

T&R MANUAL, METOC

CHAPTER 2

JOURNEYMAN AND MASTER METOC ANALYST  
(MOS 6842)

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CHAPTER 2

JOURNEYMAN AND MASTER METOC ANALYST  
(MOS 6842)

200. CORE COMPETENCIES/SKILLS

1. Meteorological and Oceanographic (METOC) Unit Mission. The mission of the Marine Corps METOC unit is to provide meteorological, oceanographic, and space environmental information, products, and services required in support of joint, combined, and Marine Corps operations as directed.

2. Mission Essential Task List (METL)

a. Collect, record, and disseminate METOC parameters in support of joint, combined, and Marine Corps operations.

b. Analyze, evaluate, and forecast METOC parameters in support of joint, combined, and Marine Corps operations.

c. Assess and disseminate METOC impacts to weapons systems in support of joint, combined, and Marine Corps operations.

3. METOC Core Capability

a. Core competent aviation METOC units are capable of:

(1) Supporting continuous (24/7) aviation operations based from a Forward Operating Base (FOB) with remote atmospheric sensing capabilities for up to two Forward Arming and Refueling Points (FARP).

(2) Providing continuous 24/7 environmental support to CONUS and OCONUS garrison Marine Corps Air Stations and Facilities in the form of seamless METOC surface and upper air observations and forecasts out to 96 hours.

(3) Providing timely and accurate weather warnings to local bases and stations for protecting resources.

b. Core competent METOC Support Teams (MST) are capable of:

(1) Providing continuous METOC support to non-aviation elements of the MAGTF during planning, execution, and debrief of all missions.

(2) Providing mission and task organized, rapidly deployable METOC capabilities that enhance the unit commander's ability to exploit the environment and facilitate mission success.

201. BASIC/RESERVE JOURNEYMAN METOC ANALYST PROGRAM OF INSTRUCTION

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-31	MOAF/COMBAT CAPABLE	KEESLER AFB, MS
32-46	FORECASTER CERTIFICATION/COMBAT CAPABLE	LOCAL METOC
47-151	COMBAT READY TRAINING	LOCAL METOC

152-256	COMBAT QUALIFICATION TRAINING	LOCAL METOC
257-WC	FULL COMBAT QUALIFICATION TRAINING	LOCAL METOC

202. PROGRAM OF INSTRUCTION FOR REFRESHER JOURNEYMAN METOC ANALYST TRAINING

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-4	COMBAT CAPABLE/CERT	LOCAL METOC
5-6	COMBAT READY TRAINING	LOCAL METOC
6-7	COMBAT QUALIFICATION TRAINING	LOCAL METOC

203. PROGRAM OF INSTRUCTION FOR FORMAL SCHOOLS INSTRUCTOR

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-5	BASIC INSTRUCTORS COURSE	KEESLER AFB, MS
6-10	SUPPLEMENTAL TRAINING	KEESLER AFB, MS
10-12	MASTER INSTRUCTOR TRAINING	KEESLER AFB, MS

204. SUMMARY/INDEX OF LIVE/SIMULATED EVENTS. Tables 2-1 thru 2-4 contains a listing of the METOC Analyst's, Combat Capable, Combat Ready, Combat Qualification and Full Qualification training events with associated page numbers.

Table 2-1.--METOC Analyst Combat Capable Training Events.

EVENT	GOAL	PAGE
FAM-100	Introduce atmospheric physics	2-16
FAM-101	Introduce atmospheric dynamics	2-17
FAM-102	Introduce weather satellite imagery	2-17
FAM-103	Introduce atmospheric dynamics and physics theories	2-17
FAM-104	Introduce synoptic scale forecasting and prognosis techniques	2-18
FAM-105	Introduce global and regional METOC model data	2-18
FAM-106	Introduce METOC correspondence in Naval Message Traffic Format	2-19
FAM-107	Introduce SKEW-T LOG P diagram analyzing and forecasting techniques	2-19
FAM-108	Introduce Doppler radar imagery analyzation and interpretation techniques and theories	2-20
FAM-109	Introduce forecasting convective and non-convective severe weather	2-20
FAM-110	Introduce weather element forecasting (Mesoscale analysis and forecasting) techniques	2-20
FAM-111	Introduce aviation weather forecasting techniques and procedures	2-21
FAM-112	Introduce tactical decision aid software and products	2-21
FAM-113	Introduce space weather products	2-21
FAM-114	Introduce alphanumeric model data messages	2-22
FAM-115	Introduce METOC support to MAGTF operations	2-22
FAM-116	Introduce tropical weather forecasting	2-22

Table 2-1.--METOC Analyst Combat Capable Training Events--Continued.

EVENT	GOAL	PAGE
FAM-117	Introduce centrally prepared product verification techniques.	2-23
FAM-118	Introduce weather warnings and advisories	2-23
FAM-119	Introduce limited data forecasting	2-23
FAM-120	Introduce basic networking administration functions	2-23
JCP-121	To certify knowledge METOC support architecture	2-25
JCP-122	To certify knowledge of local area policies and procedures	2-25
JCP-123	To certify knowledge of regulations, order, and instructions governing classified materials and software	2-26
JCP-124	To certify knowledge of operating garrison METOC equipment	2-26
JCP-125	To certify knowledge of METOC software applications	2-26
JCP-126	To certify knowledge of atmospheric fundamentals	2-27
JCP-127	To certify knowledge of analyzing and interpreting upper atmospheric weather charts	2-28
JCP-128	To certify knowledge of analyzing and interpreting a surface pressure chart	2-28
JCP-129	To certify knowledge of analyzing and interpreting a thickness chart	2-29
JCP-130	To certify knowledge of analyzing and interpreting a vorticity chart	2-29
JCP-131	To certify knowledge of analyzing and interpreting satellite imagery	2-30
JCP-132	To certify knowledge of analyzing and interpreting Doppler radar imagery	2-30
JCP-133	To certify knowledge of conducting streamline analysis	2-31
JCP-134	To certify knowledge of analyzing and forecasting atmospheric conditions from the SKEW T LOG P diagram	2-31
JCP-135	To certify knowledge of applied meteorological reasoning in the forecasting of movement and intensity of synoptic scale features	2-32
JCP-136	To certify knowledge of forecasting severe weather	2-32
JCP-137	To certify briefing of METOC features from (re)analyzed products	2-33
JCP-138	To certify knowledge of the content and development of correspondence that relates to METOC operations	2-33
JCP-139	To certify knowledge of Terminal Aerodrome Forecast content and format	2-34
JCP-140	To certify knowledge of weather warnings	2-34
JCP-141	To certify knowledge of flight weather briefing	2-35
JCP-142	To certify knowledge of flight weather packets	2-35
JCP-143	To certify knowledge of verifying meteorological model output	2-36
JCP-144	To certify knowledge of surf forecasting	2-36
JCP-145	To certify knowledge of limited data forecasting	2-37
JCP-146	To certify knowledge of generation of specialized mission support products in response to RFIs	2-37
JCP-147	To certify knowledge of tailored METOC weather briefs	2-37

Table 2-1.--METOC Analyst Combat Capable Training Events--Continued.

EVENT	GOAL	PAGE
JCP-148	To certify knowledge of basic network administration functions	2-38
CMO-149	Operate garrison METOC equipment to provide METOC support to Base operations	2-39
CMO-150	Conduct garrison METOC Support	2-39

Table 2-2.--METOC Analyst Combat ready Training events.

EVENT	GOAL	PAGE
FAM-200	Familiarization with MAGTF operations	2-40
FAM-201	Familiarization with the components and capabilities of the Meteorological Mobile Facility Replacement (METMFR)	2-41
FAM-202	Familiarization with the components and capabilities of the Navy Integrated Tactical Environment System (NITES)	2-42
FAM-203	Familiarization with the knowledge of configuring METOC applicable software	2-42
FAM-204	Familiarization with the knowledge required for assessing the impacts of meteorological and oceanographic elements on MAGTF operations	2-43
FAM-205	Familiarization with equipment casualty reporting	2-43
FAM-206	Familiarization with METOC logistics and external support requirements	2-43
FAM-207	Familiarization with deployment requirements and procedures	2-44
FAM-208	Familiarization with environmental impact briefings and reporting	2-44
FAM-209	Familiarization with oceanographic forecasting and impact assessment	2-45
FAM-210	Familiarization with METOC database functions	2-45
FAM-211	Familiarization with products and sources for assessment of METOC impacts on MAGTF operations	2-45
FAM-212	Familiarization with utilizing tactical equipment for forecasting tropical cyclone development and movement	2-46
PPP-213	Develop and supervise tower visibility observer training curriculum and schedule	2-47
PPP-214	Supervise adherence and implementation of established METOC administrative programs, procedures, and plans	2-47
PPP-215	Draft logistical support program reports and documents	2-48
PPP-216	Supervise and conduct watch turnover procedures	2-48
PPP-217	Conduct watch procedures in accordance with orders and directives	2-48
PPP-218	Conduct quality assurance on Apprentice METOC Analyst products	2-49
PPP-219	Mentor Apprentice METOC Analyst on MOS progression training	2-49
PPP-220	Draft input to Annex H of operational orders	2-50

Table 2-2.--METOC Analyst Combat Ready Training Events--Continued.

EVENT	GOAL	PAGE
PPP-221	Implementation and supervision of established security procedures	2-50
PPP-222	Conduct and state security and classified materials storage and transportation procedures and requirements	2-50
PPP-223	Conduct emergency destruction procedures	2-51
CMO-224	Implement deployment requirements and procedures	2-52
CMO-225	Conduct tactical METOC support	2-52
CMO-226	Prepare METOC messages in a tactical environment	2-53
CMO-227	Conduct METOC operations in accordance with security regulations and orders	2-53
CMO-228	Forecast meteorological events using limited data in a tactical environment	2-53
CMO-229	Generate specialized mission support products in response to RFI in a tactical environment	2-54
CMO-230	Develop tailored METOC weather brief in a tactical environment	2-54
CMO-231	Forecast and brief tropical cyclone development and movement utilizing tactical equipment	2-55
CMO-232	Create a surf forecast utilizing tactical equipment	2-55
CMO-233	Conduct a climatological brief using tactical equipment	2-56
CMO-234	Prepare and disseminate a deployment brief	2-56
CMO-235	Conduct an amphibious warfare brief	2-57
MIA-236	Attain proficiency in METOC tactical application software	2-58
MIA-237	Utilize tactical decision aid programs to produce specified products	2-58
MIA-238	Conduct a search and rescue brief	2-59
MIA-239	Conduct an aviation strike brief	2-59
MIA-240	Conduct a mission analysis	2-60
MIA-241	Assess METOC impacts to amphibious operations	2-60
MIA-242	Assess METOC impacts on aviation operations	2-61
MIA-243	Assess METOC impacts on ground operations	2-61
MIA-244	Assess METOC impacts on intelligence operations	2-62
MIA-245	Assess METOC impacts on communication operations	2-62
MIA-246	Assess METOC impacts on nuclear, biological and chemical operations	2-63
MIA-247	Assess METOC impacts on logistical operations	2-63
EQP-248	Utilizing METOC software and hardware, develop mission support forecasts and products	2-64
EQP-249	Supervise maintenance of METOC equipment	2-65
EQP-250	Operate the garrison Doppler radar system	2-65
EQP-251	Configure and operate the garrison lightning position and tracking system	2-66
EQP-252	Display operating knowledge of tactical Doppler radar system(s)	2-66

Table 2-2.--METOC Analyst Combat Ready Training Events--Continued.

EVENT	GOAL	PAGE
EQP-253	Display operating knowledge of tactical satellite system(s)	2-67
EQP-254	Embarkation of the METMF(R)	2-67
EQP-255	Perform intermediate network administrative functions	2-68
EQP-256	Setup and conduct operational checks of each subsystem inherent to the METMF(R)	2-68
EQP-257	Support tactical operations utilizing the METMF(R)	2-69
EQP-258	Support tactical operations utilizing the NITES IV	2-70
EQP-259	Operate garrison METOC equipment to provide METOC to base operations	2-71

Table 2-3.--METOC Analyst Combat Qualification Training Events.

EVENT	GOAL	PAGE
PPP-300	Draft input to annexes of operational orders	2-72
PPP-301	Implement and supervise logistical support programs	2-72
PPP-302	Identify and solicit METOC support requirements	2-73
PPP-303	Identify METOC support issues	2-73
PPP-304	Conduct quality assurance on Journeyman METOC Analyst products	2-73
PPP-305	Conduct security procedures in accordance with security regulations and orders	2-74
CMO-306	Conduct METOC support operations for Marine Expeditionary Forces	2-75
CMO-307	Conduct METOC support functions in support of Marine Expeditionary Forces and major subordinate command plans and operations	2-75
CMO-308	Conduct joint operation SME functions	2-76
CMO-309	Conduct a pre-deployment inspection	2-76
CMO-310	Supervise the embarkation of the METMF(R)	2-76
MIA-311	Utilize tactical decision aid programs to produce products to support planning and execution of joint operations and missions	2-78
EQP-312	Deploy the METMF(R)	2-79
EQP-313	Develop and manage the METOC database	2-79
EQP-314	Supervise METOC equipment maintenance	2-80
EQP-315	Display knowledge of Doppler radar system management	2-80
EQP-316	Perform system management functions of subsystems inherent to the METMF(R)	2-81

Table 2-4.--METOC Analyst Full Combat Qualification Training Events.

EVENT	GOAL	PAGE
PPP-400	Validate and submit input to annexes of operational orders	2-82
PPP-401	Manage a security program	2-83
PPP-402	Manage training program	2-83
PPP-403	Manage personnel program	2-84
PPP-404	Manage logistical support program	2-84
PPP-405	Manage fiscal requirements	2-85
PPP-406	Manage administrative procedures	2-85
PPP-407	Identify METOC support issues	2-86
PPP-408	Manage METOC equipment requirements	2-86
PPP-409	Manage garrison Doppler radar operations	2-86
PPP-410	Perform the supervisory functions within the METOC service	2-87
PPP-411	Enhance quality of METOC products through the development, implementation, and tracking of a robust quality assurance program	2-88
PPP-412	Develop and perform administrative meteorological network functions	2-88
PPP-413	Develop and coordinate procedures for the embarkation and operation of the METMF(R)	2-89

205. SUMMARY/INDEX OF EVENTS FOR INSTRUCTOR EVENTS. Table 2-5 contains a listing of the instructor training events with associated page numbers.

Table 2-5.--Instructor Training Events.

EVENT	GOAL	PAGE
FSI-500	Attend basic instructor's course	2-90
FSI-501	Complete instructor certification process	2-90
FSI-502	Complete annual re-qualification	2-91
FSI-503	Complete supplemental instructor training	2-91
FSI-504	Complete master training specialist program	2-91
MAI-510	To certify knowledge of METOC subjects	2-92
MAI-511	To certify the knowledge of techniques of military instruction for instructor designation	2-92

206. SUMMARY/INDEX OF EVENTS FOR REQUIREMENTS/DESIGNATIONS AND QUALIFICATIONS. Table 2-6 contains a listing of the events for requirements, qualifications, and designations with associated page numbers.

Table 2-6.--Requirements, Qualification, Designation List.

EVENT	GOAL	PAGE
FCC-600	Complete METOC correspondence courses	2-93
FCC-601	Complete system related correspondence courses	2-93
FCC-602	Tracking code for security manager's course	2-94
FCC-603	Tracking code for METOC chief's course (not active)	2-94
FCC-604	Tropical code for tropical weather analysis course	2-94
FCC-605	Tracking code for radar manager's course	2-94
FCC-606	Tracking code for joint METOC tactical application course	2-95
JCP-607	Attain certification required for Journeyman METOC Analyst qualification	2-95
JCP-608	Attain Journeyman METOC Analyst qualification	2-96
MMA-609	Attain Master METOC Analyst qualification	2-96
FSI-610	Attain formal schools instructor qualification	2-97
MAI-611	Attain METOC analyst instructor qualification	2-98
DES-612	Attain METOC chief designation	2-98
DES-613	Attain METOC section leader designation	2-98

## 210. ACADEMIC TRAINING

1. General. Meteorological and oceanographic support revolves around products derived from raw data that is plotted, analyzed, and interrogated using analytical rigor based on knowledge and application of meteorological theories, rules of thumb and computer model algorithms. In order to become proficient within the METOC structure, all 6800 personnel receive extensive academic training in meteorological and oceanographic sciences.

### 2. Prerequisites

a. The Military Occupational Specialties (MOS) Manual (MCO P1200.7) outlines the requirements for all MOS's in the Marine Corps.

b. Personnel in the 6821 MOS transition to the 6842 MOS through attendance and completion of the Meteorological and Oceanographic Analyst/Forecaster (MOAF) course aboard Keesler AFB, MS. Successful completion of the following prerequisites are required in order to attend the course. Prior to assignment to the chapter 2 syllabus all personnel shall complete the MOAF course.

(1) Oceanography Course (Event: ACA 604).

(2) Aerographer's Mate Module 5 Course (Event: ACA-607) or Marine Corps Distance Learning Course Basic Meteorology - DT68005.

(3) Introduction to Forecasting Course (Event: ACA-608).

(4) Final Top Secret Clearance adjudicated by DONCAF. (Event: ACA-601).

- (5) Apprentice METOC Analyst Qualification (Event: QAL-609).
- (6) Forecast Support Qualification (Event: QAL-611).
- (7) Lead METOC Designation preferred (Event: DES-612).
- (8) Recommendation for MOAF attendance (Event: FSO-422).

4. Formal Academic training. Formal academic training courses are required to ensure uniform levels of training in core competencies and skills. Formal schools are schools that receive Navy and Marine Corps educational funding and have approved syllabuses.

a. Coding. Formal schools are coded by the Course Identification Number (CIN) for Navy Courses and Course Identification (CID) for Marine Corps courses.

b. Appendix A provides a listing of all courses pertaining to this syllabus.

5. References. Appendix B contains a listing of references utilized in the development of the training and readiness syllabus. Individual training events require adherence to the references contained within the table. Due to the comprehensive nature of the events, extensive references, and rapid changing content, including references in each event would not be prudent. Resident knowledge of the references lies within the METOC instructor, Master METOC analyst, and METOC officer.

## 220. EVENT TRAINING

1. Progression model. Figure 2.1 depicts the training progression model for the 6842 MOS.

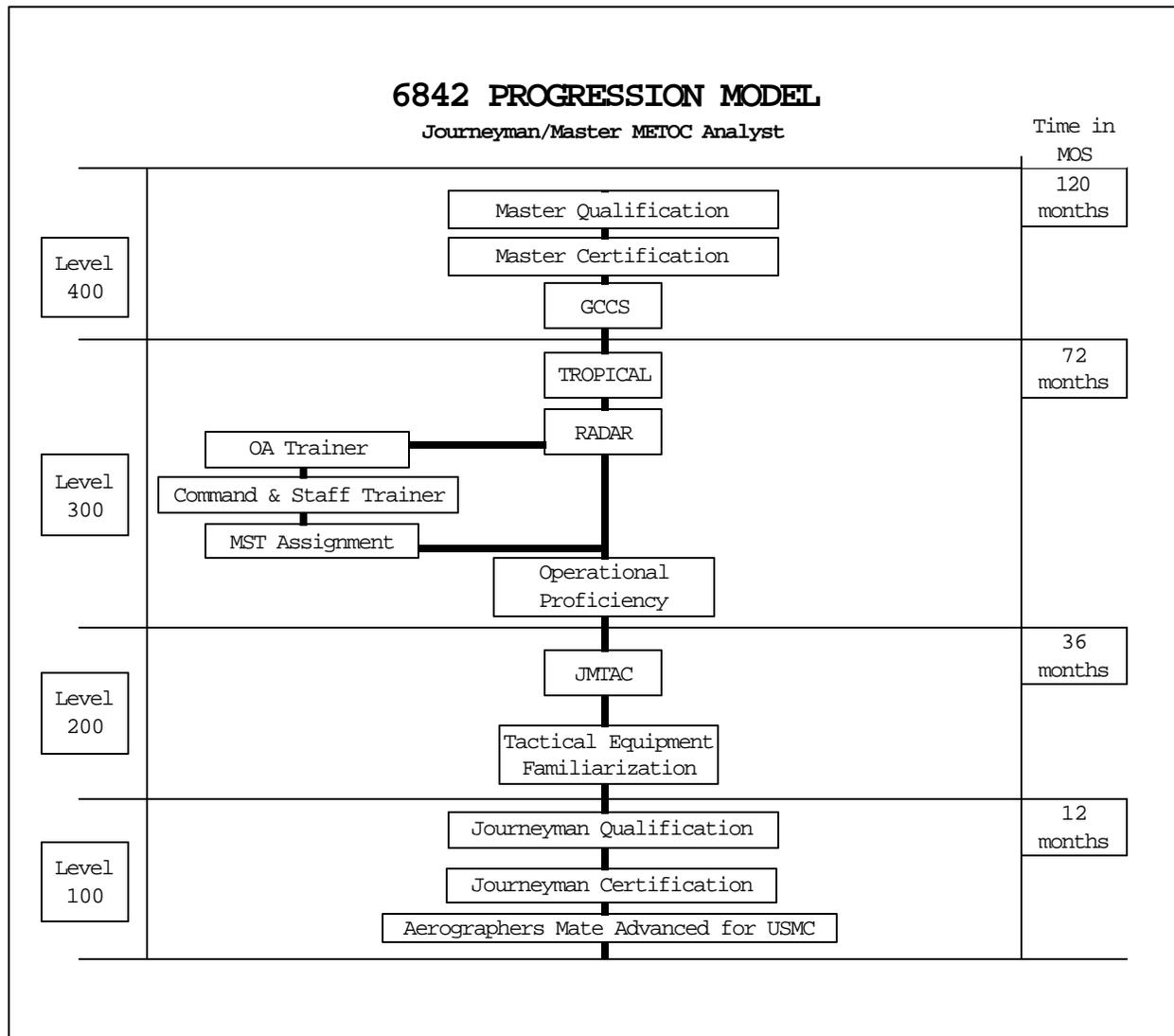


Figure 2-1.--Progression Model for 6842 Military Occupational Specialty.

