

Explanatory Paper: Pacific Meteorological Asset and Data Policy Framework

V 1.0
28 August 2026

Contents

Purpose.....	1
Background.....	2
Scope	3
Asset Policy Framework.....	4
Data Policy Framework.....	14
Appendix A – Maintenance Charge Model Options	25

Version History

V 1.0 – 28 August 2026, published for PMC-8

Purpose

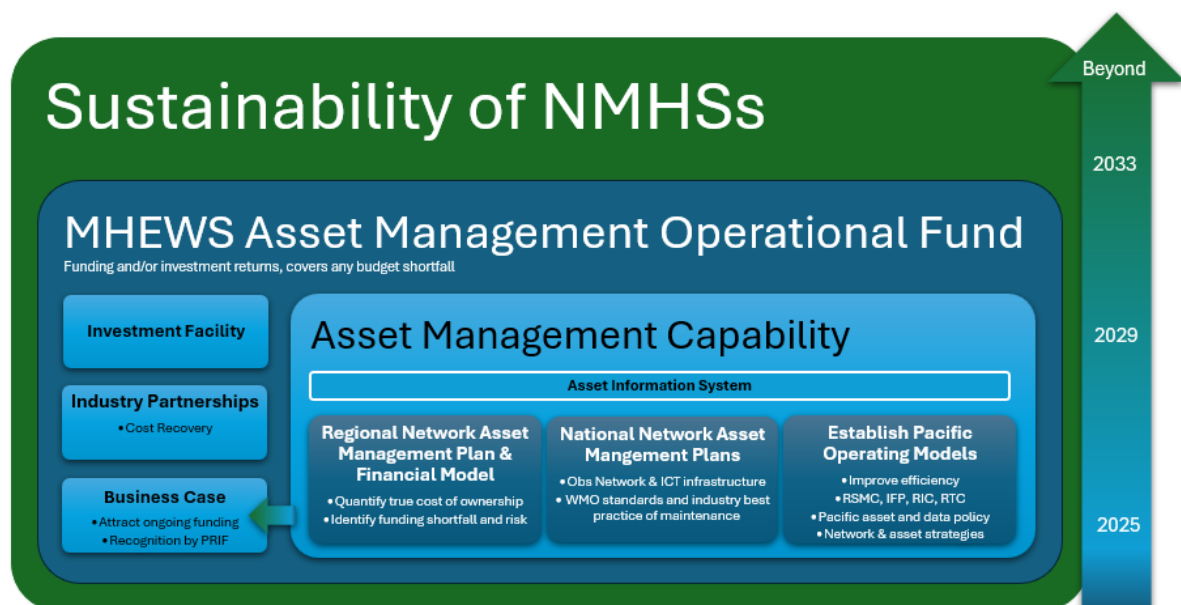
This paper supports consideration of the Pacific Meteorological Asset and Data Policy Framework developed by Weather Ready Pacific, under the auspices of the Pacific Meteorological Council. It explains the intent of each principle in practical terms for Pacific National Meteorological and Hydrological Services, SPREP, SPC, Donors and Development Projects/Partners. The paper is intended to help stakeholders understand why the principles matter, the benefits they are expected to deliver, and the implementation steps needed to move from policy agreement to practical application.

Background

The Pacific has made significant investment in meteorological, ocean, hydrological, climate and early warning capability through national budgets, regional programmes and development partner projects. However, assets and data systems remain fragmented across countries, agencies and projects. This creates duplication, higher maintenance costs, inconsistent standards, unclear lifecycle financing and avoidable technical burden for small NMHSs.

In 2025 Weather Ready Pacific prepared a roadmap for Sustainable Financing and Asset Management, to support the Pacific hydrometeorological and MHEWS services being more integrated, impactful, sustainable and resilience. The establishment of a Pacific Asset and Data Policy was identified as a key foundational step in the roadmap.

Figure: Sustainable Financing and Asset Management Roadmap Summary



Scope

The Asset Policy Framework is focused on the **major asset types** facing **challenges in sustaining** by the Pacific NMHSs who are members of PMC. Its scope specifically extends beyond meteorological assets as some Pacific NMHSs have responsibility that support broader early warning services, such as hydrology and seismic observations. These **non-meteorological assets** have also been previously identified as priorities under PMC and Weather Ready Pacific. However, only those assets owned by NMHSs and Pacific CROP agencies are in scope, since these are within their span of control to plan, maintain, finance and manage for the future. Examples of CROP (SPREP and SPC) owned assets are ICT infrastructure and oceans infrastructure supporting the NMHSs.

The Data Policy Framework is initially focused on **observations data** only, associated **metadata**, **derived data products** and the **data systems** needed to store, safeguard, exchange and share that observation data, including opportunities for appropriate cost recovery to support reinvestment into meteorological services. Metadata is in reference to important complimentary and contextual information that makes the data useful and accessible. This would include but is not limited to, attributes of observation asset, maintenance history, observations records and data quality flags. **Traditional Knowledge** are an important type of weather and climate observation that is being collected in the region, and the metadata is the traditional knowledge science. **Derived data products** refer to any dataset, analysis, adjustment, homogenisation output, index, model output visualisation or other products created in whole or in part using the data.

Observation **asset ownership** is important because that determines the **data owner** and who has authority to approve access, sharing, restrictions and any cost-recovery arrangements. It's important to note there are assets located in the Pacific, which are not owned by the Pacific NMHSs and CROP agencies. There are also assets with uncertain ownership; once ownership is resolved, confirmed to be Pacific owned and recorded in the appropriate organisation's asset register, this Asset Policy and Data Framework will apply. The asset classes and data types currently in scope are listed in the table below.

Asset Types in scope	Data Types in scope
AWS network	AWS network data
Manual observation network	Manual observation network data
Upper air network	Upper air network data
Wave buoy and Ocean network	Wave buoy and Ocean network data
Tide gauge network	Tide gauge network data
Radar Network	Radar Network data
Hydrology and Flood network	Hydrology and Flood network data
Seismic Network	Seismic Network data
ICT Infrastructure supporting meteorological services	
Buildings supporting meteorological services	
	Traditional Knowledge data

Pacific Meteorological Asset Policy Framework

Principle 1: A Pacific Sustainable Financing and Asset Management Roadmap and Improvement Strategies for each asset type are developed and updated at least every 5 years, to guide priorities, capability uplift and asset performance in the region.

Why it matters?

A shared roadmap and improvement strategies set a common direction for asset performance, capability uplift and regional investment. They help countries and partners move from project-by-project delivery to planned, sequenced and sustainable improvement across asset classes.

A Pacific roadmap was developed by WRP in 2025 and the following table outline the progress to date on regional asset strategies. The radar strategy is already guiding pacific project investments, where it recommended standardising to solid state dual polarisation technology. Strategies would include an observation plan, to reflect changes in observation data priorities and technology. For example, improving satellite technology may replace need for conventional land-based observations over-time.

