

## ---Cartography (GS-1370) Competency Model---

The Cartography competency model is comprised of four roles. The four roles are:

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- **Technical Expert** – maintains the national navigational database from which to construct, maintain and distribute National Ocean Service (NOS) nautical products and services for the marine public and federal and state resource managers; performs as a trainee carrying out the most basic developmental cartographic tasks and projects under close and detailed technical supervision on task/project objectives, limits, work plans and conclusions; learns the accepted principles, standards, and procedures of the Marine Chart Division (MCD).
  - **Strategic Partner** – collaborates and communicates openly and effectively within OCS organizational boundaries to facilitate the achievement of goals.
  - **Change Agent** – Performs as a trainee learning established procedures; recognizes need for change and learns how change is effected in the organization. Gathers information, conducts initial evaluation to assist in developing recommendations for process improvement(s).
  - **Leader** – Observes positive role model qualities to increase understanding of leadership styles. Develops role model qualities in order to motivate work group members and achieve assigned goals; projects enthusiasm and contributes to moving the work group in a positive direction.
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Each role consists of a mix of knowledge and skills that pertain to the role. The knowledge and skills that are common across all four roles are considered “core”; these are listed immediately below. Those knowledge and skills that are specific to each individual role are listed, by role, following the core knowledge/skill listing.

### CORE

KNOWLEDGE	DEFINITION
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**NOAA mission, vision, goals, and values:** Knowledge of the mission, vision, goals, and values that drive the organization and influence all organizational decision-making processes.

**NOAA and NOS policies and procedures:** Knowledge of the policies and procedures for conducting business, and developing products and services, considering stewardship of public resources.

**Cartographic theories, concepts, and principles:** Applies the body of professional cartography knowledge to produce products for end users.

Grade	Evidence of Competency
ZP-1	1. Produces NOS nautical products according to the basic theories that govern cartographic presentation based on scale, production methods

	<p>and intended usage with the assistance of advance/expert level personnel.</p> <p>2. Understands detailed specifications prescribed by the Nautical Chart Manual (NCM).</p>
ZP-2	<p>1. Produces NOS nautical products according to the basic theories that govern cartographic presentation based on scale, production methods and intended usage under the supervision of advance/expert level personnel.</p> <p>2. Utilizes detailed specifications prescribed by the NCM.</p>
ZP-3	<p>1. Produces NOS nautical products according to the basic theories that govern cartographic presentation based on scale, production methods and intended usage without assistance or supervision of advance/expert level personnel.</p> <p>2. Utilizes detailed specifications prescribed by the NCM.</p>

**MCD principles, standards, processes, and procedures: Produces nautical products within the highest degree of accuracy in compliance with the accepted principles, standards, and procedures of the Marine Chart Division (MCD) by using appropriate production standards, specifications, tools and databases.**

<b>Grade</b>	<b>Evidence of Competency</b>
ZP-1	<ol style="list-style-type: none"> <li>1. Learns about topographic and hydrographic data sources, their authority and intended usage.</li> <li>2. Learns the functions and available operations provided by DREG.</li> <li>3. Learns the functions of CRIT database.</li> <li>4. Learns about the content of nautical publications as they complement the NOS nautical product (i.e., Light List, US Coast Pilot, CHART No. 1, online resources).</li> <li>5. Learns the differences between critical and non-critical product corrections.</li> <li>6. Learns the significance of cartographic decisions and how they affect the protection of life, property and environment; learns of the cartographer's role as a government agent; learns of the liability of the NC nautical product.</li> </ol>
ZP-2	<ol style="list-style-type: none"> <li>1. Applies topographic and hydrographic data sources; explains their authority and intended usage.</li> <li>2. Utilizes the functions and available operations provided by DREG.</li> <li>3. Utilizes the functions of CRIT database.</li> <li>4. Identifies and explains the content of nautical publications as they complement the NOS nautical product (i.e., Light List, US Coast Pilot, CHART No. 1, online resources).</li> <li>5. Identifies and explains criteria, rationale and changes to chart content requiring Notice to Mariners action or chartlet construction.</li> <li>6. Aware of the significance of cartographic decisions and how they affect the protection of life, property and environment; awareness of the cartographer's role as a government agent; awareness of the liability of the NC nautical product.</li> </ol>
ZP-3	<ol style="list-style-type: none"> <li>1. Applies and certifies topographic and hydrographic data sources;</li> </ol>