221. EVENT/CRP. Table 2-7 provides a listing of the events, hours and Combat Readiness Percentage (CRP) for each stage of the syllabus.

Table 2-7.--Event/CRP Breakdown Table.

<b>COMBAT CAPABLE STAGE OF TRAINING</b>			
<b>STAGE</b>	<b>EVENTS</b>	<b>HOURS</b>	<b>PERCENT</b>
FAMILIARIZATION (FAM)	21	957	40
JOURNEYMAN CERTIFICATION PROCESS (JCP)	28	117.5	15
CONSOLIDATED METOC OPERATIONS	2	25	5
<b>COMBAT CAPABLE TOTALS:</b>	<b>51</b>	<b>1099.5</b>	<b>60</b>
<b>COMBAT READY STAGE OF TRAINING</b>			
<b>STAGE</b>	<b>EVENTS</b>	<b>HOURS</b>	<b>PERCENT</b>
FAMILIARIZATION (FAM)	13	28	3
PLANS, POLICIES AND PROCEDURES (PPP)	11	80	3
CONSOLIDATED METOC OPERATIONS (CMO)	11	421	3
METOC IMPACT ASSESSMENT (MIA)	12	112	3
EQUIPMENT (EQP)	12	160	3
<b>COMBAT READY TOTALS:</b>	<b>59</b>	<b>801</b>	<b>15</b>
<b>COMBAT QUALIFICATION STAGE OF TRAINING</b>			
<b>STAGE</b>	<b>EVENTS</b>	<b>HOURS</b>	<b>PERCENT</b>
PLANS, POLICIES AND PROCEDURES (PPP)	6	329	5
CONSOLIDATED METOC OPERATIONS (CMO)	5	112	5
METOC IMPACT ASSESSMENT (MIA)	1	24	5
EQUIPMENT (EQP)	5	142	5
<b>COMBAT QUALIFICATION TOTALS:</b>	<b>17</b>	<b>607</b>	<b>20</b>
<b>FULL COMBAT QUALIFICATION STAGE OF TRAINING</b>			
<b>STAGE</b>	<b>EVENTS</b>	<b>HOURS</b>	<b>PERCENT</b>
PLANS, POLICIES AND PROCEDURES (PPP)	14	399	5
<b>FULL COMBAT QUALIFICATION TOTALS:</b>	<b>14</b>	<b>399</b>	<b>5</b>
<b>INSTRUCTOR STAGE OF TRAINING</b>			
<b>STAGE</b>	<b>EVENTS</b>	<b>HOURS</b>	<b>PERCENT</b>
FORMAL SCHOOL INSTRUCTION (FSI)	5	200	0
METOC ANALYST INSTRUCTOR (MAI)	2	113	0
<b>INSTRUCTOR TRAINING TOTALS:</b>	<b>7</b>	<b>313</b>	<b>0</b>

230. EVENT PERFORMANCE REQUIREMENTS

1. Purpose. The purpose of Training and Readiness (T&R) Manual events is to enhance combat readiness of METOC units. Core and core plus skills are advanced through the implementation of events, approved by fleet representation, to provide a measurable and chronological advancement of skills.

2. General

a. This manual is written to allow for local requirements and yet remain unclassified. DC AVN and CG MCCDC encourage squadrons to use the full range of tactics in the tactical manuals and adopt the latest in training requirements.

b. Live Training. Training event condition codes listed as L (live), L/S (live preferred/simulator optional) in this syllabus designate training to be

conducted without the aid of simulator devices. Training not conducted in the live training environment shall be replaced with simulation where applicable as indicated in the condition code. A number of the live and simulated events require interaction with external C3 agencies. This interaction/interface is important to the individual, crew, and agency training.

c. Simulator Training. Training event condition codes listed as S (simulator), and S/L (simulator preferred/live optional) in this syllabus designate training to be conducted as indicated in the condition code. A number of the live and simulated events require interaction with external agencies. This interaction/interface is important to the individual, crew, and agency training.

3. Evaluation of Training. Evaluation will be conducted by either written/oral examination or a combination of the two means. Operational and system related subjects will be evaluated by practical application means whenever possible. At the commanders' discretion, a Marine may receive credit for task completion through an oral explanation of the steps rather than by performing the task.

#### 4. Implementation

a. Unit commanders are the designating authority. Unit commanders may further delegate designation authority to the METOC Officer in Charge (OIC) or senior Staff Non-commissioned in charge in the absence of an METOC Officer. Assigning completion credit for events resides with the designating authority and may be delegated as outlined.

b. Events shall be conducted by the designated trainee and administered, evaluated, and documented by the designating authority.

c. Documentation and tracking of event completion and progression will be completed by use of the ATRIMS program and in individual training jackets.

5. Components of a T&R event. An event contained within a T&R Manual is an Individual or Collective Training Standard and the following elements, dependent on the tier in which they are contained:

1/	2/	3/	4/	5/	6/	7/
SAM-XXX	0.5	T,C,R, E	EQUIP	L/S (NS)		

Goal. State the terminal learning objective.

Requirement. List the specific tasks for the event; indicate what the crew/individual must accomplish.

Performance Standard. Describe the measurable level of proficiency for that core competency/skill.

Prerequisite. Provides a listing of academic training or other T&R events that must be completed prior to satisfying the task.

External Syllabus Support. A listing or description of the external support requirements that may be required to satisfy the completion of the task. May include range requirements, support aircraft, targets, training devices, or other personnel and equipment.

NOTES:

- 1/ Events are coded per Appendix B of T&R Manual Administrative Manual.
- 2/ Projected event duration is furnished as a planning tool.
- 3/ Denotes the applicable Program of Instruction (Basic POI is understood), Z is reserve, R is refresher.
- 4/ An "E" indicates an Evaluated event.
- 5/ The equipment or activity subcategory is listed **GE** = Garrison Equipment; **M** = METMF(R); **N** = NITES IV; **C** = Computer System
- 6/ Requirement Code: **L** = live Training; **S** = simulator training; **L/S** = live preferred/simulator optional; **S/L** = simulator preferred/live optional; **N** = Night; Where contained within ( ) denotes optional conditions.
- 7/ Elements of the events may be deleted if not applicable to the event. (example: External Syllabus Support may be deleted if not required for the event)

6. Event Codes. Table 2-8 provides a listing of event codes.

Table 2-8.--Event Code and Description.

Event Code	Description
FAM	FAMILIARIZATION
JCP	JOURNEYMAN CERTIFICATION PROCESS
CMO	CONSOLIDATED METOC OPERATIONS
PPP	PLANS, POLICIES, AND PROCEDURES
EQP	EQUIPMENT
MIA	MISSION IMPACT ASSESSMENT
MAI	METOC ANALYST INSTRUCTOR
WTI	WEAPONS and TACTICS INSTRUCTOR
MMA	MASTER METOC ANALYST
FCC	FORMAL AND CORRESPONDENCE COURSE
FSI	FORMAL SCHOOL INSTRUCTOR
DES	DESIGNATIONS

231. COMBAT CAPABLE TRAINING1. Familiarization Stage (FAM)

a. Purpose. To introduce, evaluate, and develop basic knowledge and core skills of forecasting theories and techniques required for obtaining the 6842 Military Occupational Specialty (MOS).

b. General. This portion of the Combat Ready Stage of training will be conducted at the Meteorological and Oceanographic Analyst Forecaster (MOAF) course located at Keesler AFB, MS.

c. Crew Requirements

- (1) Qualified Instructor.
- (2) Apprentice METOC Analyst assigned to syllabus.

d. Academic Training

(1) Academic training will be conducted by qualified instructors that have completed the instructor syllabus.

(2) Events contained in this stage shall be completed in chronological order. Personnel assigned to this stage shall complete the preceding event prior to advancing in the syllabus.

e. Event Training

FAM-100	94	Z	E	N/A	L
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Goal. Introduce atmospheric physics.

Requirement. Identify and technically discuss the subjects listed.

- (1) Atmospheric structure.
- (2) Atmospheric variables.
- (3) Vectors.
- (4) Pressure.
- (5) Temperature and moisture.
- (6) Fundamentals of atmospheric concepts.
- (7) Advection.
- (8) Thermal winds.
- (9) Thickness charts.
- (10) Heat transfer.
- (11) Cloud formation and dissipation.
- (12) Precipitation types.

Performance Standard. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. None.

FAM-101	108	Z	E	N/A	L
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Goal. Introduce atmospheric dynamics.

Requirement. Identify and technically discuss the subjects listed.

- (1) Rotational and circular motion.
- (2) Atmospheric forces.
- (3) Divergence.
- (4) Vorticity.
- (5) Jet streams.
- (6) Atmospheric wave terminology.
- (7) 500 mb heights and vorticity chart analysis.
- (8) Vertical motions.
- (9) Air masses.
- (10) Frontal systems.
- (11) Evolution of frontal systems.
- (12) Synoptic scale systems.
- (13) Evolution of synoptic scale baroclinic systems.
- (14) Local modification to large scale circulations.

Performance Standard. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100.

FAM-102	90	Z	E	N/A	L
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Goal. Introduce weather satellite imagery.

Requirement. Identify and technically discuss the subjects listed:

- (1) Advantages and disadvantages.
- (2) Principles of weather satellite imagery.
- (3) Weather satellite types.
- (4) Weather satellite imagery and enhancements.
- (5) Weather satellite derived products.
- (6) Weather satellite viewing considerations.
- (7) Weather satellite analysis.

Performance Standard. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100 and FAM-101.

FAM-103	90	Z	E	N/A	L
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Goal. Introduce atmospheric dynamics and physics theories.

Requirement. The Marine shall exhibit comprehensive knowledge of the application of theoretical dynamics and physics by initializing, analyzing, briefing meteorological features and providing sound meteorological reasoning for placement of features. The student shall:

- (1) Initial model data.

- (2) Analyze or reanalyze:
  - (a) Surface chart.
  - (b) Thickness chart.
  - (c) Vorticity.
  - (d) Upper Air charts.
  - (e) Satellite imagery.
  - (f) Radar imagery.
  - (g) Weather depiction charts.
- (3) Discuss meteorological reasoning for analyzed features.

Performance Standard. Apprentice METOC Analyst shall complete the requirement without violating meteorological rules. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100 through FAM-102 inclusive.

FAM-104	80.5	Z	E	N/A	L
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Goal. Introduce synoptic scale forecasting and prognosis techniques.

Requirement. The Marine shall analyze centrally prepared products and applying academic principles, forecast synoptic scale features by completing the listed items.

- (1) Initial model data.
- (2) Analyze or reanalyze:
  - (a) Surface chart.
  - (b) Thickness chart.
  - (c) Vorticity.
  - (d) Upper Air charts.
  - (e) Satellite imagery.
  - (f) Radar imagery.
  - (g) Weather depiction charts.
- (3) Develop forecasted intensity and location of weather features.
- (4) Discuss meteorological reasoning for forecasted elements.

Performance Standard. Apprentice METOC Analyst shall complete the requirement without violating meteorological rules. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100 through FAM-103 inclusive.

FAM-105	24	Z	E	N/A	L
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Goal. Introduce global and regional METOC model data.

Requirement. The Marine will be required to:

- (1) Identify the model type.
- (2) State the strengths and weakness for each type of model runs.

Performance Standard. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100 through FAM-104 inclusive.

FAM-106	24	Z	E	N/A	L
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Goal. Introduce METOC correspondence in Naval Message Traffic Format (MTF).

Requirement. The Apprentice METOC Analyst shall be able to identify and technically discuss the content and format of the messages listed.

- (1) Casualty Reports (CASREP).
- (2) Weather Forecast (WEAX).
- (3) Joint Operational Area Forecast (JOAF).
- (4) Tactical Atmospheric Summary (TAS).
- (5) Assault Forecast (ASLTFCST).
- (6) Amphibious Objective Area Forecast (AOAFCST).
- (7) Strike Forecast (STRKFCST).
- (8) Chemical Downwind Message (CDM).

Performance Standard. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100 through FAM-105 inclusive.

FAM-107	24	Z	E	N/A	L
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Goal. Introduce SKEW T LOG P diagram analyzing and forecasting techniques.

Requirement. The Apprentice METOC Analyst shall analyze a SKEW T LOG P diagram for elements listed. SNM must be able to discuss how the analyzed elements are applicable to current and forecasted weather phenomenon.

- (1) Compute indices.
  - (a) Lifted index.
  - (b) KI index.
  - (c) Sweat index.
  - (d) Showalter's index.
  - (e) Total Totals.
- (2) Analyze negative/positive energy areas.
- (3) Analyze for equilibrium levels.
- (4) Compute turbulent areas.
- (5) Compute tops of convective activity.
- (6) Compute contrails.
- (7) Compute icing types and levels.
- (8) Compute maximum and minimum temperatures.
- (9) Compute hail.
- (10) Compute thunderstorm gusts.
- (11) Analyze freezing level.
- (12) Analyze for areas of moisture.
- (13) Compute D-Values.
- (14) Compute relative humidity.

Performance Standard. The Apprentice METOC Analyst shall successfully pass all progress checks with 80% proficiency and achieve 75% proficiency on written measurements.

Prerequisite. FAM-100 through FAM-106 inclusive.

FAM-108	65	Z	E	N/A	L
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Goal. Introduce Doppler radar imagery analyzation and interpretation techniques and theories.

Requirement. Upon completion of academic training and when given Radar imagery, the Apprentice METOC Analyst shall determine and state the type of Doppler radar imagery and identify meteorological features on the products listed. The Apprentice METOC Analyst must be able to discuss justification for identifying features.

- (1) Base reflectivity products.
- (2) Base velocity products.
- (3) Base spectrum width products.
- (4) Derived products.

Performance Standard. Achieve at least 75% proficiency on written measurement and complete the requirement without violating meteorological theories.

Prerequisite. FAM-100 through FAM-107 inclusive.

FAM-109	65	Z	E	N/A	L
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Goal. Introduce forecasting convective and non-convective severe weather.

Requirement. The METOC Analyst Apprentice, when given required charts, shall forecast convective and non-convective severe weather elements listed and provide meteorological justification for forecast.

- (1) Vertical and horizontal wind shear gradients.
- (2) Tornadic activity.
- (3) Thunderstorm activity.
- (4) Tropical systems.
- (5) Winter storms.

Performance Standard. Given METOC data, knowledge of atmospheric physics and dynamics forecast for specified severe weather elements in accordance with the references.

Prerequisite. FAM-100 through FAM-108 inclusive.

FAM-110	128.5	Z	E	N/A	L
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Goal. Introduce weather element forecasting (mesoscale analysis and forecasting) techniques.

Requirement. Upon completion of academic training, the Apprentice METOC Analyst will exhibit a comprehensive knowledge of mesoscale forecasting by analyzing, forecasting and briefing mesoscale meteorological features.

Performance Standard. Achieve at least 75% proficiency on written measurement and complete the requirement without violating meteorological theories.

Prerequisite. FAM-100 through FAM-109 inclusive.

FAM-111	70.5	Z	E	N/A	L
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Goal. Introduce aviation weather forecasting techniques and procedures.

Requirement. The Apprentice METOC Analyst shall receive training on aviation weather forecasting, generation of aviation weather products, and briefing products. The Apprentice METOC Analyst shall, at a minimum, analyze and forecast for:

- (1) Turbulence.
- (2) Icing.
- (3) Take off weather.
- (4) Upper level weather elements.
- (5) Arrival weather elements.

Performance Standard. Given academic training, METOC data, mission data, and in accordance with the references, forecast for specified forecast aviation weather elements and provide aviation weather support products within course tolerances.

Prerequisite. FAM-100 through FAM-110 inclusive.

FAM-112	68.5	Z	E	N/A	L
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Goal. Introduce tactical decision aid software and products.

Requirement. The Apprentice METOC Analyst shall receive training on tactical decision aid software and products to support combat operations, and then apply the knowledge to generate METOC products/briefs in support of simulated combat operations. The Apprentice METOC Analyst shall produce:

- (1) An aviation strike forecast.
- (2) An amphibious warfare brief.
- (3) Search and rescue brief.
- (4) Drop zone forecast.
- (5) Surf forecast.
- (6) Riverine products.

Performance Standard. Given METOC data, academic training and knowledge of combat operational METOC requirements, provide METOC support to simulated combat operations.

Prerequisite. FAM-100 through FAM-111 inclusive.

FAM-113	24	Z	E	N/A	L
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Goal. Introduce space weather products.

Requirement. The Apprentice METOC Analyst shall receive training on space weather products and derive mission impacts based on received products.

Performance Standard. Upon completion of academic training, Apprentice METOC Analyst shall take a written exam on space weather products and derived impacts and achieve 70% proficiency.

Prerequisite. FAM-100 through FAM-112 inclusive.

FAM-114	24	Z	E	N/A	L
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Goal. Introduce alphanumeric model data messages.

Requirement. The Apprentice METOC Analyst shall receive training on alphanumeric model data messages, and application of the data. Apprentice METOC Analyst will:

- (1) Discuss decoding of the product.
- (2) Effective use of the model data for forecasting.
- (3) Model strengths and weaknesses.

Performance Standard. Upon completion of academic training, the Apprentice METOC Analyst shall take a written exam (achieving 70% proficiency) and discuss the content, uses, and coding of each model data message.

Prerequisite. FAM-100 through FAM-113 inclusive.

FAM-115	36	Z	E	N/A	L
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Goal. Introduce METOC support to MAGTF operations.

Requirement. The Apprentice METOC Analyst shall receive training on MAGTF METOC support, Marine Corps METOC equipment, and operations. The Apprentice METOC Analyst will be able to state or identify the following:

- (1) Units supported.
- (2) METOC structure.
- (3) METOC equipment.
- (4) METOC operational requirements.

Performance Standard. Upon completion of academic training, student shall take a written exam and achieve 70% proficiency.

Prerequisite. FAM-100 through FAM-114 inclusive.

FAM-116	40	Z	E	N/A	L
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Goal. Introduce tropical weather forecasting.

Requirement. The Apprentice METOC Analyst shall be familiarized with techniques of decoding tropical storm messages, streamline analysis and forecasting techniques.

Performance Standard. Upon completion of academic training, the Apprentice METOC Analyst shall take a written exam. Proficiency of 80% or higher is required.

Prerequisite. FAM-100 through FAM-115 inclusive.

FAM-117    24                    Z                    E                    N/A                    L

Goal. Introduce centrally prepared product verification techniques.

Requirement. Through practical application, SNM will verify centrally prepared products by identifying strengths and weaknesses of centrally prepared METOC products.

Performance Standard. Upon completion of academic training, student shall, through practical application and written exam, verify analysis. Proficiency of 80% or higher is required.

Prerequisite. FAM-100 through FAM-116 inclusive.

FAM-118    24                    Z                    E                    N/A                    L

Goal. Introduce weather warnings and advisories.

Requirement. SNM will be familiarized with weather warnings and advisories, the content of each warning and the forecasting techniques to determine the required warning and/or advisory.

Performance Standard. Upon completion of academic training, student shall take a written exam. Proficiency of 80% or higher is required.

Prerequisite. FAM-100 through FAM-117 inclusive.

FAM-119    64                    Z                    E                    N/A                    L

Goal. Introduce limited data forecasting.

Requirement. SNM is to obtain the capability to create a plain language and aviation forecast valid for a 48 hours period using one of the listed products.

- (1) Satellite image.
- (2) SKEW T LOG P diagram.
- (3) Surface chart.

Performance Standard. SNM shall take a written test. Proficiency of 80% or higher is required.

Prerequisite. FAM-100 through FAM-118 inclusive.

FAM-120    48                    Z                    E                    N/A                    L

Goal. Introduce basic network administration functions.

Requirement. Utilizing an established METOC network and be able to perform the following base network functions in order to identify, safeguard and maintain network integrity.

- (1) Log on to the network.
- (2) Monitor network usage by subordinates.
- (3) Connect to other computers on the network.

- (4) Transfer data to other computers on the network.
- (5) When directed, share folders and files.
- (6) Monitor access to/from the network and identify possible intrusions/problems.
- (7) When directed, add computers to the network.

Performance Standard. SNM shall complete the requirement without compromising the integrity of the network or data.

Prerequisite. FAM-100 through FAM-119 inclusive.