Asset Types	Strategy	Status
AWS network	Pacific Regional Observation Network Strategy (by SPREP-WRP)	Developed by SPREP-WRP. Endorsed by PICI Panel
Manual observation network		
Upper air network		
Tide gauge network		Not Yet Commenced
Wave buoy and Ocean network		Not Yet Commenced
Radar Network	Pacific Regional Radar Strategy (by SPREP-WRP)	Developed by SPREP-WRP. Endorsed by PICI Panel
Hydrology and Flood network	Pacific Hydrology Strategy	In development by SPC
Seismic Network		In planning by ORSNET
ICT Infrastructure	Pacific ICT Architecture and Strategy	Preliminary ICT Architecture developed by SPREP-WRP and endorsed by PICI Panel. Strategy not yet commenced.
Buildings		Not Yet Commenced

What this means for NMHSs? NMHSs should ensure their national plans align with the roadmap and asset improvement strategies. Request adherence from development projects on their scope and technical implementation. Seek support from SPREP/SPC if needed.

What this means for SPREP and SPC? SPREP will coordinate the regional asset management approach and roadmap, continue development of outstanding asset strategies (through Weather Ready Pacific) and ensure they are reviewed and updated as required. SPC will

contribute technical leadership and develop asset strategies for hydrology, oceans and seismic network. Support NMHSs in aligning their national plans and development projects.

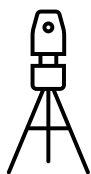
What this means for Donors & Development Projects? Align investments with the roadmap and strategies, use agreed regional standards where available, and consult with SPREP/SPC.

Implementation Next Steps		Asset P1: Roadmap and asset improvement strategies		
2026	2027	2028	2029	2030+
Develop regional roadmap and strategies	Complete strategy development, align national and project planning	Continue aligning national and project planning	Continue aligning national and project planning	Monitor progress, maintain five-year review cycle

Principle 2: Standardised regional technology for inter-operability and establish preferred supplier panels for the Pacific, to streamline sharing of spares and maintenance resources, reduce cost and technical burden for countries through pooled regional solutions.

Why it matters?

Standardisation reduces the cost and complexity of maintaining small, geographically dispersed asset networks by simplifying training pathways and increase reliable spare parts access. Establishing preferred supplier panels reduces procurement effort for projects and stronger regional bargaining power with suppliers.



AWS: 7+ brands

WRP has published a Guidance Document for Standardisation, Optimisation and Maintenance of Earth Observations in the Pacific Islands (aligned with WMO standards), to guide future procurement and improve inter-operability. However, in the Pacific, there is currently at least 7+ brands of Automatic Weather Stations (AWS/AWOS) and 5+ brands of Weather Radars. This prevents effective sharing of spares, training and pooled maintenance arrangements.



Radar: 5+ brands

A regional goal could be to move towards two or three approved suppliers and models for each asset type, with countries standardising to one option from that list where practical. Preferred supplier panels can support this approach by using a transparent tender process, regular market review and clear governance to maintain competition, innovation and regional confidence. Countries and projects would still define their own contract scope and make final supplier selections, but from pre-approved suppliers, equipment models, maintenance arrangements and spares options confirmed as suitable for the Pacific context.

A key challenge is that many projects are currently required to run separate open tenders, which can unintentionally reinforce non-standardisation. Projects will need to identify procurement pathways in their organisation that allow them to use regional preferred supplier panels (e.g. subcontract asset procurement to panel owner) or undertake closed procurements using

Pacific pre-approved suppliers/models and technical specifications, while still meeting donor requirements for transparency, competition and value for money.

A Pacific radar pilot is being established, with New Zealand and Bureau specialists supporting SPREP on technical specifications and procurement evaluation. This pilot will inform future supplier panel design, technical oversight and governance.

Asset Types	Preferred Supplier Panel	Panel Owner
AWS network		
Manual observation network		
Upper air network		
Tide gauge network		
Wave buoy and Ocean network		
Radar Network	In Progress - Pilot	SPREP
Hydrology and Flood network		
Seismic Network		
ICT Infrastructure		
Buildings	NA	

What this means for NMHSs? NMHSs should contribute to preferred supplier selection so regional standards also support national standardisation. When procuring, upgrading or replacing assets, NMHSs should adopt agreed regional technology standards where practical, while considering national operational needs and existing investments.

What this means for SPREP and SPC? CROP agencies can coordinate regional procurement and preferred supplier arrangements. Initial work will be needed to agree panel approaches, technical oversight and governance.

What this means for Donors & Development Projects? Projects should avoid separate open tenders where these reinforce non-standardisation. Instead, they should identify procurement pathways that allow use of regional preferred supplier panels, or closed procurement from pre-approved equipment suppliers/models.

Implementation Next Steps		Asset P2: Standardised technology and preferred supplier panels		
2026	2027	2028	2029	2030+
Develop standards. Pilot to design panel approach and governance.	Establish preferred supplier panels and transition guidance.	Use panels for new procurement	Review market and refresh panels	Use panels for new procurement

Principle 3: Establish the Pacific Hydromet MHEWS Sustainable Maintenance Facility, to provide sustainable long-term pooled financing to operate and maintain critical regional assets, supplementing national budgets.

Why it matters?

Many assets fail because maintenance, communications, calibration, consumables and replacement costs are not funded after installation. This has A regional financing mechanism helps protect essential observing and early warning services beyond individual project cycles.

Design of the facility is needed to clarify eligibility, funding prioritisation, governance, accountability and how national contributions and partner funding will be aligned. This maintenance facility can also be the regional option for SOFF compliance phase to distribute and fund ongoing maintenance operations of SOFF supported assets.

What this means for NMHSs? NMHSs will continue advocating for national budget contributions alongside regional financing.

What this means for SPREP and SPC? SPREP will coordinate regional financing arrangements and reporting, with input from SPC and other partners where assets support hydrology, ocean, geohazard or multi-hazard early warning services.

What this means for Donors & Development Projects? Donors and projects should include maintenance contributions as core project costs and consider co-financing the regional facility to protect shared observing and ICT infrastructure.

Implementation Next Steps		Asset P3: Sustainable Maintenance Facility		
2026	2027	2028	2029	2030+
Design facility, eligibility, governance and operating model	Secure initial financing	Operationalise financing and reporting	Scale pooled financing arrangements	Maintain long-term funding mechanism

Principle 4: Critical assets are agreed and identified as the Pacific Regional Observing Network and is reviewed at least biennially. This includes enabling assets such as regional training centre, regional instrument centre, pacific WIS2 node, regional WIGOS centre and pacific integrated forecasting platform.

Why it matters? Identifying critical national and regional assets elevates their visibility to strength decision-making and help the pacific communicate investment needs clearly.

The Pacific Regional Observing (PRO) Network is defined in the Pacific Observation Network Strategy for observations assets in a three tier approach, and stations are agreed in consultation with each country. Refer to PMC-8 Agenda Paper 19.2. The PRO Network will include all GBON stations, and will identify where there is alignment with the WMO Regional Basic Observation Network (RBON). Other critical enabling assets will be identified in relevant strategies and centralised in the Asset Information and Maintenance System and Asset Plans.

What this means for NMHSs? NMHSs will need to identify critical assets for the PRO Network and maintain them in national asset plans and in the asset information system.

What this means for SPREP and SPC? SPREP will support countries to identify their critical assets, regularly review the PRO network and identify all critical regional enabling assets to include in the regional asset plan. SPC will contribute where assets support hydrology, ocean, geohazard and disaster risk reduction services.

