

---Meteorology (GS-1340) 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 meteorology and/or related physical sciences

Concepts, principles, and terminology related to analytical methods, modeling and statistics

Methods for creating, exploring, evaluating, and sharing solutions for scientific problems, conditions, and issues

Assigned program areas, including associated stakeholder interests and current issues

(* Foundational)

SKILL

DEFINITION

Coordination

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

1. Connects with others throughout organization to achieve work goals.
2. Prioritizes work and competing projects; coordinates activities with other groups using the same/similar resources.

Creative Thinking

Uses imagination to develop new insights into situations and applies innovative solutions to problems; designs new methods where established methods and procedures are inapplicable, ineffective, or unavailable.

1. Identifies application of current research and practices to emerging mission needs.
2. Devises novel ways to apply technical discipline.
3. Develops or applies innovative solutions to problems.
4. Reviews scientific literature to inspire new ideas or directions for examination or research.
5. Integrates the acquisition of knowledge or skills into day-to-day work.

Customer Service

Works with clients and customers (that is, any individuals who use or receive the services or products that your work unit produces, including the general public, individuals who work in the agency, other agencies, or organizations outside the Government) to assess their needs, provide information or assistance, resolve their problems, or satisfy their expectations; knows about available products and services; is committed to providing quality products and services.

1. Communicates effectively with customers.
2. Promotes organization's world-class expertise and unique tools/techniques/ capabilities to meet other organizations' needs.
3. Conducts outreach to the general public (e.g. students and special interest groups); explains research and field projects and their significance.

4. Assesses needs of stakeholders; offers responsive solutions to match requirements. Translates needs for entry into official requirements processes.
5. Influences others to believe in the spirit of public service and their commitment to make a meaningful contribution.

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 for possible application.
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 *Facilitates effective work processes by ensuring that roles and responsibilities are understood, synchronizing activities with others, and recommending process improvements.*

1. Uses sound judgment to determine validity of methods and results when recorded data or results disagree.
2. Assimilates information resulting in timely and sound decisions for appropriate course of action under challenging circumstances.

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.

Leadership *Achieves sustainable results by bringing people together with self to influence their actions and growth towards an attainment of desired goals.*

1. Supports others' commitment to their work and organizational excellence.
2. Encourages others to do their best.
3. Acknowledges achievements and contributions.

Oral Communication *Apply sound principles and techniques toward managing aquatic resources. Ensure appropriate financial management.*

1. Presents scientific findings/results at technical conferences.
2. Communicates with people from various 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.
5. 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. Determines and evaluates the requirements to resolve problems.*

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 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 project 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, products, and services 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.

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.
2. Respects and collaborates successfully with people with different skills and backgrounds and perspectives.
3. Considers and responds appropriately to the needs, feelings, and capabilities of others.

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 “out of 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.

- 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, 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 experiments 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.

Analytics and Statistics *Determine appropriate method to analyze data; display data in a fashion to support conclusions; interpret results of analyses.*

1. Understands forecasting and climatological data requirements.
2. Develops and/or applies appropriate techniques for the provision of weather, water, and climate forecasts and services.
3. Performs quality assurance assessments of data, including reviews and editing.
4. Ensures effectiveness of data quality control.
5. Applies spatial and temporal statistical techniques.
6. Conducts analyses of large complex data sets of uneven quality or scale.

Application of Atmospheric and Related Sciences *Applies scientific knowledge to the design, implementation, review, and critique of research and development activities and/or the provision of services. Complete assignments that link scientific knowledge to address a practical problem or issue to meet user needs.*

1. Applies knowledge of atmospheric sciences: physical meteorology, dynamic meteorology, synoptic meteorology, climatology, and/or atmospheric chemistry
2. Applies knowledge of mathematics, physics, chemistry, hydrology, aeronomy, and oceanography
3. Diagnoses and analyzes the current and future state of the atmosphere and water resources to produce products and deliver services to accomplish the organization's mission.
4. Conducts applied research and development to advance understanding of the Earth's environment, improve the organization's ability to support the protection of life and property, and enhance the management of resources to meet economic, social, and environmental needs.
5. Develops and/or applies information from numerical prediction systems.
6. Develops analysis and forecast applications to improve forecast and warning services.

Computer and Information Technology *Effectively use IT services and applications to perform job functions. Uses computers, computer systems and networks (including hardware and software) to program, set up functions, enter data, and/or process information.*

1. Performs routine user maintenance and understands basic trouble shooting procedures of office IT and communications systems.
2. Applies appropriate software to store and organize collected data.
3. Applies spatial, analytical, statistical and presentation software to collected data.
4. Develops and implements new data display, interrogation, and analysis techniques
5. Implements Federal data quality standards.

Data Collection, Management, and Interpretation *Collects, interprets, and applies data from environmental observational systems. Manages data networks and develops applications for real-time and/or historical data.*

1. Implements, operates, and/or monitors observing/remote sensing systems and data.
2. Makes, codes, and transmits accurate weather and water observations.
3. Applies quality assurance procedures in collection and maintenance of data.
4. Uses direct observational (surface and upper air) and remotely sensed data to analyze the state of the atmosphere and water resources, identify features, diagnose various physical processes and examine their potential scale interactions
5. Draws reasonable conclusions from all relevant data, and documents reasoning.
6. Develops new algorithms and data analysis techniques to support the organization's mission.

Electronics and Systems Technology *Knowledge of electronic and electro-mechanical meteorological perform instrumentation and systems. Effectively maintain and use various equipment and systems to job functions.*

1. Provides input into the design specifications of observing systems.
2. Develops new observational sensors or systems to support the organization's mission.
3. Operates equipment assigned as part of normal duties.
4. Sets up and adjusts calibration equipment and the devices under calibration