## 2. JOURNEYMAN CERTIFICATION STAGE

a. Purpose. To certify the application and retention of the knowledge of meteorological physics and dynamics required for Journeyman METOC Analyst qualification.

b. General. This portion of the syllabus shall be completed at the first operational METOC units assigned and adhered to the following.

(1) The trainer shall utilize the certification checklist, Appendix F to track review of materials prior to certification board.

(2) A certification board shall be convened only after initial review of material by certified trainer.

(3) A certification board shall consist of, at a minimum, the METOC Officer, the senior enlisted METOC Marine and one qualified Journeyman or Master METOC Analyst.

(4) Refresher training is required when transferred to a new geography region. Transferring Marine shall be assigned to this stage of training upon arrival at the new duty station.

### c. Crew Requirements

(1) Qualified Instructor.

(2) Apprentice METOC Analyst assigned to syllabus.

### d. Academic Training

(1) Academic training will be conducted by qualified instructors.

(2) Events contained in this stage shall be completed in chronological order. Personnel assigned to this stage shall complete the preceding event prior to advancing in the syllabus.

(3) Personnel assigned to this stage shall complete the stage of training within 90 days of assignment.

### e. Event Training

JCP-121      2.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of METOC support architecture.

Requirement. The Apprentice METOC Analyst shall receive training on the components, billets, equipment and capabilities that comprise the Marine Corps METOC support architecture. Upon completion of academic training the Apprentice METOC Analyst shall be required to state and discuss the missions, composition, equipment and capabilities of the following METOC support unit/billets.

- (1) MCAS/MCAF METOC support.
- (2) Marine Wing Support Group (MWSG).
- (3) Marine Expeditionary Force (MEF).
- (4) METOC Support Team (MST).
- (5) Marine Wing Support Squadron (MWSS) Weather Service Section.
- (6) Staff Weather Officer (SWO).
- (7) Joint Weather Officer (JWO).
- (8) Joint METOC Forecast Center (JMFU).
- (9) Aircraft Command Element (ACE) Weather Officer (ACE WXO).
- (10) Mobile Meteorological Facility Replacement (MetMF(R)).
- (11) NITES IV.

Performance Standard. The Apprentice METOC Analyst shall be evaluated, either verbally or written, on the ability identify the components, billets, unit supported, equipment inherent to each support element and capabilities of the billets/components.

Prerequisite. All FAM events.

JCP-122      2.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of local area policies and procedures.

Requirement. The Apprentice METOC Analyst shall receive training on the local area knowledge. Without the aid of references, define and discuss the listed local area knowledge.

- (1) Airfield description.
- (2) SOP procedures.
- (3) Command support structure.
- (4) Destructive weather procedures.
- (5) Security requirements.
- (6) Watch composition and schedule.
- (7) Watch procedures.
- (8) Local forms.
- (9) Reference and technical library procedures.
- (10) Local area forecaster handbook.
- (11) Weather regimes.

Performance Standard. Without the aid of references, the Apprentice METOC Analyst must respond to questions (either verbal or written) to 80 % proficiency.

Prerequisite. All FAM events.

JCP-123      1.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of regulations, orders and instructions governing classified materials and software.

Requirement. The Apprentice METOC Analyst shall identify and state the security regulations, orders and instructions governing security and state the general content of each.

Performance Standard. The Apprentice METOC Analyst shall be evaluated, written or orally, and must receive 80% proficiency to satisfy the requirement.

Prerequisite. All FAM events.

JCP-124      1.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of operating garrison METOC equipment.

Requirement. The Apprentice METOC Analyst shall define and discuss strengths, weaknesses and capabilities of the following garrison METOC equipment. The Apprentice METOC Analyst shall exhibit working knowledge of the operation of the garrison METOC equipment through practical application.

- (1) Meteorological Integrated Data Display System (MIDDS).
- (2) Lightning Position and tracking system (LPATS).
- (3) Pilot to Forecaster Radio (METRO).
- (4) Doppler radar system (WSR88D).
- (5) Wet Bulb Globe Temperature Index Sensors (WBGTI).
- (6) Tower to metro displays/communications (WXVISION).
- (7) Hand Held equipment (PMQ-3, sling psychrometer, etc.).

Performance Standard. The Apprentice METOC Analyst shall be evaluated (verbally or written) on the first portion of the requirement. The Apprentice METOC Analyst shall exhibit working knowledge of through practical application to a proficiency level allowing for unsupervised operation without violating system integrity or procedures.

Prerequisite. All FAM events.

JCP-125      3.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of METOC software applications.

Requirement. Without the aid of references, define and discuss the performance capability and mission supported by the METOC application and the generated products. The Apprentice METOC Analyst shall operate each suite to exhibit working proficiency of knowledge.

- (1) GFMPL.
- (2) TAWS.
- (3) AREPS.
- (4) MIDDS.
- (5) METCAST.
- (6) JMV.

Performance Standard. The Apprentice METOC Analyst will be tested, written or oral on the basic knowledge of the software applications listed. The Apprentice METOC Analyst will be tested on the application of knowledge through practical application. During the practical application portion, the Apprentice METOC Analyst shall not violate system or software integrity.

Prerequisite. All FAM events.

JCP-126	5.0	Z,R	E	N/A	L
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Goal. To certify knowledge of atmospheric fundamentals.

Requirement. The Apprentice METOC Analyst shall verbally define and discuss the atmospheric fundamentals listed below during a technical discussion with qualified Journeyman METOC Analysts, Master METOC Analysts and/or METOC Chief.

- (1) Long/short wave trough/ridges.
  - (a) Deepening/building/intensifying.
  - (b) Filling/weakening.
  - (c) Cyclogenesis/frontogenesis.
  - (d) Cyclolysis/frontolysis.
- (2) Pressure systems.
  - (a) Baroclinic/barotropic.
  - (b) Warm/cold air advection.
  - (c) Dry/moist air advection.
- (3) Frontal systems.
  - (a) Active/inactive cold fronts.
  - (b) Active/inactive warm fronts.
  - (c) Stationary fronts.
  - (d) Warm/Cold occlusions.
  - (e) Type "A"/"B" occlusions.
- (4) Jet features.
  - (a) Polar front jet stream.
  - (b) Subtropical jet stream.
  - (c) Conduction/radiation/advection/convection.
- (5) Vorticity.
- (6) Thickness.
- (7) Condensation/evaporation/sublimation.
- (8) Convergence/confluence.
- (9) Divergence/diffluence.
- (10) Types of baroclinic/barotropic low-pressure systems.
- (11) Types of baroclinic/barotropic high-pressure systems.
- (12) Gradient wind.
- (13) Geostrophic wind.
- (14) Relative/absolute/specific humidity.
- (15) Pressure gradient.
- (16) Cloud identification/formation.

Performance Standard. The Apprentice METOC Analyst shall discuss 10 topics assigned by the METOC Analyst Instructor from the topics listed in the requirement and respond to questions posed.

Prerequisite. All FAM events.

JCP-127      6.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of analyzing and interpreting upper atmospheric weather charts.

Requirement. Given reference materials, The Apprentice METOC Analyst shall analyze and interpret the 925/850/700/500/300/250/200 mb constant pressure charts for the features listed without violating data and analyzation rules within 6 hours, to exhibit application of upper atmospheric dynamics and physics.

- (1) Isoheights.
- (2) Isotherms.
- (3) Areas of significant moisture.
- (4) Major short wave axis, troughs and ridges.
- (5) Minor short wave axis, troughs and ridges.
- (6) High and low height centers.
- (7) Warm and cold pockets.
- (8) Upper fronts (where applicable).

Performance Standard. Upon completion of analysis, the Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features until confidence in knowledge is achieved.

Prerequisite. All FAM events.

JCP-128      1.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of analyzing and interpreting a surface pressure chart.

Requirement. When given a surface chart, the Apprentice METOC Analyst shall apply analytical techniques and depict the features listed. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features

- (1) Isobars.
- (2) High and low pressure centers.
- (3) Fronts.
- (4) Highlight weather symbols.
- (5) Troughs.
- (6) Label air masses.
- (7) Dry lines.
- (8) Isallobars.
- (9) Isodrotherms.
- (10) Identify outflow boundaries.

Performance Standard. The Apprentice METOC Analyst must complete the requirement within 45 minutes and without violating meteorological theories. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features without violating fundamental of meteorological theories.

Prerequisite. All FAM events.

JCP-129 .5 Z,R E N/A L

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Goal. To certify knowledge of analyzing and interpreting a thickness chart.

Requirement. The Apprentice METOC Analyst when given a thickness chart, shall apply analytical techniques and depict the features listed. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features.

- (1) Warm/cold air advection.
- (2) High and low pressure centers.
- (3) Fronts.
- (4) 540 Dam line.
- (5) Troughs.
- (6) Label air masses.
- (7) Jet stream.

Performance Standard. The Apprentice METOC Analyst must complete the requirement within 30 minutes and without violating meteorological theories. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features without violating fundamental of meteorological theories.

Prerequisite. All FAM events.

JCP-130 .5 Z,R E N/A L

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Goal. To certify knowledge of analyzing and interpreting a vorticity chart.

Requirement. When given a vorticity chart, apply analytical techniques and depict the features listed. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features.

- (1) Positive/negative vorticity areas.
- (2) Shear lobes.
- (3) Advection lobes.
- (4) Vorticity lobes.
- (5) X-N distribution.
- (6) Jet stream.
- (7) UVM/DVM.

Performance Standard. The Apprentice METOC Analyst shall complete the requirement within 30 minutes and without violating meteorological theories. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features without violating fundamental of meteorological theories.

Prerequisite. All FAM events.

JCP-131 .5 Z,R E N/A L

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Goal. To certify knowledge of analyzing and interpreting satellite imagery.

Requirement. When given satellite imagery, determine and state the type of satellite imagery, apply analytical techniques and depict the features listed. The Apprentice METOC Analyst shall be required to discuss meteorological reasoning for placement of features.

- (1) Jet streams.
  - (a) Location of jet streams.
  - (b) Type of jet streams.
- (2) High and low circulation center locations.
- (3) Cloud types.
- (4) Frontal systems, troughs and ridges.
- (5) Land/terrain features.
- (6) Significant weather phenomena.
  - (a) Thunderstorms.
  - (b) Squall lines.
- (7) Tropical features.
  - (a) Tropical cyclones.
  - (b) Tropical upper tropospheric troughs

Performance Standard. The Apprentice METOC Analyst shall complete the requirement within 30 minutes and without violating meteorological theories.

Prerequisite. All FAM events.

JCP-132 3.0 Z,R E N/A L

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Goal. To certify knowledge of analyzing and interpreting Doppler radar imagery.

Requirement. When given Doppler radar imagery, determine and state the type of radar data and identify meteorological features on the products listed. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features.

- (1) Base reflectivity products.
  - (a) Bow echoes.
  - (b) Potential thunderstorm features.
  - (c) Outflow boundaries.
  - (d) Circulation induced boundaries.
- (2) Base velocity products.
  - (a) Outflow patterns.
  - (b) Regions of shear.
  - (c) Circulation patterns.
- (3) Base spectrum width products.
- (4) Derived products.

Performance Standard. The Apprentice METOC Analyst must complete the requirement and without violating meteorological theories and technically discuss the type of radar imagery and the reasoning for feature identified.

Prerequisite. All FAM events.

JCP-133	1.0	Z,R	E	N/A	L
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Goal. To certify knowledge of conducting streamline analysis.

Requirement. When given a wind chart, conduct a streamline analysis denoting the features listed. The Apprentice METOC Analyst will be required to discuss meteorological reasoning for placement of features.

- (1) Streamlines.
- (2) Asymptotes (convergent/divergent).
- (3) Neutral points.
- (4) Label cyclonic and anti-cyclonic centers.
- (5) Isotachs.
- (6) Wind maximums and minimums.

Performance Standard. The Apprentice METOC Analyst must complete the requirement within 1 hour and without violating meteorological theories.

Prerequisite. All FAM events.

JCP-134	2.0	Z,R	E	N/A	L
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Goal. To certify knowledge of analyzing and forecasting atmospheric conditions from the SKEW T LOG P Diagram.

Requirement. Analyze a SKEW T LOG P diagram for elements listed. The Apprentice METOC Analyst must be able to discuss how the analyzed elements are applicable to current and forecasted weather phenomenon.

- (1) Compute indices.
  - (a) Lifted index.
  - (b) KI index.
  - (c) Sweat index.
  - (d) Showalter's index.
  - (e) Total totals.
- (2) Analyze negative/positive energy areas.
- (3) Analyze for equilibrium levels.
- (4) Compute turbulent areas.
- (5) Compute tops of convective activity.
- (6) Compute contrails.
- (7) Compute icing types and levels.
- (8) Compute maximum and minimum temperatures.
- (9) Compute hail.
- (10) Compute thunderstorm gusts.
- (11) Analyze freezing level.
- (12) Analyze for areas of moisture.
- (13) Compute D-Values.
- (14) Compute relative humidity.

Performance Standard. The Apprentice METOC Analyst must analyze a SKEW T LOG P diagram for the elements listed above and state how the derived values/elements apply to forecasting. Evaluation can be written, verbal or practical application.

Prerequisite. All FAM events.

JCP-135 .5 Z,R E N/A L

Goal. To certify knowledge of applied meteorological reasoning in the forecasting of movement and intensity of synoptic scale features.

Requirement. When given required charts, forecast intensity and movement of features listed and provide meteorological justification for forecast.

- (1) Forecast movement and intensity changes in major short wave troughs/ridges.
- (2) Forecast movement and intensity in upper level high and low pressure system.
- (3) Forecast isotherms in major short wave features.
- (4) Forecast moisture in major short wave features.
- (5) Forecast movement and intensity in minor short waves.
- (6) Forecast cyclogenesis of baroclinic low-pressure systems.
- (7) Forecast cyclolosis of baroclinic low-pressure systems.
- (8) Forecast anticyclogenesis of baroclinic high-pressure systems.
- (9) Forecast anticyclolosis of baroclinic high-pressure systems.
- (10) Forecast movement and intensity changes in surface pressure systems.
- (11) Forecast movement and intensity changes in surface frontal systems.
- (12) Forecast synoptic scale precipitation.
- (13) Forecast long wave patterns.
- (14) Forecast movement of jet maxes.

Performance Standard. When given required charts and in evaluated by a qualified METOC instructor, forecast intensity and movement of features listed in the requirement and provide meteorological justification for the derived forecast.

Prerequisite. All FAM events.

JCP-136 .5 Z,R E N/A L

Goal. To certify knowledge of forecasting severe weather.

Requirement. When given required charts, the Apprentice METOC Analyst shall analyze and forecast for severe weather elements listed and provide meteorological reasoning for each.

- (1) Vertical and horizontal wind shear gradients.
- (2) Severe icing.
- (3) Severe/extreme turbulence.
- (4) Tornadic activity.
- (5) Thunderstorm activity.
- (6) Tropical systems.
- (7) Winter storms.

Performance Standard. Derive forecast and reasoning must be in accordance with references. Live evaluation shall be conducted under the direct supervision of a qualified METOC instructor. Forecast shall be completed in such a manner to allow for earliest warning of all destructive weather phenomena.

Prerequisite. All FAM events.

JCP-137      3.0                      Z,R                      E                      N/A                      L

Goal. To certify briefing of METOC features from (re)analyzed products.

Requirement. Utilizing Appendix E, analyze and brief (formally or informally) atmospheric dynamic fundamentals depicted on the following products:

- (1) Synoptic weather charts.
- (2) Thickness charts.
- (3) Vorticity charts.
- (4) Constant pressure charts.
- (5) Tropical cyclone warning displays.
- (6) SKEW T LOG P diagrams.
- (7) Streamline charts.
- (8) Satellite imagery:
  - (a) Infrared.
  - (b) Visual.
  - (c) Water vapor.
- (9) Radar imagery:
  - (a) Base reflectivity.
  - (b) Base velocity.
  - (c) Composite reflectivity.

Performance Standard. Training and preparation of briefing, shall be conducted under the mentoring of the METOC instructor. Brief shall be presented to Qualified Journeyman and Master METOC Analysts prior to qualification events. The Apprentice METOC Analyst must meet the requirement , in a period of 3 hours.

Prerequisite. All FAM events.

JCP-138      16.0                      Z,R                      E                      N/A                      L

Goal. To certify knowledge of the content and development of correspondence that relates to METOC operations.

Requirement. Through practical application, the Apprentice METOC Analyst shall exhibit knowledge of content and techniques of composition for the messages listed.

- (1) Casualty Reports (CASREP).
- (2) Weather Forecast (WEAX).
- (3) Joint Operational Area Forecast (JOAF).
- (4) Tactical Atmospheric Summary (TAS).
- (5) Assault Forecast (ASLFCST).
- (6) Amphibious Objective Area Forecast (AOAFCST).
- (7) Strike Forecast (STRKFCST).
- (8) Chemical Downwind Message (CDM).

Performance Standard. Message must be in compliance with references.

Prerequisite. All FAM events.

JCP-139      2.5                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of Terminal Aerodrome Forecast (TAF) content and format.

Requirement. In accordance with the references and utilizing local, regional and global meteorological models, assess the current and forecast meteorological elements and prepare a TAF. The Apprentice METOC Analyst must, at a minimum, complete the following tasks:

- (1) Minimum altimeter setting.
- (2) Cloud types, amounts and layer heights.
- (3) Precipitation types.
- (4) Surface visibility.
- (5) Weather and obstruction to visibility.
- (6) Maximum/minimum temperatures.
- (7) Wind Speed, direction and character.
- (8) Icing type, height, and intensity.
- (9) Turbulence type, height, and intensity.
- (10) Encode forecast meteorological elements in accordance with reference.

Performance Standard. MAI will ensure 50% of the TAFS are for a location other than their current location. The Apprentice METOC Analyst must complete the requirement a minimum of 25 times and be in accordance with references.

Prerequisite. All FAM events.

JCP-140      5.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of weather warnings.

Requirement. In accordance with references and local procedures, assess and forecast conditions phenomenon requiring generation of the listed weather warnings. The Apprentice METOC Analyst shall generate (live or simulated) each warning 5 times.

- (1) Thunderstorm warnings.
- (2) Severe thunderstorm warnings/watches.
- (3) Tornado warnings/watches.
- (4) Wind warnings.
- (5) Storm warning.
- (6) Gale/Whole gale warning.
- (7) Flood warning.
- (8) Flash flood warning.
- (9) Freeze/Hard freeze warning.
- (10) Small craft warnings/advisories.
- (11) Lightning warnings.

Performance Standard. The Apprentice METOC Analyst will generate the warnings listed (either simulated or live) in accordance with the references. Live completion of the event shall be monitored and supervised by the METOC instructor to ensure accuracy and safety.

Prerequisite. All FAM events.

JCP-141      4.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of flight weather briefing.

Requirement. When given a DD175 or like flight weather request, graphic METOC products, alphanumeric meteorological products, appropriate software and hardware, and knowledge of forecasting rules and theories, prepare a minimum of 20 flight weather briefings and 5 VFR Stamp flight weather briefings. For each brief the Apprentice METOC Analyst will complete the following steps:

- (1) Evaluate current atmospheric parameters along the flight path.
- (2) Forecast the following atmospheric impacts along the flight path.
  - (a) Turbulence.
  - (b) Icing.
  - (c) Thunderstorm activity.
  - (d) Flight visibility.
  - (e) Flight level winds and temperature.
- (3) Forecast the following meteorological conditions at destination(s) and alternate(s).
  - (a) Sky conditions.
  - (b) Visibility.
  - (c) Type and character of precipitation or obstruction to visibility.
  - (d) Wind direction.
  - (e) Wind speed (within 5 knots of actual conditions).
  - (f) Altimeter setting.

Performance Standard. Requirement must be met within 10 minutes of receipt and be in accordance with orders and directives. Specific criteria for content are:

- (1) Sky conditions (within 500 feet of actual arrival conditions).
- (2) Visibility (within 1 mile of the actual arrival conditions).
- (3) Type and character of precipitation or obstruction to visibility.
- (4) Wind direction (within 30 degrees if wind speed greater than six knots of actual arrival conditions).
- (5) Wind speed (within 5 knots of actual conditions).
- (6) Altimeter setting (within 2 in. of mercury of actual arrival conditions).

Prerequisite. All FAM events.

JCP-142      10                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of flight weather packets.

Requirement. Given a flight weather packet request, prepare and brief a flight weather packet. Flight weather packet shall include the following products.

- (1) Construct a horizontal weather depiction.
- (2) Construct a ditch-heading chart.
- (3) Construct an altimeter setting chart.
- (4) Construct an upper-level wind chart.

- (5) Construct a sea surface temperature chart.
- (6) Prepare DD175-1 flight weather brief.
- (7) Prepare an OPNAV 3140/25 flight forecast folder.
- (8) Include mission essential products as applicable.

Performance Standard. Flight weather packet must be in accordance with the references, be completed within 2 hours, and be accomplished a minimum of 5 times.

Prerequisite. All FAM events.

JCP-143	2.0	Z,R	E	N/A	L
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Goal. To certify knowledge of verifying meteorological model output.

