



Pacific
Community
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UN-GGIM
UNITED NATIONS
COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT



SDG
DATA
ALLIANCE

COOK ISLANDS STATUS REPORT GEOSPATIAL & SURVEYING

EXPERT CONSULTATION AND MEETING ON ENHANCING GEOSPATIAL INFORMATION MANAGEMENT ARRANGEMENTS AND ACCELERATING THE IMPLEMENTATION OF THE SUSTAINABLE DEVELOPMENT GOALS TOGETHER WITH THE SUB-REGIONAL WORKSHOP ON UNITED NATIONS INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK FOR THE PACIFIC ISLAND COUNTRIES AND TERRITORIES

AND

THE 2024 ANNUAL MEETING OF THE PACIFIC GEOSPATIAL AND SURVEYING COUNCIL

Pasifika Conference Room, Pacific Community (SPC), Lotus Building, Suva, Fiji

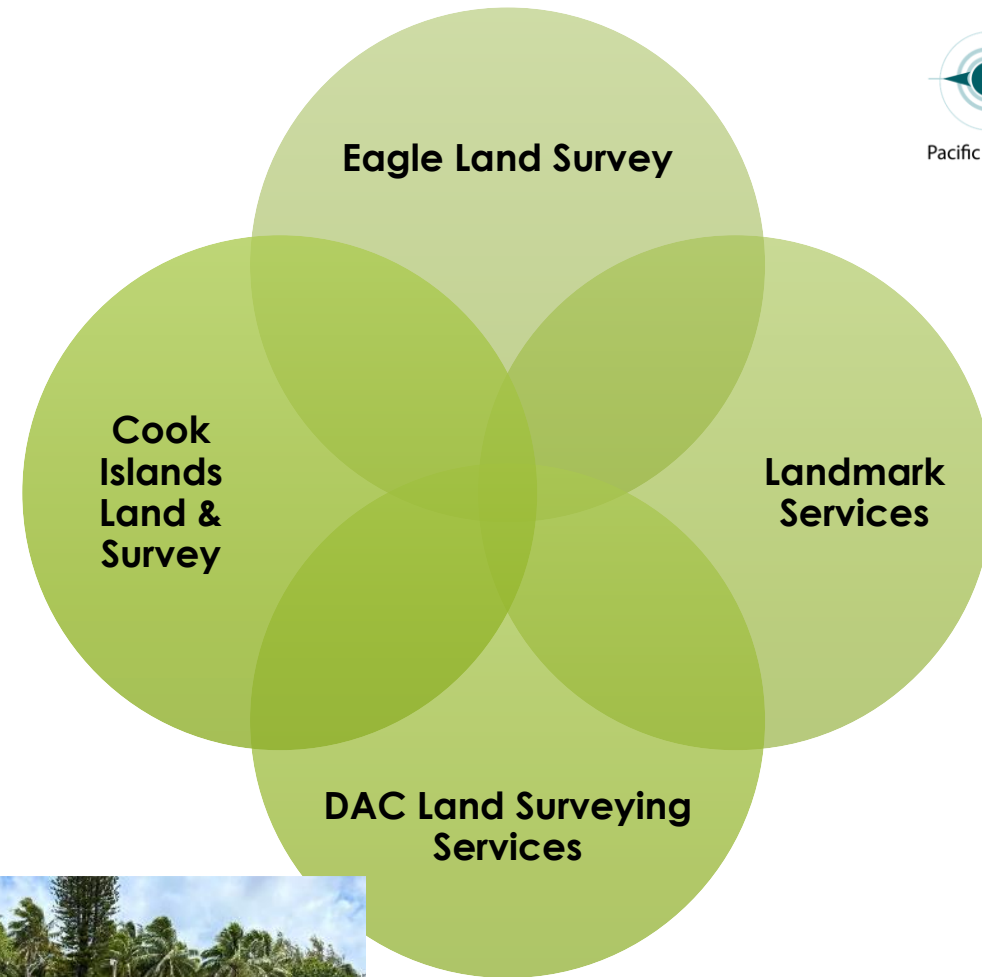
11th November 2024

GEOSPATIAL AGENCIES



SURVEY AGENCIES

- Former staff of the Survey Department
- Private Surveyors companies
- No government surveyors
- Except Chief Surveyor Ministry of Justice
 - Management of Land Information
 - Signing of Land maps



