

Opportunity Title: EPA Mangrove Forest Monitoring and Assessment Internship

Opportunity Reference Code: EPA-ORD-CPHEA-PHESD-2020-01-B

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CPHEA-PHESD-2020-01-B

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A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. All transcripts must be in English or include an official English translation. Click [here](#) for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations. Click [here](#) for detailed information about recommendations.

All documents must be in English or include an official English translation.

Application Deadline 3/1/2021 3:00:00 PM Eastern Time Zone

Description ***Applications may be reviewed on a rolling-basis and this posting could close before the deadline.** Click [here](#) for information about the selection process.

EPA Office/Lab and Location: A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Public Health Environmental Assessment (CPHEA), Public Health and Environmental Systems Division (PHESD) located in Chapel Hill, North Carolina.

Research Project: Mangrove forests provide important ecosystem goods and services to the world's dense coastal population and support important functions of the biosphere. These forests are under threat from both natural (e.g. typhoons, sea level rise) and anthropogenic forces (rapid economic development, population growth). The loss of these ecosystems can lead to the loss of ecosystem goods and services they provide. However, our scientific understanding is limited in regards to the rates, patterns and causes of changes to mangrove forest cover and their impact in providing ecosystem goods and services. The proposed research aims to examine dynamics of mangrove forests and associated change in ecosystem good and services of from 1985 to present using Earth Observation Satellite and in-situ data.

The research participant will have the opportunity to learn to develop and implement methodologies to detect and monitor mangrove forests of the world using remotely sensed data. Research activities may include: downloading satellite data, pre-processing, mosaicking, training data collection, image classification, accuracy assessment, and reporting writing.

Learning Objectives: With guidance from the mentor, the research



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participant will learn about land use/land cover classification using multi-temporal and multi-resolution satellite data. This involves hands on image processing software and spatial analysis using GIS (Geographic Information Systems). The research participant will also learn about presenting results to other colleges and learn about the scientific writing.

Mentor(s): The mentor for this opportunity is Chandra Giri (giri.chandra@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Winter/Spring 2021. All start dates are flexible and vary depending on numerous factors. Click [here](#) for detailed information about start dates.

Appointment Length: The appointment will initially be for one year and may be renewed three to four additional years upon EPA recommendation and subject to availability of funding.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. Click [here](#) for detailed information about full-time stipends.

EPA Security Clearance: Completion of a successful background investigation by the Office of Personnel Management (OPM) is required for an applicant to be on-boarded at EPA.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and EPA. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please see the [FAQ section](#) of our website. After reading, if you have additional questions about the application process please email EPArpp@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's degree in one of the relevant fields, or be currently pursuing the degree and will reach completion by the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Image processing using remote sensing software such as ERDAS and Google Earth Engine
- Spatial analysis using using GIS software such as ArcGIS
- Manuscript writing

If you have a master's degree or PhD please apply to [EPA-ORD-CPHEA-PHESD-2020-01-A](#).

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- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree received within the last 60 months or anticipated to be received by 5/31/2021 11:59:00 PM.
 - **Discipline(s):**
 - **Communications and Graphics Design** ([1](#))
 - **Earth and Geosciences** ([21](#))
 - **Environmental and Marine Sciences** ([13](#))
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).