Requirement. Through practical application, the Apprentice METOC Analyst will verify meteorological model output by identifying strengths and weaknesses of each of the following numerical models:

- (1) NOGAPS.
- (2) COAMPS.
- (3) MM5.
- (4) AVN.
- (5) ETA.

Performance Standard. Through practical application, verify model output with 12/24/36/48 analyses. The Apprentice METOC Analyst must demonstrate knowledge of each global and mesoscale numerical model in the requirement.

Prerequisite. All FAM events.

JCP-144	5.0	Z,R	E	N/A	L
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Goal. To certify knowledge of surf forecasting.

Requirement. Given the appropriate software, generate a surf forecast that contains the listed components in accordance with the references.

- (1) Significant breaker height.
- (2) Maximum breaker height.
- (3) Breaker period.
- (4) Breaker type.
- (5) Breaker angle.
- (6) Littoral current speed and direction.
- (7) Modified surf index.
- (8) Wind direction in surf zone.
- (9) Obtain beach profile data.

Performance Standard. Surf forecast must be in accordance with the references and be completed, within the standards a minimum of 5 times.

Prerequisite. All FAM events.

JCP-145 .5 Z,R E N/A L

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Goal. To certify knowledge of limited data forecasting.

Requirement. Given 3 METOC products, selected by the MIA, and a location, write a plain language forecast for a period of 48 hours and verify for accuracy.

Performance Standard. Content and verification of forecasted elements are subjective. MIA will determine satisfactory completion of event.

Prerequisite. All FAM events.

JCP-146 30 Z,R E N/A L

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Goal. To certify knowledge of generation of specialized mission support products in response to Request For Information (RFI).

Requirement. Given a RFI, develop the required specialized forecast product to fulfill RFI requirement.

- (1) WEAX.
- (2) JOAF.
- (3) EOTDA.
- (4) TAWS.
- (5) METOC Impacts to operations.
- (6) Tactical atmospheric summaries.
- (7) EM propagation summaries.
- (8) Amphibious assault forecasts.
- (9) Strike forecasts.
- (10) Assault forecasts.
- (11) Climatology.
- (12) Environmental support packages.
- (13) Tidal products.
- (14) Solar/ Lunar products.
- (15) Search and rescue brief.

Performance Standard. Must fulfill a request for information for each of the listed product to successfully complete the event. Content and verification of forecasted elements are subjective. MIA will determine satisfactory completion of event.

Prerequisite. All FAM events.

JCP-147 8.0 Z,R E N/A L

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Goal. To certify knowledge of tailored METOC weather briefs.

Requirement. Develop and conduct specialized/tailored weather briefs listed.

- (1) Tropical cyclone brief.
- (2) Climatology brief.
- (3) Astronomical/lunar brief.
- (4) Instrument Ground School (IGS) brief.

Performance Standard. The Apprentice METOC Analyst must develop and conduct each brief once. Development time for each brief is one week. Content and verification of forecasted elements are subjective. MIA will determine satisfactory completion of event.

Prerequisite. All FAM events.

JCP-148      2.0                      Z,R                      E                      N/A                      L

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Goal. To certify knowledge of basic network administration functions.

Requirement. Utilizing an established METOC network and be able to perform the following basic network functions in order to identify, safeguard and maintain network integrity.

- (1) Log on to the network.
- (2) Connect to other computers on the network.
- (3) Transfer data to other computers on the network.
- (4) Use shared folders and files.
- (5) Monitor access to/from the network and identify possible intrusions/problems.
- (6) When directed, add computers to the network.

Performance Standard. The Apprentice METOC Analyst shall complete the requirement without compromising the integrity of the network or data.

Prerequisite. All FAM events.

### 3. Consolidated METOC Operations (CMO)

a. Purpose. To enhance proficiency in garrison METOC support operations and products.

b. General. This stage of the syllabus shall be completed at the first operational METOC units assigned and when assigned to the refresher syllabus. Execution of this stage shall adhere to the following:

(1) Initial training shall be conducted under the mentorship of a qualified Journeyman METOC Analyst until student attains qualification.

(2) Refresher training shall be conducted locally under the supervision and evaluation by a qualified Master METOC Analyst.

#### c. Crew Requirements

(1) Qualified instructor.

(2) Apprentice METOC Analyst assigned to syllabus.

#### d. Academic Training

(1) General. Academic training will be conducted prior to and concurrently with required events.

(2) Local training. Local METOC units shall establish and utilize periods of instruction to facilitate training. The periods of instruction

shall be developed and approved by the METOC OIC or METOC Chief with particular attention to content and validity.

e. Event Training

CMO-149	1.5	Z,R	E	N/A	L
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Goal. Operate garrison METOC equipment to provide METOC support to base operations.

Requirement. The Apprentice METOC Analyst shall operate and conduct operator level maintenance and troubleshooting of the following METOC systems:

- (1) Meteorological Integrated Data Display System (MIDDS).
- (2) Lightning Position and Tracking System (LPATS).
- (3) Pilot to Forecaster Radio (METRO).
- (4) Doppler radar system (WSR88D).
- (5) Wet Bulb Globe Temperature Index sensors (WBGTI).
- (6) Tower to metro displays/communications (WXVISION).
- (7) Handheld equipment. (PMQ-3, psychrometers).

Performance Standard. SNM will be evaluated through practical application and verbally. Refresher training is conducted monthly.

Prerequisite. None.

CMO-150	24	Z,R	E	N/A	L
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Goal. Conduct garrison METOC support.

Requirement. Conduct routine METOC operations in support of garrison activities. Personnel assigned will:

- (1) Conduct watch operations.
- (2) Conduct flight weather briefings.
- (3) Generate aviation weather products. (TAF, Daily Forecast, route forecasts, etc.)
- (4) Conduct tropical weather forecasting.
- (5) Conduct special mission support product development.
- (6) Conduct security operations.
- (7) Conduct warning and advisories functions.
- (8) Conduct surf forecasting (if applicable)
- (9) Conduct METOC system operations.
- (10) Conduct basic METOC system and network functions.

Performance Standard. Personnel assigned shall complete the requirement under the supervision of a qualified Journeyman METOC Analyst until completion of the certification phase. Refresher training standard requires completion of the tasks for one week semiannually.

Prerequisite. None.

232. COMBAT READY TRAINING1. Familiarization (FAM)

a. Purpose. To introduce the Journeyman METOC Analyst to core plus skills and knowledge.

b. General

(1) Administrative Notes. Familiarization training shall be conducted by the METOC Analyst Instructor (MAI).

(2) Prerequisites

(a) Completion of the Combat Capable stage of training.

(b) Top Secret clearance.

(c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have been exposed to the all core skills required in forecasting and assessing METOC impacts to operations. Proficiency will be developed in follow on stages of training.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst Instructor.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

FAM-200	1.0	Z	E	N/A	L
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Goal. Familiarization with MAGTF operations.

Requirement. In accordance with references, Journeyman METOC Analyst shall identify the roles and missions of each element of the MAGTF.

- (1) Air Combat Element (ACE).
- (2) Ground Combat Element (GCE).
- (3) Command Element (CE).
- (4) Combat Service Support Element (CSSE).
- (5) Bases and stations.
- (6) Supporting Establishment Element (SSE).

Performance Standard. Stated roles and missions shall be in accordance with references.

Prerequisite. None.

FAM-201      1.0                      Z                      E                      N/A                      L

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Goal. Familiarization with the components and capabilities of the Meteorological Mobile Facility Replacement (METMF(R)).

Requirement. Visually and verbally identify each component of the subsystems within the MetMF(R) and briefly discuss the capabilities listed.

- (1) Shelter Subsystem (SSS).
  - (a) Shelter.
  - (b) ECU.
  - (c) Door mounted safety equipment.
  - (d) Power distribution unit.
- (2) Processing Subsystem (PCS).
  - (a) WINNT domain.
  - (b) UNIX operating systems.
  - (c) Connectivity Devices/cryptologic devices.
- (3) Meteorological Radar System (MRS).
  - (a) Nomenclature.
  - (b) Max ranges.
  - (c) Frequency and power.
  - (d) Operating system.
  - (e) System software.
  - (f) Basic outputs.
- (4) Meteorological Satellite Subsystem (MSS).
  - (a) Nomenclature.
  - (b) Frequencies.
  - (c) Encryption.
  - (d) Antenna array.
  - (e) Receiver.
  - (f) Operating system.
  - (g) System software.
  - (h) Basic outputs.
- (5) Communications Subsystem (CSS).
  - (a) Nomenclature.
  - (b) Connectivity/ Crypto logic devices.
  - (c) Antenna arrays.
- (6) Portable Meteorological Subsystem (PMS).
  - (a) Nomenclatures.
  - (b) Connectivity.
  - (c) Receivers.
- (7) Local Sensor Subsystem (LSS).
  - (a) Nomenclature.
  - (b) Operating system.
  - (c) System software.
  - (d) Operating ranges.
- (8) Remote Sensor Subsystem (RSS).
  - (a) Nomenclature.
  - (b) Operating system.
  - (c) Software.
  - (d) Operating ranges.
  - (e) Connectivity.
- (9) Rawinsonde subsystem (RWS).
  - (a) Nomenclature.
  - (b) Connectivity.

- (c) Frequencies.
- (d) Antenna arrays.
- (10) Video Subsystem (VSS).
  - (a) Nomenclature.
  - (b) Connectivity.

Performance Standard. Without error, visually identify each component of the subsystems within the MetMF(R) and briefly discuss the capabilities of each.

Prerequisite. None.

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FAM-202      .5                      Z                      E                      N/A                      L

Goal. Familiarization with the components and capabilities of the Navy Integrated Tactical Environment System (NITES IV).

Requirement. Visually or verbally identify each component of the NITES and briefly discuss the capabilities each.

- (1) Main module.
- (2) Communications module.
- (3) Satellite module.
- (4) Sensors and antennas.
- (5) Network components.
- (6) Communication components.

Performance Standard. Without error, visually identify each component and state the capabilities of each.

Prerequisite. None.

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FAM-203      3.0                      Z                      E                      N/A                      L

Goal. Familiarization with the knowledge of configuring METOC applicable software.

Requirement. Utilizing applicable references, demonstrate knowledge of software configuration by establishing connectivity and retrieving METOC data. Journeyman METOC Analyst will configure software to receive, develop and/or manipulate the following items:

- (1) Alphanumeric data.
- (2) Graphic data.
- (3) Tactical decision aid products.
- (4) Flight level winds and routing products.
- (5) Flight weather briefing products.
- (6) Satellite imagery.
- (7) Radar imagery.
- (8) Classified products.
- (9) Regional and global center products.

Performance Standard. Journeyman METOC Analyst shall successfully complete the task without violating system or network integrity or data.

Prerequisite. None.

FAM-204      1.0                      Z                      E                      N/A                      L

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Goal. Familiarization with the knowledge required for assessing the impacts of meteorological and oceanographic elements on MAGTF operations.

Requirement. Journeyman METOC Analyst will be required to identify what overall missions (Air, Ground, and Sea) will be impacted by the listed meteorological and oceanographic phenomenon.

- (1) Thunderstorm activity.
- (2) Visibility.
- (3) Rainfall.
- (4) Snow.
- (5) Winds.
- (6) Humidity.
- (7) Pressure.
- (8) Waves height.
- (9) Tides.
- (10) Solar elements.
- (11) Lunar elements.
- (12) Sky coverage.

Performance Standard. With aid of reference, correctly identify mission area impacted by each phenomenon listed.

Prerequisite. None.

FAM-205      6.0                      Z                      E                      N/A                      L

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Goal. Familiarization with Equipment Casualty reporting.

Requirement. In accordance with the NAVMETOCCOMINST 13950.1, the Journeyman METOC Analyst will be required to draft a minimum of 3 each of the equipment report messages listed.

- (1) Casualty report.
- (2) Casualty update.
- (3) Casualty correct.

Performance Standard. Draft message must meet requirements for content and format per references.

Prerequisite. None.

FAM-206      6.0                      Z                      E                      N/A                      L

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Goal. Familiarization with METOC logistics and external support requirements.

Requirement. Through practical application, the Journeyman METOC Analyst shall exhibit knowledge of the listed logistical and external support programs and requirements.

- (1) Hazardous materials (HAZMAT).
- (2) Marine Aviation Logistics Support (MALS) structure.
- (3) NALCOMIS.
- (4) Mobile facility lift and transportation requirements.

- (5) Time Phased Force Deployment Data (TPFDD).
- (6) Equipment Density Lists (EDL).

Performance Standard. Performance shall be trained and evaluated by the METOC analyst instructor. Practical application must be in accordance with orders and regulations governing the logistical support program(s).

Prerequisite. None.

FAM-207      2.0                      Z                      E                      N/A                      L

Goal. Familiarization with deployment requirements and procedures.

Requirement. When given a simulated METOC deployment letter of instruction (LOI), the Journeyman METOC Analyst shall demonstrate the skills, either verbally or simulated, required to perform the tasks in accordance with the LOI.

- (1) Identify METMF(R) lift requirements.
- (2) Identify tailored METOC support package equipment lift requirements.
- (3) Identify personnel requirements to support the LOI.
- (4) Ensure embark markings are correct.
- (5) State personnel deployment readiness procedures.
- (6) Identify equipment casualty reporting procedures.

Performance Standard. Task must be completed in accordance with the references.

Prerequisite. None.

FAM-208      .5                              Z                              E                              N/A                              L

Goal. Familiarization with environmental impact briefings and reporting (when required).

Requirement. The Journeyman METOC Analyst will brief and, when required, develop the natural environmental products listed.

- (1) Volcanic eruption.
- (2) Tidal wave/tsunami.
- (3) Avalanches.
- (4) Earthquakes (reports).

Performance Standard. The Journeyman METOC Analyst shall identify the products (live or simulated) and brief a Master METOC Analyst on the product. Earthquake reports will be generated in accordance with the references.

Prerequisite. None.

FAM-209      2.0                      Z                      E                      N/A                      L

Goal. Familiarization with oceanographic forecasting and impact assessment.

Requirement. The Journeyman METOC Analyst shall discuss products used for deriving forecasts for the oceanographic elements listed and assess the impacts on operations.

- (1) Sea state.
- (2) Tidal data.
- (3) Breaker types and heights.
- (4) Fetch areas.
- (5) Swells.

Performance Standard. Impact assessment and products discussion shall be in accordance with the references.

Prerequisite. None.

FAM-210      2.0                      Z                      E                      N/A                      L

Goal. Familiarization with METOC database functions.

Requirement. Under direction and supervision, the Journeyman METOC Analyst shall complete the tasks listed.

- (1) Adhere to file naming conventions.
- (2) Identify user rights and accesses.
- (3) Identify METOC database requirements (folders, directories).
- (4) Create database folders and directories.
- (5) Configure software to place data in database.
- (6) Maintain number of files in the database.

Performance Standard. METOC database functions must be in accordance with the references and not violate network integrity or data.

Prerequisite. None.

FAM-211      1.0                      Z                      E                      N/A                      L

Goal. Familiarization with products and sources for assessment of METOC impacts on MAGTF Operations.

Requirement. Given a mission, the Journeyman METOC Analyst shall state the sources and products required for assessing meteorological impacts to specified mission.

Performance Standard. The Journeyman METOC Analyst must correctly identify sources and products for assessing METOC impact.

Prerequisite. None.

FAM-212      2.0                      Z                      E                      N/A                      L

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Goal. Familiarization with utilizing tactical equipment for forecasting for tropical cyclone development and movement.

Requirement. Given METOC products (live or canned data), tactical METOC equipment and favorable conditions for tropical development, analyze for tropical cyclone development, movement, and intensity and compute a 96-hour prognostic for movement/intensity of the system.

- (1) Modify computer generated tropical cyclone models and available centrally prepared products.
- (2) Forecast tropical cyclone development, movement, and intensity using satellite data and other applicable products.
- (3) Interpret METOC data parameters.
- (4) Correlate centrally/locally prepared products for system intensification and movement.

Performance Standard. METOC instructor shall evaluate forecast for accuracy and verification.

Prerequisite. None.

## 2. Plans, Policies and Procedures (PPP)

a. Purpose. To enhance the Journeyman METOC Analyst's core skills and knowledge of METOC plans, policies and procedures through live, simulated and academic training.

### b. General

(1) Administrative Notes. Training shall be conducted and evaluated by the METOC Analyst Instructor (MAI). Completion of events can only be approved by designating authority or delegated authority.

#### (2) Prerequisite

(a) Completion of the Combat Capable phase and level 200 familiarization training.

(b) Top secret clearance.

(c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have the established minimum proficiency in the plans, policies and procedures inherent to the METOC support structure.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst instructor.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

PPP-213      1.0                      Z                      E                      N/A                      L

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Goal. Develop and supervise Tower Visibility Observer training curriculum and schedule.

Requirement. The Journeyman METOC Analyst shall complete the following tasks:

- (1) The Journeyman METOC Analyst will develop a tower visibility observer program in accordance with directives.
- (2) The Journeyman METOC Analyst will supervise implementation of the tower visibility observer program.
- (3) The Journeyman METOC Analyst will submit completion and qualification recommendations to the qualifying authority.

Performance Standard. Training program must meet training requirements in accordance with references.

Prerequisite. None.

PPP-214      5.0                      Z                      E                      N/A                      L

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Goal. Supervise adherence and implementation of established METOC administrative programs, procedures and plans.

Requirement. When directed, the Journeyman METOC Analyst will exhibit knowledge of the implementation of METOC administrative programs. Completion of the tasks must be in accordance with references and local guidance. The Journeyman METOC Analyst will ensure the following administrative reports are completed and filed:

- (1) Station Information File (SIF) report.
- (2) Equipment and personnel readiness reports.
- (3) Observational and forecasting data reports for climatology.
- (4) Work requests.
- (5) Annual Station Reports (ASR).
- (6) Morning reports.
- (7) Monthly stations reports.
- (8) PIREPS.
- (9) Command chronology reports
- (10) Activity Based Costing reports (ABC)

Performance Standard. Reports must be in compliance with orders and directives.

Prerequisite. None.

PPP-215      3.0                      Z                      E                      N/A                      L

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Goal. Draft logistical support program(s) reports and documents.

Requirement. When directed, the Journeyman METOC Analyst shall draft METOC logistical support reports and documents pertaining to the following logistical programs:

- (1) Supply.
- (2) Equipment.
- (3) Fiscal.

Performance Standard. Evaluator shall determine types of reports and documents to be drafted. Completed drafts must be in accordance with references and fulfill mission requirements.

Prerequisite. None.

PPP-216      1.0                      Z                      E                      N/A                      L

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Goal. Supervise and conduct of watch turnover procedures.

Requirement.

- (1) The Journeyman METOC Analyst will supervise and guide the Apprentice METOC Analyst in turnover procedures.
- (2) The Journeyman METOC Analyst will conduct the Journeyman METOC Analyst turnover procedures. Turnover will contain, at a minimum, the following elements:
  - (a) Personnel issues.
  - (b) Forecast reasoning.
  - (c) METOC impacts to applicable operations.
  - (d) Security.
  - (e) Special instructions.
  - (f) Qualification and designations achieved on watch.

Performance Standard. Must be in compliance with references and guidance.

Prerequisite. None.

PPP-217      8.0                      Z                      E                      N/A                      L

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Goal. Conduct watch procedures in accordance with orders and directives.

Requirement. The Journeyman METOC Analyst shall complete the following actions:

- (1) The Journeyman METOC Analyst will supervise the Apprentice METOC analysts in the performance of their duties.
- (2) The Journeyman METOC Analyst will conduct watch turnover procedures in accordance with establish procedures.
- (3) Conduct security operations.
- (4) Conduct METOC assessment.
- (5) Conduct METOC product development procedures.

- (6) The Journeyman METOC Analyst will identify personnel issues to the Master METOC analyst.

Performance Standard. Watch must function in accordance with references.

Prerequisite. None.

PPP-218      2.0                      Z                      E                      N/A                      L

Goal. Conduct Quality Assurance (QA) on Apprentice METOC Analyst products.

Requirement. In accordance with QA program, the METOC Analyst shall complete the following tasks:

- (1) Validate parameters of observed and forecasted products listed for format and accuracy:
  - (a) Observational elements.
  - (b) Forecast elements.
  - (c) PIREPs.
  - (d) WEAXs.
  - (e) Daily forecasts.
  - (f) Local derived mission required products.
- (2) Advise the METOC Chief of problems and exceptional performance patterns highlighted by the QA program.
- (3) The Journeyman METOC Analyst shall provide recommendations to enhance the quality assurance program.

Performance Standard. Must be completed in accordance with the QA references.

Prerequisite. None.

PPP-219      1.0                      Z                      E                      N/A                      L

Goal. Mentor Apprentice METOC Analyst on MOS progression training.

Requirement. When assigned as a mentor to a Apprentice METOC Analyst, provide the training and mentoring on necessary knowledge/skills required to successfully complete the Meteorological Oceanographic Analyst Forecast (MOAF) course. Such skills include but are not limited to:

- (1) Fundamentals of meteorology.
- (2) Analyzation and interpretation of meteorological charts.
- (3) Analyzation and interpretation of support charts.
- (4) Briefing techniques.
- (5) Fundamentals of METOC impacts to weapons systems.
- (6) Fundamentals of intelligence process.

