|  |
| --- |
| **JOB DESCRIPTION** |

|  |  |
| --- | --- |
| Job Title: | **Senior Specialist, Oceanography** |
| Work Unit/Division: | Ocean and Maritime Programme/Geoscience Energy and Maritime Division |
| Responsible To: | Team Leader, Ocean Prediction and Monitoring |
| Responsible For: | 2 direct reports |
| Job Purpose: | The job holder develops and implements solutions to strengthen ocean & coastal prediction and monitoring services as well as to address coastal risk management issues having relevance and significance to the peoples and governments of SPC member countries enabling them to improve their capacities, plan, manage and develop their natural resources in a sustainable way. This will be achieved through the application and development of scientific tools such as numerical modelling and applied research in the context of large ocean small island developingstates. |
| Date: | July 2021 |

|  |
| --- |
| **Vision:** |

“All CROP (Council of Regional Organisations in the Pacific) agencies contribute to achieving the vision embodied in the Pacific Plan of a region of peace, stability, economic growth, good governance and sustainable development. SPC is committed to these values and to working in partnership with national, regional and international organisations and development partners to serve its members.”

|  |
| --- |
| **Organisation Context:** |

The Geosciences, Energy and Maritime (GEM) Division of SPC is comprised of three programmes and one Programming Performance and Systems Unit. The three programmes are: i) Oceans and Maritime; ii) Georesources and Energy; and iii) Disaster and Community Resilience. The Oceans and Maritime Programme is organised to respond to SPC members’ needs in three focus areas – Policy and Governance; Technical Assessment and Data Management; and Capacity Building and Gender. The Oceans and maritime Programme has a holistic approach in the three areas to successfully assist SPC members towards achieving four main outcomes: i) Good Oceans and Maritime Governance; ii) Sustainable Maritime Transport and Safe Navigation; iii) Strengthened Ocean and Coastal Monitoring and Prediction Services; and iv) Improved Ocean Literacy and Maritime Capacity Building.

|  |
| --- |
| **Organisation Chart:** |

|  |
| --- |
| **Key Result Areas:** |

The position of Senior Specialist, Oceanography encompasses the following major functions or Key Result Areas:

1. Specialist technical country support
2. Applied research and development
3. People management
4. Project support and implementation

