



Pacific
Community
Communauté
du Pacifique

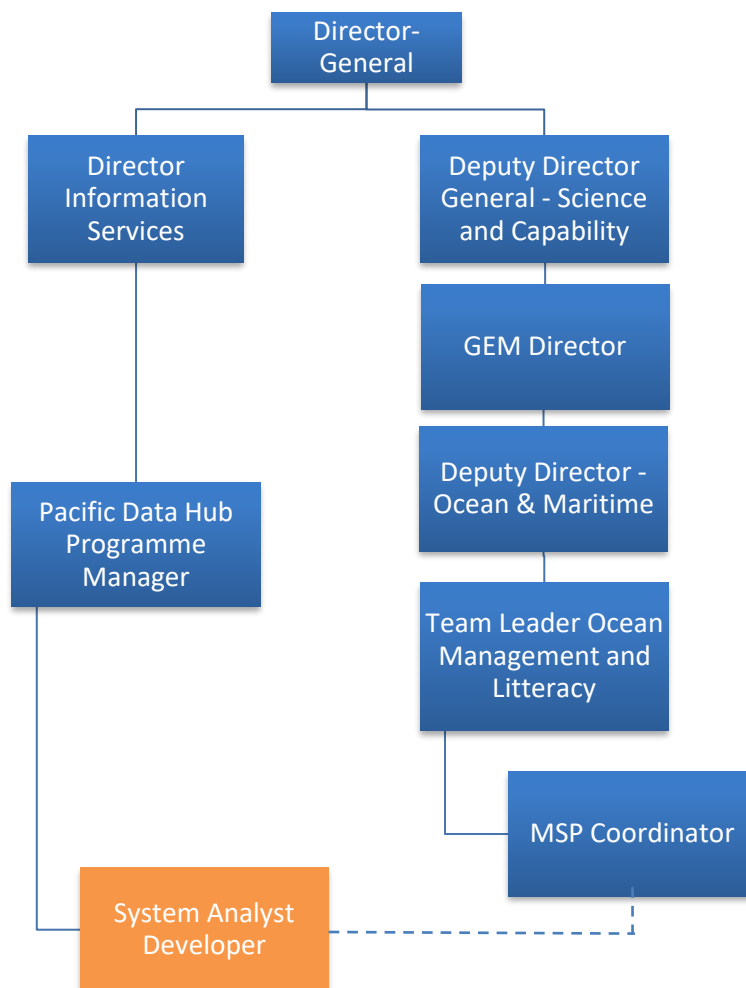
JOB DESCRIPTION

Job Title:	System Analyst Developer (GIS)
Division/Programme and Section/Project (if any):	Pacific Data Hub (PDH) and the Pacific Community Centre for Ocean Science (PCCOS)
Location:	Noumea
Reporting to:	Pacific Data Hub Programme Manager
Number of Direct Reports:	0
Purpose of Role:	The SPC is developing several cutting-edge web-based, desktop and mobile device systems and tools to visualise and analyse ocean information in support of in-country decision making processes. The position is a GIS software analyst and engineering position and is responsible for designing, developing, upgrading, and maintaining science-based open-source decision support tools and platforms, as well as supporting SPC's geospatial and time series data management and scientific computing facility. This role's primary focus will be developing and supporting decision support tools as part of the Marine Spatial Planning (MSP) process led by the Government of Palau.
Date:	20 March 2023

Organizational Context and Organization Chart

The Pacific Community (SPC) is a regional organisation assisting Pacific Island Countries and Territories to achieve their development goals by delivering technical, scientific, research, policy and training services. The SPC works across the region to assist member countries to improve resilience and support climate action, including through the implementation of national and regional donor-funded projects.

One such project is the United States funded 'Climate Resilient Marine Spatial Planning for the Pacific Islands' Project. The purpose of this project is to support the Republic of Palau government and other Pacific Island countries in developing marine spatial plans (MSP) informed by the best scientific information available, including climate change scenarios. The System Analyst Developer will lead the development, maintenance and enhancement of GIS applications designed for this ocean management initiative, working closely with the Pacific Data Hub, the Pacific Community Centre for Ocean Science (PCCOS), the Geoscience, Energy and Maritime (GEM) division's Ocean and Maritime Programme, and Earth Observation programme, and the Fisheries, Aquaculture and Marine Ecosystems (FAME) division.