	<p>instructs others on their authority and intended usage.</p> <ol style="list-style-type: none"> <li>2. Utilizes the functions and available operations provided by DREG; instructs others in its intended usage.</li> <li>3. Utilizes the functions of CRIT database; instructs others in its intended usage.</li> <li>4. Identifies and explains the content of nautical publications as they complement the NOS nautical product (i.e., Light List, US Coast Pilot, CHART No. 1, online resources); instructs others in their authority and intended usage.</li> <li>5. Identifies, instructs and certifies criteria, rationale and changes to chart content requiring Notice to Mariners action or chartlet construction.</li> <li>6. Aware of the significance of cartographic decisions and how they affect the protection of life, property and environment; awareness of the cartographer's role as a government agent; awareness of the liability of the NC nautical product.</li> </ol>
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**MCD production workflows: Understands established production workflows and how they relate to each other.**

<b>Grade</b>	<b>Evidence of Competency</b>
ZP-1	<ol style="list-style-type: none"> <li>1. Learns the workflow for RNC, ENC, and POD nautical product lines.</li> <li>2. Learns what is required to perform nautical product maintenance to ensure delivery of the best available data to the marine public.</li> <li>3. Learns the NOS hydrographic data management functions to include survey origin, data acquisition, processing, documentation and data archival systems.</li> <li>4. Learns about Quality Management Systems and associated principles as practiced by the MCD.</li> </ol>
ZP-2	<ol style="list-style-type: none"> <li>1. Describes the workflow for RNC, ENC, and POD nautical product lines; awareness of differences in responsibilities for each workflow process.</li> <li>2. Performs nautical product maintenance to ensure delivery of the best available data to the marine public. Utilizes related production systems (i.e., POD, NTM).</li> <li>3. Learns the NOS hydrographic data management functions to include survey origin, data acquisition, processing, documentation and data archival systems.</li> <li>4. Applies Quality Management Systems and associated principles as practiced by the MCD.</li> </ol>
ZP-3	<ol style="list-style-type: none"> <li>1. Describes the workflow for RNC, ENC, and POD nautical product lines; differentiates responsibilities for each workflow process.</li> <li>2. Performs nautical product maintenance and certification to ensure delivery of the best available data to the marine public. Utilizes related production systems (i.e., POD, NTM).</li> <li>3. Identifies and explains the NOS hydrographic data management functions to include survey origin, data acquisition, processing, documentation and data archival systems.</li> <li>4. Applies Quality Management Systems and associated principles as</li> </ol>

	practiced by the MCD.
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**Customer/client requirements and use of nautical products and services: Understands customer/client requirements and intended use of nautical products and services to promote safe navigation.**

<b>Grade</b>	<b>Evidence of Competency</b>
ZP-1	<ol style="list-style-type: none"> <li>1. Aware of navigational electronic systems, such as Electronic Chart Display and Information System (ECDIS), Raster Chart Display System (RCDS) and Electronic Chart System (ECS).</li> <li>2. Learns the concepts of cartographic portrayal of hydrographic data as it relates to navigational requirements.</li> </ol>
ZP-2	<ol style="list-style-type: none"> <li>1. Aware of navigational electronic systems, such as ECDIS, RCDS and ECS.</li> <li>2. Learns the concepts of cartographic portrayal of hydrographic data as it relates to navigational requirements.</li> </ol>
ZP-3	<ol style="list-style-type: none"> <li>1. Understands navigational electronic systems, such as ECDIS, RCDS and ECS; differentiates characteristics of each system.</li> <li>2. Characterizes and instructs others on the concepts of cartographic portrayal of hydrographic data as it relates to navigational requirements.</li> </ol>

<b>SKILL</b>	<b>DEFINITION</b>
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**Coordination: Facilitates effective work processes by ensuring that roles and responsibilities are understood, synchronizing activities with others, and recommending process improvements.**