What this means for Donors & Development Projects? Align support and investment based on these critical assets and their associated risks and priorities.

Implementation Next Steps		Asset P4: Pacific Regional Observing Network and critical regional assets		
2026	2027	2028	2029	2030+
Agree definition and initial critical asset list – PRO Network	Confirm priorities, service levels and risks, incorporate into asset plans	Apply biennial review process	Update priorities and risks	Continue biennial reviews

Principle 5: A Regional Asset Management Plan will be developed and updated every year by SPREP to govern all critical assets of the Pacific Observing Network that will be financed by the Maintenance Facility. Asset Plans adopt a risk-based approach to meet the desired service level and capture lifecycle costs through an agreed regional costing template.

Why it matters? The asset plan is a consistent and transparent financial & technical evidence base for the pacific sustainable maintenance facility. It will identify risks, investment needs and interdependencies for critical assets which deliver climate and early warning services in the region.

What this means for NMHSs? NMHSs will identify national assets with regional value and ensure national asset plans and lifecycle cost information feed into the regional plan, so it reflects practical country needs.

What this means for SPREP and SPC? SPREP will maintain the Regional Asset Management Plan, with SPC providing technical input for relevant observing, hydrology, ocean, geohazard and disaster risk reduction systems.

What this means for Donors & Development Projects? Projects should use the regional plan to guide financing and work activities, and ensure their contributions are reflected in the plan to support coordinated, risk-based investment.

Implementation Next Steps		Asset P5: Regional Asset Management Plan		
2026	2027	2028	2029	2030+
Develop framework, template and planning cycle	Preliminary plan and lifecycle costing based on asset stocktake	Finalise first regional plan with inputs from national plans	Annual update and risk-based prioritisation	Sustain annual plan cycle

Principle 6: National Asset Policy and Asset Management Plans will be developed and updated every year by NMHSs, supported by SPREP, to govern all asset activities. These cover all asset that are identified as a national priority and capture lifecycle costs through an agreed regional costing template to enable long term planning and decision making.

Why it matters? A single country plan owned by the NMHS that governs their asset activities and drives investment, rather than multiple fragmented project plans. Lifecycle costing provides clear view of capital and operating cost needed each year over a long time horizon.

Countries often rely on different project proposals to document asset risks and investment priorities, rather than a single long-term plan that contains the source of truth. This can leave critical assets uncertain when project approvals or timelines change, and may lead to duplicate funding requests as countries try to avoid gaps in support. A preliminary national template has been developed and is presently being trialled with PNG.

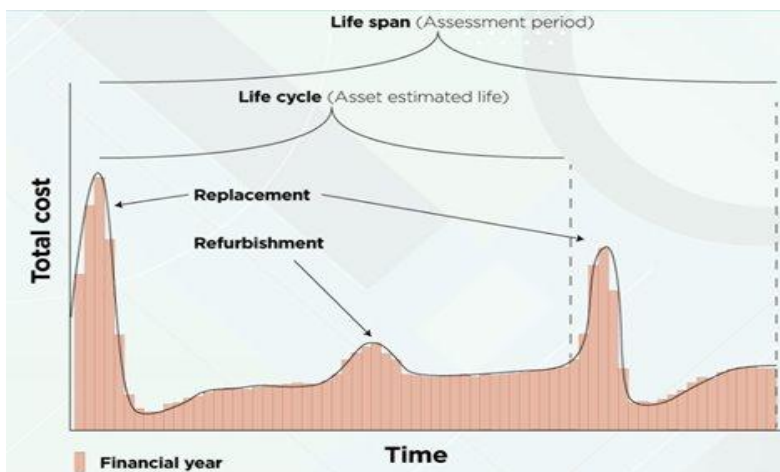


Figure – example lifecycle cost profile

What this means for NMHSs? NMHSs will estimate lifecycle costs for priority assets and use this information to inform their national budgets, donor discussions and regional financing.

What this means for SPREP and SPC? SPREP will develop templates and framework, support countries in developing and maintaining their national policy and plans. SPC providing input for relevant observing, hydrology, ocean, geohazard and disaster risk reduction systems. National plans will be direct inputs to and inform the regional plan.

What this means for Donors & Development Projects? Project design and scope should be flexible and guided by the latest risks and priorities in National Asset Management Plans. Projects should include realistic maintenance and renewal costs in project budgets and ensure these contributions are recorded in the national plan.

Implementation Next Steps		Asset P6: National Asset Management Plans		
2026	2027	2028	2029	2030+
Prepare templates and guidance	Pilot countries, develop national processes & approvals	Roll out national plans and feed into regional plan	Align projects to national plans	Embed annual update cycle

Principle 7: Projects that install or upgrade assets will include a maintenance contribution as a core project cost, targeting at least the first five years of lifecycle cost from asset management plans. Contributions and governance will be documented through Maintenance Agreements.

Why it matters? Projects often fund new equipment but leave countries to absorb maintenance costs. Including maintenance from the start protects the investment, improve service reliability and gives time to build sustainable national and regional financing. Maintenance agreements ensure clearer transition arrangements from project support to long-term operations.

An agreed maintenance charge model will need to be developed and approved. It will need to consider lifecycle costs, that is tailored to country specific requirements and capture cost of regional enabling assets. Preliminary charging options analysis can be found in **Appendix A**.

Targeting first five-year lifecycle cost is a practical starting point given meteorological assets typically have 10-15 year life and builds on the 2–3 years of maintenance support already commonly included in projects. For reference, SOFF is funding full asset whole of life cost.

What this means for NMHSs? NMHSs should request maintenance provisions in project proposals in new projects and renegotiate for existing projects if less than five years lifecycle cost is provisioned. Ensure there are maintenance agreements in place.

What this means for SPREP and SPC? SPREP will support with preparing maintenance agreement and lifecycle costing templates. SPREP/SPC could provide support to NMHS in project scoping, negotiations and drafting of maintenance agreements if requested.

What this means for Donors & Development Projects? Budget for maintenance for at least the first five years. If a project ends earlier, remaining maintenance funds to be transferred to the Maintenance Facility, or another agreed mechanism, to support ongoing maintenance.

Implementation Next Steps		Asset P7: Project maintenance contributions and agreements		
2026	2027	2028	2029	2030+
Develop template agreement and costing approach	Pilot project maintenance agreements	Apply to new projects and donor designs	Review adequacy and compliance	Normalise as project design requirement

Principle 8: A common asset information and maintenance system (AIMS) will be used by NMHSs, administered by SPREP, which will be the source of truth of meteorological assets that underpin the national and regional asset plans, and other data systems. The information will be proactively kept up to date to enable evidence-based decision making, strengthen countries maintenance, quality management systems and data flows.

Why it matters? Good decisions depend on reliable information about what assets exist, where they are, who owns them, their service status, maintenance history, calibration records, spares and inventory availability, replacement needs and costs.

A survey of NMHSs found that asset information is not currently centralised. Records are held across spreadsheets, documents, CliDE, NEON, SharePoint and custom databases, making information difficult to find consistently across the Pacific. The region also experiences inconsistency in information / metadata between systems, such as different station identifier/names used for same stations. This is important to resolve for the climate database and for data to be exchanged and used.