Key Result Areas (KRAs):

1. Decision support system (60%)
2. Data management (20%)
3. Capacity building (20%)

The performance requirements of the Key Result Areas are broadly described below

Jobholder is accountable for	Jobholder is successful when
Decision support system (60%) <ul style="list-style-type: none"> Design, develop, document, maintain and enhance science-based decision support tools Ensure that GIS datasets, reference maps, thematic maps and other cartographic quality products created and provided to support the marine spatial planning process Monitor performance and use of the system and continuously improve tools Work with stakeholders to gather requirements and develop GIS solutions to support business needs Troubleshoot and resolve issues with GIS applications and systems, ensuring high availability and performance Collaborate with other developers, GIS analysts, and data scientists to integrate GIS 	<ul style="list-style-type: none"> Decision supporting tools developed are tailored to project and country needs High quality maps and cartography products are created and shared to stakeholders Decision supporting tools are maintained regularly and kept fully functional System documentation is accessible and up to date SPC data scientists and GIS analysts are consulted and provide feedback on SPC systems and tools Continuous improvements are identified, planned and implemented SPC is up-to-date in GIS systems, tools and practices and is aware of industry progress and products

applications and systems with other SPC applications <ul style="list-style-type: none"> Keep up-to-date with GIS community trends, new technologies, and emerging best practices 	
Data management (20%) <ul style="list-style-type: none"> Support the management of geospatial and time series data management systems and GIS Geodatabases Enable holistic data dissemination and facilitate open access to information and data Support Linux-based high-end scientific computing facility (high powered computing) 	<ul style="list-style-type: none"> Metadata are prepared for datasets integration into the Pacific Data Hub (PDH) Data management processes are streamlined and adopted Systems, databases, portals and registers are monitored and usecases are documented, maintained and updated in PDH Linux-based systems are working efficiently, and software packages are optimally compiled and functional Linux user are advised on optimised and tailored solutions to increase work efficiency Support development and review of Linux based tools and utilities (Bash Scripting, Python, building C/C++ apps, GPU/Cuda-oriented task-flows) Monitoring data are analysed and reports are submitted
Capacity building (20%) <ul style="list-style-type: none"> Train national staff in the use of ocean data Share knowledge and provide assistance for bespoke applications Fulfil requests by partners and member countries Provide technical support and training to users of GIS applications and systems. 	<ul style="list-style-type: none"> Training workshops are conducted and supported Contributions to regional meetings and reports are made Countries have a high level of support for requests of applications and use of data Applications and requests are documented in support of continuous learning and training

The above performance requirements are provided as a guide only. The precise performance measures for this job will need further discussion between the jobholder and supervisor as part of the performance development process.

Most Challenging Duties Typically Undertaken (Complexity):

<ul style="list-style-type: none"> Engaging with diverse technical and non-technical stakeholders across SPC programmes and Pacific Islands Countries and Territories Understanding the core needs and requirements of technical work programmes and delivering appropriately Organising and conducting workshops and training to participants with diverse skill sets Delivering project activities in remote with a local team based in Palau embedded in a government ministry Responding to adhoc requests that are made outside of the agreed workplan, e.g., from adding countries needing advice or support on MSP processes
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Functional Relationships & Relationship Skills:

Key internal and/or external contacts	Nature of the contact most typical
External Key external contacts are:	