COOISLANDS GIS USERS GROUP

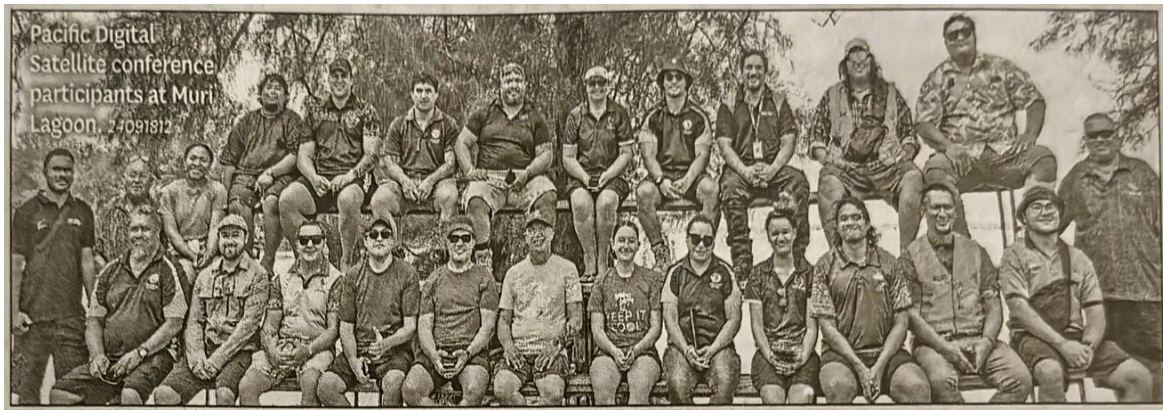
BAGROUND

History: GIS User Group 2018. 50 members 2024.

Development: ICI and EMCI. SIM Policy 2020.

Objectives: Recognition of the need for efficient and centralized data management, standardization and sharing. Capacity Building/Training. Collaboration and Knowledge sharing. Support decision making and promotion of GIS applications.

Audience: Government Agencies, State-Owned-Enterprises, Non-Government Organizations, Local Consultancies



COOK ISLANDS GIS USER GROUP

Current Status

CHAIR: ICI — Senior Manager National Hydrography and Geoscience Division with support from Geospatial Manager.

Membership Growth and Engagement: Quarterly Meetings, Emails, Events, One-One Trainings/Demonstrations and National Workshops. Phased membership growth — core user group, support periphery agencies, NGOs. Project updates and upcoming events to avoid work duplication.

Sustainability Strategy: Camaraderie formalized and non-formalized. Regional and National Support. In 2025, we aim to integrate more sectors into our Group, including private sector, community and NGO involvement, to enhance climate resilience and disaster response initiatives.

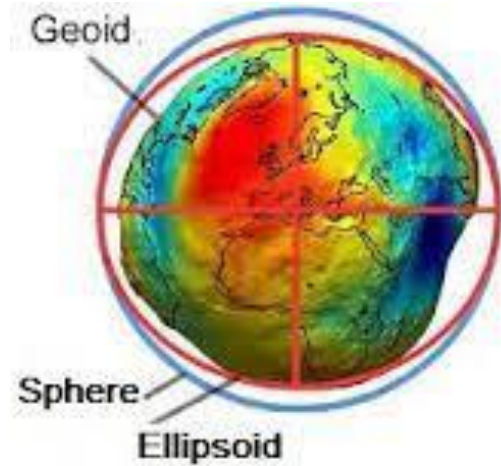
Local National Space: Utilities Group, Professional Engineers Group, Puna DRMs, Statistics Department.

