

## **Job Posting: Postdoctoral Research Scientist for NASA IDS**

Applications are now invited for a postdoctoral position at the International Research Institute for Climate and Society (IRI) in Palisades, NY through a NASA Interdisciplinary Research in Earth Science project (Title: Linking Remote Sensing Data and Energy Balance Models for a Scalable Agriculture Insurance System for sub-Saharan Africa). This project brings together climate science, economics, and remote sensing expertise to focus on providing a scalable and sensor-independent remote sensing based product that can be used in agriculture insurance programs. This research seeks to provide a multi-resolution, multi-sensor source of weather and climate information that will enable the scaling up of an agriculture insurance program that provides basic weather-risk financial support. Physical/environmental variables used in this project include: 1) evapotranspiration (from the Evaporative Stress Index (ESI) derived from polar orbiting and geostationary satellite observations), 2) rainfall (CHIRPS 30-year estimates), 3) soil moisture (AMSR/E , NLDAS model runs, ECMWF and eventually SMAP), 4) vegetation (MODIS, VIIRS, AVHRR), and 5) landscape characteristics (Landsat, Very High Resolution/commercial sensors).

### **Responsibilities:**

Applicants will collaborate with IRI and Lamont-Doherty Research Scientists as well as with NASA IDS remote sensing scientists. The successful applicants will be expected to take leadership in one or more of the research topics noted below:

- Evaluation of methodologies and products such as the utilization of remote sensing data, model outputs, farmer/local expert experience, and ground measurements.
- Exploration of methodologies and products in one or more new (e.g. Rwanda) or ongoing (e.g. Ethiopia, Senegal) project sites.
- Comparison of the strengths and weaknesses of the different physical/environmental variables mentioned above.
- Advancement of existing research goals to inform processes and develop index insurance educational materials and possibly implementation.

The candidate will have the freedom to collaboratively design his/her research within the scope of the broad project topics outlined above.

### **Required Qualifications:**

- PhD in geography, remote sensing, atmospheric science

### **Preferred Qualifications:**

- Strong remote sensing expertise
- Experience integrating remote sensing data and products at different scales
- Knowledge of major programming languages for remote sensing analysis and geospatial applications (e.g. R, IDL, C, Python, gdal)

- Experience with and interest in at least one and preferably more of the following areas: remote sensing science, satellite monitoring, climate modeling
- Experience developing the kinds of remote sensing physical variables mentioned above
- Field experience is a plus, especially working directly with farmers in Africa or in the developing world
- Excellent written and oral communication skills. A track record in publishing journal papers and conference presentations.
- Ability to work as part of a team

The position is a full time 1-year appointment, with the opportunity of continuation contingent on performance and availability of funding.

Search will remain open for 30 days after the ad appears and will continue until the position is filled. Screening of applicants will begin immediately. Please visit our online application site at

<https://academicjobs.columbia.edu/applicants/Central?quickFind=59190>

for further information about this position and to submit your application, curriculum vitae, statement of research interests and contact information for three references.

Columbia University benefits afforded with this Officer of Research position.

Columbia University is an Equal Opportunity/Affirmative Action Employer.

We consider online applications only.

The IRI is a catalyst for the creation and provision of science-based outcomes that address climate risk. Our approach is based on collaborative partnerships with local, national, regional, international, public and private institutions facilitating the open exchange of ideas, information, and technology between many disciplines and regions.