WRP is procuring a system to assess market options, while also reviewing an in-house system developed by Fiji Meteorological Service against regional requirements. Many off-the-shelf systems are available as they are widely used across other sectors. Integration with parallel systems, such as CliDE, OSCAR, WIS2.0 nodes and NMHS finance systems, will also be important to reduce manual data entry and keep information consistent. The system will need clear privacy and access controls so organisations, countries and users can view or edit information according to their role.

What this means for NMHSs? NMHSs will use AIMS as their primary system to maintain accurate national asset records, update maintenance and fault information, and use the system to support planning, audits and service assurance. This will involve significant change management for staff and management. The AIMS would be used as the source of truth, that feeds other systems such as finance, CliDE, OSCAR, WIS2, etc.

What this means for SPREP and SPC? SPREP will administer the system, establish common processes, and provide user training and support. SPC will also use the system to manage relevant assets and could have a co-administration role. Assist WIGOS centre to help countries maintain metadata consistency that affect data flow and exchange.

What this means for Donors & Development Projects? Projects should ensure new or upgraded assets are recorded in the system, and provide asset information, handover documents, maintenance records in formats that can be incorporated easily.

Implementation Next Steps		Asset P8: Asset Information and Maintenance System		
2026	2027	2028	2029	2030+
Define system requirements. Procure System	Configure system and migrate priority records. Pilot with one asset type.	Train users and establish data checks. Integration with other systems.	Use as source of truth for planning	Maintain continuous improvement cycle

Principle 9: SPREP supports countries through providing regional asset stewardship, consistent with its mandate on climate and meteorology, to reduce burden on NMHSs to operationalise this policy framework and build pathways for national capacity development and sustainable asset financing. SPREP will work in alignment and collaboration with WMO RAV, the Regional Instrument Centre, WMO-designated regional WIGOS Centre, SPC and Partners.

Why it matters? Regional asset stewardship gives NMHSs practical support to operationalise the policy framework, especially where countries face limited capability currently. A regional approach helps reduce duplication, improve consistency and sustainability.

SPREP Regional Asset Stewardship support role to countries could include:

- Support to operationalise the policy framework at country level and report progress to PMC
- Coordinate regional asset management framework, including the roadmap, asset improvement strategies and reviews, regional asset management plan and lifecycle costs, risks and investment priorities/pipeline.
- Administer the Pacific AIMS as the source of truth, including system configuration, dashboards, processes, training, data and metadata checks and user support.
- Help identify critical assets for the PRO Network, assist updates to national asset plans, lifecycle costing, maintenance agreement templates, project scoping and negotiations when requested by NMHSs.
- Support Pacific RBON development and compliance
- Coordinate regional procurement, preferred supplier panel approach, technical specifications, governance and market reviews.
- Coordinate regional financing and reporting for the Sustainable Maintenance Facility.
- Reporting to relevant WMO working groups through the PMC Pacific Island Communications, Infrastructure (PICI) Panel as the Secretariat.
- Facilitate technical advice with SPC, WMO-designated centres, the Regional Instrument Centre and technical partners, including bringing international representation into PMC Technical Panels.
- Coordinate regional maintenance support for complex infrastructure
- Building national capability over time so countries retain ownership of priorities, operational decisions and asset information while receiving regional support.

SPREP's asset stewardship role will be phased implementation as systems, capability and resourcing develop. It will draw on technical partners while Pacific capability is being built. The role could use a decentralised model, drawing on NMHS and SPC capability for regional support. A core SPREP team will still be essential. SPREP currently has one core CSI staff member, and a core Asset Officer is being recruited.

What this means for NMHSs? NMHSs retain responsibility for national asset priorities, asset information and operational decisions, while receiving coordinated regional support for asset planning, financing, technical advice, maintenance coordination, quality management and reporting. The level of support would vary based on the need of the NMHSs and their capacity.

What this means for SPREP and SPC? SPREP will co-design and progressively build the regional asset stewardship function, working together to ensure no duplication with the Regional Instrument Centre, WMO-designated regional WIGOS Centre, SPC and partners. SPC will contribute technical and sectoral expertise where assets support hydrology, ocean, geohazard and disaster risk systems.

What this means for Donors & Development Projects? A strong regional capability will support development project outcomes. Review opportunities to fund SPREP and SPC to build core capability.

Implementation Next Steps		Asset P9: Regional asset stewardship		
2026	2027	2028	2029	2030+
Design stewardship role, resourcing arrangements and funding	Clarify roles and responsibilities with countries, SPC, WMO centres and partners. Recruitment	Continue to build capability, systems and service levels	Deliver phased stewardship services	Mature and sustain stewardship function

Principle 10: The PMC will review this policy framework at least every four years to reflect technological, institutional, and regional changes.

Why it matters? Technology, financing, capability and institutional arrangements will continue to change. Regular review keeps the policy current, practical and accountable to Pacific governance and alignment with WMO, regional and global initiatives.

What this means for NMHSs? NMHSs will provide implementation feedback, identify barriers and propose updates based on operational experience.

What this means for SPREP and SPC? SPREP will coordinate review processes and update this paper. SPC will provide technical and sectoral input where relevant.

What this means for Donors & Development Projects? Partners should participate in review processes, share lessons from implementation and align future investments with updated policy settings.

Implementation Next Steps		Asset P10: PMC policy framework review cycle		
2026	2027	2028	2029	2030+
Finalise policy, Update WRP work plan	Prepare implementation and change management	Report progress to PMC, Monitor lessons and emerging issues	Conduct four-year framework review	Apply revised policy settings

Pacific Meteorological Data Policy Framework

Principle 1: Pacific ownership and management of data systems is the agreed long-term direction. This will be achieved through staged transition plans that build national and regional technical and human capability over time so the Pacific controls and safeguards its own data.

Why it matters? Data generated by Pacific assets is a strategic national and regional resource. Pacific ownership and management of the underlying systems transporting the data protects sovereignty, strengthens trust and data governance, and guides future projects toward building Pacific technical and human capability.

Current data systems and pathways have developed over decades and are now overly complex. Many are closely linked to or are a part of systems managed by Australia's Bureau of Meteorology, New Zealand, NOAA and France. This creates multiple external dependencies and points of failure. It also makes it harder for Pacific countries to access, manage and plan for their own data systems. Examples of data systems which are not Pacific owned and managed includes telecommunication infrastructure, telemetry systems, databases, applications and software. Additionally, the Pacific are not always managing the associated service contracts, system administrative, software / system development capability and future direction and planning.

Moving to Pacific-owned and managed data systems will be a significant regional change. It will require sustained investment, technical support and staged transition planning. The target architecture (principle 3) should build Pacific capability over time while reducing reliance on external systems where practical. Regionally owned and managed data systems may be more cost efficient in some instances to maintain and reduce technical burden on smaller NMHSs.

What this means for NMHSs? NMHSs will guide decisions on the target data architecture and transition pathway. They will also need to secure the resources and funding required to support and sustain these changes.