OPPORTUNITIES

- **What opportunities exist for your agency to achieve its objectives as the national geospatial and surveying authority with respect to the following;**
 - **Technical Capability and Technology**
 - Capacity building
 - Software and Hardware
 - Surveying Equipment (GNSS)
 - **Capacity Transfer**
 - Regional Institutions engagement (SPC, UNGGIM, Geoscience Australia, IHO, SWPHC..others)
 - **Data Management**
 - Geoportal (SPC Pacific Data Hub)
 - Standards UNGGIM
 - S-100 IHO
 - Cloud storage
 - **Legal & Policy**
 - Regulations
 - Policies

Future – Geospatial & Surveying

Modernising the Cook Islands Geospatial Reference System Road Map



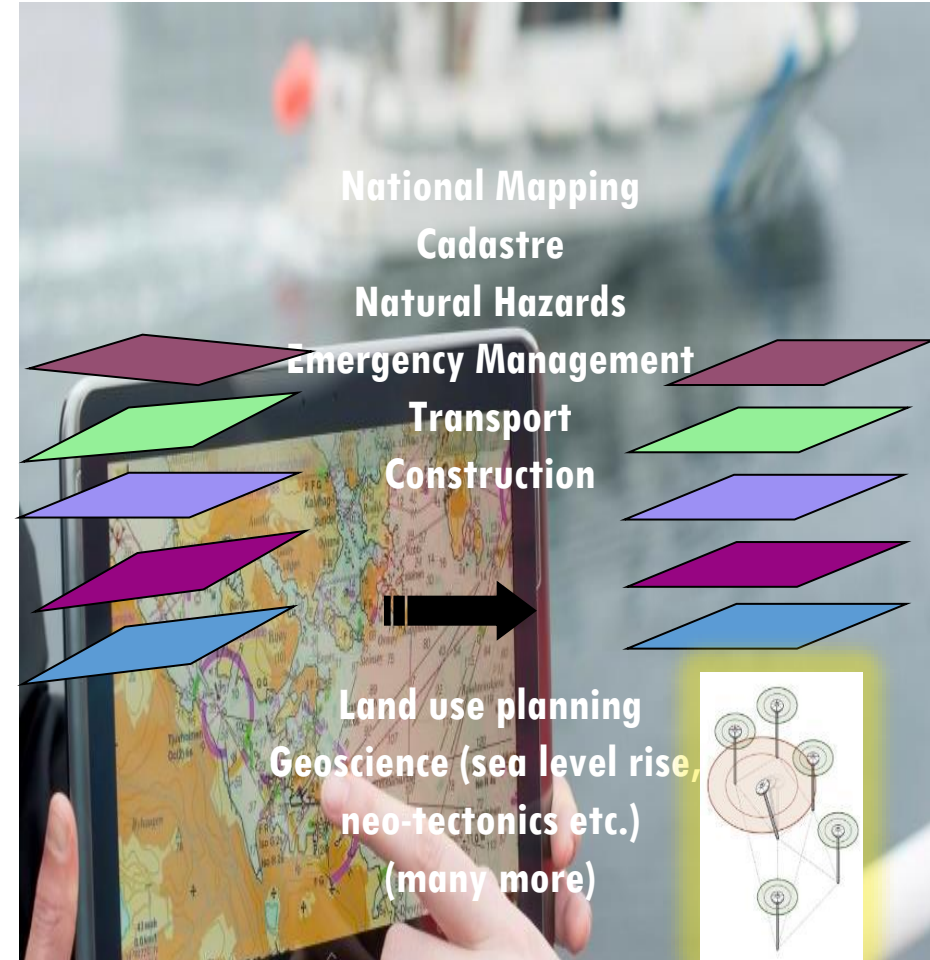
Oblate Spheroid

Future – Geospatial & Surveying

Vision

The vision of the Cook Islands Geospatial Reference System Project is to create an accurate and reliable way for Cook Islands to position themselves, navigate and align spatial data to make better decisions for the benefit of the economy, environment and society.

Basis of geospatial information for Sustainable Development



Future – Geospatial & Surveying

Why modernise the Cook Islands Geospatial Reference System?

