VACANCY

GIS & REMOTE SENSING ANALYST
STELLENBOSCH/REMOTE

Position Title: GIS & Remote Sensing Analyst
Duration: Three Year Contract
Reporting line: GIS Manager
Location: Head Office, Stellenbosch/Hybrid

BACKGROUND

Peace Parks is a non-profit conservation organisation that specialises in Conservation at Scale through the development of Transfrontier Conservation Areas (TFCA) and the long-term management of key Protected and Conserved Areas (PCA) in partnership with government, conservation agencies, communities, private sector, and other support organisations within these landscapes. The organisation, in terms of its 2030 Strategy, will focus on the development of five (5) priority TFCAs throughout southern Africa, the co-management of nine (9) PCAs as well as seven (7) key ecological linkages connecting these PCAs.

This position will be seated within the GPS Department within Peace Parks. The purpose of this unit is to provide evidence-based knowledge and instruments relating to the socio-ecological context of Peace Parks’ focus areas for considered decision-making and implementation.

It will do so through three (3) service categories (scope of work) in support of conservation management functions, efficiencies, and decision-making processes to best achieve organisational and landscape objectives:

1. **Conservation planning services**: offering resources, tools, and knowledge for the development and implementation of a range of conservation plans aimed at promoting the protection and sustainable management of natural resources and biodiversity while also considering the social aspects of conservation and integrating this with effective business planning and management practices.

2. **Conservation science knowledge support**: bridging the gap between science and conservation practice by ensuring that relevant defendable scientific knowledge is obtained through appropriate, practical means and made available and accessible to users.

3. **Geospatial technology application and support**: harnessing various tools, techniques, and software applications to acquire, manipulate, analyse, and visualise geographic or spatial data.

The scope of the geospatial service in particular, includes amongst others the following:

- Collection of geographic or spatial data relating to amongst others habitat types, species distributions, land use and settlement, and more through appropriate means including remote sensing.
- Analysing of spatial data to identify patterns, trends, and relationships, e.g., establishing biodiversity baselines, identifying critical habitats and areas of high biodiversity; migration routes; expansion of wildlife numbers; changes in land cover and land use over time; downscaled climate vulnerability maps for focus landscapes; climate projections; irreplaceable carbon maps and maps illustrating where people rely most on ecosystem services; population density and demographics.
- Monitoring changes in landscapes and habitats over time, including deforestation, urban expansion, land degradation, and the impact of climate change.
- Tracking the distribution and movement of species, including endangered ones, to assist in understanding behavior, migration routes, and preferred habitats.
• Assisting with optimising the allocation of resources by prioritisation of areas for conservation action based on factors like species richness, threat levels, and ecosystem services.
• Assisting with understanding the impacts of projects.
• Creating knowledge products including interactive maps and tools that engage customers and other stakeholders in conservation efforts and inform decisions and implementation.

PURPOSE OF THE JOB
To provide a GIS and remote sensing analysis expert service to advance Peace Parks’ conservation efforts (refer its 2030 Strategy) in line with the scope of work of the GPS Department and in particular, that of the geospatial technology application and support service offering.

ROLE REQUIREMENTS
Educational qualifications: At least a 5-year advanced degree in applied geo-informatics or a closely related discipline.
Professional experience and technical skills: Prior work experience of at least four (4) years in a GIS and remote sensing role is required. Additionally, technical skills and knowledge including:

• Proficiency in GIS software and tools (specifically Esri suite of products).
• Ability to code.
• Experience with remote sensing software and data processing tools.
• Knowledge of spatial databases:
  - Proficiency in geodatabase design and management
  - Data quality control and assurance.
  - Data integration and geospatial data standards.
• Familiarity with geospatial web technologies.
• Remote sensing image analysis techniques, including image classification, change detection, and image enhancement:
  - Familiarity with various remote sensing platforms.
  - Ability to acquire, preprocess, and analyse remote sensing data.
  - Knowledge of spectral signatures and interpretation of multispectral and hyperspectral data.
  - Experience in applying remote sensing techniques to solve real-world problems (e.g., land cover classification, vegetation health assessment, disaster monitoring).
• GIS data collection and data management.
• Spatial analysis and modelling:
  - Advanced spatial analysis skills, including geostatistics, network analysis, and spatial interpolation.
  - Spatial modelling for decision support and predictive analysis.
• GPS data processing and analysis.