***The requirements in the above Key Result Areas are broadly identified below.***

|  |  |  |
| --- | --- | --- |
| **Jobholder is accountable for** | ***Jobholder is successful when*** | |
| **Specialist technical country support (35%)**   * Advise on physical oceanography related application such as coastal development and adaptation plans, impact assessments, ocean prediction and monitoring solutions upon request. * Implement scientific solutions (e.g., numerical & statistical models, machine learning algorithms, etc..) to support the decision-making process around coastal risk management and early warning system. * Assess the uncertainties of the scientific products based on field observation and remote sensing data and communicate them clearly to the users and decision makers. * Ensure that outputs are discoverable and accessible to external users and in-country stakeholders, including designing deliverables to suit a non-technical audience. * Provide training for member country nationals to understand and apply ocean and coastal management decision making tools. * Apply the latest international, peer reviewed scientific findings such as those on sea level rise, climate variability, extreme events, ocean processes, to current issues to advise on mid to long-term coastal management issues. | * Ocean and coastal management problems are addressed using sound scientific methodologies and outputs are fit for purpose. * Calibrated models, maps, and tools (e.g. coastal models leading to hazard maps or impact-based forecast systems) are produced in response to demand/needs and results delivered to stakeholders. * Outputs and uncertainties are well assimilated into coastal management products and/or inform adaptation and resilience options. * Stakeholder presentations and/or training workshops are conducted and meet SPC’s MEL standards. * Data and reports are available on SPC’s portals and servers and well communicated to the stakeholders | |
| **Applied Research and Development (35%)**   * Keep up to date with relevant technology and science to advance the use and application of tools most suited to small mid-ocean island settings. * Develop and implement innovative methodologies to provide products, tools and systems tailored to Pacific Island Countries to strengthen ocean and coastal prediction services. * Develop and implement innovative and/or tailored methodologies and tools to support coastal risk management and decision making in the region. * Engage with peers in the scientific community and within SPC and explore collaboration. * Advise on SPC’s computational, technology needs, and capacity to service complex member requests in the areas of coastal development, extreme marine hazards, etc. * Liaise and collaborate or negotiate with providers of services and tools for in-house and Pacific wide use | * Knowledge gaps are identified, and tools are developed and/or modified in response. * Tools and technologies are developed to suit SPC and requirement from the decision makers and users. * SPC’s capacity in ocean and coastal oceanography is progressed at a high standard and outputs are appropriate to meet anticipated demand. * International and Regional collaborations are active and productive. | |
| **People management and development (20%)**   * Manage direct reporting staff, specifying objectives, schedules and budgets, to ensure they perform their duties and fulfil project requirements * Assess knowledge gaps against service delivery and (when possible) individual aspiration to ensure optimal and continuous staff development * Monitor, mentor and report on progress and deal with staff problems/issues * Conduct staff performance evaluations | * Operational and technical guidance is provided to staff and documented as per SPC’s performance assessment scheme * Staff that report directly or contribute to project activities are utilized effectively and are motivated and committed * Staff acquire new skills and knowledge * Performance Development System processes are completed * Yearly staff development plan is developed for each staff and used as a monitoring tool. * The team’s technical skills and scientific knowledge consistently grows and is aligned to the current and upcoming needs of SPC’s member countries. |
| **Project support and implementation (10%)**   * Provide expert advice on project concept and proposal development. * Support national and regional projects in their data acquisition, including fieldwork, and reporting obligations. * Assist in developing work plans, providing timelines and outputs; plan and advise on oceanographic data collection campaigns and scientific solution requirements. * Undertake fieldwork for data collection, including set-up, deployment and retrieval of various marine and terrestrial instruments. * Assist in drafting concepts for projects and for upscaling/replication of projects, ensuring that these meet the objectives of the work plan and requirements of SPC members. * Engage with and update stakeholders on project delivery and implementation. | * Costed work plans are up to date. * Deadlines are met. * Observational data are collected at strategic locations to optimise model development and/or support an improved understanding our regional coastal and marine environment. * Project outputs are of high quality and meet requirements. * Project delivery is well aligned with stakeholders' needs. * Project concepts and proposals are written * Programmes, projects, and activities under the UN Decade of Ocean Science are supported and actioned | |

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

|  |
| --- |
| **Work Complexity:** |

|  |
| --- |
| Most challenging duties typically undertaken: |
| * Developing and implementing innovative/tailored methodologies based on cross-cutting technologies and latest scientific findings. * Calibrating model using low resolution and/or sub-optimum baselines. * Modifying and/or testing different modelling programs as well as or nesting them together * Diving to deploy and retrieve in oceanographic instruments in marine environment * Manage ad hoc requests made outside of the agreed work plan * Work in remote locations under challenging environmental conditions for extended periods of time, including poor sanitary facilities, malaria, etc. * Work with people from different backgrounds according to culture and work ethics * Engaging with practitioners and professionals from sectors and disciplines not related to ocean or climate science |

K

|  |
| --- |
| **Functional Relationships & Relationship Skills:** |

|  |  |
| --- | --- |
| **Key internal and/or external contacts** | **Nature of the contact most typical** |
| **External:** | |
| * Member governments | * Technical exchange, seeking/giving advice and support, designing product, preparing and conducting training workshops, etc.. |
| * Donors | * Prepare presentation and reports. |
| * International organisations | * Collaborate on country specific activities and regional initiatives, preparing documents, training workshops, etc. Support the development of meaningful partnerships. |
| * Consultant | * Review and advise on delivery upon request. Collaborate including sharing knowledge and data. |
| **Internal:** | |
| * Team Leader - Ocean Prediction and Monitoring | * Liaise for internal and external reporting on projects and team activities; giving and receiving information and feedback. |
| * Oceans and Maritime Programme staff | * Advise on oceanography related application and provide guidance on the broader science-based solution; giving and receiving information; liaising to coordinate trainings, workshops, seminar and meetings. |
| * OMP Deputy Director and GEM Director | * Obtaining advice on OMP policies and procedures; providing feedback for OMP reporting |

|  |
| --- |
| **Level of Delegation:** |

The position holder:

* Has supervisory responsibility on direct reporting staff
* Is responsible within the limits provided by the manual of delegations, under SPC delegation policies for that level of accountability and responsibility
* Has a significant degree of autonomy in liaising with senior stakeholders within and outside the organization
* Manage technical work packages

|  |
| --- |
| **Person 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: |
| * MSc degree in Coastal Engineering / Oceanography or related field from a recognised university | * SCUBA diving certificate to Rescue level * Formal training courses in wave/ hydrodynamic numerical modelling software * PhD in Coastal Engineering / Physical Oceanography or related field * Formal training course in project management |

**Knowledge / Experience**

|  |  |
| --- | --- |
| Essential: | Desirable: |
| * At least 5 years of working experience on applied multidisciplinary projects including modelling and solving problems related to hydrodynamics of coastal systems such as waves, circulation, dispersion, pollution and storm surge, tsunami inundation * Expert level computer literacy, experience with computer programming and specialised physical oceanographic and open-source modelling software packages, specifically Delft3D-FM and XBeach * Expert knowledge on physical processes relating to coastal inundation in tropical reef-fringed environments * Experience with oceanographic field instrumentation used in coastal and nearshore surveys * Sound knowledge of operational ocean forecasting and monitoring. * Capable and organised report preparation and communication skills * Strong Analytical skills and ability to master new technology quickly * Demonstrated oral and written communication skills in English * Aptitude for the provision of high-quality service * Ability to mentor and provide necessary training and transfer of skills as demanded by the project or the team. * Ability to set priorities to meet deadlines. | * Professional practical experience in Pacific Island environments * Strong awareness of Pacific issues particularly as they relate to vulnerability to climate change and variability as well as extreme events such as tropical cyclones, distant swells, and waves as well as the inherent circulation processes in reef lined coasts and atolls |

###### Key Skills / Attributes / Job Specific Competencies

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

|  |  |
| --- | --- |
| Expert level | * Physical oceanography related coastal processes relevant to the pacific region. * Excellent up-to-date numerical modelling skills, such as XBeach, SWAN, WW3, Delft3D/ADCIRC and GIS platform such as QGIS * Ability to program using platforms such as Python and Matlab * Excellent level on data processing, analysis and interpretation skills |
| Advanced level | * Ocean related meteorological knowledge, marine climate, climate patterns and climate variability in the Pacific * Sound knowledge on the use of statistical and stochastic models as well as machine learning algorithms * Strong knowledge on setting up fieldwork instrument such as wave buoys / gauges, and water level recorders * Prepare digital and written reports as well as interpretive products. |
| Working Knowledge | * Management of modelling data and updating online portals with information * Advanced knowledge in remote sensing applications relating to shallow water coastal environments * Knowledge of and hands on technical skills on Linux as well as HPC (High Performance Computing) |
| Awareness | * Have a broad understanding of the region and its technical and human resource requirements. * Familiarity with the various strategies, frameworks, and roadmaps that guide climate change adaptation and disaster risk in the Pacific |

###### 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**

* **Communicates effectively**
* **Performs well under pressure**
* **Positive attitude to work**
* **Strongly committed**
* **Highly motivated**
* **Excellent interpersonal skills**
* **Sound judgement**
* **Well organized**
* **Dependable**
* **Creative and imaginative**
* **Demonstrates integrity**
* Demonstrates cultural and gender sensitivity

|  |
| --- |
| **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 our work environment – including technological requirements or statutory changes. Such change may be initiated as necessary by the Director Corporate Services. This Job Description may be reviewed as part of the preparation for performance planning for the annual performance cycle.

**Approved:**

Manager/Supervisor Date

Employee Date