<ul style="list-style-type: none"> • PICTs project partners • International and regional scientific and technical partners • Member country counterparts, mostly at the technical level • CROP agencies • PICTs ministries e.g.: Agriculture, Fisheries, Environment, Climate Change, Meteorological Offices • Consultants, companies and service providers 	<ul style="list-style-type: none"> • Requirements gathering • Systems design and analysis of existing platforms • Enforcing data management practices and recommendations • Capacity building • Remote and on-site support
<p>Internal</p> <p>Key internal contacts are:</p> <ul style="list-style-type: none"> • Head of PCCOS, PCCOS Coordination, PCCOS Project Adviser, Ocean Science Officer • Deputy Director and GEM Director • Other SPC System Analyst Developers (or similar roles) • Team Leader Ocean Management and Literacy • Team Leader Ocean Prediction and Monitoring • MSP Coordinator • Integrated Ocean Management Adviser • Technical leads within other SPC programmes, e.g. transport and fisheries • Administrative and support personnel 	<ul style="list-style-type: none"> • Obtaining advice on SPC policies and procedures; providing feedback on PCCOS and Climate Resilient MSP project reporting. • Collaborate on the development of ocean knowledge hub, share knowledge, provide regular update, seek and provide guidance • To seek approval and/or guidance • Advise on ocean stakeholder needs, emerging technologies, etc. • Budgeting and reporting • Share knowledge, challenges and update regularly • Maintain internal contacts • Day to day tasks • Provide advice and guidance on tasks

Level of Delegation:

Routine Expenditure Budget: nil

Budget Sign off Authority without requiring approval from direct supervisor: nil

Personal Specification:

This section is designed to capture the expertise required for the role at the 100% fully effective level. (This does not necessarily reflect what the current position holder has.) This may be a combination of knowledge / experience, qualifications or equivalent level of learning through experience or key skills, attributes or job specific competencies.

Qualifications

Essential:	Desirable:
<ul style="list-style-type: none"> • Tertiary degree in information technology or related field 	<ul style="list-style-type: none"> • Qualification in developing science based open source solutions (web, mobile, desktop based)

Knowledge/Experience

Essential:	Desirable:
<ul style="list-style-type: none">• 5 years' experience in systems and tool development• Proven programming skills in multiple languages including Python• Strong understanding of Git/GitHub• Experience in working with the client to get their information system requirements• Good communication skills• Ability to work and travel in a multicultural and multilingual environment• Good knowledge of networking, computing hardware and Linux operating systems• Ability to communicate technical climate/oceans/geodetic information to non-technical audiences, including as a comprehensive training programme	<ul style="list-style-type: none">• QGIS plugin development (PyQGIS, PYQT)• Working knowledge of C/C++/Fortran and MatLab• Advance-level QGIS experience• Understanding of GIS concepts and methodologies• Cross-platform mobile application development• Offline tool and utilities development for data processing and analytics• Web-based tool development• Experience with using docker• Experience with cloud computing

Key Skills/Attributes/Job Specific Competencies

The following levels would typically be expected for the 100% fully effective level:

Expert level	<ul style="list-style-type: none">• Development of tools and systems• Enabling large-scale data processing and analysis
Advanced level	<ul style="list-style-type: none">• Unix/Linux Environment• Git source control management and collaboration• Geographic information systems (GIS)
Working knowledge	<ul style="list-style-type: none">• Data management, system analysis and capacity building• Cloud-based infrastructure management• Online databases and portals
Awareness	<ul style="list-style-type: none">• Familiarity with regional challenges at a technical and decision-making level• Regional ICT needs and requirements• SPC Regulations and Policies• Land survey techniques• Meteorological instrumentation• Fisheries science• Adaptation and development issues in small Pacific Island countries

Key Behaviours

*All employees are measured against the following **Key Behaviours** as part of Performance Development:*

- Change and Innovation
- Interpersonal Skills
- Teamwork
- Promotion of Equity and Equality
- Judgement
- Building Individual Capacity

Personal Attributes

- High level of professional integrity and ethics
- Friendly demeanor
- Demonstrated high level commitment to customer service
- Ability to set priorities to meet deadlines.
- Multitasking role
- Passing of Knowledge and skills

Change to Job Description:

From time to time it may be necessary to consider changes in the job description in response to the changing nature of the work environment – including technological requirements or statutory changes. Such change may be initiated as necessary by SPC. This Job Description may also be reviewed as part of the preparation for performance planning for the annual performance cycle.