FEMA

Resource Typing Definition for Response Planning

GEOGRAPHIC INFORMATION SYSTEMS ANALYST

RESOURCE CATEGORY	Geographic Info Systems and Info Technology
RESOURCE KIND	Personnel
OVERALL FUNCTION	The Geographic Information System (GIS) Analyst conducts analysis of GIS data and products, maintains, and manages GIS products and resources
COMPOSITION AND ORDERING SPECIFICATIONS	1. This position can be ordered as a single resource or in conjunction with a National Incident Management System (NIMS) typed team (GIS Map Support Team or GIS Field Data Collection Team) 2. Requestor specifies any additional qualifications necessary based on incident complexity and needs 3. Discuss logistics for deploying this position, such as working conditions, length of deployment, security, lodging, transportation, and meals, prior to deployment

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

COMPONENT	TYPE 1	TYPE 2	NOTES
DESCRIPTION	Same as Type 2, PLUS: 1. Manages NIMS Type 2 GIS Analysts 2. Manages GIS resources across multiple nodes and locations 3. Provides coordination, oversight, and management 4. Serves as a leader in a GIS Map Support Team	The GIS Analyst: 1. Performs duties within a GIS section or team 2. Produces, maintains, and manages GIS products and resources 3. Conducts analysis of GIS data, including supporting data, for an incident 4. Has one or more of these technical specializations: a. Hazards United States (Hazus): Uses Hazus to perform in-depth analysis for flood, earthquake, wind, and storm surge b. Chemical, biological, radiological, and nuclear (CBRN): Performs in-depth analysis for CBRN incidents c. Wildland Fire: Performs in-depth analysis using fire behavior modeling prior to or during a wildland fire incident	Not Specified

COMPONENT	TYPE 1	TYPE 2	NOTES
EDUCATION	Same as Type 2	Completion of a formal GIS-related educational or certificate program or possession of Recognition of Prior Learning (RPL) focused on demonstrated knowledge and skills as the Authority Having Jurisdiction (AHJ) determines	GIS-related education comes in a variety of formats, including GIS certificates, GIS degrees, and GIS on-the-job training.
TRAINING	Same as Type 2, PLUS: E/L 0190: ArcGIS for Emergency Managers AND Minimum of 84 hours of hazard-specific Hazus training tailored to the area of operations: 1. E/L 0170: Hazus Multi-Hazard for Hurricane 2. E/L 0172: Hazus Multi-Hazard for Flood 3. E/L 0174: Hazus Multi-Hazard for Earthquake 4. E/L 0176: Hazus Multi-Hazard for Floodplain Managers 5. E/L 0179: Application of Hazus Multi-Hazard for Disaster Operations 6. E/L 0190: ArcGIS for Emergency Managers 7. E/L 0296: Application of Hazus Multi-Hazard for Risk Assessment 8. E/L 0317: Comprehensive Data Management for Hazus Multi-Hazard 9. Virtual Course: Introduction to the Hazus-MH 2.0 Storm Surge Model OR 1. CBRN specialization 2. CBRN modeling 3. Plume and blast modeling OR 1. Wildland fire specialization 2. Wildland fire behavior modeling	Completion of the following: 1. IS-100: Introduction to the Incident Command System, ICS-100 2. IS-200: Basic Incident Command System for Initial Response, ICS-200 3. E0313: Basic Hazus Multi-Hazard 4. IS-700: National Incident Management System, An Introduction 5. IS-703: National Incident Management System Resource Management 6. IS-775: Emergency Operations Center Management and Operations 7. IS-800: National Response Framework (NRF), An Introduction 8. IS-922: Applications of GIS for Emergency Management Formal or informal training consistent with GIS industry-standard certification or educational programs, including: 1. Geospatial database management 2. Editing and managing GIS resources 3. Creating and executing GIS queries 4. Use of scripting applications 5. Acquisition and use of remote sensing products	1. Type 1 GIS Analyst qualifications focus on additional qualifications needed for specialization in Hazus, CBRN, or Wildland Fire. 2. Introduction to the Hazus-MH 2.0 Storm Surge Model is available at www.fema.gov.