<b>Grade(s)</b>	<b>Evidence of Competency</b>
All	<ol style="list-style-type: none"> <li>1. Participates in setting goals that are consistent with organizational priorities.</li> <li>2. Plans work activities to complete assignments in an effective and efficient manner.</li> <li>3. Manages activities to avoid conflicts, meet established deadlines, and achieve objectives.</li> <li>4. Adjusts plans, activities, or priorities to adapt to changing situations.</li> <li>5. Communicates responsibilities and accountabilities to others.</li> <li>6. Verifies responsibilities and accountabilities for self and others.</li> <li>7. Synchronizes schedules and activities with others.</li> <li>8. Informs supervisor of project status, problems, and significant developments.</li> <li>9. Organizes meetings and other activities (e.g., conference calls, visits) for internal and external personnel.</li> <li>10. Teams with other organizations or coworkers to achieve objectives.</li> </ol>

**Information Gathering: Gather information from all applicable sources, such as subject matter experts, organizational representatives, Standard Operating Procedures (SOPs), manuals, other employee guidance, books, and the Internet and intranet.**

<b>Grade(s)</b>	<b>Evidence of Competency</b>
All	<ol style="list-style-type: none"> <li>1. Selects the best collection methods to acquire required information.</li> <li>2. Researches various sources for required information.</li> <li>3. Identifies information to satisfy requirements.</li> <li>4. Gathers information needed for completion of job or tasking.</li> <li>5. Attends briefings and meetings to obtain information.</li> <li>6. Consults with internal and external experts to acquire or clarify information.</li> <li>7. Evaluates the suitability, relevance, and currency of information resources.</li> </ol>

**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.**

<b>Grade(s)</b>	<b>Evidence of Competency</b>
All	<ol style="list-style-type: none"> <li>1. Makes sound decisions based on an analysis of the available information.</li> <li>2. Considers the relative costs and benefits of potential actions.</li> <li>3. Anticipates obstacles and the likely consequences of actions.</li> <li>4. Raises decisions to the next level when necessary.</li> <li>5. Makes decisions in timely manner, sometimes with incomplete information and under tight deadlines.</li> <li>6. Considers both long- and short-term implications of decisions.</li> <li>7. Monitors progress and outcomes of decisions.</li> </ol>

**Oral Communication: Express information to individuals or groups effectively, taking into account the audience and nature of the information; listen to others, attend to nonverbal cues, and respond appropriately.**

<b>Grade(s)</b>	<b>Evidence of Competency</b>
All	<ol style="list-style-type: none"> <li>1. Expresses ideas and issues clearly and concisely.</li> <li>2. Uses oral communication methods (e.g., phone, in person, meetings) appropriate to the situation.</li> <li>3. Listens to the viewpoints of others.</li> <li>4. Communicates complex information and data in simple terms.</li> <li>5. Conducts briefings that are tailored to the intended audience, context, and needs.</li> <li>6. Asks questions as appropriate to understand the points being made by others.</li> <li>7. Asks questions to assess the audiences' level of understanding.</li> <li>8. Responds to feedback from others to change communication accordingly.</li> </ol>

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## TECHNICAL EXPERT

SKILL	DEFINITION
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**Problem Solving: Identify problems; determine the relevance and usefulness of information for addressing problems; use sound judgment to generate and evaluate alternatives to make recommendations and take necessary action.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"><li>1. Analyzes information and trends to anticipate or identify problems.</li><li>2. Examines multiple data sources to determine root cause(s) of a problem.</li><li>3. Analyzes complex problems, breaking them into manageable parts.</li><li>4. Generates alternative solutions and methods when solving problems.</li><li>5. Solicits input from others when solving problems.</li><li>6. Considers input from others when designing solutions.</li><li>7. Evaluates alternative solutions to determine the best option.</li><li>8. Produces solutions based on appropriate analysis of information.</li><li>9. Produces solutions in a timely manner to support mission-related priorities and objectives.</li><li>10. Follows through with solutions to produce results.</li><li>11. Defends problem resolution strategy.</li></ol>