Performance Standard. Journeyman METOC Analyst shall evaluated by practical application and supervised by a qualified Master METOC Analyst.

Prerequisite. None.

PPP-220      56                      Z                      E                      N/A                      L

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Goal. Draft input to Annex H of operational orders.

Requirement. The Journeyman METOC Analyst shall draft and submit METOC input to the METOC Services Annex (Annex H) of operational orders and Letters Of Instruction (LOI).

Performance Standard. Draft METOC input must be in JOPES (or applicable format) and contain all required information to support designated mission and designate all external requirement for successful METOC support.

Prerequisite. None.

PPP-221      2.0                      Z                      E                      N/A                      L

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Goal. Implementation and supervision of established security procedures.

Requirement. In accordance with the references, the Journeyman METOC Analyst shall complete the listed tasks:

- (1) Safeguard classified materials through supervision and adherence to established security procedures.
- (2) Submit recommendation to improve security program to the METOC Chief.
- (3) Assist subordinate personnel in the submission of security clearance/access requests.
- (4) Conduct embarkation and handling of classified materials in accordance with established guidelines.
- (5) Supervise the conduct of security checks.

Performance Standard. Procedures and supervision of the security program must be in compliance with references and local procedures. The refresh rate is monthly.

Prerequisite. None.

PPP-222      .5                      Z                      E                      N/A                      L

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Goal. Conduct and state security and classified materials storage and transportation procedures and requirements.

Requirement.

- (1) The Journeyman METOC Analyst shall state and conduct the requirements and procedures for the storage of METOC specific equipment and software.
- (2) The Journeyman METOC Analyst shall state and conduct the requirements for the transportation of METOC specific equipment and software.
- (3) The Journeyman METOC Analyst shall state and conduct the logging of all movement and inventories increases and decreases per the references.
- (4) State marking procedures for classified materials.

Performance Standard. Procedures and supervision of the security program must be in compliance with established references.

Prerequisite. None.

PPP-223	.5	Z	E	N/A	S/L
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Goal. Conduct emergency destruction procedures.

Requirement. In a simulated environment, the Journeyman METOC Analyst shall state and then conduct the emergency destruction procedures per the governing directives and orders.

Performance Standard. Conduct of the emergency destruction must be in accordance with the references. The Refresh rate is annually.

Prerequisite. None.

### 3. Consolidated METOC Operations

a. Purpose. To enhance the knowledge and skills of the Journeyman METOC Analyst in METOC support operations.

b. General

(1) Administrative Notes. Training shall be conducted by the METOC Analyst Instructor (MAI).

(2) Prerequisite

(a) Completion of the Combat Capable stage of training.

(b) Top Secret clearance.

(c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a comprehensive knowledge of METOC support operations and can effectively provide METOC support to a majority of combat operations. Proficiency shall be obtained and sustained through refresher and repetitive application of attained knowledge and skills.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst Instructor.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

CMO-224      32                      Z                      E                      N/A                      L

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Goal. Implement deployment requirements and procedures.

Requirement. Under the supervision of a Master METOC Analyst and when directed by the Master METOC Chief, the Journeyman METOC Analyst shall accomplish the following tasks:

- (1) Plan a deployment of tactical METOC assets to a Forward Operating Base (FOB).
- (2) Coordinate transportation of equipment (classified and unclassified) to designated area.
- (3) Coordinate personnel transportation and billeting.
- (4) Conduct personnel inspections.
- (5) Coordinate network connectivity (where available).
- (6) Coordinate logistical support.
- (7) Execute plan.

Performance Standard. Personnel and equipment must arrive at the designated area and establish METOC support capabilities. The refresh rate is semi-annually.

Prerequisite. None.

CMO-225      240                      Z,R                      E                      N/A                      L

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Goal. Conduct tactical METOC support.

Requirement. Conduct tactical METOC operations in support of missions. Journeyman METOC Analyst will utilize tactical METOC equipment to complete the following tasks:

- (1) Conduct watch operations.
- (2) Conduct flight weather briefings.
- (3) Conduct tropical weather forecasting.
- (4) Conduct special mission support product development.
- (5) Conduct security operations.
- (6) Conduct warning and advisories functions.
- (7) Conduct surf forecasting (if applicable).
- (8) Conduct METOC system operations.
- (9) Conduct basic METOC system and network functions.
- (10) Conduct METOC impact assessment briefings.
- (11) Conduct amphibious, air, and ground strike briefs.
- (12) Conduct Common Operating Picture (COP) operations.

Performance Standard. Support must be in compliance with the QA program, orders, and directives and fulfill mission requirements.

Prerequisite. None.

CMO-226      16.0                      Z                      E                      N/A                      L

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Goal. Prepare correspondence in METOC support messages in a tactical environment.

Requirement. Utilizing tactical equipment, compose the listed correspondence listed in official message traffic format. Messages must contain all required elements.

- (1) Casualty Reports (CASREP).
- (2) Weather Forecast (WEAX).
- (3) Joint Operational Area Forecast (JOAF).
- (4) Tactical Atmospheric Summary (TAS).
- (5) Assault Forecast (ASLFCST).
- (6) Amphibious Objective Area Forecast (AOAFCST).
- (7) Strike Forecast (STRKFCST).
- (8) Chemical Downwind Message (CDM).

Performance Standard. Journeyman METOC Analyst will compose listed messages in the proper format and content.

Prerequisite. None.

CMO-227      24.0                      Z                      E                      N/A                      L

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Goal. Conduct METOC operations in accordance with security regulations and orders.

Requirement. Given knowledge of the references, conduct routine METOC operations while adhering to security procedures in accordance with references.

- (1) Ensure safeguarding procedures of classified METOC products are adhered to.
- (2) Obtain classified materials courier cards as required.
- (3) Ensure two person integrity is adhered to as applicable.
- (4) Log entries on classified materials custody cards whenever classified METOC materials leave storage containers.
- (5) Log visitors into access logbook when required.
- (6) Safeguard combinations and passwords to classified materials.

Performance Standard. Requirement must be completed in accordance with references.

Prerequisite. None.

CMO-228      2.0                      Z,R                      E                      N/A                      L

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Goal. Forecast meteorological events using limited data in a tactical environment.

Requirement. Utilizing tactical METOC equipment and two of the three products listed, create a plain language and aviation forecast valid for a 96 hour period. The JMA shall state meteorological reasoning to include land/sea interfaces and terrain influences.

- (1) Satellite image.

- (2) Skew-T Log P diagram.
- (3) Surface chart.

Performance Standard. Evaluation is subjective and shall be evaluated by the METOC chief.

Prerequisite. None.

CMO-229	30.0	Z,R	E	N/A	L
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Goal. Generate Specialized Mission Support Products in response to Request For Information (RFI) in a tactical environment.

Requirement. Utilizing tactical METOC equipment and given a RFI, develop the required specialized forecast product to fulfill RFI requirement for a region selected by the METOC instructor.

- (1) WEAX.
- (2) JOAF.
- (3) EOTDA.
- (4) TAWS.
- (5) METOC impacts to operations.
- (6) Tactical atmospheric summaries.
- (7) EM propagation summaries.
- (8) Amphibious assault forecasts.
- (9) Strike forecasts.
- (10) Assault forecasts.
- (11) Climatology.
- (12) Environmental support packages.
- (13) Tidal products.
- (14) Solar/ Lunar products.
- (15) Search and rescue brief.

Performance Standard. Must complete an RFI for each product listed until product content and format are correct.

Prerequisite. None.

CMO-230	6.0	Z	E	N/A	L
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Goal. Develop tailored METOC weather briefs in a tactical environment.

Requirement. Utilizing tactical METOC equipment and knowledge of the necessary references, develop and conduct specialized/tailored each of the following METOC weather briefs:

- (1) Tropical cyclone brief.
- (2) Climatology brief.
- (3) Astronomical/Lunar brief.

Performance Standard. Must complete each brief listed until product content, format and briefing confidence is achieved.

Prerequisite. None.

CMO-231      1.0                      Z                      E                      N/A                      L

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Goal. Forecast and brief tropical cyclone development and movement using tactical equipment.

Requirement. Utilizing tactical equipment, METOC products (live or canned data) and under conditions for tropical development analyze for tropical cyclone development, movement, and intensity and compute a 96-hour prognostic for movement/intensity of the system.

- (1) Interpret cyclone warnings and advisories.
- (2) Modify computer generated tropical cyclone models and available centrally prepared products based on climatological summaries of cyclone storm tracks, forecasting rules, and local area requirements.
- (3) Forecast tropical cyclone development, movement, and intensity using satellite data and other applicable products.
- (4) Interpret METOC data parameters.
- (5) Prepare and brief
  - (a) Recommendation to cyclone conditions of readiness.
  - (b) Cyclone categories.
  - (c) Impacts to cyclone evacuation plan.
  - (d) Impacts based on cyclone storm surge forecasts.

Performance Standard. The requirements must be met in accordance with the reference. Repetition of tasks shall be carried out until accuracy in content and format are correct as determined by the METOC Analyst Instructor.

Prerequisite. None.

CMO-232      .5                      Z,R                      E                      N/A                      L

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Goal. Create a surf forecast using tactical equipment.

Requirement. Utilizing tactical equipment, the appropriate software and requirements for the operations, generate a surf forecast that contains the listed components.

- (1) Obtain beach survey.
- (2) Significant breaker height.
- (3) Maximum breaker height.
- (4) Breaker period.
- (5) Breaker type.
- (6) Breaker angle.
- (7) Littoral current speed and direction.
- (8) Modified surf index.
- (9) Wind direction in surf zone.
- (10) Obtain beach profile data.

Performance Standard. Forecast must meet mission requirement and contain the listed elements. Forecast shall be repeated until accuracy in content and format are achieved. Completion shall not be awarded until confidence in the processes and procedures utilized to develop and brief surf forecasts are achieved as determined by the MAI.

Prerequisite. None.

CMO-233      40.0                      Z                      E                      N/A                      L

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Goal. Conduct a climatology brief using tactical equipment.

Requirement. Utilizing tactical equipment and research, prepare and conduct a 3-month climatology brief which includes the listed items:

- (1) Overview.
- (2) Geography.
- (3) Terrain.
- (4) Operational interests, if applicable:
- (5) Oceanography.
- (6) Astronomical.
- (7) Seismic activity.
- (8) Historical EM conditions.
- (9) General climate.
- (10) Specific weather elements, if applicable:
  - (a) Relative humidity.
  - (b) Thunderstorms/precipitation.
  - (c) Prevailing winds.
  - (d) Sky condition.
  - (e) IFR/VFR/Marginal VFR percentages.
  - (f) Assessments and recommendations.

Performance Standard. Brief must be in accordance with orders and directives for a location specified by the METOC analyst instructor, and completed within 1 week of assignment.

Prerequisite. None.

CMO-234      6.0                      Z                      E                      N/A                      L

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Goal. Prepare and disseminate a deployment brief.

Requirement. Utilizing RFI (simulated or real time), prepare and conduct a mission specific deployment brief. Brief shall include the listed items:

- (1) Basic forecasted meteorological parameters.
- (2) Surface observation and TAF.
- (3) Flight weather products.
- (4) Types of severe weather warnings and advisories.
- (5) Available and/or applicable METOC software.
- (6) NATOPS requirements.
- (7) METOC support capabilities.
- (8) Climatological impact assessment.
- (9) Type of terrain in area of interest and influence to METOC parameters.

Performance Standard. In accordance with all references and within one week the brief shall be completed. Requirement will be fulfilled once utilizing garrison equipment and once using tactical equipment for two distinctly separate geographic locations (location must be different from local area).

Prerequisite. None.

CMO-235      24.0                      Z                      E                      N/A                      L

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Goal. Conduct an amphibious warfare brief.

Requirement. Given a RFI (simulated or real time), prepare and present an amphibious warfare brief that contains the listed items and fulfills mission requirement. The Journeyman METOC Analyst must be prepared to respond to questions presented by the target audience.

- (1) Current weather information.
- (2) 24-hour weather information.
- (3) Aviation parameters.
- (4) Surf forecast.
- (5) Tactical assessment.
- (6) Atmospheric refractive summary.
- (7) Astronomical data.
- (8) 24-hour radiological/chemical fallout forecast.

Performance Standard. The Journeyman METOC Analyst must complete the briefing with 24 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references and have been completed once with tactical equipment and once with garrison equipment.

Prerequisite. None.

#### 4. METOC Impact Assessment (MIA)

a. Purpose. To enhance proficiency in the knowledge and skills required for METOC Impact Assessment.

b. General

(1) Administrative Notes. Training shall be conducted by the METOC Analyst Instructor (MAI).

(2) Prerequisite

- (a) Completion of the Combat Capable stage of training.
- (b) Top Secret clearance.
- (c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a base knowledge of METOC impact assessment techniques and products for MAGTF operations. Proficiency will be developed through repetitive completion of the events.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst instructor.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

MIA-236      80.0                      Z                      E                      N/A                      L

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Goal. Attain proficiency in METOC tactical application software.

Requirement. The Journeyman METOC Analyst shall attend the Joint METOC Tactical Application Course (JMTAC) to receive training on the listed items:

- (1) Tactical application software.
- (2) Derived software products.
- (3) Understanding product output.
- (4) Impacts assessment.

Performance Standard. The Journeyman METOC Analyst shall successfully complete JMTAC course and receive completion certificate.

Prerequisite. None.

MIA-237      3.0                      Z,R                      E                      N/A                      L

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Goal. Utilize Tactical Decision Aid (TDA) programs to produce specified products.

Requirement. Produce specified products using TDA software:

- (1) Historical environmental prediction condition (HEPC) summary.
- (2) Refractive index profile.
- (3) Radar coverage diagrams.
- (4) Radar propagation loss.
- (5) Platform vulnerability.
- (6) Probability of detection.
- (7) Electronic support measures.
- (8) Electronic countermeasures.
- (9) AREPS.
- (10) SLAP.
- (11) TAWS.

Performance Standard. The Journeyman METOC Analyst must complete the briefing with 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references and have been completed once with tactical equipment and once with garrison equipment.

Prerequisite. None.

MIA-238      2.0                      Z                      E                      N/A                      L

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Goal. Conduct a Search And Rescue (SAR) brief.

Requirement. In accordance with the references and utilizing a completed request for information, prepare and conduct a SAR brief as requested, within 2-hours.

- (1) Current and forecast weather information for predetermined areas of operation.
- (2) Provide mission planning forecasts to include, but is not limited to:
  - (a) Water temperatures.
  - (b) Drift data.
  - (c) Survival times.
  - (d) Current speed and direction.

Performance Standard. The Journeyman METOC Analyst must complete the briefing with 2 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references and have been completed once with tactical equipment and once with garrison equipment.

Prerequisite. None.

MIA-239      3.0                      Z                      E                      N/A                      L

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Goal. Properly conduct Aviation Strike Brief.

Requirement. In accordance with the references and provided a completed RFI, prepare and conduct an aviation (mission specific) strike weather brief within 3-hours. Include the following information:

- (1) Current neph-analysis.
- (2) Enroute weather:
  - (a) Sky condition.
  - (b) Weather.
  - (c) Visibility/Slant range visibility (NM).
  - (d) Sea surface temperature/in-water survival time.
  - (e) Winds.
  - (f) Temperatures.
  - (g) Turbulence.
  - (h) Icing.
  - (i) Contrail formation.
  - (j) Ditch heading.
- (3) Target Area Weather (repeat for each area):
  - (a) Sky condition.
  - (b) Weather.
  - (c) Visibility/slant range visibility (NM).
  - (d) Surface winds.
  - (e) Maximum/minimum temperatures.
  - (f) Cloud tops/ceilings.
  - (g) Freezing level.
  - (h) D-Values.
- (4) Astronomical Data:
  - (a) Sunrise/Sunset.
  - (b) Sun elevation angles/azimuth.

- (c) Beginning/ending civil/nautical twilights.
- (d) Moonrise/moonset.
- (e) Lunar illumination.
- (f) Moon angles elevation/azimuth.
- (g) Lux values.
- (5) 48-hour outlook.
- (6) Tactical assessment.
- (7) Electro-Optical sensor performance predictions.

Performance Standard. The Journeyman METOC Analyst must complete the briefing with 243 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references and have been completed once with tactical equipment and once with garrison equipment.

Prerequisite. None.

MIA-240	8.0	Z	E	N/A	L
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Goal. Conduct a mission analysis.

Requirement. Given a requirement to provide METOC support conduct a thorough analysis of the mission. At a minimum a thorough analysis should include:

- (1) Size.
- (2) Activity.
- (3) Location.
- (4) Unit.
- (5) Time.
- (6) Equipment.

Performance Standards. Analysis shall be provided to the MAI for evaluation within specified time frame.

Prerequisite. None.

MIA-241	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts to amphibious operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Ceilings.
- (2) Sky condition.
- (3) Visibility.
- (4) Wind.
- (5) Temperature.
- (6) Precipitation.
- (7) Illumination.
- (8) Currents.
- (9) Tides.
- (10) Water temperature.
- (11) Sea state.

- (12) Surf conditions.
- (13) Hazardous weather.
- (14) Ice conditions.
- (15) Bathymetry.
- (16) Bioluminescence.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA-240.

MIA-242	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts on aviation operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Ceilings.
- (2) Sky condition.
- (3) Visibility (surface/slant).
- (4) Winds (surface and aloft).
- (5) Temperature.
- (6) Precipitation.
- (7) Hazardous weather.
- (8) Turbulence.
- (9) Icing.
- (10) Hail.
- (11) Astronomical data.
- (12) Humidity (relative and absolute).
- (13) Pressure.
- (14) Ditch headings.
- (15) Sea surface temperature.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA 240.

MIA-243	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts on ground operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Ceilings.
- (2) Sky condition.
- (3) Visibility.
- (4) Wind.
- (5) Temperature.

- (6) Precipitation.
- (7) Snow/ice depth and coverage.
- (8) Freeze and thaw depth.
- (9) Hazardous weather.
- (10) Astronomical data.
- (11) Sea/shore conditions (tides, currents, surf, water temperature).
- (12) Vertical wind profile.
- (13) River stage and currents.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA-240

MIA-244	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts on intelligence operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Ceilings.
- (2) Sky condition.
- (3) Visibility.
- (4) Wind.
- (5) Temperature.
- (6) Precipitation.
- (7) Snow depth and coverage.
- (8) Astronomical data.
- (9) EM propagation.
- (10) Hazardous weather.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA-240.

MIA-245	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts on communication operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Space weather.
- (2) Wind.
- (3) Temperature profile.
- (4) Precipitation.
- (5) Snow depth and coverage.
- (6) EM propagation.

(7) Hazardous weather.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA-240.

MIA-246	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts on nuclear, biological and radiological operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Ceilings.
- (2) Sky condition.
- (3) Humidity.
- (4) Wind.
- (5) Temperature.
- (6) Atmospheric stability.
- (7) Precipitation.
- (8) EM propagation.
- (9) Hazardous weather.
- (10) Astronomical data.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA-240.

MIA-247	3.0	Z	E	N/A	L
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Goal. Assess METOC impacts on logistical operations.

Requirement. Utilizing METOC equipment and after conducting a thorough mission analysis, the Journeyman METOC Analyst shall assess then brief the METOC impacts on operations. The assessment will consider, at a minimum, the following essential elements of information:

- (1) Ceilings.
- (2) Sky condition.
- (3) Visibility.
- (4) Wind.
- (5) Temperature.
- (6) Precipitation.
- (7) Snow depth and coverage.
- (8) Astronomical data.
- (9) EM propagation.
- (10) Hazardous weather.
- (11) Currents.
- (12) Tides.
- (13) Water temperature.

- (14) Sea state.
- (15) Surf conditions.
- (16) Hazardous weather.
- (17) Ice conditions.
- (18) Bathymetry.

Performance Standard. The Journeyman METOC Analyst must complete the briefing within 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references.

Prerequisite. MIA-240.

## 5. METOC Equipment

a. Purpose. To enhance proficiency in the knowledge and skills required to operate, maintain and configure METOC equipment and systems.

### b. General

(1) Administrative Notes. Training shall be conducted by the METOC Analyst Instructor (MAI).

#### (2) Prerequisite

- (a) Completion of the Combat Capable stage of training.
- (b) Top Secret clearance.
- (c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a base knowledge of METOC equipment programs. Proficiency will be developed through repetitive completion of the task.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst instructor.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

### e. Event Training

EQP-248	24	Z	E	N/A	L
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Goal. Utilizing METOC software and hardware, develop mission support forecasts and products.

Requirement. Using tactical equipment, retrieve and manipulate meteorological data to assist in the creation of routine and tailored meteorological forecasts and products. The METOC Analyst Instructor shall

select products to be developed. Proficiency must be exhibited on the following software suites:

- (1) Satellite imagery software.
- (2) Radar imagery software.
- (3) METAR observation software.
- (4) Aviation forecasts software.
- (5) Model products retrieval and manipulation software.
- (6) SKEW T LOG P diagram manipulation software.

