JOB DESCRIPTION

Job Title:	Earth Observation – Technical Assistant
Division/Programme and Section/Project (if any):	Geoscience, Energy and Maritime (GEM), Georesources and Energy Programme (GEP), Earth and Oceans Observations (EOO)
Location:	Suva, Fiji
Reporting to:	Geoinformatics Officer
Number of Direct Reports:	Nil
Purpose of Role:	Under the supervision of the Geoinformatics Officer and Geoinformatics Team Leader, this role will be primarily required to support the Geoinformatics Team in activities related to the implementation and operationalization of Digital Earth Pacific and supporting facets. This includes but is not limited to data collection, preparation, documentation and analysis, supporting regional and national training activities, supporting development of data analysis notebooks, generating test data for machine learning pipelines, writing up documentation and guidelines, supporting countries in trouble shooting issues, assisting in data quality control and documenting lessons learnt.
Date:	August 2024

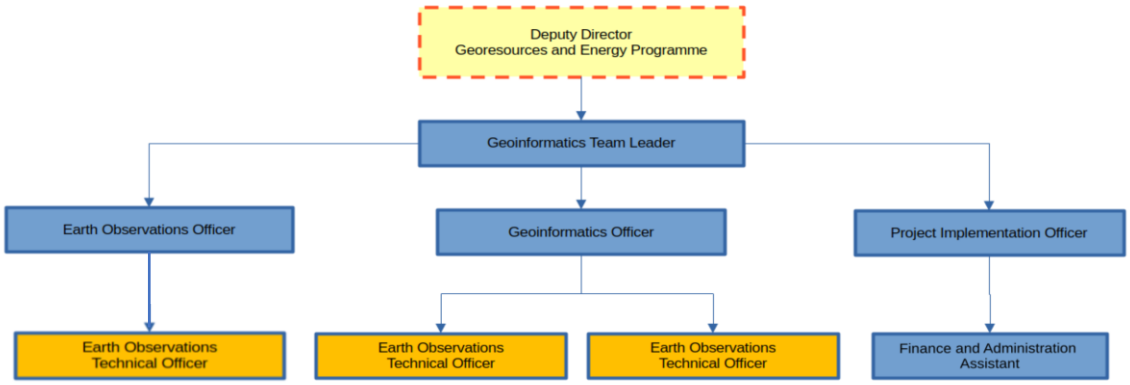
Organisational Context and Organisation Chart

The Geoscience, Energy and Maritime (GEM) Division of SPC has four work areas: Oceans and Maritime, Energy and Georesources, Disaster and Community Resilience and Earth and Oceans Observation Services (EOO). GEM services to SPC's members include assessments of the potential of ocean and onshore mineral resources, maritime boundary data collection, coastal protection and management, geo-hazard assessment, and strategic and technical advice and assistance in the areas of water and sanitation, disaster management and building community and environmental resilience. This includes adaptation action to climate change, and mapping and surveying (including GIS and remote sensing).

SPC GEM's Earth and Ocean Observation (EOO) capabilities utilises global satellite and earth observations systems to support all of our technical focus areas. The programme's work aims to inform understanding of the biophysical changes occurring in the Pacific region such as changes to our coastlines, to understand maritime zones or to develop more accurate early warning systems for disaster to protect lives and livelihoods of Pacific peoples.

The Digital Earth Pacific (DEP) is an operational earth observation system that uses decades of satellite data to show how local environments are changing over time. DEP provides decision-makers with the information needed to make sound decisions addressing the Pacific's challenges, most notably climate change, food security and disaster.

The Pacific Community (SPC) is a regional intergovernmental organisation whose membership includes 22 Pacific Island Countries and Territories along with Australia, New Zealand, France, and the United States of America. SPC is the Pacific Island region's principal technical and scientific organisation. It delivers technical, scientific, research, policy and training support to Pacific Island countries and territories in fisheries, agriculture, forestry, water and sanitation, geoscience, transport, energy, disaster risk management, public health, statistics, education, human rights, gender, youth and culture. For more information, visit www.spc.int.



The Digital Earth Pacific (DEP) is an operational earth observation system that uses decades of satellite data to show how local environments are changing over time. This includes changes to landcover and land use to better target humanitarian assistance after disasters, mapping of changing coastlines caused by climate change or storm events, and understanding how mangrove growth has changed without having to map this manually. DEP will allow Pacific Community (SPC) SPC member states to make more informed decisions based on timely information. It is a free and open digital public infrastructure helps the region understand the changes in our environment quickly and at a fraction of the cost of previous data systems, at scale. Digital Earth Pacific helps us achieve our 2050 Leaders vision for our Blue Pacific Continent and underpins the progress being made towards the Paris Agreement and our Sustainable Development Goals.

