Pacific Community
Communauté du Pacifique

**JOB DESCRIPTION**

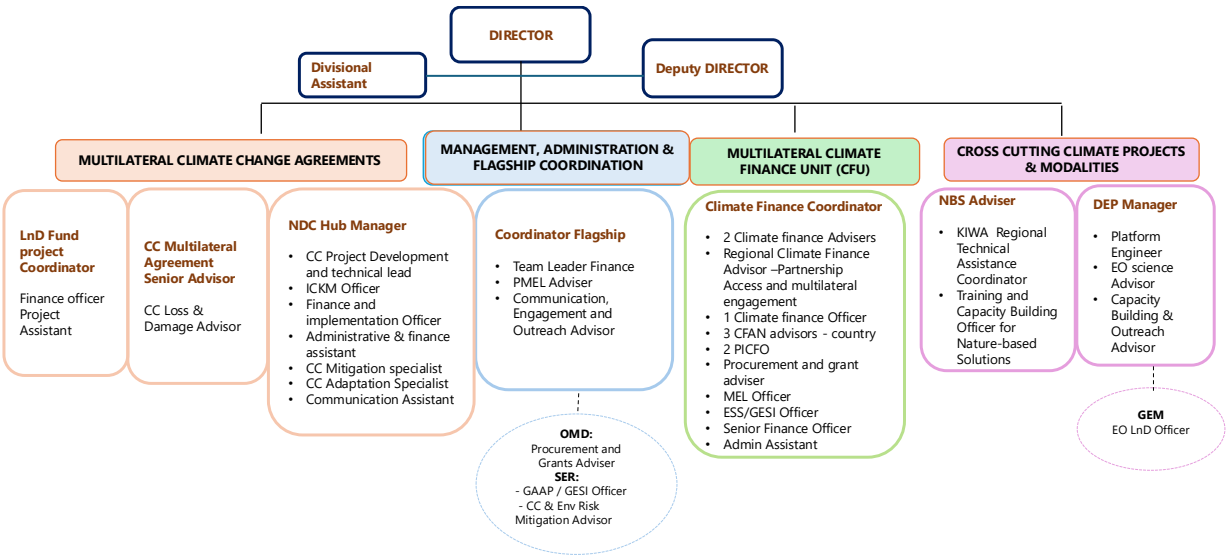
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| **Job Title:** | **Earth Observation Science Specialist** |
| **Division/Programme:** | Climate Change and Sustainability / Digital Earth Pacific |
| **Location**: | Suva / Noumea |
| **Reporting to:** | Programme Manager Digital Earth Pacific |
| **Number of Direct Reports:** | 1 |
| **Purpose of Role**: | The Earth Observation (EO) Science Specialist is a senior scientific and technical role within the Digital Earth Pacific (DE Pacific) programme, responsible for leading the research, development, validation and continuous improvement of Earth observation and geospatial products, methods and workflows that support decision-making across the Pacific.<br>The role provides scientific leadership for the design and operationalisation of decision-ready products derived from satellite imagery, analysis-ready data, in-situ observations and other geospatial datasets. It develops and validates fit-for-Pacific methodologies, algorithms and analytical workflows across climate, disasters, oceans, agriculture, land, environment and infrastructure applications.<br>The EO Science Specialist ensures scientific rigour, quality assurance, reproducibility and technical documentation across the DE Pacific product portfolio, while supporting the integration of new datasets, machine learning approaches and scalable cloud-based processing capabilities into operational services.<br>The position contributes to the DE Pacific technical roadmap, product strategy and research agenda, and works closely with platform engineers, data specialists, sector experts and country partners to translate scientific innovation into sustainable operational services. |
| **Date:** | January 2027 |

## Organisational Context and Organisation Chart

The **Pacific Community (SPC)** is the principal scientific and technical organization in the Pacific region, supporting development since 1947. We are an international development organization owned and governed by our 27 country and territory members. In pursuit of sustainable development to benefit Pacific people, our organization works across more than 25 sectors. We are known for our knowledge and innovation in such areas as fisheries science, public health surveillance, geoscience, and conservation of plant genetic resources for food and agriculture.