Performance Standard. Without violating data input and output, The Journeyman METOC Analyst must operate all software suites on tactical and garrison hardware.

Prerequisite. None.

EQP-249	8	Z	E	N/A	L
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Goal. Supervise maintenance of METOC equipment.

Requirement.

- (1) The Journeyman METOC Analyst will supervise operator maintenance of METOC equipment.
- (2) Supervise adherence to preventative maintenance schedule.
- (3) Identify equipment maintenance deficiencies to the appropriate authority.
- (4) Draft and submit equipment casualty reports.
- (5) Conduct maintenance on the established METOC database and networking.

Performance Standard. Maintenance supervision must be in compliance with references to ensure operational effectiveness of METOC equipment.

Prerequisite. None.

EQP-250	1.0	Z	E	N/A	L
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Goal. Operate the garrison Doppler radar system.

Requirement. Given a Principle User's Processor and Systems Console and in accordance with the reference(s), operate the WSR88D (or like) Radar. Journeyman METOC Analyst shall discuss and operate the following:

- (1) System console.
- (2) Graphic tablet and puck.
- (3) Alphanumeric displays.
- (4) Monitor self-performance.
- (5) Archive data.
- (6) Ability to retrieve data.

Performance Standard. Requirement to be completed in accordance with references and not violate system integrity.

Prerequisite. None.

EQP-251      1.0                      Z                      E                      N/A                      L

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Goal. Configure and operate the garrison Lightning Position And Tracking System (LPATS).

Requirement. Given a LPATS, the Journeyman METOC Analyst will conduct the following operations:

- (1) Configure the system.
- (2) Configure background maps.
- (3) Configure range alarms.
- (4) Configure loops.
- (5) Operate the system.
- (6) Identify lightning strikes.
- (7) Assess impact to operations.

Performance Standard. SNM must conduct requirement to allow for maximum time for warning of lightning strikes without violating system and communications stability.

Prerequisite. None.

EQP-252      3.0                      Z                      E                      N/A                      L

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Goal. Display operating knowledge of tactical Doppler radar system(s).

Requirement. Given a tactical radar meteorological system, applicable operating manuals and understanding the limitations and capabilities of Doppler radar systems, display a working knowledge of Radar configurations. Configuration should allow for ingest, manipulation and production of derived radar products. The Journeyman METOC Analyst shall perform, at a minimum, the following tasks:

- (1) Conduct power up/power down procedures.
- (2) Conduct log on/log off functions.
- (3) Perform technical operating functions.
- (4) Ensure configuration is commensurate with desire product generation.
  - (a) Pulse repetition frequency.
  - (b) Gate width.
  - (c) Beam width.
- (5) Archive generated products.
- (6) Discuss the core Doppler radar products and the products derived from them.
- (7) Ensure that Doppler radar products are available through electronic means to end customer.

Performance Standard. Completion of the requirement without violating system integrity, configuration or communications.

Prerequisite. None.

EQP-253      3.0                      Z                      E                      N/A                      L

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Goal. Display operating knowledge of tactical satellite system(s).

Requirement. Given a tactical satellite system, applicable operating manuals and understanding the limitations and capabilities of satellite imagery acquisition and enhancements, display a working knowledge of satellite system operations and configuration. Configuration shall allow for the ingest, manipulation and production of raw and post-processed satellite imagery. Complete the following:

- (1) Conduct power up/power down procedures.
- (2) Conduct log on/log off functions.
- (3) Perform technical operating functions.
- (4) Ensure configuration is commensurate with desire product generation.
- (5) Scheduling of imagery is established.
- (6) Update of ephemeris Data is completed
- (7) Ensure product path for received products is correct.
- (8) Ensure naming conventions are adhered to.
- (9) Ensure signal decryption values are set for reception of scheduled passes.
- (10) Can discern priority of imagery scheduling based the capabilities and limitations of enhancements of satellite imagery compared to the present Meteorological conditions.
- (11) Archive imagery for retrieval at a later time.
- (12) Produce geo-referenced satellite imagery that can be overlaid on the common operating picture via the GCCS-M/C2PC system.

Performance Standard. Completion of the requirement without violating the system integrity, configuration or communications.

Prerequisite. None.

EQP-254      16.0                      Z                      E                      N/A                      L

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Goal. Embarkation of the MetMF(R).

Requirement. Given a simulated mission requirement and in accordance with the references, embark of the MetMF(R) to the designated area. Perform the following:

- (1) Supervise pack up the MetMF(R).
- (2) Supervise lift.
- (3) Transport classified materials.
- (4) Unpack the MetMF(R) at the designated area.
- (5) Establish METOC support.

Performance Standard. Embarkation procedures shall be evaluated by a Master METOC Analyst and must be conducted in compliance with references. The refresh rate is semi-annually.

Prerequisite. None.

EQP-255      24                      Z                      E                      N/A                      L

Goal. Perform intermediate network administrative functions.

Requirement. Given an established METOC network and appropriate level of permission, conduct intermediate network administrative function to ensure continuous receipt and dissemination of METOC data relevant to mission requirements. Under the supervision of a METOC Analyst Instructor or Master METOC Analyst, the Journeyman METOC Analyst shall complete the following tasks:

- (1) Troubleshoot existing METOC network through root network command and knowledge.
- (2) Modify existing network configuration to ensure METOC data required for production and dissemination of forecast products is achieved.
- (3) Familiarize all subordinate marines with basic networking knowledge to prevent incidental corruption of the Network.
- (4) Monitor the network for:
  - (a) Security intrusions/violations
  - (b) Products being received as scheduled.
- (5) Add or remove additional computers/peripheral as directed by the METOC Chief.
- (6) Monitor the network applications to ensure passwords and usernames are valid and products are being received as scheduled.
- (7) Limit the use of the network to official business.

Performance Standard. The Journeyman METOC Analyst actions shall not violate system or software integrity and must be in compliance with references.

Prerequisite. None.

EQP-256      8.0                      Z                      E                      N/A                      L

Goal. Setup and conduct operational checks of each subsystem inherent to the METMF(R).

Requirement. At designated area and in accordance with the reference, the Journeyman METOC Analyst shall perform the following:

- (1) Shelter Subsystem (SSS) - Place and level the shelter and ECUs ensure availability of safety equipment.
- (2) Processing Subsystems (PCS).
  - (a) Power up component and log on to the applicable system software of the PCS.
  - (b) Test network connectivity for each component.
- (3) Meteorological Radar System (MRS).
  - (a) Conduct power up procedures for MRS.
  - (b) Log on to the system.
  - (c) Ensure desired processes are scheduled.
- (4) Meteorological Satellite Subsystem (MSS).
  - (a) Place and connect the satellite antennas.
  - (b) Energize the components.
  - (c) Log on to the system.
  - (d) Generate satellite prediction schedule.

- (e) Ensure data capture is achieved, (ensuring proper keying of crypto gear as applicable).
- (5) Communications Subsystem (CSS).
  - (a) Place and connect antennas.
  - (b) Energize components.
  - (c) Key required Crypto gear as applicable.
  - (d) Conduct communications checks.
- (6) Portable Meteorological Subsystem (PMS).
  - (a) Connect system components.
  - (b) Energize components.
  - (c) Log on to system.
  - (d) Establish required network or workgroup.
  - (e) Ensure receipt of products.
- (7) Local Sensor Subsystem (LSS).
  - (a) Place and connect Local Sensor.
  - (b) Place and connect the ceilometer.
  - (c) Energize component of the LSS.
  - (d) Log on to system.
  - (e) Open applicable software.
  - (f) Ensure receipt of data.
- (8) Remote Sensor Subsystem (RSS).
  - (a) Place and connect Remote Sensor(s).
  - (b) Place and connect Remote Sensor antenna array.
  - (c) Energize component of the RSS.
  - (d) Log on to system.
  - (e) Open applicable software.
  - (f) Ensure receipt of data.
- (9) Rawinsonde subsystem (RWS).
  - (a) Place and connect Antenna array.
  - (b) Interface RWS with PCS.
  - (c) Energize system.
  - (d) Enter coefficients and local data.
  - (e) Launch sounding.
  - (f) Ensure receipt of data.
- (10) Video Subsystem (VSS).
  - (a) Locate and connect components.
  - (b) Energize components.
  - (c) Ensure video products are being transmitted.

Performance Standard. The Journeyman METOC Analyst actions shall not violate system or software integrity and must be in compliance with references. The refresh rate is semi-annually.

Prerequisite. None.

External Syllabus Support. Heavy equipment.

EQP-257	24	Z	E	N/A	L
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Goal. Support tactical operations utilizing the METMF(R).

Requirement. In a simulated or actual deployed environment, perform the following actions:

- (1) Provide secure and unsecured pilot to METRO communications.
- (2) Provide tower to METRO communications.
- (3) Respond to requests for information (RFIs)

- (4) Conduct METOC impact assessments to operations in Area of interest.
- (5) Conduct data transmission and reception operations.
- (6) Conduct data transfer to and from the common operating picture to determine and provide relevant tactical METOC picture.
- (7) Conduct secure and unsecured voice communications.
- (8) Acquire and analyze all satellite imagery for the production of forecasts and assessment of impacts to MAGTF operations.
- (9) Acquire and analyze all radar imagery for the production of forecasts/warnings and advisories and assessment of impacts to MAGTF operations.
- (10) Acquire and analyze synoptic, mesoscale and Microscale METOC model output for the production of forecasts and assessment of impacts to MAGTF operations.
- (11) Acquire, analyze, encode and disseminate local and remotely sensed surface observations for the production of forecasts and assessment of impacts to MAGTF operations.
- (12) Conduct upper atmospheric observations for the production of forecasts and assessment of impacts to MAGTF operations.
- (13) Acquire and analyze all lightning data for the production of forecasts/warnings and advisories and assessment of impacts to MAGTF operations.
- (14) Develop impact assessment briefing for applicable MAGTF component for large scale dissemination via oral, electronic, or remote means.

Performance Standard. The Journeyman METOC Analyst must be able to perform all tasks with no supervision. The Master METOC Analyst shall evaluate performance of the event for completion.

Prerequisite. None.

EQP-258	24	Z	E	N/A	L
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Goal. Support tactical operations utilizing the NITES IV.

Requirement. In a simulated or actual deployed environment, perform the following actions:

- (1) Deploy and setup of NITES IV.
- (2) Utilizing directed means provide METOC impact assessment to supported element.
- (3) Conduct satellite communications operations (if available) for data receipt and communications.
- (4) Conduct data receipt operations.
- (5) Conduct data transfer to and from the common operating picture via predetermined software to determine and provide relevant tactical METOC impact assessments.
- (6) Conduct graphical data retrieval and analyzation in support of impact assessment.
- (7) Conduct analyzation of locally sensed data for METOC impact assessment.
- (8) Develop impact assessment briefing for applicable MAGTF component for large scale dissemination via oral, electronic and remote video means.

Performance Standard. The Journeyman must be able to perform all tasks with no supervision. The Master METOC Analyst shall evaluate performance of the event for completion.

Prerequisite. None.

EQP-259      24                      Z                      E                      N/A                      L

Goal. Operate garrison METOC equipment to provide METOC support to base operations.

Requirement. The Journeyman METOC Analyst must exhibit proficiency in the ability to configure, operate and conduct operator level troubleshooting of the following METOC systems.

- (1) Meteorological Integrated Data Display System (MIDDS).
- (2) Lightning Position and tracking system (LPATS).
- (3) Pilot to Forecaster Radio (METRO).
- (4) Doppler radar system (WSR-88D).
- (5) Wet Bulb Temperature Index Sensors. (WBGTI).
- (6) Tower to metro displays/communications (WXVISION).
- (7) Hand Held equipment. (PMQ-3, psychrometers).
- (8) Automated Surface Observing System (ASOS).

Performance Standard. Without error, the Journeyman METOC Analyst shall complete each requirement in accordance with the references and not degrade the system integrity, stability or operation.

Prerequisite. None.

## 233. COMBAT QUALIFICATION TRAINING

### 1. Plans, Policies and Procedures (PPP)

a. Purpose. To enhance proficiency in the knowledge and skills of the plans, policies and procedures required to provide combat capable METOC support.

#### b. General

(1) Administrative Notes. Training shall be conducted by the METOC Analyst Instructor (MAI) or Master METOC Analyst.

#### (2) Prerequisite

- (a) Completion of the Combat Capable stage of training.
- (b) Top Secret clearance.
- (c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a solid knowledge of METOC

plans, policies and procedures. Proficiency will be developed through repetitive completion of the events.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst instructor or Master METOC Analyst.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

PPP-300    56                    Z                    E                    N/A                    L

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Goal. Draft input to annexes of operational orders.

Requirement. The Journeyman METOC Analyst shall draft and submit METOC input to the annexes to operational orders and letters of instruction (LOI). SNM will complete each of the following:

- (1) Communications and information systems annex, Annex K.
- (2) Intelligence preparation annex, Annex B.
- (3) METOC Services annex, Annex H.
- (4) Collection plan annex, Annex J.

Performance Standard. Draft METOC input must be in JOPES (or applicable format) and contain all required information to support designated mission and designate all external requirement for successful METOC support.

Prerequisite. None.

PPP-301    3.0                    Z                    E                    N/A                    L

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Goal. Implement and supervise logistical support program.

Requirement.

- (1) The Journeyman METOC Analyst will implement the METOC logistical support programs ensuring the following items are conducted in accordance with established orders and directives.
  - (a) Supply requisitions.
  - (b) Equipment outages.
  - (c) Fiscal.
- (2) The Journeyman METOC Analyst will provide input to the Master METOC Analyst on the improvements and deficiencies to the following logistical support programs.
  - (a) Supply.
  - (b) Fiscal.
  - (c) Equipment.

Performance Standard. Must be in compliance with applicable orders and directives.

Prerequisite. None.

PPP-302      6.0                      Z                      E                      N/A                      L

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Goal. Identify and solicit METOC support requirement.

Requirement. Solicit, through the use of training and forms to end-users, new and ongoing METOC support requirements. Evaluation of input shall be utilized to complete the following tasks:

- (1) Validation of METOC service requirements.
- (2) Preparation of draft annexes of operational orders based on identified requirements.
- (3) Submission of METOC support requirements support to the master METOC analyst.

Performance Standard. Recommendation must improve METOC support.

Prerequisite. None.

PPP-303      56                      Z                      E                      N/A                      L

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Goal. Identify METOC support issues.

Requirement. The Journeyman METOC Analyst shall draft and submit the listed reports to identify METOC support issues.

- (1) Draft and submit to the METOC Chief, Joint Universal Lessons Learned Summary (JULLS) reports.
- (2) Draft and submit to the METOC Chief, METOC After Action Reports.
- (3) Draft and submit to the METOC Chief, Marine Corps Lessons Learned System (MCLLS) reports.
- (4) Draft and submit to the METOC Chief, Mission Needs Statements (MNS) reports.
- (5) Draft and submit to the METOC Chief, Universal Needs Statement (UNS) reports.

Performance Standard. Content and format shall be in accordance with orders and directives governing the report. Repetition of event required until all reports are generated correctly (format and content).

Prerequisite. None.

PPP-304      24                      Z                      E                      N/A                      L

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Goal. Conduct QA on Journeyman METOC Analyst products.

Requirement. In accordance with the QA program, the METOC Analyst shall complete the following tasks:

- (1) Validate parameters of forecasted products listed for format and accuracy.
  - (a) Forecast elements.
  - (b) PIREPs.
  - (c) WEAXs.
  - (d) Daily forecasts.
  - (e) Local derived mission required products.

- (2) Advise the METOC Chief on problems and exceptional performance patterns highlighted by the quality assurance program.
- (3) The Journeyman METOC Analyst shall provide recommendations to enhance the quality assurance program.

Performance Standard. Must be completed in accordance with the QA references.

Prerequisite. None.

PPP-305      24                      Z                      E                      N/A                      L

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Goal. Conduct security procedures in accordance with security regulations and orders.

Requirement. Given knowledge of the references, conduct security procedures within the METOC section in accordance with references.

Performance Standard. Complete the following:

- (1) Perform physical security awareness.
- (2) Maintain security access logbook.
- (3) Operate communication security (COMSEC) equipment IAW regulations.
- (4) Exercise emergency action/ destruction plans as required.
- (5) Conduct subordinate security training/awareness classes.

Prerequisite. None.

## 2. Consolidated METOC Operations (CMO)

a. Purpose. To enhance proficiency in the knowledge and skills of the METOC operations.

### b. General

(1) Administrative Notes. Training shall be conducted by the Master METOC Analyst or METOC chief.

#### (2) Prerequisite

- (a) Completion of the Combat Capable stage of training.
- (b) Top Secret clearance.
- (c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a solid knowledge of METOC plans, policies and procedures. Proficiency will be developed through repetitive completion of the events.

c. Crew Requirements. The Journeyman METOC Analyst and qualified METOC Analyst Instructor or Master METOC Analyst.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

CMO-306      24                      Z                      E                      N/A                      L

Goal. Conduct METOC support operations for Marine Expeditionary Forces.

Requirement. Provide METOC support through all phases of MEU planning and execution operations. SNM will complete, at a minimum, the following items:

- (1) Participate in all pre-deployment training of rapid response planning processes (R2P2).
- (2) Coordinate USMC METOC support requirements for the MEU.
- (3) Liaison with MEF METOC commands on METOC support issues.
- (4) Identify and correct USMC METOC support deficiencies.
- (5) Provide operational planning products in support of the IPB process.
- (6) Deploy with the MEU command element.

Performance Standard. SNM will ensure that Marine METOC interest and planning requirements are addressed.

Prerequisite. None.

CMO-307      24                      Z                      E                      N/A                      L

Goal. Conduct METOC support functions in support of Marine Expeditionary Forces and major subordinate command plans and operations.

Requirement. Provide USMC METOC specific input to plans and operations during a live or simulated MEF and MSC command element operations. SNM will, at a minimum, complete the following tasks:

- (1) Coordinate USMC METOC support.
- (2) Liaison with subordinate and adjacent METOC commands.
- (3) Identify and correct USMC METOC support deficiencies.
- (4) Provide operational planning products in support of the IPB process.

Performance Standard. SNM will ensure that Marine METOC interest and planning requirements are addressed.

Prerequisite. None.

CMO-308      24                      Z                      E                      N/A                      L

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Goal. Conduct joint operation subject matter expert functions.

Requirement. Provide USMC METOC specific input to plans and operations during a live or simulated joint staff operation. SNM will, at a minimum, complete the following tasks:

- (1) Coordinate USMC METOC support.
- (2) Liaison with subordinate METOC commands.
- (3) Identify and correct USMC METOC support deficiencies.
- (4) Provide operational planning products in support of the IPB process.

Performance Standard. SNM will ensure that Marine METOC interest and planning requirements are addressed.

Prerequisite. None.

CMO-309      16                      Z                      E                      N/A                      L

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Goal. Conduct a pre-deployment inspection.

Requirement. Semi-annually conduct a pre-deployment inspection of Weather Service Section personnel and equipment in order to facilitate rapid deployment of assets as may be required.

- (1) Conduct personnel inspections.
- (2) Wills and power of attorneys.
- (3) Family readiness plans intact.
- (4) Minimum issue inspections.
- (5) Clearance verification.
- (6) Courier cards verification.
- (7) Conduct equipment readiness inspections.
- (8) Review embarkation procedures.
- (9) Review equipment readiness.
- (10) Inspect equipment reporting procedures.
- (11) Inspect software requirements.
- (12) Inspect logistical support package.
- (13) Conduct publication and reference inspection.
- (14) Inspect deployable publication library is commensurate with mission.
- (15) Inspect deployable desktop procedures are relevant and up to date.

Performance Standard. Completion shall be awarded upon satisfactory completion of the requirement in accordance with applicable references.

Prerequisite. None.

CMO-310      24                      Z                      E                      N/A                      L

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Goal. Supervise the embarkation of the MetMF(R).

Requirement. Given a mission (simulated or live) requirement and in accordance with the references, supervise the embarkation of the MetMF(R)

to the designated area. Supervision of embarkation will, at a minimum, require the following supervisory tasks:

- (1) Pre-deployment operational checks.
- (2) Inventory of supplies.
- (3) Pack out.
- (4) Personnel gear inspections.
- (5) Transportation of classified materials.
- (6) Lift and transport of equipment.
- (7) Unpack.
- (8) Setup.
- (9) Post movement operational checks.
- (10) Retrograde.
- (11) Conduct hot wash of accomplishments and deficiencies.
- (12) Generate and submit after action and submit to METOC Chief.

Performance Standard. Completion of all tasks listed must be completed. Movement (local or remote) of the complex required and cannot be waived. SNM will complete the requirement in a live or simulated event under the evaluation of a Master METOC Analyst.

Prerequisite. None.

### 3. METOC IMPACT ASSESSMENT (MIA)

a. Purpose. To enhance proficiency in the knowledge and skills of METOC impact assessment.

b. General

(1) Administrative Notes. Training shall be conducted by the Master METOC Analyst or METOC chief.