**Quality Focus: Conduct timely reviews of products, services, or processes to evaluate quality or performance.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"><li>1. Considers standards of quality for a given product or service.</li><li>2. Analyzes services and products for completeness, validity, reliability, and other qualifiers.</li><li>3. Compares information with previous work for consistency and quality control.</li><li>4. Compares quality of product and/or service to requirement.</li><li>5. Evaluates products and services for continual improvement.</li><li>6. Evaluates products and services for quality and timeliness.</li><li>7. Examines product specifications for compatibility with customer needs.</li><li>8. Makes suggestions to improve quality of products prior to release/dissemination.</li><li>9. Reviews products for completeness within established deadlines and other constraints.</li><li>10. Reviews instructions/procedures (e.g., SOPs, manuals) to ensure compliance with requirements.</li><li>11. Recommends process improvements to decision-makers (e.g., management, project leads, technical experts).</li></ol>

**Teamwork: Work with others to achieve goals; facilitate cooperation, trust, and group identity; foster commitment and team spirit; manage and resolve conflicts.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Cooperates with team members to achieve goals.</li> <li>2. Contributes input to ongoing group activities and processes.</li> <li>3. Demonstrates respect and courtesy for other team members.</li> <li>4. Fosters an organizational environment where team members support one another.</li> <li>5. Manages conflicts in a constructive manner to achieve productive resolutions.</li> <li>6. Facilitates cooperation, trust, and group identity among team members.</li> <li>7. Fosters commitment and team spirit.</li> <li>8. Recognizes coworkers for their contributions to organizational goals/outcomes.</li> <li>9. Maintains cooperative relationships with other teams/departments in the organization.</li> </ol>

## STRATEGIC PARTNER

### KNOWLEDGE

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**Standards of ethical conduct for U.S. Government employees: Knowledge of the standards for ethical conduct for Federal employees.**

### SKILL

### DEFINITION

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**Partnering: Develop networks and build alliances with customers, vendors, and other partners to meet mission requirements and provide services and products by collaborating across boundaries.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Acknowledges receipt of partner requests, concerns, and suggestions.</li> <li>2. Communicates with partners to build working relationships.</li> <li>3. Exchanges current information with partners to ensure a common understanding.</li> <li>4. Incorporates partner feedback into plans and activities.</li> <li>5. Manages partner expectations by providing realistic information and estimates.</li> <li>6. Tailors products and services to meet unique or specific partner requirements (e.g., format, classification, medium, timeliness, distribution).</li> <li>7. Expedites delivery of services, supplies, materials, and/or equipment to meet mission goals.</li> <li>8. Coordinates with partners in preparation for joint activities or events.</li> <li>9. Resolves complaints with partners.</li> <li>10. Solicits partner feedback to ensure needs are being satisfied and to improve products and services.</li> <li>11. Tailors feedback to partner needs and constraints.</li> </ol>

**Written Communication: Compose written materials in a succinct and organized manner; use correct English grammar, punctuation, and spelling; produce written information, which may include technical material, that is appropriate for the intended audience.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Composes written materials (e.g., emails, memoranda, documents) in a succinct and organized manner.</li> <li>2. Edits documents for grammar, punctuation, spelling, format, organization, and flow.</li> <li>3. Tailors writing style to the intended audience.</li> <li>4. Reviews correspondence (e.g., fax, messages, reports) to ensure information is accurate.</li> <li>5. Writes reports to communicate findings, results, or accomplishments.</li> <li>6. Documents job-related and administrative procedures to ensure consistent application in performance of tasks.</li> <li>7. Documents results and outcomes of meetings and discussions.</li> <li>8. Edits documents for compliance with standards, style guidance, and publication policies.</li> </ol>

## **CHANGE AGENT**

### **KNOWLEDGE**

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**Standards of ethical conduct for U.S. Government employees: Knowledge of the standards for ethical conduct for Federal employees.**

### **SKILL**

### **DEFINITION**

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**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 principles of diversity; leverage the talents of all employees, customers, stakeholders, and other constituents to achieve business results and maximum effectiveness.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Elicits multiple viewpoints to improve the quality of products and services.</li> <li>2. Considers diverse perspectives in interacting with others.</li> <li>3. Respects the opinions and perspectives of a diverse set of employees, customers, stakeholders, and other constituents when creating products and/or rendering services.</li> <li>4. Maintains accountability for considering individual differences in achieving results.</li> </ol>

