--Oceanography (GS-1360) Competency Model--

KNOWLEDGES

Bureau-specific mission, vision, goals, and values
Bureau-specific policies and procedures
Standards of ethical conduct for U.S. Government employees
Theories, principles, and methods of oceanography and/or related physical sciences
Concepts, principles, and terminology related to field sampling, analytical methods, modeling and statistics
Methods for creating, exploring, evaluating, and sharing solutions for scientific problems, conditions, and issues
Assigned program areas, including associated constituent interests and current issues

SKILL DEFINITION

Analytics and Statistics ***Determine appropriate method to analyze data; interpret results of analyses ; display data in a fashion to support conclusions; and display results in a manner that is easily understood by the intended audience.***

1. Performs quality assurance/control assessments of current or historical data, including audits and editing.
2. Ensures effectiveness of data checking systems.
3. Compiles and organizes data.
4. Manipulates and analyzes data sets which may be of uneven quality or scale.
5. Applies spatial and temporal statistical techniques.
6. Conducts analyses of large complex data sets.

Computer and Information Technology ***Effectively use IT services and applications to perform job functions.***

1. Applies data storage software to maintain and organize collected data.
2. Applies spatial, analytical, statistical and presentation software to collected data.
3. Creates or maintains metadata for data collections.
4. Implements data quality standards as required.
5. Efficiently uses software and hardware to generate products.

Coordination ***Facilitate effective work processes by ensuring that roles and responsibilities are understood, synchronizing activities with others, and recommending process improvements.***

1. Identify appropriate personnel for specific coordinated projects.
2. Coordinates with others throughout organization to achieve work goals.
3. Prioritizes work and competing projects; coordinates activities with other groups using the same/similar resources.

Information Gathering ***Gathers information from all applicable sources, such as subject matter experts, organizational representatives, manuals and other guidance, published sources, and the internet.***

1. Reviews scientific literature to provide essential information.
2. Evaluates the suitability, relevance and currency of information and sources.
3. Identifies and gathers relevant data from various sources to analyze problems and issues.
4. Confers with people from other technical disciplines, or with other interests in activities.

Judgment and Decision-Making ***Make sound, well-informed and objective decisions; perceive the impact and implications of decisions; commit to action to accomplish organizational goals.***

1. Uses sound judgment to determine validity of methods and results when recorded data or results disagree.

Leveraging Diversity ***Respect, understand and value individual differences to achieve the vision and mission of the organization; hold self and others accountable for achieving results that embody the principals of diversity; leverage the talents of all employees, customers, stakeholders, and other constituents to achieve business and maximum effectiveness***.

1. Demonstrates sensitivity to cultural diversity, race, gender, disabilities, and other individual differences.

Oceanography and Related Science ***Applies extensive scientific knowledge to design, implementation, review, and critique research or measurements, or to advance assigned programs, and/or to complete assignments.***

1. Applies knowledge of biological, chemical, geological/geophysical and/or physical oceanography.
    a. Analyzes marine biological processes, including for example the genetics, taxonomy, biochemistry, and marine ecology of aquatic organisms and populations and their interactions with the environments of the oceans, coast, and atmosphere.
    b. Analyzes the composition of seawater, its current and historical processes and cycles, the effects of anthropogenic inputs, such as pollutants, and the chemical interaction of seawater with the atmosphere and seafloor.
    c. Analyzes marine geology, the structure, composition and tectonics of ocean basins and continental margins, and the properties of marine sediments.
    d. Analyzes the physical properties of the oceans, including for example: characteristics of water masses; heat budget; kinematics; gravity, pressure, hydrostatics, stability; horizontal flow; Coriolis force and geostrophy; friction, wind drift; general circulation; wave motions; tides and currents.
2. Develops, reviews, and applies policies or programs that incorporate scientific research results.
3. Generates oceanographic products to support the general public, academia, local, state and Federal decision makers.

