

## Research Analyst 2 (Geographic Information Systems)

### Knowledge, Skill, Ability, and Personal Characteristic Statements Rating Results

1	Knowledge of research design methods to conduct research projects and evaluation studies.
2	Knowledge of the scientific method and its appropriate uses and applications to develop and critique research projects and assignments.
3	Knowledge of data collection methods (e.g., survey, Global Positioning System [GPS]) to ensure the proper use and validation of the research results..
4	Knowledge of compiling, editing, documenting and interpreting quantitative and spatial data.
5	Ability to identify required data, information, materials, and resources needed to complete a project.
6	Ability to conduct a literature review using various resources (e.g., library, internet) to compile information and data from academic journals, research publications, and online sources.
7	Ability to design and develop research methodologies required to ensure the collection and analysis of appropriate, meaningful, and unbiased data.
8	Knowledge of principles and concepts of geography, cartography, geospatial processing, and computer mapping to conduct research.
9	Knowledge of the principles and procedures of geospatial data collection, management, and analysis to conduct research and respond to policy questions.
10	Knowledge of geodetic datums, map projections, and coordinate systems as they apply to geographic information systems.
11	Knowledge of principles and methods for describing the features of land, sea, and air masses (e.g. physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life).
12	Knowledge of various map products (e.g., U.S. Geological Survey, National Oceanic and Atmospheric Administration [NOAA], Public Land Survey System [PLSS], Parcel).
13	Ability to design effective cartographic products using standard mapping practices and conventions.
14	Ability to design and implement basic automated processes for capturing data and applying quality control procedures to design and implement research projects.
15	Ability to identify spatial data needs for complex analyses and to assess the adequacy of existing data to meet these needs.
16	Ability to verify, validate, and assess the accuracy of geospatial data to meet project needs.
17	Ability to design geospatial databases for standardization and usability.

18	Ability to present complex quantitative and geospatial data visually using maps to develop complete reports, presentations and posters.
19	Knowledge of spatial analysis techniques (e.g., overlay, network analysis, cost surfaces, 3D modeling) to address important policy, program evaluation, and other research questions.
20	Ability to perform basic arithmetic techniques (e.g., addition, subtraction, multiplication, division, decimals, percentages, and fractions) to analyze numerical data.
21	Knowledge of basic descriptive statistical analysis techniques (mean, median, mode) to formulate conclusions and recommendations.
22	Ability to combine pieces of information to form general conclusions or find a relation between variables.
23	Ability to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to research problems.
24	Knowledge of problem-solving techniques and processes to facilitate the identification and resolution of issues related to the completion of work assignments.
25	Ability to determine how a system or process works and how changes in inputs, operations, and environmental conditions would affect outcomes.
26	Ability to use sound research methods and principles to reach conclusions and/or make recommendations.
27	Ability to analyze statistical data to reach sound conclusions and/or make recommendations.
28	Ability to interpret data obtained through formal data gathering techniques (e.g., Global Positioning System (GPS), Surveys).
29	Ability to verify the validity and accuracy of data collected.
30	Ability to proofread and edit written materials (e.g., metadata, email, reports, and procedures) to ensure that they are accurate and clear.
31	Ability to read and comprehend complex or technical information in order to interpret or explain it to others.
32	Knowledge of proper spelling, grammar, punctuation, and sentence structure to ensure that written materials are complete, concise, and error-free.
33	Ability to communicate information clearly and concisely, in writing, to audiences with varying levels of understanding.
34	Ability to write reports, policies, and procedures using proper grammar, punctuation, and sentence structure.
35	Ability to visually present flow charts to convey process representations using various tools and methods (e.g., Visio, Word, PowerPoint).
37	Knowledge of time management techniques to provide for efficient prioritization and completion of projects and assignments.
38	Ability to be objective and flexible to adapt to changes in priorities and work assignments to ensure projects are completed on time and under budget.

39	Ability to work on multiple projects and assignments simultaneously to finish assignments on time and under budget.
40	Ability to complete work under critical timelines to meet project objectives and deadlines.
41	Ability to develop and prioritize short-range and long-range plans and schedules that coordinate with operating goals and objectives of the department.
42	Ability to work independently to complete projects in a timely manner.
43	Ability to work as a member of a team to complete projects in a timely manner.
44	Ability to verbally communicate with others at various levels to convey information effectively.
45	Ability to develop and maintain cooperative relationships (e.g., with governmental agencies, advocates, the public) to promote an environment that is conducive to carrying out research.
46	Ability to communicate with internal and external stakeholders with diplomacy and tact, especially concerning difficult and sensitive issues.
47	Ability to facilitate meetings and discussions in a manner that ensures participants remain focused on the intended topic and encourages active participation.
48	Ability to orally present research findings and/or other technical materials at the appropriate level of complexity for audiences of varying levels of understanding.
49	Ability to provide clear and accurate verbal instructions and directions to individuals with various levels of technical expertise.
50	Ability to access and process data located on databases, servers, the cloud, and/or PCs.
51	Knowledge of geospatial software (e.g., ArcGIS, InterGraph, ArcPad, Earth Resources Data Analysis System [ERDAS], Google Earth) to capture, analyze and display spatial data.
52	Ability to use geospatial software (e.g., ArcGIS, InterGraph, ArcPad, Earth Resources Data Analysis System [ERDAS], Google Earth) to capture, analyze and display spatial data.
53	Knowledge of geospatial hardware devices (e.g., Global Positioning System [GPS], mobile Geographical Information Systems [GIS], plotters, range finders, base stations) to capture, analyze and display spatial data.
54	Ability to use geospatial hardware devices (e.g., Global Positioning System [GPS], mobile Geographical Information Systems [GIS], plotters, range finders, base stations) to capture, analyze and display spatial data.
55	Ability to use word processing software (e.g., Microsoft Word) to prepare correspondence and reports.
56	Ability to use presentation software (e.g., PowerPoint) to prepare reports and presentations.
57	Ability to use spreadsheet software (e.g., Microsoft Excel) to prepare spreadsheet summaries and reports.

58	Ability to use database software (e.g., Access, special-purpose programming language (SQL) Server, Oracle) to query, store and manage data.
59.	Ability to use electronic mail and calendaring software (e.g., Microsoft Outlook, GroupWise) for e-mail and calendaring purposes.
60	Ability to function as a technical lead for complex projects to ensure their timely completion.
61	Ability to provide mentoring to staff to improve performance and productivity.
62	Ability to recognize when issues, activities, and/or decisions need to be elevated to management.
63	Ability to maintain high ethical standards in completing all assignments and projects.