COMPONENT	TYPE 1	TYPE 2	NOTES
EXPERIENCE	Same as Type 2, PLUS: Knowledge, Skills, and Abilities for Hazus Specialization: 1. Generates and uses Hazus-MH (multi-hazard) models, including earthquake, flood, hurricane, and storm surge models 2. Applies Hazus-MH models to create maps, conduct analyses, and produce reports for use in situational awareness and decision-making OR Knowledge, Skills, and Abilities for CBRN Specialization: 1. Conducts infrastructure analysis 2. Uses and performs CBRN hazard modeling 3. Uses plume and blast modeling tools and methods 4. Serves as leader in conducting spatial analysis and production for all Consequence Management Area Assignments OR Knowledge, Skills, and Abilities for Wildland Fire Specialization: 1. Uses wildland fire behavior modeling tools and methods and has knowledge of wildland fire operations 2. Applies wildland fire data to create maps, conduct analyses, and produce reports for use in situational awareness and decision-making Experience: 1. Successful completion of the National Qualification System (NQS) Position Task Book (PTB) for the NIMS Type 1 Geographic Information Systems Analyst, or equivalent AHJ documentation 2. Experience managing people or project teams in a public safety or emergency management environment 3. Experience supporting multiple field deployments	Knowledge, Skills, and Abilities: 1. Uses common location reference systems, including United States National Grid (USNG), latitude/longitude, and other appropriate location languages in support of disaster operations 2. Creates reference, paper, thematic, and categorical maps 3. Manages data sets with different projections and creates GIS products 4. Prepares data for use in GIS software, and joins and edits GIS data and boundaries 5. Opens, manipulates, and analyzes attribute tables and raster-based data of GIS data 6. Creates maps from GPS point data or address lists and digitizes paper maps 7. Queries map information, based on attribute or location of feature(s) and creates a report from GIS data 8. Creates buffers, clips, intersects, unions, merges, and dissolves of GIS features 9. Publishes maps in multiple forms, including bulk printing, map books, and paper files 10. Evaluates different map types and data sources to understand limitations and presents the most useful information Experience: 1. Successful completion of the NQS PTB for the NIMS Type 2 Geographic Information Systems Analyst, or equivalent AHJ documentation 2. Practical GIS experience working in or supporting a public safety or emergency management agency	Reference maps include street maps, parcel maps, maps with addresses, and local area maps showing hazards. Categorical and thematic maps, such as statistical maps, flood maps, and maps created from analyses, have information to support decision-making.
PHYSICAL / MEDICAL FITNESS	Same as Type 2	Light	The NIMS Guideline for the NQS defines Physical/Medical Fitness levels for NQS positions.

COMPONENT	TYPE 1	TYPE 2	NOTES
CURRENCY	Same as Type 2	Functions in this position during an operational incident, planned event, exercise, drill, or simulation at least once every three years	Not Specified
PROFESSIONAL AND TECHNICAL LICENSES AND CERTIFICATIONS	Same as Type 2	1. Completion of GIS industry-standard certification program or equivalent 2. Maintains currency in the use and application of the latest GIS technology and certifications used in the industry	Not Specified

NOTES

Nationally typed resources represent the minimum criteria for the associated component and capability.

REFERENCES

1. FEMA, NIMS 508: Geographic Information Systems Map Support Team
2. FEMA, NIMS 508: Geographic Information Systems Field Data Collection Team
3. FEMA, National Qualification System (NQS) Position Task Book for Geographic Information Systems Analyst, latest edition adopted
4. FEMA, National Incident Management System (NIMS), October 2017
5. FEMA, NIMS Guideline for the NQS, November 2017
6. FEMA, National Response Framework, June 2016
7. U.S. Department of Homeland Security, Homeland Security Geospatial Concept of Operations (GeoCONOPS) v. 5.0, June 2013, or latest edition adopted