Introduction

The Famine Early Warning Systems Network (FEWS NET) is an integrated set of activities funded by the United States Agency for International Development (USAID) intended to provide timely, accurate, evidence-based, and transparent food security early warning information and analysis. Created in 1985 in response to famines in East and West Africa, FEWS NET provides global coverage through a mix of presence and remote monitoring. FEWS NET’s work is implemented across several pillars by a team of partners that includes the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the United States Department of Agriculture, the United States Geological Survey, the University of California-Santa Barbara’s Climate Hazards Center, Kimetrica, and Chemonics International (Chemonics). Chemonics houses FEWS NET’s Early Warning Team (EWT), a team charged with integrated emergency food insecurity analysis through a Washington-based technical office and more than 20 field offices.

Based on an in-depth understanding of local livelihoods, EWT members monitor information and data on factors that affect food security, such as weather conditions and climate, crops, pasture, markets and trade, and nutrition. The FEWS NET EWT produces regular reports, including Food Security Outlooks and Outlook Updates, emergency alerts, market and price updates, and global weather hazards analyses. FEWS NET makes reports available at www.fews.net and distributes them globally to governments, relief agencies, and other organizations engaged in humanitarian response and development programs.

The seventh phase of FEWS NET began in 2019. The work of FEWS NET EWT relies on close collaboration with international, regional, and national partners on food security data and information gathering and analysis. Major activities include joint monitoring and assessments, data exchanges, collaborative analysis and reporting, and technical capacity strengthening. FEWS NET supports local and regional food security networks to contribute to achieving the global objective of food security for all.

Position Description

The FEWS NET EWT’s acute food insecurity early warning analysis and decision support products rely on a diverse set of qualitative and quantitative data sources. These data are collected, cleaned, and analyzed routinely for incorporation into a range of regular reports and briefings and to respond to ad hoc information requests from USAID and other stakeholders. Data management and Geographic Information Systems (GIS) are, therefore, essential to achieving the FEWS NET EWT’s core mandate.

During the previous phase of FEWS NET, USAID funded the development of a FEWS NET Data Warehouse (FDW) to manage and archive many of the various databases project staff and other stakeholders use. The FEWS NET EWT collaborates with the FEWS NET Learning and Data Hub (Hub), implemented by Kimetrica, to develop essential database design components and data (both primary and secondary) to support the buildout of various data domains, including but not limited to: commodity prices, cross-border trade flows, agricultural production, acute malnutrition, historical food insecurity classifications, food insecure population estimates, and geographic
shapefiles. Additionally, the EWT utilizes a selection of mobile data collection and transmission system (MDTS) tools across its geographies to facilitate the collection and management of select primary data.

The FEWS NET EWT seeks a Data Management and GIS Specialist who has experience working with a variety of complex and large datasets, preferably within the humanitarian context, to provide support to ongoing data management and GIS activities across the team’s sectors (e.g., Decision Support, Markets and Trade, Livelihoods, Nutrition).

The Data Management and GIS Specialist will assist with the formatting of datasets for upload into the FDW. In addition, the Data Management and GIS Specialist will assist in the spatial and geographic coding of data, and GIS shapefile management. The individual will also support ongoing and future initiatives related to data collection and survey tools, the production of high-quality visual analyses, and data visualization tools (including interactive data monitoring products and tools).

Responsibilities

Responsibilities of the Data Management and GIS Specialist include but are not limited to:

**Data management and processing (50%)**
- Ensuring data are processed, cleaned, and archived in a timely fashion, in line with EWT and client requests. Undertaking this responsibility will include working closely with country and regional offices and sector specialists to ensure timely completion of data entry and processing tasks.
- Extracting data from unstructured source documents, such as PDFs and Excel sheets
- Geo-coding extracted data and uploading it into the FDW
- Tracking and resolving data upload issues with the Hub; creating and, as relevant, responding to helpdesk tickets using Jira system
- Identifying data irregularities and inconsistencies in source documents and processed datasets and proposing and implementing approved solutions
- Supporting and assisting in the design, implementation, and maintenance of the EWT’s new and/or existing applications and initiatives to leverage MDTS processes and tools
- Supporting and assisting in the design, implementation, and maintenance of the EWT’s new and/or existing applications and initiatives to manage, analyze, and visualize data for both regular and ad hoc reporting and decision support efforts
- Providing support to other data processing/data management tasks across the project, as needed

**GIS and ad-hoc mapping (40%)**
- Performing desk research on administrative boundary changes in FEWS NET countries
- Locating and identifying current and historical shapefiles for FEWS NET countries, ensuring that shapefiles have proper topology and are fitted to the FAO GAUL Admin0 (national) boundaries
- Producing tables and flow charts documenting changes in administrative boundaries over time for eventual upload into the FDW
- Maintaining FEWS NET’s global geo-database of shapefiles and mapping files, and update relevant GIS products in the FDW, when needed
- Supporting ad-hoc requests for thematic maps and other data visualization products

**Capacity strengthening and other (10%)**
- Providing in-person and remote recurring and ad hoc capacity strengthening to EWT staff on FDW processes and tools, including uploading files, data extraction, and the use of related offline tools
- Providing in-person and remote recurring and ad hoc capacity strengthening to EWT staff on MDTS processes and tools
- Assisting in the management and supervision of subcontractor task orders associated with EWT data processing and GIS deliverables, as requested

Qualifications

- Authorization to work in the United States required
- Fluency in written and spoken English is required; French, Spanish, and/or Arabic language skills are desired
- Bachelor’s Degree in computer science, information systems, or a GIS-related field is required; advanced university degree (Master’s degree or higher) is desirable
- At least two years of relevant experience (with PhD), four years of relevant experience (with Master’s degree), or six years of relevant experience (with Bachelor’s degree) is required. Relevant experience includes professional experience with GIS platforms, data science, data curation, and mobile data collection technologies. Demonstrated previous experience with statistical tools to perform analyses, such as Excel, PowerBI, or Tableau is required.
- Technical skills and knowledge in Python programming language is required
- Previous experience with mobile data collection tools (e.g., ODK, Magpi, KOBO), methods, and management is required
- Proficiency in the use of GIS software, with particular experience in ESRI products, is required—including a demonstrated ability to handle and process non-standardized data
- Additional skills with databases, scripting, and use of cloud services are desired
- Demonstrated previous experience using large socioeconomic datasets for analyses is desired
- Familiarity with Agile framework and software development methods and processes is desired
- Excellent research skills and ability to focus on details is required
- Demonstrated ability to communicate clearly and concisely both orally and in writing is required
- Demonstrated ability to provide guidance and capacity strengthening to adult learners is required
- Ability to work effectively both independently and as part of a multicultural team across numerous geographies is required

Location and Reporting

This is a full-time position based at the FEWS NET EWT Home Office in Washington, DC. The Data Management and GIS Specialist will work under the direct supervision of the FEWS NET Data Management Advisor. S/He will also collaborate with the Washington-based technical and management teams and technical staff in FEWS NET country and regional offices, as well as with other FEWS NET implementing partners, as relevant. The Data Management and GIS Specialist may be required to travel domestically and internationally, security and public health considerations permitting.