The **Climate Change and Sustainability (CCS)** Division enables the SPC to strengthen and streamline its climate change actions by consolidating the Organization's existing work under strategic and technical leadership. Furthermore, it guides the SPC's actions on climate change and environmental sustainability, works collaboratively with the Organization's regional and international partners, and promotes the integration of these issues into all development activities conducted by the Organization's divisions.

With the CCS Division, the **Digital Earth Pacific (DE Pacific)** programme aims to provide a routine, reliable and operational service, using Earth observations to deliver decision-ready services enabling policy makers, scientists, the private sector and civil society to address climate resilience, social, environmental and economic changes across the Blue Pacific Continent and develop an ecosystem for innovation across sectors.




## Key Result Areas (KRAs):

The position of Earth Observation Science Specialist encompasses the following major functions or Key Result Areas:

- Product Portfolio Management
- Research, Development and Quality Assurance
- Cross-sector Applications
- Capacity Building and Data Ecosystem Development
- Project Delivery and People Management

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

| Jobholder is accountable for | *Jobholder is successful when* |
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| **KRA#1 (25%) Product Portfolio Management**<br>• Provide scientific and technical advice to hold together the Digital Earth Pacific product portfolio, including product priorities, standards, quality expectations and user value.<br>• Guide the development, maintenance and continuous improvement of decision-ready products and services that respond to Pacific country, regional and SPC priorities. | • The Digital Earth Pacific product portfolio is coherent, prioritised and aligned with regional needs and SPC programme priorities.<br>• Products have clear purpose, users, methods, quality requirements and pathways for operational delivery. |

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| • Ensure product design is informed by user needs, operational feasibility, data availability, scientific robustness and alignment with the Digital Earth Pacific technical roadmap.<br>• Coordinate with platform, data, science and programme teams to ensure products move from concept to operational service in a coherent and sustainable way. | • Product decisions are informed by sound science, user feedback, technical feasibility and platform capability.<br>• SPC teams and partners have a shared understanding of product status, priorities and development pathways. |
| **KRA#2 (30%) Research, Development and Quality Assurance**<br>• Undertake hands-on applied research to develop, test and improve Earth observation and geospatial methods, workflows and algorithms for Digital Earth Pacific products.<br>• Develop reproducible workflows using analysis-ready data, satellite imagery, in-situ data and relevant geospatial datasets, including calibration, validation, feature extraction and spatial analysis.<br>• Provide scientific quality assurance for products, workflows, datasets and documentation to ensure they are technically robust, transparent and fit for Pacific contexts.<br>• Prepare and contribute to peer-reviewed publications, technical reports, product documentation and scientific communication products based on Digital Earth Pacific outputs.<br>• Maintain awareness of emerging EO missions, datasets, methods and technologies and translate relevant advances into practical product improvements. | • Research methods, workflows and algorithms are scientifically sound, documented, reproducible and suitable for operational use.<br>• Digital Earth Pacific products are validated, quality assured and supported by clear technical documentation.<br>• Scientific outputs, including reports, publications and product documentation, are produced and contribute to SPC's regional leadership in EO and geospatial science.<br>• New datasets, methods and technologies are assessed and, where appropriate, integrated into product development and improvement. |
| **KRA#3 (15%) Cross-sector Applications**<br>• Collaborate across SPC divisions and sectors to identify thematic applications for Digital Earth Pacific products, including climate, disasters, agriculture, oceans, land, environment, statistics and infrastructure.<br>• Work with sector specialists to translate science and platform capabilities into practical information products, services and use cases.<br>• Support integration of Digital Earth Pacific products into SPC programmes, regional initiatives and country-facing technical assistance.<br>• Provide scientific advice on data, sensors, methods and limitations to strengthen sector use of EO and geospatial products. | • Digital Earth Pacific products are applied across relevant SPC sectors and respond to real programme and country needs.<br>• Sector teams are supported to understand and use EO and geospatial products appropriately.<br>• Thematic applications are strengthened through collaboration between EO scientists, platform specialists, sector experts and country users.<br>• Use cases demonstrate practical value for policy, planning, reporting and decision-making in the Pacific. |
| **KRA #4 (15%) Capacity Building and Data Ecosystem Development** | |