- **The demand for high integrity and high accuracy geospatial applications is increasing.**
- **This is largely driven by the wide spread use of GNSS for positioning and navigation. GNSS (e.g. GPS) constellations provide positions aligned to the International Terrestrial Reference System, the most recent realisation being the International Terrestrial Reference Frame 2020 (ITRF2020).**
- **The current geodetic datum is based on World Geodetic System 1986 (as opposed to the modern ITRF2020). It is therefore out-dated and not compatible with GNSS.**

Future – Geospatial & Surveying

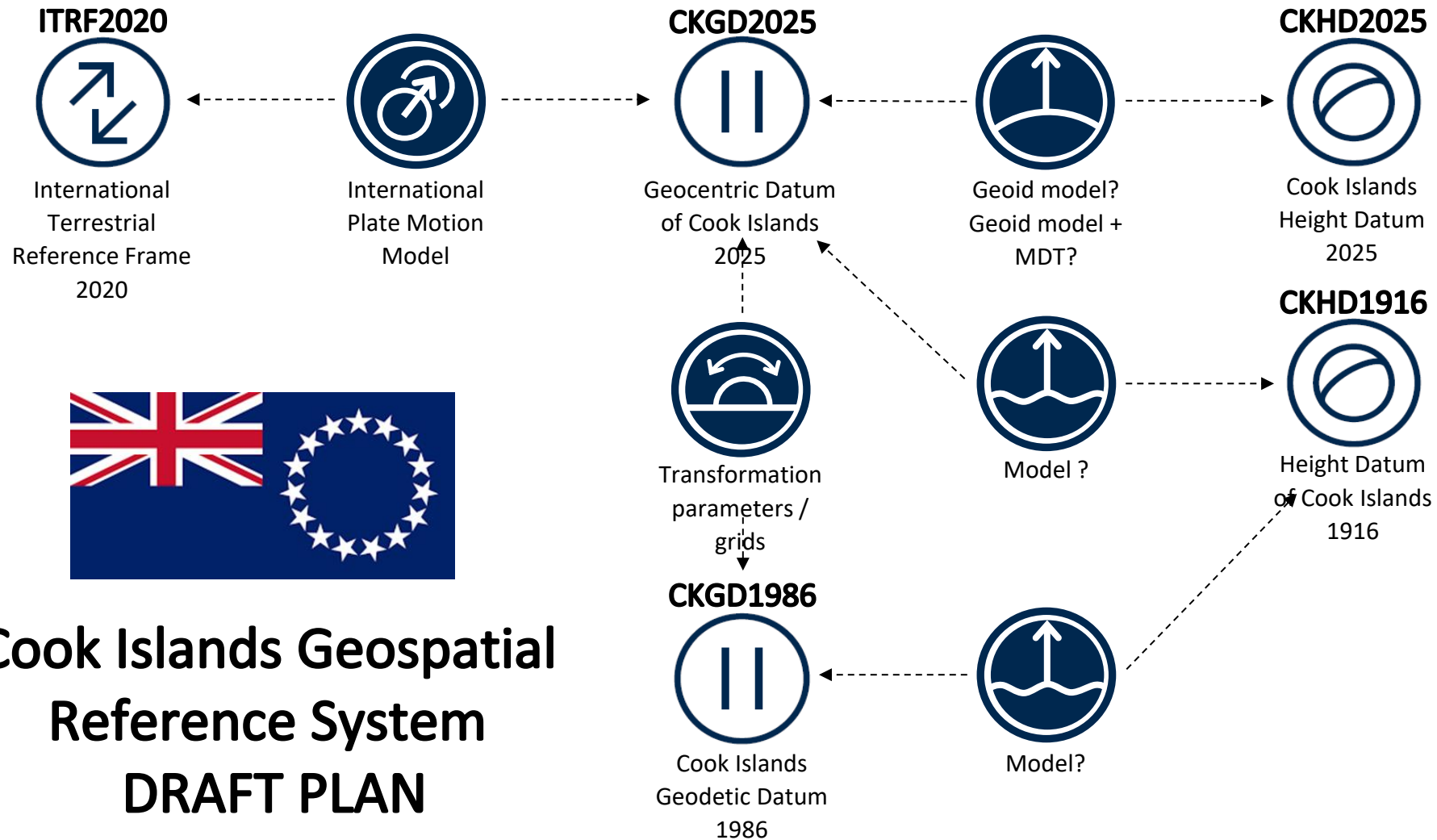
Cook Islands Geospatial Reference System

