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Description

The International Livestock Research Institute (ILRI) seeks to recruit Research Officer – GIS to Monitoring and characterization of climate smart agricultural practices and assessment of performance of DSR varieties and practices of small holding farmers (SHF) in different rice growing environments of Kenya using different scales of hyperspectral and other earth observation data; The incumbent will support scientists/ project staff by flying the hyperspectral drone over sampled plots and collecting hyper spec datasets and timely field/crop data using handheld instruments and develop standard models to monitor the DSR practices and adoptions at local field scale; Facilitate the execution and implementation of planned Geospatial activities in close coordination with local National partners and other stakeholders.

ILRI works to improve food security and nutrition and reduce poverty in developing countries through research for efficient, safe and sustainable use of livestock. It is the only one of 11 CGIAR research centers dedicated entirely to animal agriculture research for the developing world. Co-hosted by Kenya and Ethiopia, ILRI has regional or country offices and projects in East, South and Southeast Asia as well as Central, East, Southern and West Africa.

ILRI hosts the International Rice Research Institute (IRRI) in Nairobi with its headquarters in Los Baños, Laguna in the Philippines. IRRI is the world's premier research organization dedicated to reducing poverty and hunger through rice science; improving the health and welfare of rice farmers and consumers; and protecting the rice-growing environment for future generations.

Responsibilities

Purpose

- Monitor the DSR effectiveness in each environment by collecting hyperspectral drone/satellite data and other field/crop parameters over the sample fields.
- Test the possibility of using hyperspectral data to monitor and characterize the agricultural management practices, DSR yield and DSR adaptation traits in hybrids and varieties in different environments
- Develop the models to monitor the environment, plant health and assessment of performance of DSR varieties at local field scale
- Characterize the variation in best practices, fertilizer practices & water use (avoidance or duration of flooding) by reducing flooding
- Develop multiple RS based indices to assess water, nutrient usage of the plants and generate the empirical equation to determine yield
- Modeling alternative ways to determine DSR growth and fertilizer and nutrient use will be carried out through usage of Hyper spectral data, environmental variables such as high-resolution DEM, climatic variables and subsequent satellite images for scaling
- Use lock step scaling of local to satellite Hyper spectral data
- Analyze the datasets, and contribute to the writing of reports, research papers and other communication material
- Manage the primary and secondary data collection process in field soil, water, weather, crop establishment methods and practices etc.;

Research Officer – GIS

Hiring organization

International Livestock Research Institute (ILRI)

Employment Type

Full-time

Industry

Agriculture

Job Location

Nairobi, Kenya

Valid through

05.07.2023

Engagement

- Acquire, process, transform, and extract information from acquired hyperspectral imagery
- Inform the immediate supervisor on the development of hyperspectral drone acquisition, image processing, and GIS based activities
- Work closely with project team members to ensure full understanding of the scope, priorities, and deadlines of the activities
- Collaborate with scientists at advance research institutes and in the private sector to develop new research products
- Assist project leaders and/or collaborating partners to define the scope of research activities
- Contribute to the organization of advisory committee, and other meetings and monitoring/ execution of actions to be taken related to their units /sub-units
- Lead the efforts on biannual/annual/other reports preparation of institute and associated projects of theme/ sub-theme
- Actively contribute to the drafting communication materials, news, bulletins, etc.
- Participation / contribution to visits, meetings, workshops, farmers fairs and etc.

Delivery

- Ensure timely delivery of processed and orthorectified drone based geospatial products to the project team
- Ensure the timely completion of high-quality deliverables
- Collect, store and curate data generated from the analytics
- Communicate research results and new ideas in a broad array of outlets, including peer-reviewed journals, mass media, policy fora as well as national and international scientific conferences

Qualifications

- Master's degree in Geospatial Science, Agriculture, Geography, Environmental Science, or other related discipline with at least 4 years' relevant work experience of application of Remote Sensing and GIS in agriculture
- Has extensive proven technical proficiency in remote sensing and GIS with proven skills in
- Experience working with hyperspectral and multispectral image analysis
- Technical proficiency in operating drone mounted with hyperspectral / multispectral sensors, and
- Crop types mapping, vegetation phenology, cropping system mapping, and database management, analytics using physical (soil, water and climate) and farmer databases.
- Proven knowledge of field data collection and agro-management practices
- Has good working knowledge of remote sensing and GIS software, Database and software such as ERDAS, ENVI and e-Cognition and drone image processing tools like Pix4D, Agisoft and other opensource etc.
- Substantial experience in scripting such as R and Google Earth Engine
- Certified Drone pilot license
- Experience of any of statistical analysis and logical development of
- Experience working with large team and different disciplines.
- Experience with working on multiple remote sensing datasets like satellite & drone images

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