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| • Design and deliver training, mentoring, guidance materials and demonstrations that build the capability of SPC staff, regional partners and member countries to use Digital Earth Pacific products and services.<br>• Support capacity development that strengthens a regional data ecosystem, including data access, data stewardship, reproducible workflows, product interpretation and responsible use of EO and geospatial information.<br>• Develop communities of practice and knowledge-sharing approaches that connect country users, SPC sectors, regional organizations, universities and technical partners.<br>• Translate complex EO and geospatial methods into accessible learning products for technical and non-technical users. | • SPC teams, partners and member countries are better able to access, interpret and apply Digital Earth Pacific products and services.<br>• Training and knowledge products are practical, reusable and aligned with country and regional data ecosystem needs.<br>• Capacity building contributes to stronger regional capability in EO, geospatial data management, analysis and decision support.<br>• Learning activities strengthen collaboration between data producers, platform teams, sector users and decision-makers. |
| **KRA #5 (15%) Project Delivery and People Management**<br>• Provide technical oversight and coordination to deliver EO and geospatial project outputs, country-requested products, analytical support and scientific deliverables on time and to agreed standards.<br>• Contribute to work planning, monitoring, reporting, proposal development, resource mobilisation and technical roadmaps for Digital Earth Pacific and Earth and Ocean Observations.<br>• Manage, supervise, mentor and support direct reports and technical staff as required, including performance planning, delegation, coaching and professional development.<br>• Support recruitment, onboarding and task coordination for technical staff, consultants and collaborators contributing to Digital Earth Pacific product and science delivery.<br>• Promote a collaborative, high-performing and inclusive team culture aligned with SPC values and programme delivery needs. | • Project outputs, country-requested products and scientific deliverables are delivered on time, meet agreed quality standards and respond to user needs.<br>• Work plans, reports, proposals and technical roadmaps clearly reflect product priorities, science delivery and regional impact.<br>• Staff and collaborators understand their roles, receive appropriate guidance and are supported to deliver high-quality work.<br>• Team coordination, mentoring and supervision contribute to effective delivery, knowledge sharing and professional development. |

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):

- Explore and apply Pacific-suited Earth observation methodologies in collaboration with internal experts and external partners.

- Analyse Earth observation data from satellites, field surveys, LiDAR and drones to support research, projects and decision-ready products.
- Develop, test and validate Earth observation algorithms, analytical workflows and geospatial tools for Pacific applications.
- Deliver Earth observation analysis and solutions across climate, oceanography, agriculture, forestry, fisheries and disaster management sectors.
- Monitor and assess land-use patterns and environmental change at national and regional scales to support evidence-based decision-making.
- Prioritising the product roadmap for regional Earth observation products, balancing diverse and competing country needs with budget and human resource constraints, while maintaining scientific quality and realistic delivery timelines.
- Coordinating across SPC sectors and with collaborating regional agencies, reconcile differing priorities, requirements and delivery timelines, secure timely technical inputs and agree shared product development priorities, ensuring regional Earth observation products meet cross-sector needs without duplicating effort.
- Delivering project activities in remote outer islands that are difficult to access.

## Functional Relationships & Relationship Skills:

| Key internal and/or external contacts | Nature of the contact most typical |
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| **External**<br>• Member Countries<br>• CROP agencies and other regional organisations<br>• Vendors<br>• Subject matter experts<br>• Science and data partners<br>• International organisations | • Maintain relationships and collaborate on leading practice in Earth observation, geospatial science, product development and thematic applications.<br>• Provide scientific and technical guidance to member countries on Digital Earth Pacific products, workflows and capabilities.<br>• Discuss technical solutions, emerging methods, data requirements and fit-for-purpose innovations.<br>• Build partnerships that strengthen regional EO and geospatial capability and contribute to the Pacific data ecosystem. |
| **Internal**<br>• Digital Earth Pacific team<br>• CCS Team<br>• SPC ICT team<br>• SPC divisions and programmes | • Responding to internal product, research and technical support needs.<br>• Solicit feedback and work with SPC sectors to strengthen thematic applications of Digital Earth Pacific products.<br>• Clearly communicate product updates, research findings, workflow guidance and quality assurance requirements.<br>• Provide scientific advice, capacity building, mentoring and coordination for staff, consultants and collaborators. |