(2) Prerequisite

- (a) Completion of the Combat Capable stage of training.
- (b) Top Secret clearance.
- (c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a solid knowledge of assessing METOC impacts on operations and planning. Proficiency will be developed through repetitive completion of the events.

c. Crew Requirements. The Journeyman METOC Analyst and qualified METOC Analyst Instructor or Master METOC Analyst.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

MIA-311	24	Z	E	N/A	L
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Goal. Utilize TDA programs to produce products to support planning and execution of joint operations and missions.

Requirement. Produce mission specific impact assessments for the listed joint missions. The Journeyman METOC Analyst shall exhibit a comprehensive knowledge of METOC element impacts on the major weapon and support categories and missions.

- (1) Humanitarian aid missions.
- (2) Deep strike missions.
- (3) Force on force missions.
- (4) Over the horizon missions.
- (5) Counterinsurgency missions.
- (6) Weaponry.
  - (a) Weapons of mass destruction.
  - (b) Laser guided munitions.
  - (c) Infrared guided munitions.
  - (d) Visual guided munitions.
  - (e) GPS guided munitions.
- (7) Communications.
  - (a) Satellite.
  - (b) UHF/VHF.
- (8) Trafficability.

Performance Standard. The Journeyman METOC Analyst must complete the briefing with 3 hours of receipt of RFI. Completion will not be awarded until content and format are in accordance with the references and have been completed with tactical equipment and garrison equipment.

Prerequisite. None.

4. METOC Equipment

a. Purpose. To enhance proficiency in the knowledge and skills of the METOC equipment.

b. General

(1) Administrative Notes. Training shall be conducted by the Master METOC Analyst or METOC Chief.

(2) Prerequisite

- (a) Completion of the Combat Capable stage of training.
- (b) Top Secret clearance.
- (c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a solid knowledge of METOC equipment. Proficiency will be developed through repetitive completion of the events.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst instructor or Master METOC Analyst.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

EQP-312	16	Z	E	N/A	L
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Goal. Deploy the MetMF(R).

Requirement. Given a simulated mission requirement and in accordance with the references, embark the MetMF(R) to the designated area. Perform the following:

- (1) Supervise pack up the MetMF(R).
- (2) Supervise lift.
- (3) Supervise the unpacking of the MetMF(R) at the designated area.

Performance Standard. Deployment procedures shall be evaluated by a Master METOC Analyst and must be conducted in compliance with references. The refresh rate is semi-annually.

Prerequisite. None.

External Syllabus Support. Heavy Equipment.

EQP-313	24	Z	E	N/A	L
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Goal. Develop and manage METOC database.

Requirement. Develop and semiannually review METOC databases for storage of METOC products, ensuring database content are readily available and relevant to mission requirements. Database will conform to Marine Corps Information technology standards (ITS). Database development and review will be focused toward the storage of:

- (1) Locally ingested products.
- (2) Locally derived products.
- (3) Local developed mission briefings.
- (4) Operational message traffic concerning METOC support to the MAGTF components.

Performance Standard. Tasks must be completed in accordance with references.

Prerequisite. None.

EQP-314	24	Z	E	N/A	L
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Goal. Supervise METOC equipment maintenance.

Requirement. SNM will supervise operator maintenance on tactical and garrison METOC equipment to ensure optimum performance. SNM will also identify deficiencies requiring equipment casualty reporting and validate format and content of draft Casualty Reports.

Performance Standard. Requirements must in compliance with orders and directives.

Prerequisite. None.

EQP-315	6.0	Z	E	N/A	L
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Goal. Display knowledge of Doppler radar system(s) management.

Requirement. Given a Doppler radar system, applicable operating manuals and understanding the configurations, limitations, and capabilities of Doppler radar systems, display a working knowledge of Doppler radar management functions. Configuration should allow for ingest, analysis, manipulation, and production of derived radar products. The Journeyman METOC Analyst shall perform, at a minimum, the following tasks:

- (1) Ensure configuration is commensurate with desire product generation.
  - (a) Pulse repetition frequency.
  - (b) Sample rates.
  - (b) Gate width.
  - (c) Beam width.
  - (d) Operating frequency.
  - (e) Scanning speeds.
- (2) Archive generated products.
- (3) Discuss the Doppler radar product algorithms and the products derived from them.
- (4) Ensure that Doppler radar products are available through electronic means to end customer.
- (5) Ensure hazards of electromagnetic radiation to fuels (HERF) procedures are implemented and adhered to.
- (6) Ensure hazards of electromagnetic radiation to personnel (HERP) procedures are implemented and adhered to.
- (7) Ensure hazards of electromagnetic radiation to ordinance (HERO) procedures are implemented and adhered to.

Performance Standard. Completion of the requirement so as not to adversely affect network communications, radar system software or hardware.

Prerequisite. None.

EQP-316      48                      Z                      E                      N/A                      L

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Goal. Perform system management functions of applicable subsystems inherent to the MetMF(R).

Requirement. In accordance with applicable system manuals and mission requirements, complete the task listed to configure and manage the components of the METMF(R) ensuring continuous data ingest and dissemination:

- (1) Processing Subsystem (PCS).
  - (a) Establish and maintain integrity of operating systems.
  - (b) Establish and configure the components of the network.
  - (c) Install authorized software upgrades and patches.
  - (d) Optimize the effective flow of meteorological data throughout the communication paths.
  - (e) Establish network naming conventions and paths of received data.
  - (f) Maintain the meteorological system interface with network and web dissemination and storage.
  - (g) Obtain proper keying material for use in CCI equipment.
- (2) Meteorological Radar System (MRS).
  - (a) Establish and maintain system setup and configuration parameters.
  - (b) Archive/Restore configuration data to tape. (Level 0 Dump tape).
  - (c) Install system software when required.
  - (d) Establish standard processes for desired products.
  - (e) Establish standard product set for each established process.
  - (f) Configure network interfaces within the operating system and application software.
  - (g) Establish and manage the scheduled processes.
  - (h) Create underlay/overlays for the desired AO.
  - (i) Ensure configuration and operation are within frequencies allocated and in accordance with safety requirements.
- (3) Meteorological Satellite Subsystem (MSS).
  - (a) Establish and maintain system setup and configuration parameters.
  - (b) Archive/Restore configuration data to tape. (Level 0 Dump tape).
  - (c) Install system software when required.
  - (d) Configure network interface within the operating system.
  - (e) Maintain and follow file naming conventions.
  - (f) Configure automatic export of satellite imagery to meet mission requirements.
- (4) Communications Subsystem (CSS).
  - (a) Obtain appropriate keying material for system.
  - (b) Ensure appropriate frequencies have been allocated for use.
  - (c) Ensure configuration and operation are within frequencies allocated and in accordance with safety requirements.
- (5) Local/Remote Sensor Subsystem (LSS/RSS).
  - (a) Configure software and hardware interfaces for data reception.
  - (b) Configure software for data export and archive.
- (6) Rawinsonde subsystem (RWS).

(a) Configure UMQ-12 for different locations and output types.

Performance Standard. Requirement must be met without violating component, system or network integrity.

Prerequisite. None.

#### 234. FULL COMBAT QUALIFICATION TRAINING

##### 1. Plans, Policies and Procedures (PPP)

a. Purpose. To enhance proficiency in the knowledge and skills of the plans, policies and procedures required to provide combat capable METOC support.

##### b. General

(1) Administrative Notes. Training shall be conducted by the METOC Analyst Instructor (MAI) or Master METOC Analyst.

##### (2) Prerequisite

(a) Completion of the Combat Capable stage of training.

(b) Top Secret clearance.

(c) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed semi-annually and when assigned by the METOC Chief.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have a solid knowledge of METOC plans, policies and procedures. Proficiency will be developed through repetitive completion of the events.

c. Crew Requirements. Journeyman METOC Analyst and qualified METOC Analyst instructor or Master METOC Analyst.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

##### e. Event Training

PPP-400	51	Z	E	N/A	L
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Goal. Validate and submit input to annex of operational orders.

Requirement. The Master METOC Analyst shall validate content and format of draft (live or simulated) and submit METOC input to the annexes of operational orders and LOIs to the requesting command. SNM will complete the requirement on each of the following:

- (1) Communications and information systems annex, Annex K.
- (2) Intelligence preparation annex, Annex B.

- (3) METOC services annex, Annex H.
- (4) Collection plan annex, Annex J.

Performance Standard. Draft METOC input must be in JOPES (or applicable format), be in accordance with orders and directives and contain all required information to support designated mission and designate all external requirement for successful METOC support.

Prerequisite. None.

PPP-401	51	Z	E	N/A	L
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Goal. Manage security program.

Requirement. SNM will complete the security tasks listed in accordance with local and higher echelon security programs.

- (1) Coordinate establishment, procedures for, and location of secondary controls points.
- (2) Establish emergency action plans.
- (3) Coordinate communication security program.
- (4) Review security program.
- (5) Identify communication security requirements.
- (6) Identify information security requirements.
- (7) Identify physical security requirements.
- (8) Identify personnel security requirements.
- (9) Maintain security control access rosters.
- (10) Report security violations to higher.
- (11) Establish procedures for safeguarding handling and access to classified materials.
- (12) Train subordinate leaders on the content of the security manager's course.
- (13) Coordinate annual security refresher training for METOC personnel.

Performance Standard. SNM shall complete requirement in accordance with orders and directives governing security procedures.

Prerequisite. None.

PPP-402	51	Z	E	N/A	L
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Goal. Manage training program.

Requirement. SNM will complete the tasks listed in accordance with local and higher echelon security programs.

- (1) Actively monitor career progression training.
- (2) Supervise career progression training.
- (3) Implement corrective training actions.
- (4) Identify training deficiencies.
- (5) Report training status to Weather Officer or unit.
- (6) Revise training programs.
- (7) Review training programs.
- (8) Conduct certification boards for designation and qualifications.

- (9) Ensure completed progression training is documented and entered into the appropriate system.

Performance Standard. Must meet training requirements establish by orders and directives.

Prerequisite. None.

PPP-403      24                      Z                      E                      N/A                      L

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Goal. Manage personnel program.

Requirement. SNM will complete the tasks listed in accordance with local and higher echelon personnel programs.

- (1) Assign mentors.
- (2) Supervise personnel readiness.
- (3) Supervise certification of personnel.
- (4) Mentor personnel.
- (5) Advise senior leadership of personnel issues.
- (6) Counsel personnel.
- (7) Identify manpower requirements.
- (8) Coordinate assignment of personnel.
- (9) Ensure family readiness.
- (10) Conduct final personnel inspections.
- (11) Provide input for advancement and retention.
- (12) Recommend personnel for awards, special recognition and disciplinary actions.
- (13) Recommend proficiency and conduct marks.
- (14) Provide input for fitness reports (FITREPS).
- (15) Assess individual proficiency and conduct.

Performance Standard. Must be in compliance with orders and directives.

Prerequisite. None.

PPP-404      24                      Z                      E                      N/A                      L

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Goal. Manage logistical support program.

Requirement. SNM will complete the tasks listed in accordance with local and higher echelon logistical support programs.

- (1) Review, identify and coordinate personnel requirements commensurate with support requirements.
- (2) Review, identify and coordinate engineer support requirements.
- (3) Review, identify and coordinate Fly-in support package requirements.
- (4) Review, identify and coordinate contingency support package requirements.
- (5) Review, identify and coordinate follow on support package requirements.
- (6) Review, identify, coordinate, and establish classified material transportation plan.
- (7) Review, identify and coordinate transportation requirements.
- (8) Review, identify and coordinate facilities support requirements.

- (9) Conduct site surveys.
- (10) Review, identify and coordinate embarkation requirements.
- (11) Review, identify and coordinate supply requirements.
- (12) Review, identify and coordinate hazardous material plan.
- (13) Review, identify and coordinate time phased force deployment data (TPFDD).
- (14) Review, identify and coordinate equipment density list (EDL)
- (15) Review, identify and correct personnel equipment deficiencies.
- (16) Resolve supply deficiencies.
- (17) Review and direct changes to the technical and ready reference libraries.

Performance Standard. Requirements must in compliance with orders and directives governing programs.

Prerequisite. None.

PPP-405	24	Z	E	N/A	L
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Goal. Manage fiscal requirements.

Requirement. SNM will complete the tasks listed in accordance with local and higher echelon fiscal programs.

- (1) Conduct mid year review of fiscal requirements.
- (2) Submit, review, and adjust activity based costing (ABC) data.
- (3) Identify and submit fiscal requirements.
- (4) Monitor expenditures.
- (5) Conduct year end reconciliation.

Performance Standard. Requirement completion must be in accordance with local and higher echelon fiscal support programs.

Prerequisite. None.

PPP-406	24	Z	E	N/A	L
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Goal. Manage administrative procedures.

Requirement. SNM will complete the tasks listed in accordance with local and higher echelon fiscal programs.

- (1) Establish, review, and update record keeping procedures.
- (2) Establish, review, and update quality assurance program.
- (3) Establish, review, and update safety program.
- (4) Establish, review, and update publication library.
- (5) Establish, review, and update training programs.
- (6) Establish, review, and update system management programs.
- (7) Establish, review, and update desktop procedures.
- (8) Establish, review, and update standing operating procedures.
- (9) Establish, review, and update forecasters handbook.
- (10) Establish, review, and update security program.
- (11) Establish, review, and update supply program.
- (12) Establish, review, and update network procedures.
- (13) Establish, review, and update METOC database procedures.
- (14) Establish, review, and update turnover binders.

Performance Standard. Requirement completion must be in accordance with local and higher echelon administrative programs.

Prerequisite. None.

PPP-407      24                      Z                      E                      N/A                      L

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Goal. Identify METOC support issues.

Requirement. SNM will draft and submit the reports to identify METOC support issues.

- (1) Validate and submit Joint Universal Lessons Learned Summary (JULLS) report.
- (2) Validate and submit METOC After Action Reports.
- (3) Validate and submit Marine Corps Lessons Learned System (MCLLS) reports.
- (4) Validate and submit Mission Needs Statements (MNS) reports.
- (5) Validate and submit Universal Needs Statement (UNS) reports.

Performance Standard. Content and format will be in accordance with orders and directives governing the report.

Prerequisite. None.

PPP-408      24                      Z                      E                      N/A                      L

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Goal. Manage METOC equipment requirements.

Requirement. SNM will conduct the following tasks to enhance knowledge of managing METOC equipment.

- (1) Identify, submit, and coordinate METOC equipment requirements.
- (2) Identify, submit, and coordinate on METOC equipment maintenance requirements.
- (3) Validate table of allowances.
- (4) Establish local concept of operations.
- (5) Coordinate and supervise testing of new technologies.

Performance Standard. Requirements must meet standards set forth by orders and directives.

Prerequisite. None.

PPP-409      6                              Z                              E                              N/A                              L

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Goal. Manage garrison Doppler radar operations.

Requirement. SNM will complete the tasks listed to gain proficiency in management of Doppler radar techniques.

- (1) Establish and coordinate background maps with radar operation center.
- (2) Coordinate Doppler radar maintenance.
- (3) Identify and implement software and hardware configurations.
- (4) Identify and configure radar user functions.
- (5) Establish radar regular and limited access adaptation data.

- (6) Participate in unit radar committee meetings.
- (7) Establish radar alerts and thresholds.
- (8) Establish one time product request procedures.
- (9) Establish radar product set lists.
- (10) Establish dedicated and non-associated radar product generator (RPG) lists.
- (11) Set radar system clock.

Performance Standard. Completion of requirement must not violate local or RDA system integrity.

Prerequisite. None.

PPP-410	24	Z	E	N/A	L
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Goal. Perform the supervisory functions within METOC service.

Requirement. Perform the administrative functions listed to ensure mission capable status of equipment and personnel within the Weather Service Section.

- (1) Conduct pre-deployment inspection.
- (2) Supervise training of weather service personnel.
- (3) Review standing operating procedures.
- (4) Review desktop procedures.
- (5) Prepare naval message traffic.
- (6) Review and implement embarkation procedures.
- (7) Ensure directives tracking and filing convention are adhered to.
- (8) Ensure security procedures are adhered to.
- (9) Ensure clearance documentation is completed and tracked.
- (10) Assignment and supervision of mentors.
- (11) Assignment and supervision of collateral duties.
- (12) Supervision of certification of personnel are properly documented and tracked.
- (13) Develop and supervise METOC databases.
- (14) Configure and manage METOC networks.
- (15) Prepare watch schedule.
- (16) Prepare recall roster.
- (17) Conduct annual survey.
- (18) Review monthly records transmittal.
- (19) Submit morning report.
- (20) Coordinate personnel strengths.
- (21) Submit work requests.
- (22) Prepare QDRs.
- (23) Monitor supplies and requisition accounts.
- (24) Review and identify deficiencies in the TBA, ULSS.
- (25) Establish and monitor a quality assurance program.

Performance Standard. Requirements must meet standards set forth by orders and directives.

Prerequisite. None.

PPP-411      24                      Z                      E                      N/A                      L

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Goal. Enhance quality of METOC products through the development, implementation and tracking of a robust QA program.

Requirement. Develop, implement and track the results of a quality assurance program.

Performance Standard. Content of the quality assurance program will include at a minimum:

- (1) Observational elements.
- (2) Forecast elements.
- (3) PIREPs.
- (4) WEAXs.
- (5) Daily forecasts.
- (6) Local derived mission required products.

Prerequisite. None.

PPP-412      24                      Z                      E                      N/A                      L

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Goal. Develop and perform administrative meteorological network functions.

Requirement. Conduct development and administration of METOC networks to ensure operability and functionality while ensuring network security.

- (1) Garrison networks.
  - (a) Establishment of network connectivity.
  - (b) Request for and/or assignment of IPs.
  - (c) Request for and/or assignment of paths.
  - (d) User account administration.
  - (e) Folder and server security permissions.
  - (f) Establish METOC databases.
  - (g) Logon and passwords for server applications.
  - (h) Naming conventions.
- (2) FMF networks.
  - (a) Establishment of network.
  - (b) Request for IPs.
  - (c) Assignment of IPs.
  - (d) Assignment of network paths.
  - (e) Router configurations.
  - (f) Encryption configurations.
  - (g) User account administration.
  - (h) Folder and server security permissions.
  - (i) Establish METOC databases.
  - (j) Logon and passwords for server applications.
  - (k) File naming conventions.

Performance Standard. Requirement to be complete without violation of network connectivity and security.

Prerequisite. None.

PPP-413      24                      Z                      E                      N/A                      L

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Goal. Develop and coordinate procedures for the embarkation and operation of the MetMF(R).

Requirement. Given a 24-hour period for embarkation, and 12-hour period for setup, develop and coordinate embarkation plans to embark the MetMF(R) to a designated area of operation.

- (1) Establish and coordinate a communications package.
- (2) Establish and coordinate fly-out plan.
- (3) Establish and coordinate a HAZMAT plan.
- (4) Establish and coordinate security Plan.
- (5) Physical security.
- (6) Data security.
- (7) Establish and coordinate logistic support package.
- (8) Establish and coordinate METOC support package.
- (9) Establish and coordinate HERP and HERF package.
- (10) Conduct a site survey (if applicable).
- (11) Establish and coordinate fly-on support package
- (12) Establish and coordinate regional and local system interoperability requirements.
- (13) Monitor and supervise utilization of equipment.
- (14) Monitor and supervise setup procedures.
- (15) Coordinate heavy equipment and facilities support.
- (16) Establish personnel requirements commensurate with support requirements.

Performance Standard. Requirement to be completed fully briefed within a 24 hour period.

Prerequisite. None.

## 240. INSTRUCTOR QUALIFICATION TRAINING

### 1. Formal Schools Instructor (FSI)

- a. Purpose. To qualify instructors at METOC Formal schools.
- b. General

(1) Administrative Notes. Training shall be conducted at Keesler, Air Force Base, Mississippi. Course number for the Basic instructor course is E3AIR3S200.

#### (2) Prerequisite

- (a) Minimum of 3 years in operational METOC forecasting.
- (b) Minimum of 2 years in an operational METOC impact assessment billet.
- (c) Top Secret clearance.
- (d) Rank of Sergeant through Master Gunnery Sergeant.

(e) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed annually as per Subject Matter Qualification or when assigned by the course supervisor.

(4) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have knowledge of techniques of military instruction and eligible for qualification as a METOC Analyst Instructor. Completion of MAI-610 event required for qualification.

c. Crew Requirements. Qualified Journeyman METOC Analyst and qualified Formal Schools Instructor.

d. Academic Training. Academic training events are graded and tracked at the administering unit. Supplemental training events and training packages are highly encouraged.

e. Event Training

FSI-500	150	Z	E	N/A	L
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Goal. Attend Basic Instructors Course (BIC).

Requirement. Complete the BIC or refresher BIC.

Performance Standard. Complete the Basic Instructor Course ( by successfully passing all written measurements with at least a 70% proficiency and pass all progress checks with 75% proficiency.

Prerequisite.

- (1) Minimum of 3 years in operational METOC forecasting.
- (2) Minimum of 2 years in an operational METOC impact assessment billet.
- (3) Top Secret clearance.
- (4) Rank of Sergeant through Master Gunnery Sergeant.

FSI-501	150	Z	E	N/A	L
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Goal. Complete instructor certification process.

Requirement.

- (1) Observe course curriculum.
- (2) Pass required tests and progress checks.
- (3) Instruct under supervision.

