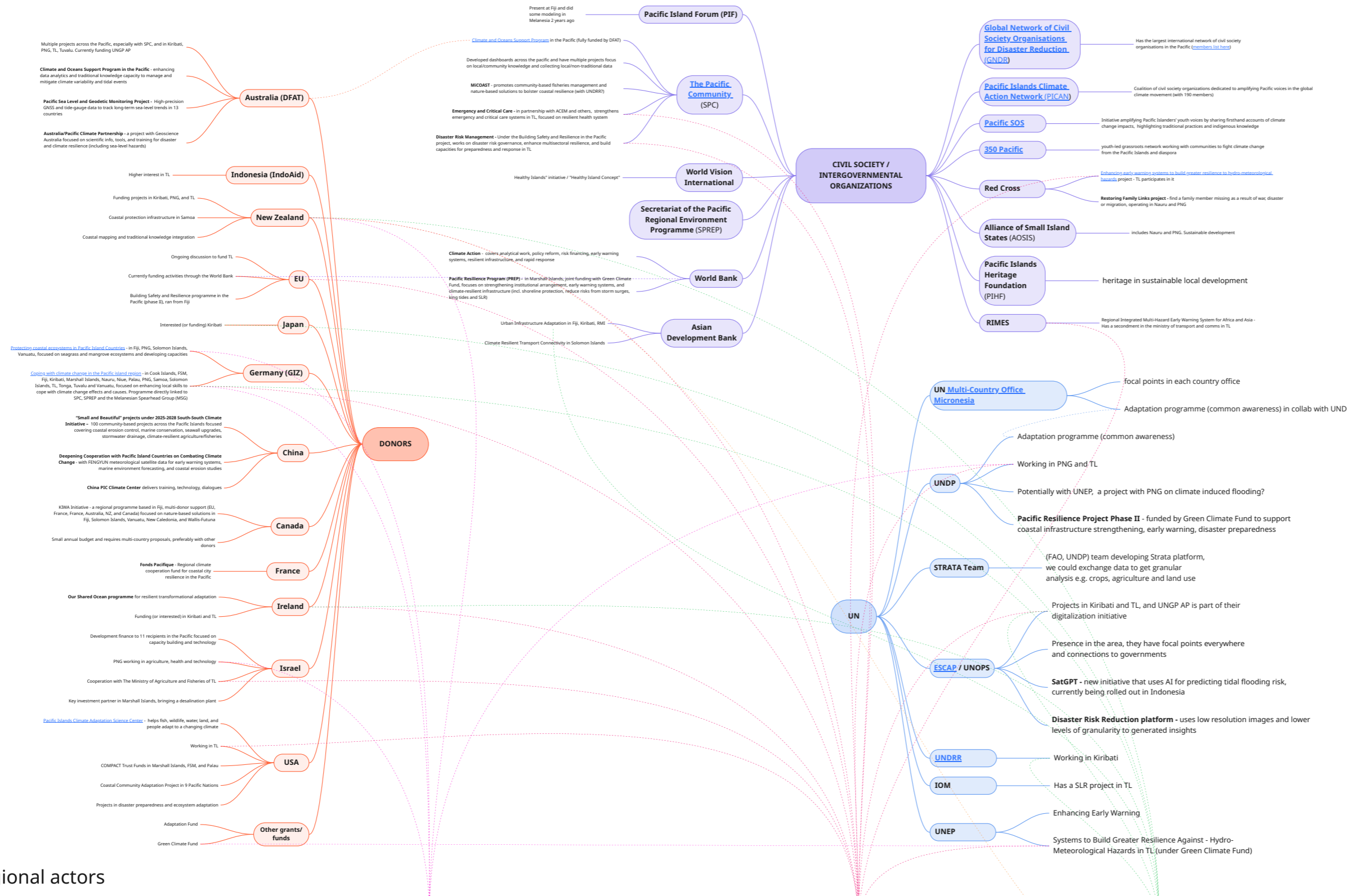




# Annex 1

Stakeholder Map

This map is meant to be a high-level overview of what was discovered during this preliminary scoping phase. Once the scoping of the specific pilots start, each pilot will need a stakeholder map to identify the actors influencing the desired outcomes and the problem space aimed to be affected. (Consider the value network model used by the Scaling team)



Regional actors

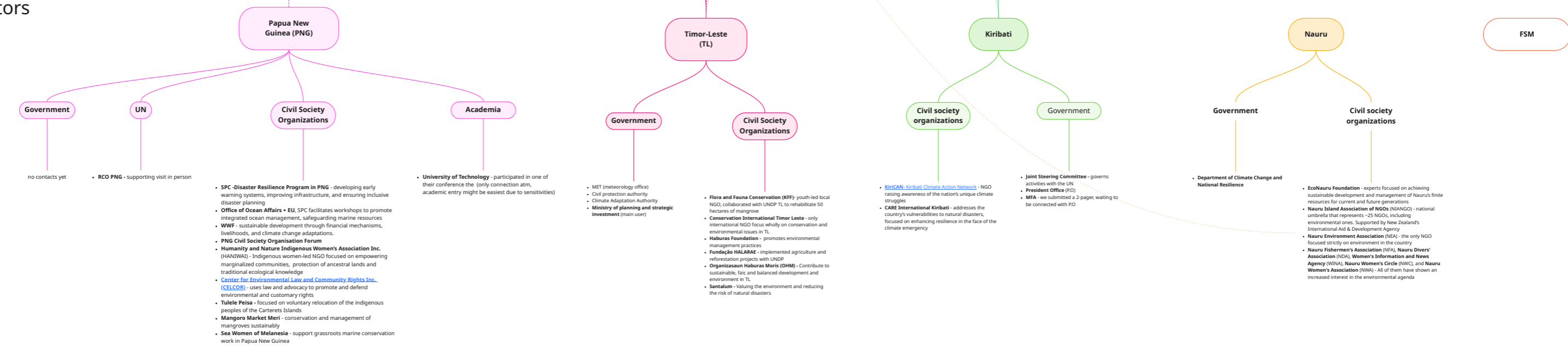
National actors

**LEGEND**  
 TL = Timor Leste  
 PNG = Papua New Guinea  
 SLR = sea level rise  
 AOSIS = Alliance of Small Island States

yellow post-its = to do

add all acronyms

Mark with ones we have contact with/collaborating with





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