## Level of Delegation:

Routine Expenditure Budget: *0 Euro*

Budget Sign off Authority without requiring approval from direct supervisor: *50 Euro*

## 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: |
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| • Postgraduate qualifications in remote sensing, geospatial science, environmental science, geography, climate science, oceanography, agriculture, ecology or related discipline, or equivalent body of knowledge and experience. | • Masters qualification in Earth observation, geospatial science, environmental science, data science or a relevant thematic discipline.<br>• Certification or formal training in open-source geospatial, remote sensing, data science, project/product management. |

### Knowledge/Experience

| Essential: | Desirable: |
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| • At least 10 years' experience in applied Earth observation, remote sensing, geospatial science, product development or operational geospatial services.<br>• At least 2 years' experience managing people including mentoring, developing training, and performance management.<br>• Demonstrated experience developing, testing and documenting EO/geospatial methods, workflows, algorithms and decision-ready products.<br>• Strong experience in scientific quality assurance, validation, reproducibility, metadata and documentation for EO/geospatial datasets and products.<br>• Demonstrated ability to produce scientific outputs, including peer-reviewed publications, technical reports, product documentation, tools or information products.<br>• Strong proficiency in Python or another relevant data science programming language, with experience processing large EO/geospatial datasets.<br>• Experience using cloud-based or scalable EO/geospatial platforms and tools such as Open Data Cube, Google Earth Engine, Digital Earth platforms, STAC-based catalogues or equivalent.<br>• Experience working across thematic or sector applications such as climate, disasters, agriculture, oceans, land, environment, statistics or infrastructure.<br>• Experience designing and delivering training, mentoring, technical guidance or | • Experience working in Pacific Island, small island developing state or data-limited contexts.<br>• Experience with machine learning, deep learning, image classification, radar data, feature extraction or advanced spatial analytics.<br>• Experience with high-performance or cloud-based workflows using tools such as Dask, xarray, Docker, Kubernetes, Argo Workflows or equivalent.<br>• Experience with PostgreSQL/PostGIS, STAC, APIs, open data standards or interoperable geospatial services.<br>• Existing peer-reviewed publications relevant to EO, geospatial science, environmental science, climate, oceans, agriculture, land or related thematic areas.<br>• Experience contributing to product roadmaps, research strategies, proposals, communities of practice or regional/international partnerships. |

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| user support that strengthens EO/geospatial capability and data ecosystems.<br>• Experience coordinating technical work, mentoring staff, supervising consultants or supporting multidisciplinary teams. | |

**Key Skills/Attributes/Job Specific Competencies**

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

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| Expert level | • Earth observation and remote sensing product development<br>• Geospatial data processing, analysis and validation<br>• Development of reproducible scientific workflows and algorithms<br>• Use of analysis-ready data, satellite imagery and in-situ datasets<br>• Scientific quality assurance, calibration, validation and uncertainty assessment<br>• Technical documentation, product documentation and scientific reporting |
| Advanced level | • Python or equivalent data science programming<br>• Open Data Cube, Google Earth Engine, Digital Earth platforms or equivalent<br>• STAC catalogues, metadata, open data standards and geospatial data services<br>• Cloud-based EO/geospatial processing and scalable analytical workflows |
| Working knowledge | • QGIS, open-source GIS, spatial analysis and cartographic tools<br>• Image classification, feature extraction, radar data and machine learning methods xarray, Dask, Docker, Kubernetes, Argo Workflows or equivalent processing tools<br>• PostgreSQL/PostGIS, APIs and interoperable geospatial services<br>• Data visualisation, dashboards and decision-support information products |
| Awareness | • Emerging EO missions, sensors, datasets and processing levels<br>• Digital public infrastructure and regional data ecosystem concepts<br>• SPC regulations, policies and internal procedures |

**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

**Personal Attributes**

- High level of professional integrity and ethics
- Friendly demeanour
- Demonstrated high level commitment to customer service

**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.