- **Knowing where you are, where things are around you and being able to navigate between them has always been important.**
- **Explorers navigated the seas in search of far away lands and created detailed maps of the Earth using the sun and clocks to compute their position.**
- **Surveyors trekked through uncharted regions carrying heavy equipment to measure the highest peaks relative to sea level.**
- **Engineers met in the middle with incredible accuracy after tunnelling through mountains, underground or underwater.**



Future – Geospatial & Surveying

Cook Islands Geospatial Reference System



Future – Geospatial & Surveying

Road Map

The Roadmap for development of the Cook Islands Geospatial Reference System has a number of phases;
This includes:



Future – Geospatial & Surveying

- **History:** Development of CookGeoPortal around 2018, updated in 2023. ArcGIS GeoPortal developed in 2019.
- **Development:** CookGeoPortal with ICI and ArcGIS GeoPortal with EMCI/ICT within the OPM.
- **Purpose:** Centralized platforms providing access to a wide range of spatial datasets for planning, environmental analysis, disaster preparedness and more. Recognition of the need for efficient data management and sharing.
- **Audience:** Government Agencies, Non-Government Organizations, Researchers, Professionals, General Public.

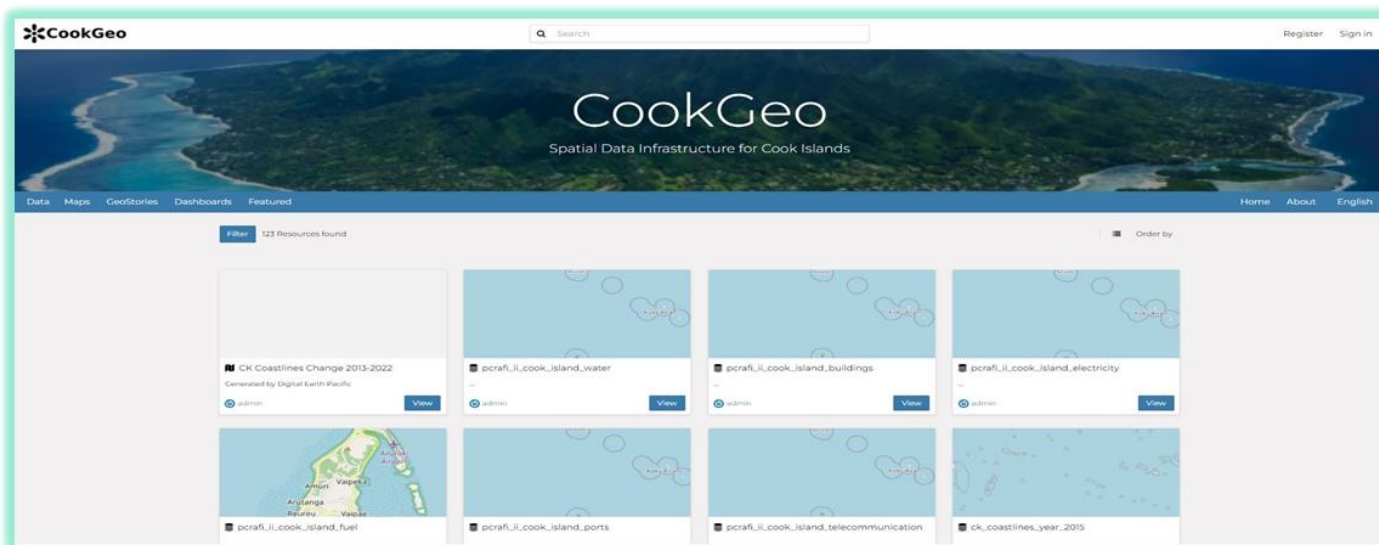
COOKGEOPORTAL

Features: layers and maps, geophysical, geodetic, and marine spatial datasets. Similar to Regional Geonode Platforms.

Access: Submission requests to ICI, login system or email.

