

Job Overview (METOC) Modeler

This position is located at the Fleet Numerical Meteorology and Oceanography Center (FNMOC), Monterey, CA. FNMOC produces and distributes meteorology and oceanography (METOC) products and data to support the operating forces of the U.S. Department of Defense, allied forces, and other U.S. government agencies. This position requires journey-level meteorological knowledge to support the production of operational METOC data, analyses, and forecasts based on state-of-the-art data ingest and numerical weather prediction systems.

DUTIES:

Performs a wide range of assignments of considerable difficulty and complexity in forecasting, data ingest and quality control, techniques development, or climatology. Implements, upgrades, evaluates, and maintains METOC data assimilation and numerical modeling software in an operational context and automated systems that facilitate the validation and verification of METOC numerical analysis and forecast products through qualitative and quantitative comparison to all relevant observations.

Develops, implements, upgrades, evaluates and maintains methodologies for accurately describing and forecasting weather and its tactical consequences and specialized meteorological analysis techniques for distilling knowledge from data to improve the ability of FNMOC to provide the right information at the right time to warfighters.

Presents scientific results in a general public forum or produces a technical document for inter-agency distribution.

Participates in inter-agency working groups or committees to provide authoritative technical perspective in area of special expertise.

KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of principles, theories, and practices of a combination of meteorology, oceanography, and computer science sufficient to adapt precedents, make significant departures from previous approaches, accommodate unique requirements, and to determine methods to use in evaluating and interpreting significant results. Possibilities include: (1) Advanced knowledge of theoretical meteorology, including the dynamics of the atmosphere, mesoscale meteorology and the application of computer methods of numerical weather analysis and prediction, and (2) Advanced knowledge of theoretical physical oceanography, including the dynamics of the ocean, mesoscale physical oceanography and the application of computer methods of numerical ocean modeling.

Advanced knowledge of the theories, methods and techniques of professional meteorology or oceanography sufficient to serve as a recognized specialist working to improve forecast guidance or the performance of tactical decision aids for one or more of the major product areas.

Knowledge of air-sea interaction theory as it applies to satellite remote sensing.

Knowledge of statistical methods and standard techniques for post-processing and evaluating METOC numerical analysis and forecast products.

Advanced knowledge of an advanced programming language such as FORTRAN, an advanced operating system such as LINUX, software and database configuration management, and visualization of large scientific data sets.

Knowledge of software engineering techniques as applied to the development and maintenance of automated, real-time systems.

Proven skill in public speaking and in technical writing.

Broad understanding of environmental processes relevant to military missions.

Knowledge of laws and regulations relating to Naval METOC, to evaluate potential impact of results.

Knowledge of principles and skill in applying highly specialized instruments, techniques, and/or mathematical models used in Naval METOC sufficient to evaluate their use and efficacy on areas of concern.

Skill in developing and modifying analytical methods to make determinations in Naval METOC, including responding to complex technical questions or solving unprecedented problems.