**Problem Solving: Identify problems; determine the relevance and usefulness of information for addressing problems; use sound judgment to generate and evaluate alternatives to make recommendations and take necessary action.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Analyzes information and trends to anticipate or identify problems.</li> <li>2. Examines multiple data sources to determine root cause(s) of a problem.</li> <li>3. Analyzes complex problems, breaking them into manageable parts.</li> <li>4. Generates alternative solutions and methods when solving problems.</li> <li>5. Solicits input from others when solving problems.</li> <li>6. Considers input from others when designing solutions.</li> <li>7. Evaluates alternative solutions to determine the best option.</li> <li>8. Produces solutions based on appropriate analysis of information.</li> <li>9. Produces solutions in a timely manner to support mission-related priorities and objectives.</li> <li>10. Follows through with solutions to produce results.</li> <li>11. Defends problem resolution strategy.</li> </ol>

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All	<ol style="list-style-type: none"> <li>1. Considers standards of quality for a given product or service.</li> <li>2. Analyzes services and products for completeness, validity, reliability, and other qualifiers.</li> <li>3. Compares information with previous work for consistency and quality control.</li> <li>4. Compares quality of product and/or service to requirement.</li> <li>5. Evaluates products and services for continual improvement.</li> <li>6. Evaluates products and services for quality and timeliness.</li> <li>7. Examines product specifications for compatibility with customer needs.</li> <li>8. Makes suggestions to improve quality of products prior to release/dissemination.</li> <li>9. Reviews products for completeness within established deadlines and other constraints.</li> <li>10. Reviews instructions/procedures (e.g., SOPs, manuals) to ensure compliance with requirements.</li> <li>11. Recommends process improvements to decision-makers (e.g., management, project leads, technical experts).</li> </ol>

**Teamwork: Work with others to achieve goals; facilitate cooperation, trust, and group identity; foster commitment and team spirit; manage and resolve conflicts.**

Grade(s)	Evidence of Competency
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All	<ol style="list-style-type: none"> <li>1. Cooperates with team members to achieve goals.</li> <li>2. Contributes input to ongoing group activities and processes.</li> <li>3. Demonstrates respect and courtesy for other team members.</li> <li>4. Fosters an organizational environment where team members support one another.</li> <li>5. Manages conflicts in a constructive manner to achieve productive resolutions.</li> <li>6. Facilitates cooperation, trust, and group identity among team members.</li> <li>7. Fosters commitment and team spirit.</li> <li>8. Recognizes coworkers for their contributions to organizational goals/outcomes.</li> <li>9. Maintains cooperative relationships with other teams/departments in the organization.</li> </ol>
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**Written Communication: Compose written materials in a succinct and organized manner; use correct English grammar, punctuation, and spelling; produce written information, which may include technical material, that is appropriate for the intended audience.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Composes written materials (e.g., emails, memoranda, documents) in a succinct and organized manner.</li> <li>2. Edits documents for grammar, punctuation, spelling, format, organization, and flow.</li> <li>3. Tailors writing style to the intended audience.</li> <li>4. Reviews correspondence (e.g., fax, messages, reports) to ensure information is accurate.</li> <li>5. Writes reports to communicate findings, results, or accomplishments.</li> <li>6. Documents job-related and administrative procedures to ensure consistent application in performance of tasks.</li> <li>7. Documents results and outcomes of meetings and discussions.</li> <li>8. Edits documents for compliance with standards, style guidance, and publication policies.</li> </ol>

## **LEADER**

### **KNOWLEDGE**

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**Standards of ethical conduct for U.S. Government employees: Knowledge of the standards for ethical conduct for Federal employees.**

<b>SKILL</b>	<b>DEFINITION</b>
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**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 principles of diversity; leverage the talents of all employees, customers, stakeholders, and other constituents to achieve business results and maximum effectiveness.**

Grade(s)	Evidence of Competency
All	<ol style="list-style-type: none"> <li>1. Elicits multiple viewpoints to improve the quality of products and services.</li> <li>2. Considers diverse perspectives in interacting with others.</li> <li>3. Respects the opinions and perspectives of a diverse set of employees, customers, stakeholders, and other constituents when creating products and/or rendering services.</li> <li>4. Maintains accountability for considering individual differences in achieving results.</li> </ol>

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