

**Resource Assessment Branch
Resource Inventory and Assessment Division
Soil Science & Resource Assessment
Natural Resources Conservation Service
U.S. Department of Agriculture**

- Position:** **GIS Climate Fellow
Cartographer/Geographer/Computer Science
(GS-1370/0150/1550-11/12)**
- Duty location:** **Beltsville, Maryland**
- Term limit:** **Initial 2-year appointment with the potential for additional 1-year extensions up to a total of 4-years.**
- Eligibility:** **with U.S. citizenship or work permit**

INTRODUCTION

This position serves within United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Science and Resource Assessment (SSRA), Resource Inventory and Assessment Division (RIAD), Resource Assessment Branch. Within NRCS, RIAD conducts the National Resources Inventory (NRI) program and assessments of natural resource conditions and trends in the United States. The Resource Assessment Branch (RAB) at RIAD assesses the condition and trends of land, soil, water, and related resources on the Nation's non-federal lands in support of efforts to protect, restore, and enhance the lands and waters of the United States. It leads the agency's Conservation Effects Assessment Project (CEAP) to model and analyze national, regional, and State conservation efforts and supports USDA in policy making for resource conservation.

This fellow is assigned to RAB as part of the Climate Change Fellows Program (CCPF) that USDA has established to gain the expertise needed to implement USDA's climate strategy under the Inflation Reduction Act (IRA) for better understanding and measuring the climate impacts of conservation and management practices and for improving greenhouse gas (GHG) estimates. The fellow will support RAB's climate work activities for the implementation of the IRA statute on data collection, compilation, analysis, modeling, and assessment using natural resource and physical scientific expertise. The fellow is expected to support a new interagency Conservation Practices Data Team (CPDT) as well as other associated key climate action area activities in RAB for quantifying and assessing soil and biomass C and GHG emissions.

MAJOR DUTIES AND RESPONSIBILITIES

The fellow will work with the Resource Assessment Branch Resource Analytics Lab and Modeling Team, Conservation Data Team, other key action area members, and collaborators to:

- Manage and organize geospatial data which are collected, generated, and shared by RIAD for conservation and GHG-related activity needs and develop associated metadata.
- Make recommendations for how to incorporate multiple source data sets (e.g., survey, monitoring, remotely sensed, model input/output) into geospatial computer systems or tools for timely data analysis, extraction, and visualization.
- Support geospatial data and tool needs through effective deliverables (e.g., tables, graphs, maps, interactive data tools) for addressing integrated assessment with natural resources, conservation-management practices, productivity, and atmosphere-climate.
- Assist with geospatial support activities and needs in RIAD's exiting programs (e.g., CEAP, NRI) as well as other NRCS program priorities.
- Assist in managing the ArcGIS Enterprise, Portal for ArcGIS, and ArcGIS Server applications for RIAD Resource Analytics Lab to organize and share information via web mapping services and web applications in a secure environment.
- Identify the gaps, research more recent and accurate geospatial data sources, and develop methods and procedures to obtain and compile new data sets.
- Accomplish diverse duties through the utilization of programming packages and advanced data management, analysis and visualization tools such as Java, C/C++, R, Python, Access, SQL, SAS, ERDAS Imagine, ArcGIS Pro, Google Earth Engine.

Other duties

Coordinate with internal and outside team members to complete assigned tasks. Develop and deliver presentations for internal and external audiences (e.g., conferences or workshops) and publications.

KNOWLEDGE REQUIRED BY THE POSITION

Professional knowledge of Geographic Information System (GIS) and remote sensing (RS) to conduct geospatial data processing, analysis, visualization, and management. Skills and capabilities to use and program Java, Python, or R scripts for processing and managing geospatial and relational data sets in server or cloud environments. Ability to conduct statistical analysis and perform tabular and geospatial data processes to derive temporal and spatial data sets required in agricultural ecosystem assessment.

Skills and knowledge in assembly of conservation practices, GHG-related data, and natural resource geospatial information such as land cover and land use data and soil information for ecosystem assessment. Ability to use ArcGIS, Web-based GIS, Tableau, Power BI, ERDAS Imagine, and/or SAS tools to process, analyze, and present data and results.

Skill to maintain and document data, tools, and models following existing metadata procedures or by developing new procedures if needed. Ability to writing clearly and objectively for reports and/or articles. Skill in planning and scheduling work and developing processes to ensure completion of activities within timelines. Ability to communicate with all levels of personnel. Interpersonal skills to work successfully with interdisciplinary team members and other agencies, non-Federal organizations, and contactors.