

2022 - 2024 6401 CORE SKILL REQUIREMENTS
Meteorology and Oceanography Operational Sciences
Curriculum 373

Billet subspecialty coding is to be based on the minimum education/training/experience level required for optimum performance. The Meteorology and Oceanography (METOC) Operational Sciences (6401) subspecialty coding is justified when, in addition to the general criteria stated in NAVPERS 15839 series (Manual of Navy Officer Manpower and Personnel Classification) Part B, the following specific criteria are satisfied:

1. Description of (Core Skill Requirements) CSR Competencies. The listed CSRs are a set of quantifiable skills, traits and experiences that a subspecialist must possess to perform acceptably in a coded billet for the METOC Operational Sciences (6401) subspecialty. The billets focus on predicting the effects of the air/sea environment on weapons, systems and platforms, providing for the safety of the fleet and the shore establishment, and supporting strategy and tactics through the application of atmospheric and oceanic sciences. Specific CSRs are listed below:

a. CSR-1: Forecast and assess atmospheric and oceanic conditions in support of all aspects of naval warfare, with primary emphasis on the tactical impact of environmental parameters which influence weapons, sensors, and communications systems in open ocean and coastal operations of the naval service. Apply probabilistic forecasting (ensemble models) to operational planning and decisions. Additionally, apply forecast or climatological environmental conditions to strategic and operational plans.

b. CSR-2: Evaluate and implement technical studies on the effects of environmental parameters regarding the design, development, and operations of manned and unmanned platforms, weapons, and/or sensor systems.

c. CSR-3: Evaluate and compare environmental measures of effectiveness on tactical and operational decisions.

d. CSR-4: Direct or independently develop environmental forecasting techniques which will relate forecast parameters to military operations (e.g., oceanic conditions to sonar ranges, atmospheric conditions to radar ranges); or the billet requires the incumbent provide specialized environmental forecasts of a highly technical nature (e.g., ship routing, ice conditions, tropical cyclone warnings, high surf warnings).

e. CSR-5: Interface with the scientific and/or research and development community to provide inputs to research, development, testing and evaluation offices on the effects of the environment on the design, development, and test and evaluation of platforms, sensors, and/or weapon systems, and have the ability to communicate with research scientists on an advanced level.

f. CSR-6: Utilize scientific principles in the planning and conduct of hydrographic and geophysical surveys.

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g. CSR-7: Teach, instruct, and develop/assess curricula for apprentice to graduate level courses in oceanography, meteorology, and/or hydrography.

h. CSR-8: Apply principles of Geospatial Information and Services (GI&S) systems to planning and management of environmental data collection, data assimilation, and the display and interpretation of environmental prediction products.

i. CSR-9: Apply scientific principles in the production, dissemination, and interpretation of Positioning, Navigation and Timing (PNT) information for Fleet customers.

j. CSR-10: Translate operational Fleet environmental requirements into statements suitable for developmental investigation and introduction into the requirements process. Develop, coordinate and track requirements for METOC, Hydrographic, GI&S and PNT.

k. CSR-11: Independently evaluate spatial and temporal accuracy and relevance of operational environmental support products furnished to the Fleet, including charts, atlases, overlays, and technical publications, and make recommendations for required improvements.

l. CSR-12: Plan, direct, and assess the employment and evaluation of in-situ and remote sensing systems and collected data for the purpose of accurate assessment of the physical environment and the validation of numerical predictions.

m. CSR-13: Understand machine learning, data-driven decision-making, and the data processing of operational environmental products, including shore-based and on-scene systems and have the ability to evaluate numerical models and apply their limitations and associated probabilistic forecasting (ensemble models) to operational planning and decisions.

n. CSR-14: Evaluate and apply disparate climatological data and climatological reanalysis to operational planning and decisions.

o. CSR-15: (Prospective) Understand Naval operations and applications in space, to include communications, navigation, and atmospheric/oceanographic/environmental sensing systems, and be able to articulate impacts of space weather on sensors and systems to best support exploitation of space and information products.

2. Applicable Officer Designator(s): 180XX

3. Applicable Billet Designator: 180XX

4. Educational and Significant Experience Criteria.

a. Coded billets are authorized when the functions of the billet include one or more of the CSR competencies listed above (in paragraph 1). For additional clarification regarding definition of suffixes, refer to the NAVPERS 158391, Vol 1.

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b. Authorized Subspecialty Code suffixes represented in this table are annotated "X" for yes; unauthorized suffixes are left blank.

Subspecialty Code Suffixes Authorized				
Billet	Officer	Suffix	Definition	Notes
		C	Proven Doctor of Philosophy	
		D	Doctor of Philosophy	
		F	Proven Master's Degree that does not meet all ESRs	
		G	Master's Degree that does not meet all ESRs	
X		H	Master's Degree desired, not required	1
		I	Graduates of the Bowman Scholar Program	
		L	Certificate degree at the Master's level	
		M	Proven Post Master's Degree graduate education	
		N	Post Master's Degree graduate education	
X	X	P	Master's Degree in approved Navy subspecialty	2
X	X	Q	Proven Master's Degree	3
	X	R	Proven Significant Experience	4
	X	S	Significant Experience obtained through OJT	5

Note 1: Knowledge obtained from a degree in current subspecialty programs. Does not apply to professional entry level degrees such as medical or JDL. Must be from an accredited school. H codes do not establish a subspecialty quota requirement.

Note 2: To be used if billet can be filled by master's degree or higher. Will be used as a utilization of master's degree if subspecialty code matches detailing matrix. Manpower requirement may be coded higher, but authorization code would be H coded.

Note 3: Master's degree in an approved Navy-specific subspecialty. Officer can receive proven subspecialist credit. Must be from an accredited school.

Note 4: Experience tour after master's degree. Significant experience is met by serving 18 or more consecutive months in a subspecialty coded billet or a billet using the CSR of a related subspecialty.

Note 5: Significant experience is met by serving 18 or more consecutive months in a subspecialty coded billet or a billet using the CSR of a related subspecialty.

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5. Major Area Sponsor and Subject Matter Experts

a. Major Area Sponsor: VADM Jeffrey E. Trussler, Deputy Chief of Naval Operations for Information Warfare (OPNAV N2N6).

b. Subject Matter Expert: RDML Ron J. Piret, Oceanographer and Navigator of the U.S. Navy (OPNAV N2N6E).

c. Action Officer SME: Frank Baker, OPNAV N2N6EDB, frank.w.baker4.civ@us.navy.mil.

APPROVED:



Major Area Sponsor

12/11/2017
[DATE]

APPROVED:



Director, OPNAV N7

27-Feb-24
[DATE]

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