What this means for SPREP and SPC? SPREP will support development of the target architecture and national and regional transition plans. SPC will provide relevant technical and sectoral expertise. Both agencies should support Pacific-led governance while respecting national ownership.

What this means for Donors & Development Projects? Support the target architecture and transition plans, including sustained investment and capacity development for next 10 years.

Implementation Next Steps		Data P1: Pacific ownership and management of data systems		
2026	2027	2028	2029	2030+
Clarify ownership and transition principles	Develop target architecture and staged transition plans	Build national and regional capability	Progressively transition and manage change	Maintain Pacific-led governance

Principle 2: Regional interoperability is the default position. Systems will be harmonised so data can move reliably between national and regional platforms. This will streamline sharing, support delivery of data products and services (including cost recovery), and reduce costs and technical burden for countries through pooled regional solutions.

Why it matters? Interoperability allows data to move reliably between national, regional and global systems, reducing manual handling and fragmented one-off data flows. This enables sustained high-quality climate and multi-hazard early warning services.

What this means for NMHSs? NMHSs will align systems and workflows with agreed regional interoperability requirements while retaining control over national data decisions.

What this means for SPREP and SPC? SPREP will coordinate regional data stewardship and interoperability guidance. SPC will ensure its ICT systems are aligned, and support technical alignment across hydrology, ocean, geohazard and disaster risk systems.

What this means for Donors & Development Projects? Avoid isolated systems and design investments. Consult SPREP/SPC to ensure projects connect with agreed Pacific standards.

Implementation Next Steps		Data P2: Regional interoperability		
2026	2027	2028	2029	2030+
Develop ICT architecture	Develop ICT strategy and standards	Align project activities	Monitor performance and refine	Maintain interoperability standards

Principle 3: Regional and National ICT Architecture will be agreed and maintained. It will set Pacific standards for interoperability, resilience, sustainability and ownership, so countries avoid fragmented solutions, protect long-term investments, and guide partner support.

Why it matters? A clear ICT architecture helps countries and partners understand how systems fit together and resilient for business continuity. It reduces fragmented, project-by-project technology decisions, sets a target state for Pacific-owned and managed systems, and supports alignment with international standards and platforms.

There is currently no whole-of-system architecture to guide technical decisions across Pacific data and ICT systems. As a result, systems are often complex and do not always work together easily. Despite the best efforts of partners, many design decisions are made project by project. Business continuity plans and redundancy/back-up arrangements are absent or not considered holistically for service resilience.

WRP has developed an initial regional ICT architecture, endorsed by PICI, focused on data processing, data exchange and forecasting systems. The architecture will expand over time to cover databases, data transfer and telecommunications, telemetry, observation infrastructure, model computing, cybersecurity, websites, dissemination and communications systems, applications and software. This work will need to be developed with SPC and partners. SPREP will work in parallel with countries to develop national ICT architectures, ensuring these align with the regional architecture but preserving flexibility where national legislation or operational needs differ.

What this means for NMHSs? NMHSs will use the architecture to guide national system planning, procurement and transition decisions. Ensure experienced ICT staff available to manage and update national architecture.

What this means for SPREP and SPC? SPREP will maintain the regional architecture and coordinate governance. SPREP will develop national architecture with the countries. SPC will contribute technical design and ensure links with relevant sectoral systems.

What this means for Donors & Development Projects? Partners should test proposed investments against the architecture before funding new platforms, databases or ICT systems.

Implementation Next Steps		Data P3: Regional and national ICT architecture		
2026	2027	2028	2029	2030+
Initial regional architecture, Establish governance, Recruit ICT staff	Pilot national architecture. Extend regional architecture	Complete national architecture, Project activity alignment	Review and extend architecture, Project activity alignment	Maintain version control and review cycle

Principle 4: National data policies and processes are established to support coherence with this Pacific Data Policy Framework and compliance with national laws and regulations.

Why it matters? National policies make clear how data is governed in each country, including ownership, access permissions, restrictions, licensing and compliance with national laws. This reduces uncertainty for Partners. Currently not all countries or NMHSs have data policies and guiding processes and procedures.

What this means for NMHSs? NMHSs will establish or update national data policies, confirm data owners and approval processes, and ensure regional data policy framework supports national requirements.

What this means for SPREP and SPC? SPREP will support countries in developing their national policies where it doesn't exist and review existing policies. SPC will provide guidance and technical support where requested.

What this means for Donors & Development Projects? Partners should check national data policies and data sharing agreements before collecting, storing, sharing, using or commercialising data and should reflect requirements in project agreements.

Implementation Next Steps		Data P4: National data policies and processes		
2026	2027	2028	2029	2030+
Develop guidance and minimum policy elements	Support country-led policy development	Align projects and agreements	Review implementation issues	Routine policy review

Principle 5: Data is stored long term in nationally approved databases with back up, and rationalising databases for common datasets. This reduces operational complexity, avoids

duplication, strengthens archiving and distribution—supporting disaster risk management and continuity of service—while maintaining country ownership of data.

Why it matters? Long-term storage and backup protect national records, support business continuity and provides opportunity for revenue generation.

Currently in the Pacific not all AWS data and metadata/records are stored long term. Within one country, AWS data is not stored in a common database. Radar and Upper Air and other observation data are not archived long term.

The table below is an early illustration of a target architecture to rationalise and establish nationally approved primary observation databases that hold data long-term. This work will be completed as part of developing the national and regional ICT architecture. It does not represent a comprehensive stocktake of databases required in the region, such as interim holding stores, secondary databases with post-processing, QC'd dataset and derived data products.

Target Architecture (illustrative purposes only)

Data Types	National Database	Regional	Back Up
AWS network data	NMHS CliDE ¹	TBC	NMHS CliDE back up in cloud
Manual observation network data	NMHS CLiDE	TBC	As above
Upper air network data	NMHS CLiDE	TBC	As above
Hydrology and Flood network data	TBC	Hydro Pacifique	
Wave buoy and Ocean network data	TBC	SOFAR, SPC Oceanographic Data Management System	
Tide gauge network data	TBC	BoM ²	BoM
Radar Network data	TBC	TBC ³	
Seismic Network data	TBC	ORSNET	
Traditional Knowledge	TK Database	TBC	

What this means for NMHSs? NMHSs will approve databases for national use, identify backup arrangements and rationalise common datasets.

¹ For NOAA affiliated countries, the primarily long-term database is managed by NOAA regionally. CliDE is the secondary database to make it accessible to the Pacific countries.

² Not pacific owned and managed. Architecture may investigate transitioning this. CliDE is planning to ingest tide gauge data from the primarily long term database at BoM to make it accessible in CliDE as a secondary database.

³ Onsite servers and NMHS databases store Radar data but not long term

What this means for SPREP and SPC? SPREP will support development of architecture, regional consistency and backup arrangements. SPC will support relevant technical systems and sectoral databases, and input to the architecture design.

What this means for Donors & Development Projects? Partners should ensure data is stored long-term and avoid creating parallel databases unless agreed by countries.

