

**Opportunity Title:** Research Opportunity in Remote Sensing of Hurricane

Impacts

**Opportunity Reference Code:** USDA-USFS-2019-0126

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-USFS-2019-0126

**How to Apply** A complete application package 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. Selected candidate must provide proof of completion of the degree before the appointment can start. Proof must be sent to ORISE directly from the academic institution including graduation date and degree awarded. All transcripts must be in English or include an official English translation. Click [Here](#) for detailed information about acceptable transcripts.
- A current resume/CV
- Two educational or professional recommendations

If you have questions, send an email to [USForestService@orise.orau.gov](mailto:USForestService@orise.orau.gov). Please include the reference code for this opportunity in your email.

**Application Deadline** 5/1/2020 3:00:00 PM Eastern Time Zone

**Description** \*Applications will be reviewed on a rolling-basis.

A research opportunity is currently available with the United States Department of Agriculture (USDA), U.S. Forest Service (USFS), Southern Research Station located in Asheville, North Carolina.


This is an opportunity to advance forest landscape monitoring following extreme forest disturbances. Recent advances in high-resolution remote sensing and cloud-based computing make it possible to provide detailed near-real-time vegetation change maps over large areas within a few days to weeks after an event occurs. Yet the severe hurricanes that have struck the Southeastern US in recent years have revealed the limitations of past and proposed efforts, such as the differences between what managers require and what vegetation indexes can provide, the confounding impacts of standing water, and the ephemeral impacts to deciduous vegetation and the need for nuanced interpretation from vegetation phenology. In addition, more attention is needed to understanding the resources at risk and improving the way we map, communicate and visualize both values at risk and both immediate and secondary impacts. This work is part of a collaborative effort to integrate use of available datasets including remote sensing technologies and forest inventory data. Work experience will include use of coarse and fine resolution remote sensing products to address applied forest monitoring problems, refine practical applications of cloud computing, and integrated use of forest inventory databases.


The mission of the Eastern Forest Environmental Threat Assessment Center (Center) is to generate knowledge and tools needed to anticipate and respond to environmental threats. The most serious threats to forests and the benefits they provide inevitably involve complex factors interacting at multiple scales. The Center's challenge is to maintain a holistic and integrated research program to tackle these complex issues. Research conducted by the Center is necessarily multidisciplinary,





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integrated, and applied. Corporate or team results are more highly valued than individual accomplishments. Thus, this research opportunity is expected to contribute to the design and development of integrated Center products, and to ensure successful delivery of scientific information and tools to managers.

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and the USFS. The initial appointment is for one year, but may be renewed upon recommendation of USFS contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. The appointment is full-time at USFS in the Asheville, North Carolina, area. Participants do not become employees of USFS, DOE or the program administrator, and there are no employment-related benefits.

This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details page](#) of the program website for information about the valid immigration statuses that are acceptable for program participation.

For more information about the USFS Research Participation Program, please visit the [Program Website](#).





## Qualifications

The qualified candidate should have received a master's or doctoral degree in one of the relevant fields.

Preferred skills:

- Advanced understanding and research experience in landscape ecology, remote sensing, GIS systems, large-scale database management, and analytical software such as R and Google Earth Engine
- Experience with cloud computing
- Demonstrated writing and communication skills

## Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 )
  - **Earth and Geosciences** (1 )
  - **Environmental and Marine Sciences** (3 )
  - **Social and Behavioral Sciences** (1 )