Performance Standard. SNM must achieve 100 % proficiency on all measurements and progress checks.

Prerequisite. FSI-500.

FSI-502      6.0                      Z                      E                      N/A                      L

Goal. Complete annual re-qualification.

Requirement. Successfully complete annual re-qualification testing and receive satisfactory instructor evaluations.

Performance Standard. Achieve 100% proficiency on written test and progress checks for each block of instruction.

Prerequisite. FSI-501.

FSI-503      75                      Z                      E                      N/A                      L

Goal. Complete supplemental instructor training.

Requirement. Successfully complete supplemental instructor training.

- (1) Objectives and test course.
- (2) Instructional system development process.
- (3) Instructor supervisor course.
- (4) Technical Writer 1&2.

Performance Standard. Achieve 100% proficiency on written test and progress checks for each block of instruction.

Prerequisite. FSI-500 and FSI-501.

FSI-504      75                      Z                      E                      N/A                      L

Goal. Complete master training specialist program.

Requirement. To instruct the MOAF course the instructor must successfully complete training program.

Performance Standard. Achieve 100% proficiency on written test and successfully complete board.

Prerequisite. FSI-500 through FSI-503 inclusive.

## 2. METOC Analyst Instructor (MAI)

a. Purpose. The purpose of is stage of the train personnel to become instructors and mentors at local METOC commands.

### b. General

(1) Administrative Notes. Training shall be conducted at local METOC unit.

### (2) Prerequisites

- (a) Minimum 3 years in operational METOC forecasting.
- (b) Top Secret clearance.

(c) Rank of Sergeant through Master Gunnery Sergeant.

(d) Assignment to syllabus.

(3) Refresher Training. Refresher events shall be completed annually per Subject Matter Qualification or when assigned.

(4) Stage end performance. Upon completion of this stage of the syllabus, the Journeyman METOC Analyst shall have knowledge of techniques of military instruction and eligible for qualification as a METOC Analyst Instructor. Completion of DES-613 event denotes qualification.

c. Crew Requirements. Qualified Journeyman METOC Analyst and qualified METOC Analyst Instructor.

d. Academic Training. Academic training events are developed, graded and tracked at the administering unit.

e. Event Training

MAI-510	108	Z	E	N/A	L
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Goal. To certify knowledge of METOC subjects.

Requirement. METOC Analyst Instructor Under Training shall be required to complete all level 100 Journeyman METOC Analyst certification events (JCP coded events). The METOC Analyst Instructor Under Training shall prepare and present periods of instruction for all JCP events.

Performance Standard. The Master METOC Analyst or METOC Officer shall evaluate the instructor under training on class presentation and knowledge of subject and provide recommendation to the designating authority for MAI designation.

Prerequisite. Rank of Sergeant or above; completion of all level 200 through 300 events; completed NCO resident or non-resident course.

MAI-511	5	Z	E	N/A	L
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Goal. To certify the knowledge of techniques of military instruction for instructor/mentorship designation.

Requirement. Exhibit comprehensive knowledge of the techniques of military instruction by conducting 5 periods of instructions (chosen by the METOC Chief) evaluated by the METOC Chief and/or METOC Officer.

Performance Standard. Marine must exhibit knowledge of the selected subjects, counseling, and techniques of military instruction.

Prerequisite. MAI 510; Rank of Staff Sergeant or above; completion of all JMA 300 events; completed SNCO resident or non-resident course.

250. REQUIREMENTS, QUALIFICATIONS AND DESIGNATIONS1. Requirements

a. Purpose. This stage of the syllabus is provide tracking codes for events required throughout the syllabus.

b. General. Completion of the events will not result in an increase in Combat Readiness Percentage and are used for tracking of the requirements.

c. Crew Requirements. METOC Chief, METOC Officer and subject marine.

d. Requirement Event(s)

FCC-600    xx                    Z                    E                    N/A                    L

Goal. Complete advanced informal Naval/METOC correspondence courses.

Requirement. Utilizing the proper grading authority, complete the designated courses within the specified time allotted.

Performance Standard. Complete the following courses:

- (1) Within 6 months of forecaster certification, complete:
  - (a) NAVEDTRA 14010, AG-1&C.
  - (b) The Forecast process, CBT.
  - (c) METOC 50-1T-9607, Tropical streamline analysis.
- (2) 6-12 months of forecaster certification, complete:
  - (a) METOC 50-1T-9602, Operational Oceanography II.
  - (b) METOC 50-1T-9603, Operational Oceanography III.
  - (c) METOC 50-1B-0001, Water Vapor Imagery.
  - (d) METOC 50-1T-9610, Satellite Imagery, Tropical cloud workbook.
  - (e) METOC 50-1T-9604, Tropical Synoptic Models.
  - (f) NAVOCEANO Comet, Satellite Meteorology case studies.
  - (g) NAVOCEANO Comet, Satellite Meteorology remote sensing.
- (3) 12-18 months of Forecaster certification, complete:
  - (a) NAVOCEANO Comet, A Convective Matrix.
  - (b) NAVOCEANO Comet, Convective Strom Structure and Evolution.
  - (c) NAVOCEANO Comet, Fire Weather.
  - (d) MCI 25.15, Antenna Construction and Propagation of Radio Waves.

Prerequisite. None.

FCC-601    0                    Z                    E                    N/A                    L

Goal. Complete advanced informal Naval/METOC correspondence courses.

Requirement. Utilizing the proper grading authority, complete the designated courses within the specified time allotted. (Training can be completed via web learning or CBT).

Performance Standard. Complete the following courses:

- (1) Within 2 years of JMA certification, complete:
- (a) WinNT 4.0 - "Managing Users and Groups".
  - (b) WinNT 4.0 - "Sharing and Securing Network resources".
  - (c) WinNT 4.0 - "Network Configurations".
  - (d) WinNT 4.0 - "Troubleshooting and Optimization".
  - (e) WinNT 4.0 - "Subnet Addressing, IP Routing and Browsing".
- (2) Within 3 years of JMA certification, complete:
- (a) Web A&P - "Creating HTML".
  - (b) Web A&P - "Creating Fill in Forms".
  - (c) Web A&P - "Advanced HTML Links".

Prerequisite. None.

FCC-602    0                    Z                    E                    N/A                    L

Goal. Tracking code event for security manager's course.

Requirement. In accordance with predefined standards, successfully complete the Security's Manager's course.

Performance Standard. IAW with references.

Prerequisite. None.

FCC-603    0                    Z                    E                    N/A                    L

Goal. (Not Active) Tracking code event for METOC chief's course.

Requirement. In accordance with predefined standards, successfully complete the METOC Chief's course.

Performance Standard. IAW with references.

Prerequisite. None.

FCC-604    0                    Z                    E                    N/A                    L

Goal. Tracking code for tropical weather analysis course.

Requirement. In accordance with predefined course standards, successfully complete the Tropical Weather Analysis Course.

Performance Standard. Certification of completion received upon completion of the requirement.

Prerequisite. None.

FCC-605    0                    Z                    E                    N/A                    L

Goal. Tracking code for WSR88D radar manager's course.

Requirement. In accordance with predefined course standards, successfully complete the Radar Manager Course.

Performance Standard. Certification of completion received upon completion of the requirement.

Prerequisite. None.

FCC-606      0                      Z                      E                      N/A                      L

Goal. Tracking code for joint METOC tactical application course.

Requirement. In accordance with predefined course standards, successfully complete the Joint METOC Tactical Application Course.

Performance Standard. Certification of completion received upon completion of the requirement.

Prerequisite. None.

## 2. Journeyman METOC Analyst Qualification

a. Purpose. This stage of the syllabus is to qualify Journeyman METOC Analysts upon completion of certification events.

### b. General

(1) Administrative Notes. Completion of the events will not result in an increase in Combat Readiness Percentage and are used for tracking of the qualification.

(2) Prerequisite. Completion of all level 100 stages of training.

(3) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have obtained the Journeyman METOC Analyst certifications and qualification.

c. Crew Requirements. METOC Chief, METOC Officer and subject Marine.

### d. Qualification Event

JCP-607      108                      Z                      E                      N/A                      L

Goal. Attain certification of cores skills required for Journeyman METOC Analyst qualification.

Requirement. Utilizing Appendix F, local certification requirements, question and answer periods, exhibit knowledge of the core skills required. Upon completion of the certification checklist, the marine shall be the subject of a certification board (JMA-608) to discern proficiency in the core skills required for JMA qualification.

Performance Standard. SNM must complete the Appendix F under the training of a MAI and be recommended for qualification.

Prerequisite. None.

JCP-608      6                      Z                      E                      N/A                      L

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Goal. Attain Journeyman METOC Analyst qualification.

Requirement. SNM will be the subject of a formal certification board comprised of, at a minimum, the Master METOC Analyst or, the METOC Officer, and assigned instructor and one qualified JMA.

Performance Standard. SNM will be required to respond in a professional and technically correct manner to questions posed in a formal certification board.

Prerequisite. JCP-607; Completion of the certification checklist.

### 3. Master METOC Qualification

a. Purpose. This stage of the syllabus is to qualify Master METOC Analysts.

b. General

(1) Administrative Notes. Completion of the events will not result in an increase in Combat Readiness Percentage and are used for tracking of the qualification.

(2) Prerequisite. Completion of all level 400 stages of training.

(3) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall receive the Master METOC Analyst Qualification.

c. Crew Requirements. Master METOC Analyst, METOC Officer and subject marine.

d. Qualification Event

MMA-609      6                      Z                      E                      N/A                      L

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Goal. Attain Master METOC Analyst qualification.

Requirement. Successfully complete and demonstrate proficiency in the following:

- (1) Apprentice and Journeyman duties.
- (2) Joint and MEF support events.
- (3) METOC management and supervision events.

Performance Standard. SNM must complete all prerequisites and be recommended by a Master METOC Analyst and/or METOC Officer.

Prerequisite. Rank of GySgt or above, minimum of 12 years time in service, completion of all JMA 100-400 events, completion of JMA 608 event.

#### 4. Formal Schools Instructor Qualification

a. Purpose. This stage of the syllabus is to qualify personnel as formal school instructor.

b. General

(1) Administrative Notes. Completion of the events will not result in an increase in Combat Readiness Percentage and are used for tracking of the qualification.

(2) Prerequisite. Completion of all level 500 formal school instructor certification events.

(3) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have knowledge of techniques of military instruction and eligible for qualification as a Formal Schools Instructor.

c. Qualification Events

FSI-610	2	Z	E	N/A	L
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Goal. Attain formal schools instructor (FSI) qualification.

Requirement. Upon completion of the academic training, the Marine shall be the subject of a certification board to discern proficiency in the core skills required for FSI qualification.

Performance Standard. Must exhibit knowledge of techniques of military instruction per the BIC course.

Prerequisite. FSI-500;FSI-501.

#### 4. METOC Analyst Instructor Qualification

a. Purpose. This stage of the syllabus is to qualify personnel as METOC Analyst instructors.

b. General

(1) Administrative Notes. Completion of the event(s) will not result in an increase in Combat Readiness Percentage and are used for tracking of the qualification.

(2) Prerequisite. Completion of all level 500 formal school instructor certification events.

(3) Stage end performance. Upon completion of this stage of the syllabus the Journeyman METOC Analyst shall have knowledge of techniques of military instruction and eligible for qualification as a METOC Analyst Instructor.

c. Qualification Events

MAI-611	0	Z	E	N/A	L
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Goal. Attain METOC analyst instructor (MAI) qualification.

Requirement. Under the mentorship of a qualification MAI, be designated as a METOC Analyst instructor.

Prerequisite. Rank of SSgt or above; completion of all level 300 events; and MAI-510 and MAI-511.

5. Designations

a. Purpose. This stage of the syllabus is to designate personnel based on leadership qualities of the individual.

b. General. Completion of the events will not result in an increase in Combat Readiness Percentage and are used for tracking of the

c. Designating Events

DES-612	0	Z	E	N/A	L
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Goal. Attain METOC Chief designation.

Requirement. Successfully complete and demonstrate proficiency in all level 400 events, exhibit exceptional leadership capabilities, and receive recommendation for designation by the appropriate authority.

Performance Standard. SNM must complete/meet all prerequisites and be recommended by appropriate authority.

Prerequisite. Rank of SSgt or above; completion of all JMA 400 events; completion of MMA-607, MMA-608.

DES-613	0	Z	E	N/A	L
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Goal. Attain METOC Section Leader designation.

Requirement. Under the mentorship of a designated METOC Section Leader, successfully complete and demonstrate proficiency all level 300 level events and receive recommendation for designation by Master METOC Analyst and/or METOC Officer.

Performance Standard. SNM must complete all prerequisites and be recommended by a Master METOC Analyst and/or METOC officer.

Prerequisite. Rank of SSgt or above; completion of all level 300 events.

280. EVENT CRP/HOURS/REFRESH BREAKDOWN. Tables 2-9 through 2-13 at the end of chapter provides a listing of the events, hours and combat readiness percentage for each stage of the syllabus.

Table 2-9.--Combat Capable Event Breakdown.

<b>Combat Capable Training Events (Events, Hours, Refresh and CRP)</b>					
<b>STAGE</b>	<b>CODE</b>	<b>HRS</b>	<b>Interval</b>	<b>CRP</b>	<b>Notes</b>
FAM	100	94	NA	1.2	
FAM	101	108	NA	1.2	
FAM	102	90	NA	1.2	
FAM	103	90	NA	1.2	
FAM	104	80.5	NA	1.2	
FAM	105	24	NA	1.2	
FAM	106	24	NA	1.2	
FAM	107	24	NA	1.2	
FAM	108	65	NA	1.2	
FAM	109	65	NA	1.2	
FAM	110	128.5	NA	1.2	
FAM	111	70.5	NA	1.2	
FAM	112	68.5	NA	1.2	
FAM	113	24	NA	1.2	
FAM	114	24	NA	1.2	
FAM	115	36	NA	1.2	
FAM	116	40	NA	1.2	
FAM	117	24	NA	1.2	
FAM	118	24	NA	1.2	
FAM	119	64	NA	1.2	
FAM	120	48	NA	1.2	
JCP	121	2	NA	1.2	
JCP	122	2	NA	1.2	
JCP	123	1	NA	1.2	
JCP	124	1	NA	1.2	
JCP	125	3	NA	1.2	
JCP	126	5	NA	1.2	
JCP	127	6	NA	1.2	
JCP	128	1	NA	1.2	
JCP	129	.5	NA	1.2	
JCP	130	.5	NA	1.2	
JCP	131	.5	NA	1.2	
JCP	132	3	NA	1.2	
JCP	133	1	NA	1.2	
JCP	134	2	NA	1.2	
JCP	135	.5	NA	1.2	

Table 2-9.--Combat Capable Event Breakdown--Continued.

STAGE	CODE	HRS	Interval	CRP	Notes
JCP	136	.5	NA	1.2	
JCP	137	3	NA	1.2	
JCP	138	16	NA	1.2	
JCP	139	2.5	NA	1.2	
JCP	140	5	NA	1.2	
JCP	141	4	NA	1.2	
JCP	142	10	NA	1.2	
JCP	143	2	NA	1.0	
JCP	144	5	NA	1.0	
JCP	145	.5	NA	1.0	
JCP	146	30	NA	1.0	
JCP	147	8	NA	1.0	
JCP	148	2	NA	1.0	
CMO	149	1.5	365	1.2	
CMO	150	24	365	1.2	
		1359		60	

Table 2-10.--Combat Ready Event Breakdown.

Combat Ready Training Events (Events, Hours, Refresh and CRP)					
STAGE	CODE	HRS	Interval	CRP	Notes
FAM	200	1	NA	.25	
FAM	201	1	NA	.25	
FAM	202	.5	NA	.25	
FAM	203	3	NA	.25	
FAM	204	1	NA	.25	
FAM	205	6	NA	.25	
FAM	206	6	NA	.25	
FAM	207	2	NA	.25	
FAM	208	.5	NA	.25	
FAM	209	2	NA	.25	
FAM	210	2	NA	.25	
FAM	211	1	NA	.25	
FAM	212	2	NA	.25	
PPP	213	1	NA	.25	
PPP	214	5	NA	.25	
PPP	215	3	NA	.25	
PPP	216	1	180	.25	
PPP	217	8	NA	.25	
PPP	218	2	NA	.25	

Table 2-10.--Combat Ready Event Breakdown--Continued.

PPP	219	1	NA	.25	
PPP	220	56	NA	.25	
PPP	221	2	NA	.25	
PPP	222	.5	NA	.25	
PPP	223	.5	365	.25	
CMO	224	32	365	.25	
CMO	225	240	365	.25	
CMO	226	16	180	.25	
CMO	227	24	NA	.25	
CMO	228	2	365	.25	
CMO	229	30	365	.25	
CMO	230	6	365	.25	
CMO	231	1	365	.25	
CMO	232	.5	180	.25	
CMO	233	40	365	.25	
CMO	234	6	365	.25	
CMO	235	24	365	.25	
MIA	236	80	NA	.25	
MIA	237	3	NA	.25	
MIA	238	2	365	.25	
MIA	239	3	365	.25	
MIA	240	3	365	.25	
MIA	241	3	180	.25	
MIA	242	3	365	.25	
MIA	243	3	365	.25	
MIA	244	3	365	.25	
MIA	245	3	365	.25	
MIA	246	3	365	.25	
MIA	247	3	365	.25	
EQP	248	24	180	.25	
EQP	249	8	180	.25	
EQP	250	1	365	.25	
EQP	251	1	180	.25	
EQP	252	3	90	.25	
EQP	253	3	90	.25	
EQP	254	16	365	.25	
EQP	255	24	90	.25	
EQP	256	8	365	.25	
EQP	257	24	365	.25	
EQP	258	24	180	.25	
EQP	259	24	90	.25	

Table 2-11.--Combat Qualification Event Breakdown.

Combat Qualified Training Events (Events, Hours, Refresh and CRP)					
STAGE	CODE	HRS	Interval	CRP	Notes
PPP	300	56	365	1.2	
PPP	301	3	NA	1.2	
PPP	302	6	365	1.2	
PPP	303	56	365	1.2	
PPP	304	24	NA	1.2	
PPP	305	24	NA	1.2	
CMO	306	24	NA	1.2	
CMO	307	24	NA	1.2	
CMO	308	24	NA	1.2	
CMO	309	16	NA	1.2	
CMO	310	24	365	1.2	
MIA	311	24	180	1.2	
EQP	312	16	NA	1.2	
EQP	313	24	NA	1.2	
EQP	314	24	NA	1.2	
EQP	315	6	180	1.2	
EQP	316	48	365	1.2	
		423		20	

Table 2-12. Full Combat Qualification Event Breakdown.

Full Combat Qualified Training Events (Events, Hours, Refresh and CRP)					
STAGE	CODE	HRS	Interval	CRP	Notes
PPP	400	51	360	.31	
PPP	401	51	NA	.31	
PPP	402	51	NA	.31	
PPP	403	24	NA	.31	
PPP	404	24	NA	.30	
PPP	405	24	NA	.39	
PPP	406	24	NA	.39	
PPP	407	24	NA	.39	
PPP	408	24	NA	.39	
PPP	409	6	NA	.38	
PPP	410	24	NA	.38	
PPP	411	24	NA	.38	
PPP	412	24	NA	.38	
PPP	413	24	NA	.38	
				5	

Table 2-13.--Instructor Events Breakdown.

Instructor Training Events (Events, Hours, Refresh and CRP)					
STAGE	CODE	HRS	Interval	CRP	Notes
FSI	500	150	NA	0	
FSI	501	150	NA	0	
FSI	502	6	365	0	
FSI	503	75	NA	0	
FSI	504	75	NA	0	
MAI	510	108	NA	0	
MAI	511	5	365	0	
TOTALS		569		0	

Table 2-14.--Requirements, Qualifications, and Designations Event Breakdown.

Requirements, Qualification, Designations Events (Events, Hours, Refresh and CRP)					
STAGE	CODE	HRS	Interval	CRP	Notes
FCC	600	*	NA	0	Completion certificates required
FCC	601	*	NA	0	Completion certificates required
FCC	602	80	365	0	Completion certificates required
FCC	603	80	NA	0	Completion certificates required
FCC	604	80	NA	0	Completion certificates required
FCC	605	80	NA	0	Completion certificates required
FCC	606	80	NA	0	Completion certificates required
JCP	607	160	NA	0	Certification checklist required
JCP	608	8	NA	0	Requires authority letter
MMA	609	8	NA	0	Requires authority letter
FSI	610	1.5	NA	0	Requires authority letter
MAI	611	8	NA	0	Requires authority letter
DES	612	1.5	365	0	Requires authority letter
DES	613	1.5	NA	0	Requires authority letter
TOTALS		588.5			

290. EVENT CHAINING. Tables 2-15 at the end of chapter provides a listing of the events and chained events.

Table 2-15--Event Chaining Table.

<b>Event</b>	<b>Events Updated</b>
CMO-310	EQP-254
MIA-311	MIA-237; MIA-236; FAM-112
FSI-502	FSI-500; FSI-501
JCP-608	JCP-607
FSI-610	FSI-500; FSI-501
MAI-611	MAI-510; MAI-511