Implementation Next Steps		Data P5: Long-term storage, backup and database rationalisation		
2026	2027	2028	2029	2030+
Identify datasets, approved databases and backup needs	Develop national ICT architecture and transition plan	Implement transition plan	Implement transition plan	Implement transition plan

Principle 6: Core data will be exchanged freely and without restriction, consistent with the WMO Unified Data Policy. Recommended data will be shared consistent with applicable WMO RA V resolutions, to support public safety, forecasting, and regional early warning services.

Why it matters? Free exchange of core data supports better weather models, forecasts and warnings. Sharing recommended data also strengthens regional early warning services and helps countries benefit from each other's observations.

The WMO Unified Data Policy, also known as Resolution 1⁴, defines two categories of data: core data and recommended data. Core data should be exchanged freely and without restriction. Recommended data may have conditions attached, depending on national policies and Member decisions.

WMO RA V has also agreed requirements for the Regional Basic Observing Network (RBON). Members are encouraged to identify stations that support RBON and enable appropriate data sharing, consistent with RA V resolutions and national data policies.

Not all Pacific core data is currently shared globally. This is due to a mix of system configuration issues, ICT limitations and station outages. For example, approximately 49% of the 59 GBON station data from PMC member countries is not being exchanged internationally. Closing these gaps will require more investment and technical support for NMHSs and the regional WIGOS centre hosted by Fiji Meteorological Service. SOFF is making targeted investment to support closing the gap.

⁴ <https://wmo.int/wmo-unified-data-policy-resolution-res1>

What this means for NMHSs? NMHSs will classify their data clearly and configure metadata in systems such as WIS2 nodes so core and non-core data are shared appropriately. They will continue to respond to data quality and data flow issues identified by the regional WIGOS centre. Infrastructure investment needed to enable compliance with this principle will be identified in national ICT architecture and national asset plans.

What this means for SPREP and SPC? SPREP and SPC will support consistent regional data classifications and metadata between systems so data can flow correctly. This may take the form of providing extra resources to support the regional WIGOS centre, stronger regional monitoring and technical assistance for NMHSs.

What this means for Donors & Development Projects? Align investments and activities to ICT architecture and asset plans to support exchange of data.

Implementation Next Steps		Data P6: Exchange of core and recommended data		
2026	2027	2028	2029	2030+
Classify pacific data and stations. Define support arrangement to regional WIGOS centre.	National and Regional Asset Plans capture investment required to enable data exchange.	Align Donor and Development projects	Continue to align Donor and Development projects	Monitor data exchange and availability

Principle 7: Non-core data will be shared by the data owner through written Data Sharing Agreement with defined data products, clear licensing conditions on data and derived data products, on-sharing conditions, attribution, retention periods, any agreed cost-recovery or revenue arrangements to strengthen NMHS sustainability and reinvestment into assets.

Why it matters? Written agreements protect data owners by clarifying how non-core data can be used, shared, attributed, retained and, where agreed, used to support cost recovery.

As noted in the Scope section, the data owner is the owner of the asset that produces the data. In the Pacific, data is often shared or used without clear written agreements leading to unintended use or absence of attribution. It is often ambiguous how data products derived from the source data is managed and used. A data catalogue will be needed to define available data and derived data products, including parameters, resolution, spatial and temporal coverage, quality information and metadata. This catalogue should align with the WIS2 global discovery catalogue so data can be exchanged through WIS2.

Data Sharing Agreements will also need to be developed, renewed and monitored. DSA can include conditions on licence-back/reciprocity, no unilateral restriction on redistribution, attribution and co-authorship requirements, termination/reversion clauses, audit/transparency rights, non-exclusivity. If requested, SPREP could support countries by maintaining a regional data catalogue and helping administer Data Sharing Agreements and revenue collection.

Cost recovery and revenue generation from data have been identified as high priorities for the Pacific to support asset sustainability. However, implementation will need to consider administrative costs, as these may exceed the revenue collected in some cases. A regional revenue framework, including data product pricing and governance arrangements agreed with data owners, should be developed.

Case Study: Integrated Forecasting Platform – Data Sharing Agreement

One regional Data Sharing Agreement likely to be needed in 2027 is for the IFP. This agreement would cover all Pacific observation data to be shared with the IFP. This is in alignment with the Tropical Cyclone Committee's Operation Plan and RA V resolution for recommended data to be shared regionally. The exact data products will need to be defined but should be limited to real-time data at the highest practical frequency needed for timely forecasts and warnings. Likely conditions include but not limited to:

- Data is accessible only by NMHSs using the Pacific IFP, such as forecasters with IFP licences.
- Data is exchanged through WIS2.0.
- Data is retained for 6–12 months for post-event analysis, verification and training, with longer retention for major weather events.
- Data may be used by NMHSs to generate forecast products and warning services.
- No revenue generation.
- No on-sharing rights.

What this means for NMHSs? NMHSs will decide which non-core data can be shared, under what conditions, and through which Data Sharing Agreements. Where data is shared as part of a regional data product, all data owners will need to agree to common conditions (i.e. the IFP data sharing agreement)

What this means for SPREP and SPC? SPREP will develop Data Sharing Agreement templates, establish the regional data catalogue, maintain alignment with the WIS2.0 global discovery catalogue and develop a revenue framework. If requested, SPREP could provide administrative support to NMHSs to manage Data Sharing Agreements. SPC will support technical data management and may have a co-administration role.

What this means for Donors & Development Projects Partners should establish Data Sharing Agreements with the data owner before storing, using, sharing, publishing or commercialising non-core data.

Implementation Next Steps		Data P7: Non-core data sharing agreements		
2026	2027	2028	2029	2030+
Develop agreement template and conditions	Develop data catalogue. Pilot regional data sharing agreement.	Develop and enforce data agreements	Establish revenue framework	Maintain agreement register and update catalogue

Principle 8: Data exchange should use WIS2.0 enabled through a Pacific WIS2.0 Node Hub and National WIS2.0 Nodes with shared classifications for core and non-core data, to simplify administration for cost recovery and reduce the burden of managing multiple bilateral data flows.

Why it matters? WIS2.0 provides a common pathway for exchanging data with the Pacific, WMO and global systems, which is low cost and sustainable.

The endorsed Pacific ICT architecture ⁵ includes a shared Pacific WIS2.0 Node Hub and national WIS2.0 nodes. The Pacific node can also act as a backup for national nodes. WRP is developing the ownership, administration, financing and governance arrangements for the Pacific node, consistent with the principle of Pacific-owned and managed systems. WIS2 champions and national focal points will likely support implementation as a regional community of practice. Countries selected the following architecture options during the IFP development workshop on 29 May 2026. These choices can be updated over time.

