zintellect
climb higher

Opportunity Title: Geospatial Analyst
Opportunity Reference Code: EPA-SSP-0008-10

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-SSP-0008-10

Description The EPA Environmental Research and Business Support Program has an immediate opening for an **EPA Geospatial Analyst** with the Office of Research and Development at the EPA facility in Research Triangle Park, NC.

The Office of Research and Development at the EPA supports research to improve the scientific basis for decisions on national environmental issues and help EPA achieve its environmental goals. Research is conducted in a broad range of environmental areas by scientists in EPA laboratories and at universities across the country.

EPA's National Exposure Research Laboratory (NERL) protects human health and the environment by developing and applying innovations in exposure science. NERL provides scientific leadership, understanding, and tools necessary to quantify exposure for humans and ecosystems. Systems Exposure Division (SED) integrates exposure data, tools, methods & models to assess cumulative exposures to humans and ecosystems. This assessment uses systems-based approaches to organize current knowledge, simulate potential futures & synthesize results. SED translates information into decision-making frameworks that integrate human & ecological, multimedia, socio-economic & cumulative risk considerations to improve human well-being and the sustainability of the built and natural environment.

The Vector Mitigation project, a joint project between the EPA and the Office and Research and Development, is funded by Sustainable Healthy Community ReSES program. The project will deliver analysis products (e.g., simulation of potential abundance of Aedes, entomological life cycle-environmental determinants model, 1 m land cover map, etc.) that incorporate climate-induced variations, natural and built environmental determinants of Aedes habitat, social and demographic determinants, and their relationships and effects on mosquito abundance and arboviruses transmitted by mosquitos (e.g., Zika, dengue, etc.), and engage communities in effective mosquito mitigation. The researchers will examine historical data of mosquito-borne virus incidence in the US and around the border to identify factors and trends contributing to such outbreaks. Dengue, Chikungunya and Zika viruses are transmitted by Aedes sp. mosquitoes, which is most effectively controlled by eliminating containers of standing water that are their breeding sites. The project will build on US EPA EnviroAtlas interactive tools and other available community data resources for data layers and analysis. It will also provide information on mosquito breeding, and engage citizen scientists to photograph potential breeding sites and upload the images and form data to a GIS data base and mapping application. Together with the temporal-spatial simulation model, community leaders will be able to plan, prevent and respond to

these risks. Marginal communities are considered to be at risk for mosquito-borne incidences.

The selected candidate shall support crowdsourcing for environmental determinants of mosquito habitat. He/she shall assist in providing data management, data curation and data analysis support for the project. He/she shall assist in providing database management, file management, data curation and extraction, as well as performing qualitative and quantitative data analysis. Specifically, he/she shall assist in performing land cover mapping to develop high resolution urban maps for the US EPA EnviroAtlas for potential mosquito habitat. He/she will be part of a research team in the Sustainable Healthy Community Vector Mitigation project. The team includes researchers from EPA Office of Research and Development and environmental protection specialists in EPA Regions. The participants will also have the opportunity to interact with other federal and non-federal organization.

The selected candidate shall perform duties, as requested, according to specifications and instructions provided by the mentor. Where appropriate, he/she shall maintain careful and accurate records in designated research notebooks. These notebooks and all other data produced under this order will be the property of the Environmental Protection Agency. All necessary instructions and training will be provided by the EPA mentor. As indicated in the Statement of Work, the selected candidate may be expected to participate in conferences and seminars.

Data Development, Analysis and Crowdsourcing responsibilities shall include assisting with:

- Developing meter-scale urban land cover data from aerial photography and lidar data using ENVI, Genie Pro, and/or eCognition image classification software
- Performing analysis of land cover maps for ecosystem services, sustainability and mosquito habitats
- Processing GIS (Geographic Information System) data layers, including land cover classification and variables, heat island, etc.
- Mining of project relevant data and quality control
- Creating metadata and fact sheets supporting the data products
- Reviewing literature (e.g., publications of GIS data, spatial and temporal modeling, and mosquito habitat and risk distribution, Citizen Science, roles of social determinants in sustainable communities, etc.)
- Writing reports of relevant research activities and findings on mosquito habitat identifications through land cover and social determinants GIS data
- Providing input to the design of crowdsourcing and its platform and exploring efforts to transition individual modules into media services
- Assisting interactions with study communities
- Interacting with modeling and analysis component of the project for product delivery

Communications-related responsibilities will include:

Opportunity Title: Geospatial Analyst
Opportunity Reference Code: EPA-SSP-0008-10

- Assisting with the development or adoption of communication material at community level
- Participating as a member of a multi-disciplinary research team
- Interacting with other members of the project team
- Documenting code and database development efforts
- Assisting in facilitating meetings as required
- Participating as requested to present work performed in meetings and conferences

Location: This job will be located at EPA's facility in Research Triangle Park, NC.

Hours: Full-time

Salary: The selected applicant will become a temporary employee of ORAU and will receive an hourly wage of $27.72 for hours worked.

Travel: Occasional overnight travel may be required.

Working Conditions: The selected candidate shall be supervised by a mentor who will provide day-to-day direction, as well as coach, advise, counsel and review his/her work. The mentor for this position will be a federal EPA employee.

This position will involve work in an administrative setting and is not expected to involve exposure to hazardous elements.

Expected Start Date: The position is full time and expected to begin December 2016. The selected applicants will be temporary employees of ORAU working as contractors to EPA. The initial contract period is through May 14, 2017. EPA may elect to renew the contract for an additional three 12-month optional periods.

For more information, contact EPAjobs@orau.org. Do not contact EPA directly.

Qualifications **Eligible applicants must:**

- Be at least 18 years of age and
- Have earned at least a Master's degree in the fields of geospatial science, geography, landscape ecology, environmental science, atmospheric science, geosciences or a related field of study from an accredited university or college within the last 24 months, and
- Be a citizen of the United States of America or a Legal Permanent Resident.

EPA ORD employees, their spouses, and children are not eligible to participate in this program.

Required Knowledge, Skills, Work Experience, and Education

Successful candidates will have:

- Working knowledge of urban ecosystems, entomology, epidemiology or

Opportunity Title: Geospatial Analyst
Opportunity Reference Code: EPA-SSP-0008-10

public health
- Working experience and/or demonstrated education in GIS (geographic information systems), geospatial data compilation and analysis, land cover classification, remote sensing and image processing
- Strong written, oral and electronic and personal communication skills
- Proven ability to complete a task within a prescribed timeline is essential

Desirable Knowledge, Skills, Work Experience, and Education

It is desirable for the candidates to have the following:

- Experience programming in Python, R and C++, or other scripting languages
- Experience using ENVI, GeniePro and/or eCognition software
- Proficiency in Spanish language

How to apply

Submit application and supporting documents by clicking on Apply Now button.

For more information, contact EPAjobs@orau.org. Do not contact EPA directly.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree received within the last 24 month(s).
- **Discipline(s):**
  - **Earth and Geosciences** (21 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)

Affirmation

I certify that I am at least 18 years of age; a recent graduate with at least a Master’s degree in the fields of geospatial science, geography, landscape ecology, environmental science, atmospheric science, geosciences or a related field of study from an accredited university or college within the last 24 months; a citizen or a Legal Permanent Resident of the United States of America; and not a current employee of EPA ORD or the spouse or child of an EPA ORD employee.

ORAU is an Equal Opportunity Employer **(EOE AA M/F/Vet/Disability)**; visit the ORAU website for required employment notices.