Soft skills and additional requirements:
• Critical thinking and complex problem solving: Strong problem-solving and critical-thinking skills and attention to detail and precision in data analysis.
• Communication: Excellent written and verbal communication skills for effectively conveying complex concepts to diverse audiences, including stakeholders and partners.
• Emotional intelligence and teamwork: Strong interpersonal skills and the ability to collaborate with multidisciplinary teams. Additionally, ability to network with professionals in the field and joining GIS and remote sensing forums to stay connected and informed about industry trends.
• Project management skills, including the ability to handle multiple tasks simultaneously.
• Stakeholder engagement: Ability to engage with stakeholders, build partnerships, and work
with government agencies, local communities, private sector, and other support organisations to support conservation efforts.

- Commitment to conservation: Passion for and commitment to conservation and sustainability.
- Flexibility: Openness to new ideas, being agile and willing to adapt to changing project and programme requirements, fieldwork demands, and travel as needed.
- Ethics and integrity: Adherence to ethical standards and a commitment to the responsible and ethical use of data, information, and technology in conservation.
- Continuous learning: Stay updated with the latest developments in GIS and remote sensing technologies by attending conferences, workshops, and online courses.

**KEY PERFORMANCE AREAS**

**General:**
- Support the GPS Manager to develop and implement a strategy for the geospatial unit to take the organisation's geospatial capability to the next level.

**Data acquisition and management:**
- Collect and manage geospatial data from various sources, including satellites, aerial imagery, and field surveys.
- Maintain and update geospatial databases and ensure data integrity.
- Evaluate data quality and accuracy.

**Spatial Analysis:**
- Develop and implement algorithms and models for image interpretation and geospatial analysis.
- Perform spatial analysis to extract meaningful insights and patterns from geospatial data.
- Generate spatial statistics and reports.

**Map creation and visualisation:**
- Create maps and visualisation products using GIS and other suitable software to communicate findings effectively.
- Develop interactive web maps and dashboards.

**Remote sensing:**
- Process and analyse remote sensing data, including satellite and aerial imagery.
- Perform image classification, land cover mapping, and change detection.
- Use remote sensing techniques for applied monitoring and resource management.

**Project Management:**
- Manage projects from conception to completion, including defining project objectives, timelines, and deliverables.
- Coordinate with cross-functional teams and ensure project goals are met.

**Spatial database management:**
- Contribute to the management and upkeep of the organisation’s spatial database.
- Perform geospatial queries and data extraction from the organisations databases.

**Quality control and assurance:**
- Implement quality control procedures to ensure the accuracy and reliability of geospatial data and analysis.
- Review and validate results and reports.
Geospatial technologies and trends:
- Stay updated on the latest trends and technologies in GIS and remote sensing.
- Evaluate and recommend the adoption of new tools and methodologies to enhance efficiency and effectiveness.

Communication and collaboration:
- Communicate findings and insights effectively to both technical and non-technical audiences.
- Collaborate with colleagues, clients, and stakeholders to understand their needs and deliver relevant solutions.

Compliance and ethics:
- Adhere to ethical and legal standards related to geospatial data and analysis, including privacy and data security regulations.

Applications should be submitted by **15 November 2023**.

A competitive salary package will be negotiated, based on qualifications and experience.

Applications should be submitted to:
Human Resources
Email: applications@peaceparks.org

SHORTLISTED CANDIDATES will be contacted to attend an interview. Should you not hear from us within two weeks of the closing date, your application was unsuccessful.