Country/Organisation	WIS2.0 Architecture Option
SPC	Set up and run your own WIS2.0 node
Vanuatu	Set up and run your own WIS2.0 node
Tonga	Set up and run your own WIS2.0 node
PNG	Set up and run your own WIS2.0 node
Kiribati	Set up and run your own WIS2.0 node
Nauru	Use a shared WIS2.0 node (supported by the region)
Cook Islands*	Use a shared WIS2.0 node (supported by the region)
Niue*	Use a shared WIS2.0 node (supported by the region)
Tuvalu	Use a shared WIS2.0 node (supported by the region)
Federated States of Micronesia	Run a national WIS2.0 node within the Pacific WIS2.0 hub (supported by the region)
Fiji	Run a national WIS2.0 node within the Pacific WIS2.0 hub (supported by the region)
Samoa	Set up and run your own WIS2.0 node or Run a national WIS2.0 node within the Pacific WIS2.0 hub (supported by the region)
Solomon Islands	Set up and run your own WIS2.0 node or Run a national WIS2.0 node within the Pacific WIS2.0 hub (supported by the region)
Tokelau*	TBC
Palau	TBC
Marshall Islands	TBC

*Some stations are currently shared through NZ Met Services WIS2.0 node: Cook Islands Rarotonga upper air station, Niue Airport AWS, Tokelau NUKUNONU AWS

Noting, WIS2.0 may not be a technically practical pathway for large datasets such as NWP models and satellite data, and alternative bilateral data flows will need to be introduced into the Pacific ICT architecture.

⁵ [Link to published architecture](#)

What this means for NMHSs? NMHSs will need to classify data consistently as a region in WIS2.0 regardless of whether they are using the Pacific node or their national node. Countries will need to administer the system consistent with the conditions of data sharing agreements. Designate WIS2.0 national focus points and agree to regional operating arrangements.

What this means for SPREP and SPC? SPREP is establishing and administer the Pacific WIS2.0 Node Hub, standardise processes and operating arrangements. SPC will support technical alignment for relevant hydrological, ocean, geohazard and disaster risk data.

What this means for Donors & Development Projects? Partners should design systems to use WIS2.0 pathways where technically feasible and avoid establishing separate bilateral flows that increase country workload.

Implementation Next Steps		Data P8: WIS2.0 data exchange and Pacific Node Hub		
2026	2027	2028	2029	2030+
Establish Pacific WIS2.0 Node and operating model	Operationalise nodes and standardise processes	Scale data exchanged per data sharing agreements	Scale participation and refine classifications	Maintain WIS2.0 operations

Principle 9: SPREP supports countries through providing regional data stewardship, consistent with its mandate on climate and meteorology, to reduce burden on NMHSs to operationalise this policy framework, build pathways for national capacity development and revenue generation. SPREP will work in alignment and collaboration with WMO RAV, the WMO-designated regional WIGOS Centre, SPC and Partners.

Why it matters? Regional data stewardship gives NMHSs practical support to operationalise the policy framework, improve data quality, and strengthen early warning services. A regional approach also helps reduce duplication, improve consistency, and support future revenue opportunities.

SPREP Regional Data Stewardship support role to countries could include:

- Support to operationalise the framework at country level and report progress to PMC
- Maintain data sharing agreement register and records if requested
- Develop, renew, monitor and administer Data Sharing Agreements where requested
- Maintain a regional data catalogue aligned with the WIS2 global discovery catalogue
- Develop data revenue framework, support revenue collection and reporting
- Administer Pacific WIS2.0 Node Hub, standardise processes and consistent data classifications for the Pacific, establish operating arrangements and governance.
- Support pacific RBON development and compliance
- Potential to manage and administer other regional ICT data systems, including business continuity planning
- Develop and maintain data standards and database schema for Asset Information and Maintenance System (AIMS)

- Coordinate metadata consistency between national, regional and global systems (e.g. AIMS, CliDE, OSCAR, WIS2, Global Catalogue) to improve discoverability and availability of Pacific data. As noted in Asset Principle 8, metadata inconsistency or gaps are a long-standing issue preventing data exchange.
- Potential to supplement resourcing at regional WIGOS centre in their role supporting NMHSs with operational performance monitoring, incident response, updates to OSCAR metadata. Consider extending these functions to all data, not just internationally shared observation stations data, to supplement national monitoring.
- Support development of National Data Policies and National ICT architecture
- Develop and maintain Regional Pacific ICT architecture, ICT Strategy, ICT asset management plan with agreed governance arrangements.
- Provide regional database back-up service if requested
- Reporting to relevant WMO working groups through the PMC Pacific Island Communications, Infrastructure (PICI) Panel as the Secretariat.
- Facilitate technical advice with SPC, WMO and technical partners, including bringing international representation into PMC Technical Panels.
- Building national capability over time so countries retain ownership of priorities, operational decisions and data systems while receiving regional support.

SPREP's data stewardship role will be phased implementation as systems, capability and resourcing develop and matures. It will draw on technical partners while Pacific capability is being built. The role could use a decentralised model, drawing on NMHS and SPC capability for regional support. A core SPREP team will still be essential. SPREP currently has one core CSI staff member, and core Data Officer is being recruited.

What this means for NMHSs? NMHSs retain ownership and authority over national data and data quality management, while receiving coordinated regional support for policy, planning, ICT architecture, data standards and processes, data sharing and revenue management. The level of support would vary based on the need of the NMHSs and their capacity.

What this means for SPREP and SPC? SPREP will co-design and progressively build the regional data stewardship function, working together to ensure no duplication with the regional WIGOS Centre, SPC and partners. SPC will contribute technical and data support in hydrology, ocean, geohazard and disaster risk systems.

What this means for Donors & Development Projects? Strong regional capability will support development outcomes. Review opportunities to fund SPREP and SPC to build core capability.

Implementation Next Steps		Data P9: Regional data stewardship		
2026	2027	2028	2029	2030+
Design stewardship role, resourcing arrangements and funding	Clarify roles and responsibilities with countries, SPC, WMO centres and partners. Recruitment	Continue to build capability, systems and service levels	Deliver phased stewardship services	Mature and sustain stewardship function

Principle 10: The PMC will review this framework at least every four years to reflect technological, institutional, and regional changes.

Why it matters? Technology, financing, capability and institutional arrangements will continue to change. Regular review keeps the policy framework current, practical and accountable to Pacific governance and alignment with WMO, regional and global initiatives.

What this means for NMHSs? NMHSs will provide implementation feedback, identify barriers and propose updates based on operational experience.

What this means for SPREP and SPC? SPREP will coordinate review processes and update this paper. SPC will provide technical and sectoral input where relevant.

What this means for Donors & Development Projects? Partners should participate in review processes, share lessons from implementation and align future investments with updated policy settings.

Implementation Next Steps		Data P10: PMC policy framework review cycle		
2026	2027	2028	2029	2030+
Finalise policy framework, Update WRP work plan	Prepare implementation and change management	Report progress to PMC, monitor lessons and emerging issues	Conduct four-year framework review	Apply revised framework settings

Appendix A – Maintenance Charge Model Options

Purpose

This paper sets out practical options for applying maintenance charges to development projects that install, upgrade or rely on meteorological, hydrological and multi-hazard early warning infrastructure in the Pacific. It supports Asset Principle 7, which proposes that Maintenance Agreements define contributions to Sustainable Maintenance Facility by projects, and that all project budgets provision at least the first five years of asset lifecycle cost.

Why a Maintenance Charge Is Needed

Many Pacific infrastructure projects fund the purchase and installation of assets but do not adequately fund the operating, maintenance, replacement, calibration, communications, logistics and technical support costs needed to keep those assets functioning over their full life. This creates a recurring sustainability gap: assets are delivered through short-term projects, but countries and regional partners are left to find ongoing maintenance funding after project closure. Cost of planning and construction cost of new assets can be as little as 20%–25% of the total lifecycle cost of operating and maintaining this infrastructure in the Pacific (*PRIF reference*⁶).