Oral Communication ***Expresses information (for example, ideas or facts) to individuals or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately.***

1. Presents scientific findings/results at technical conferences.
2. Communicates with people from other technical disciplines.
3. Presents scientific concepts/ideas to non-scientific audiences in a meaningful way (using plain language).
4. Participates in or conducts group meetings, committees, and/or internal reviews. Ensures all participants have equal opportunity to speak.
5. Orients new and other staff; freely shares knowledge.
6. Articulates ideas and research to colleagues and supervisors.

Partnering ***Develops networks and builds alliances with customers, vendors, and other external partners; meets mission requirements and provides services and products to partners by collaborating across boundaries.***

1. Participates in external activities such as: conferences, panels, review boards, conference organizational committees, journal reviews.
2. Collaborates and networks with those internally and externally who have special skills for accomplishing job tasks.
3. Collaborates on interdisciplinary teams.

Problem Solving ***Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations.***

1. Gathers relevant data to analyze problems and issues.
2. Makes connections or sees interrelationships between disparate concepts.
3. Demonstrates broad scientific interests to allow for use of different approaches toward solving problems.
4. Uses innovative yet sound reasoning (i.e., thinks “outside the box” when needed); troubleshoots methodically and with an open mind.
5. Continually evaluates reasoning to ensure that answers are correct and well-reasoned.
6. Applies sound judgment to decide validity of methods and results when results from different experiments disagree.
7. Applies logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Quality Focus ***Conducts reviews of products, services, or processes to evaluate quality or performance.***

1. Reviews lab results, analyses, and conclusions of team members, and/or other researchers; helps troubleshoot problems.
2. Critiques presentations and manuscripts of team members.
3. Participates in quality assurance research programs

4. Reviews data for quality assurance and takes appropriate corrective action where inconsistencies are found.
5. Documents issues such as data limitations so that others can understand.
6. Follows applicable internal quality systems.

Research Design And Execution ***Develops and implements a process or strategy to solve a scientific problem or further knowledge using rigorous scientific methods and/or novel approaches; considers available data resources, obtaining additional data when necessary and appropriate.***

1. Conducts field or laboratory inquiries.
2. Collects, records, and inputs data into recording system.
3. Applies quality assurance procedures in collection and maintenance of data.
4. Investigates relationships between variables.
5. Draws accurate conclusions from data, and documents reasoning.
6. Develops and applies new measures and technology when necessary.
7. Develops research proposals germane to questions involving the oceans.

Teamwork ***Work with others to achieve goals; facilitate cooperation, trust, and group identity; foster commitment and team spirit; manage and resolve conflicts. Shows understanding, friendliness, courtesy, tact, empathy, concern, and politeness to others; develops and maintains effective relationships with others; may include effectively dealing with individuals who are difficult, hostile, or distressed; relates well to people from varied backgrounds and different situations.***

1. Confers with internal and external scientists and engineers to exchange ideas and explore collaborative efforts.
2. Cultivates and maintains collegial working relationships.
3. Demonstrates respect for the needs of others; recognizes that others have priorities as well as one's own.
4. Manages conflicts, confrontations, and disagreements constructively.
5. Applies appropriate negotiation approaches to find mutually beneficial solutions to problems and/or conflicts.
6. Gains cooperation from internal and external sources to obtain information and accomplish goals.

Written Communications ***Recognizes or uses correct English grammar, punctuation, and spelling; communicates information (for example, facts, ideas, or messages) in a succinct and organized manner; produces written information, including technical material that is appropriate for the intended audience.***

1. Writes various technical materials using scientific methodology pertinent to oceanographic specialties, including internal reports, internal and external grants and proposals, cooperative agreements, memoranda of understanding, papers for publication/dissemination, memoranda, and similar.
2. Maintains clear and thorough written records of research so that others may confirm results.

3. Reviews other staff members' written work and makes constructive suggestions for improvement.
4. Uses email appropriately and professionally as a means to communicate with customers, colleagues, partners, managers, etc.