Key Result Areas (KRAs):

The position of Earth Observation - Technical Assistant encompasses the following major functions or Key Result Areas:

- KRA 1 EO and Related Geospatial Data Management
- KRA 2 EO and geospatial-related Support for Projects, Proposals and Country Requests
- KRA 3 Geospatial Capacity Building and Training
- KRA 4 Research and Development

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

Jobholder is accountable for	***Jobholder is successful when***
KRA 1: EO and Related Geospatial Data Management (50%) • Maintain compliance of SPC published earth observations and related datasets and products to appropriate industry standards (including STAC and ISO-compliant metadata). • Generate labelled remotely sensed test data for machine learning pipelines. • Management of Planet License including querying and purchases of PlanetScope and Skysat Tasking products. • Effectively use other data management related tools; ensuring quality of data. • Participate in development and revision of geospatial data management and standards and advise on application to Pacific EO systems and processes. • Liaise effectively with necessary regional, organisational and division data/information focal points to improve and provide necessary support and advice.	• Earth Observation products and related geospatial data sets are maintained according to organisational standards and metadata guidelines. • Machine learning training and testing datasets are prepared and processed. • All purchases are recorded in a logbook • All purchases are made on time and are tied to the priorities agreed by the supervisor. • Data quality control and quality assurances processes are adhered to accordingly • Earth Observations and related data products are updated and published as and when required. • Relevant data stakeholders engaged and consulted on data management practices and data dissemination mechanisms.
KRA 2: Provide Geospatial-related Support for Projects, Proposals and Country Requests (20%) • Provide relevant and required data/information products in a timely manner • Update and maintain regional spatial datasets, including common operational datasets, in accordance with relevant standards and guidance. • Produce relevant high-quality mapping products including information products such as reports, charts and infographics where necessary. • Liaise effectively and objectively with stakeholders, internal and external, in regard to technical advice around sustainable and beneficial EO solutions. • Provide procurement and licensing negotiation support for satellite imagery and other requisite datasets.	• Geospatial and Earth Observations projects (such as: Digital Earth Pacific and MacBLUE) and its activities are supported. • Regional spatial datasets and common operational datasets are maintained and updated with guidance from Geoinformatics Officer. • Professional mapping and information products are produced as required by projects and member countries. • Strong engagement maintained with PICT stakeholders, technical partners and technology/data vendors/providers.

KRA 3: Geospatial Capacity Building and Training (20%) • Development of relevant training modules and supporting materials for workshops; including remote-based delivery. • Training requests are facilitated appropriately, and in a timely manner. • Successful training of participants, meeting activity objectives, both internal and external.	• Training documentation and materials are codeveloped with the team, specific to product and country. • Training delivery supported with the wider team. • Post training and workshop are followed up with participants and required support provided to ministries/departments.
KRA 4: Research and Development (10%) • Research and development of products including coastal marine habitat mapping and others.	• Adequate documentation of literature review • Development of products based on research

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):

- Supporting the Geoinformatics Team in the development, testing, validating and revising of earth observations products, related data analysis notebooks and other data products for Digital Earth Pacific (DEP) and other.
- Working with and across diverse regional and national teams for data collection, collation, pre-processing, post-processing and analysis.
- Supporting capacity/building training activities across PICTS including supporting development of training materials.

Functional Relationships & Relationship Skills:

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

External Key external contacts are: • Member Countries • Technical Partners • GIZ • USP and other academia	• Supporting EO product co-creation and development with PICT technical counterparts. • Collecting and/or digitising field data points for machine learning models within target PICTS • Supporting creation of workshop training materials. • Provisioning data sharing with technical partners and academic stakeholders.
Internal Key internal contacts are: • Geoinformatics Team Leader • Geoinformatics Team Members • GEM Division - technical and administration staff	• The Technical Officer will liaise regularly with the rest of the Geoinformatics team to ensure alignment with the project delivery and workplan.

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:
• Degree in GIS/remote sensing or other relevant subjects, or equivalent years of experience.	• Geospatial Developer pathway preferred; or Geospatial Analyst

Knowledge/Experience

Essential:	Desirable:
• At least 3 to 5 years of demonstrated experience in GIS working with remote	• Knowledge of Python and Jupyter Notebooks.

sensing data in spatial data management system so undertaking field surveys (from a remote sensing/ML context would be an advantage) • Ability to think on your feet and troubleshoot challenges. • Demonstrable knowledge of Python for Remote Sensing and/or GIS applications • Strong knowledge of QGIS and other open-source geospatial toolsets	• Knowledge of Data Science libraries such as numpy, sci-kit, geopandas, xarray. • Knowledge of machine learning pipelines and lifecycles. • Experience with Git and GitHub. • Experience with using Azure or AWS cloud environments. • Ability to effectively communicate with technical and non-technical audiences. • Experience presenting and facilitating training and capacity building activities. • An interest in the challenges faced by Pacific Island countries and territories related to sustainable development and climate change.

Key Skills/Attributes/Job Specific Competencies

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

Expert level	• Sound analytical and technical skills. • Understanding of remote sensing / satellite imagery data. • Sound GIS skills and Remote Sensing Skills • Ability to work with different expertise across SPC, and people from various cultural backgrounds.
Advanced level	• Ability to work independently or as part of a team. • Problem solving and task prioritisation skills. • Ability to work with Python and wider open source data science ecosystem.
Working knowledge	• Working with remote sensing / satellite imagery data. • Understanding of the various pacific island cultures. • Demonstrated knowledge and experience of the Pacific context is highly valuable. • Understanding of geospatial data portals
Awareness	• SPC Regulations and Policies • Appreciation and understanding of Pacific Cultures

Key Behaviours

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

- Commitment/ Accountability
- Professional/Technical Expertise
- Teamwork
- Effective Communications & Relationships
- Technical development and monitoring

Personal Attributes

- Strong technical experience in a relevant field
- Aptitude for the provision of high-quality service
- Demonstrated oral and written communication skills in English
- Demonstrated ability to meet deadlines
- Ability to work as part of a team, with a high level of interpersonal skills and under limited supervision
- Ability to work effectively in a cross-cultural environment and awareness of the need for gender sensitivity
- A flexible approach and a willingness to assist with a variety of other tasks within the team;
- High level of professional integrity and ethics
- Friendly demeanor
- 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.