UN VOLUNTEER DESCRIPTION OF ASSIGNMENT

Id 1784888021262761
VMAM Id 1784888021262761
Opportunity Type (Online/Onsite)? Online
Opportunity Title Research Support in Analysing Mangrove Responses to Climate Change

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Host Entity	Morobe Development Foundation Inc.
Country of Assignment	Papua New Guinea
Number of UN Volunteers	6
Sustainable Development Goal	14. Life below water
How many hours per week will the volunteer be needed?	16 - 20 hours per week
Duration	3

DOA Details

Organisation mission and objectives	Morobe Development Foundation Inc. (MDF) is a leading Internationally recognised NGO based in Lae Morobe Province, Papua New Guinea (PNG). It has the vision to help young people reach their full potential by utilizing their hidden talents in community development initiatives so they can realize their potential and become role model in the community.MDF was established to address a broader and more diverse range of objectives and work through the use of dance, music, and drama. MDF's primary aim is to ensure that women participate equally in decision-making in any project undertaken, including projects related to Ending Violence against Women and promoting Human Rights to support the Government and the Sustainable Development Goals. MDF, in collaboration with Online Volunteers, engaged through the UNV's Unified Volunteer Platform (UVP), has also undertaken various scientific research studies related to the environment including: forest cover loss, land use land cover change, the influence of various parameters on surface waters, and coastal shoreline turtle habitat loss. These projects included the participation of various experts and researchers from diverse fields across various countries across the globe - ranging from marine biology, biodiversity conservation, PNG community management, remote sensing, and land use policy among various others. MDF is managed by a management committee, which is made up of the Chairman, the Deputy Chairman, Secretary, the Treasurer, the Project Coordinator, Community Development Officer, and a male and female member of the foundation, and ensures that women participate equally in decision making. We at MDF assert that we have the required skill sets, knowledge, established international network, and the necessary foundational work to undertake projects successfully.

Assignment context	Morobe Development Foundation Inc. is a non-profit organisation located in Papua New Guinea, established to advance sustainable community development initiatives and address various pressing issues, including environmental conservation and women's rights, that impede regional progress. Mangrove forests are essential internationally, sustaining the livelihoods of millions along coasts and considerably contributing to economies through ecological services valued in the billions of dollars each year. These services encompass shoreline stabilisation, habitat provision for various benthic macrofauna, and the supply of food, honey, and lumber. Mangrove forests provide scalable and cost-effective natural climate solutions by sequestering carbon in biomass and soil/sediment, in addition to their economic and social advantages. The global potential of mangrove forests to counteract climate change is considerable, capable of offsetting a significant percentage of annual fossil fuel emissions via carbon absorption. Several of our current initiatives concentrate on the application of diverse remote sensing technologies to monitor forest biomass, analyse land use change trends, assess climate change implications, and preserve sea turtle habitats. We are seeking online volunteers who are passionate about data science and sustainability, particularly regarding mangroves, and are eager to improve their research writing skills (approximately 20 hours per week for 12 weeks) to assist us in this research collaboration. The aim of this research is to analyse the response of mangroves to climate change scenarios over the next century using climate prediction techniques and to determine their carbon sequestration capability through carbon emission modelling. Online volunteers possessing a data science background will collaborate on climate projections regarding mangrove responses over the next century. Proficiency in R programming is required, along with contributions to the development of carbon emission models to estimate the carbon sequestered by this ecosystem.
Task description	Morobe Development Foundation (MDF) Inc. is looking for 6 (six) Online Volunteers who have expertise in data analysis, R programming knowledge, climate projection and carbon emission modeling, and a background in the field of data science, preferably also in forestry, mangroves, sustainability, remote sensing, or related areas. Tasks below will be distributed among Online Volunteers. Selected online volunteers would be expected to assist the MDF team with: - Data analysis-related and programming tasks for the establishment and analysis of climate change projection under different scenarios in the next century and carbon emissions modeling. - Tools development that allows simulating the response of mangroves under climate different climate change scenarios (e.g. sea level rise) - Journal article writing (drafting preparation and literature review) - Grant proposal support (drafting proposal and literature review) The topic of the current research is: "Understanding how mangroves will respond to climate change in the next century and how much carbon emissions they are sequestering”. The results of this project will be included in a peer-reviewed journal article, and based on the level of contributions, the online volunteers will be acknowledged (with a certificate) and/or invited to be co-authors. Students looking into applying for PhD programs are highly encouraged to apply.

DOA Requirements

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Required education level
Area(s) of specialisation

Required experience

Required skills and experience	The candidates should have: - Demonstrated writing experience - A master’s degree or equivalent (e.g., bachelor’s degree with 3+ years) in an area related to data science, R programming, data analysis, climate projection, carbon emissions modeling, forestry, mangroves, sustainability, remote sensing, or related fields, is a strong asset. - Good communication and be very attentive, responsive, and proactive, as our projects are very fast-paced. For our consideration, please also provide a statement of purpose (~ 200-300 words) highlighting your experience with data analysis, R programming, data science, and writing scientific articles/reports on the aforementioned topics and why you would be the best candidate for this role.

Language

Language	Language skills	Language requirement

Area of Expertise

What type of task do you need support with?	Does this project include an additional, secondary type of task?

Other information

Volunteerism is understood as a wide range of activities undertaken of free will, for the general public good, for which monetary reward is not the principal motivating factor.