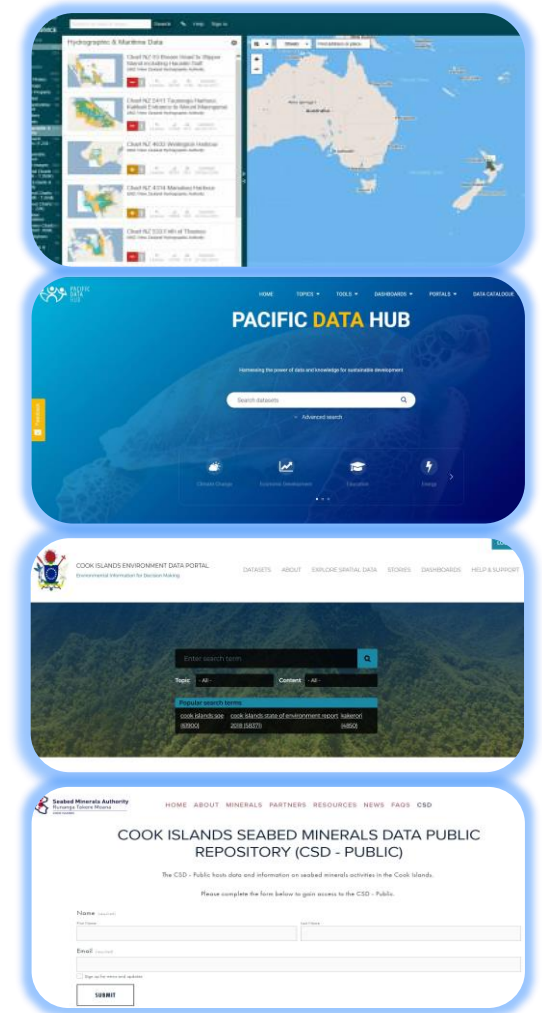
Collaborators: Infrastructure Cook Islands, SPC, Geoscience Australia, University of Sydney, GRID Arendal.

Usage: Facilitates informed decision-making, sustainable development, and effective management of natural and built environments, infrastructure and transportation networks.



OTHER INFORMATION KNOWLEDGE PLATFORMS

- **LINZ Data Service:** Topographic maps, Nautical charts, building, terrain, water, marine, environmental, geographic names, infrastructure, hydrographic information for the Cook Islands.
- **Pacific Data Hub, Risk Information System and Nexus:** Population statistics, fisheries science, climate change adaptation, disaster risk reduction, public health surveillance.
- **SPREP Environment Portal:** Environment related information with National Environment Service.
- **SBMA CSD Repository:** Sharepoint site, data management, stakeholder collaboration.



DEVELOPMENT AND PURPOSE

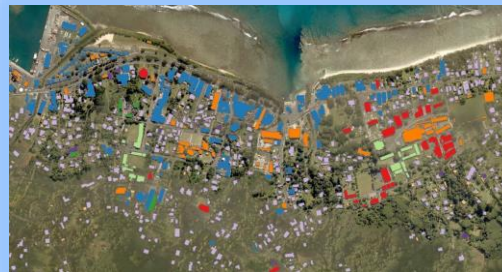
- **Programme/Project:** Government budgets, project funded assistance, gifted/donations.
- **Purpose:** Support knowledge data management, facilitate decision-making, enhance disaster and climate change responses.
- **Policies:** 2020 Spatial Information Management (SIM) Policy.



Infrastructure Cook Islands

Spatial Information Management Policy

Final



CURRENT STATUS

- **Maintenance:** Managed by ICI and EMCI nationally and SPC/SPREP/LINZ regionally.
- **Functionalities:** Sharing datasets, layers, feature classes, dashboards, reports.
- **Sustainability:** Centralized accessible systems for disaster management and climate change responses.

BARRIERS AND ISSUES

Common Issues: Hardware and software costs, sufficient hardware network specs, technical expertise, staff turnover, engagement, commitment, sustainable costs, different formats, accuracy, updates, maintenance, storage. Managing National vs Regional project work requests and priorities.

Overcoming Barriers: Project funding, cost sharing, regional and international expertise, GIS User Group meetings, online and training forums, standards formulation, prioritization, interoperability.



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VINAKA