For Pacific NMHSs, this challenge is amplified by small national budgets, high freight and travel costs, dispersed island geographies, harsh operating environments, limited technical staff and reliance on specialised equipment and suppliers. A maintenance charge applied at project design stage would make maintenance funding visible, predictable and enforceable, while reinforcing the principle that sustainability is a core project cost rather than an optional add-on.

Design Principles

- **Lifecycle-based:** charges should be linked to the full cost of operating, maintaining and replacing assets, not only the initial capital cost.
- **Simple to apply:** the model must be easy for donors, partners and project teams to include in project budgets and procurement documents.
- **Equitable:** charges should account for differences in asset type, country context, logistics costs and ability to pay.
- **Transparent:** countries and partners should be able to see how charges are calculated, where funds are held, and how they are used.
- **Country-owned and regionally supported:** funds should support national priorities and decision-making, while enabling pooled regional services where this provides better value for money.
- **Compatible with SPREP administration:** the model should be able to operate through country-specific accounts, supplier contracts or a future investment maintenance facility.

⁶ PRIF infrastructure maintenance benchmarking report - <https://www.theprif.org/sites/theprif.org/files/documents/Maintenance%20Benchmarking%20Final%20Report.pdf>

Maintenance Charge Model Options

Option 1: Fixed Percentage of Project Capital Cost

Under this model, every eligible infrastructure project contributes a standard percentage of the capital cost into a maintenance account or operational fund. For example, a project could be required to allocate a fixed percentage of the value of equipment, installation and commissioning costs.

Example of complex radar systems full 10 year lifecycle cost between 30-40% of the initial capital cost (SPREP procurement reference).

- **Advantages:** simple to understand, easy to include in project budgets, supports early adoption, and creates a clear minimum expectation for donors and partners. Maintenance charge could be applied early from project inception based on budget capital cost estimates.
- **Limitations:** may overcharge simple assets and undercharge complex assets with high maintenance requirements, such as radar, upper-air systems, cloud-hosted ICT services or remotely located infrastructure with high logistics cost. SPREP/WRP would need to raise more funds to cover the larger gap.
- **Best use:** as an interim rule or minimum contribution while more detailed lifecycle cost models are developed.

Option 2: Asset Lifecycle Cost

Under this model, each project calculates the expected cost of operating and maintaining the asset for the initial duration of operations and includes that full amount in the project budget. The charge is based on asset-specific lifecycle costs, including preventive maintenance, corrective maintenance, spare parts, calibration, communications, software licences, cloud hosting, supplier support, logistics, travel, training, condition assessments and reporting. Freight and logistics costs to undertake routine maintenance for remote island infrastructure can be order of magnitude higher than the initial capital cost.

A target of first 5 year of lifecycle cost is proposed as a starting point, as this would represent an incremental increase for projects to commit to easily. Typical hydromet asset life is 10-15 years (excluding buildings, civil infrastructure). In 5-7 years, this has moved beyond the warranty period and initial early life failure, to when sub-component start to require replacements such as batteries/servers and mid-life major maintenance is scheduled.

- **Advantages:** does not overcharge or undercharge, fully transparent, supports fit-for-purpose budget for pacific conditions and costs, and avoids unrealistic asset ongoing cost commitments that countries cannot sustain. It is a familiar model as projects typically include funding the first 2 to 3 years initial asset life maintenance cost, in addition to supplier warranty periods. This aligns to SOFF who is funding full asset lifecycle cost (SOFF reference⁷).
- **Limitations:** requires reliable lifecycle cost in the national asset management plans, supplier input, and review by technical and finance teams before project approval. If applying

⁷ SOFF compliance phase framework - [Decision-14.3-SOFF-Compliance-Phase-Framework.pdf](#)

maintenance charge early in the project, it would be based on lower accuracy lifecycle cost estimates pre-procurement.

- **Best use:** for cost significant infrastructure projects, assets in remote locations, new asset classes, high-risk assets, and assets proposed for inclusion in the Pacific Regional Observing Network.

Option 3: Tiered Asset Class Charge

Under this model, standard charge rates or % are set by asset class, location and risk. Rates could be reviewed annually using evidence from asset plans, maintenance history, supplier contracts and the Asset Information and Maintenance System.

- **Advantages:** more accurate than a single flat rate, charge can be applied early on in the Project, easier to administer than a fully bespoke lifecycle model.
- **Limitations:** requires agreed asset categories, periodic rate reviews, under-charges for assets with unusual logistics or supplier support requirements. Getting agreement by country and organisation for charge rates may not be straight forward.
- **Best use:** possible medium term solution once there is stronger historical record of lifecycle costings in the Pacific.

Option 4: Maintenance Agreement Contribution Schedule

Under this model, each project signs a Maintenance Agreement that sets out the contribution schedule for the asset. Contributions may come from several sources, including the development project, national government, regional programmes, donors, private sector users, data revenue or pooled funds. The agreement would define who pays, when payments are made, what costs are covered, where funds are held, who approves expenditure, and what reporting is required.

- **Advantages:** flexible, supports blended financing, clearly defines responsibilities, and can be adapted to national and regional assets.
- **Limitations:** more administratively intensive, depends on clear governance, and may take longer to negotiate for multi-partner projects.
- **Best use:** for major projects, multi-country assets, regional platforms, and assets financed by more than one partner.

Comparison of Options

Option	Administrative simplicity	Accuracy & transparency of cost recovery	Equity across countries/assets	Recommended role
1. Fixed percentage of capital cost	High	Low to medium	Low	Interim minimum rule
2. Lifecycle cost – 5 years	Medium	High	High	Recommended

3.Tiered asset class charge	Medium	Medium	Medium to high	
4.Maintenance Agreement contribution schedule	Medium	High	High	Preferred for complex projects and assets

Recommended Approach

In the short term, projects could apply a simple minimum maintenance charge as an interim rule. However medium term, the project should calculate and budget the full first five years of lifecycle cost. Project commitment for installation or upgrade occurs after procurement and contracting, and high accuracy lifecycle costs can be developed at this point also. This option also aligns with SOFF. The Maintenance Agreement should be the common governance tool across all models. It should set out the maintenance charge, eligible costs, payment timing, account arrangements, decision rights, reporting requirements, treatment of unused funds, and the link to national and regional asset plans.

Implementation Steps

1. **Agree to maintenance charge model**
2. **Define eligible assets:** determine the PRO Network of assets and critical enabling assets
3. **Create a standard costing template:** include capital cost, preventive maintenance, corrective maintenance, spares, consumables, calibration, communications, utilities, software, cloud hosting, travel, training, supplier support, replacement and decommissioning assumptions.
4. **Use Maintenance Agreements:** require projects to sign a standard agreement before procurement or installation, with clear contribution schedules.
5. **Link to asset plans:** ensure all maintenance charges are reflected in National and Regional Asset Plans so investment decisions are risk-based and transparent.
6. **Reporting:** provide countries and partners with reporting on contributions received, funds spent, assets supported, service levels and remaining funding gaps.