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This publication implements Air Force Policy Directive (AFPD) 15-1, *Atmospheric and Space Environmental Support* for Special Operations Weather Team (SOWT) operations. It provides guidance for Air Force personnel in the performance of duties in the 1W0X2 and 15WXC Air Force Specialties (AFSs). This publication will work in conjunction with Air Force Instruction (AFI) 15-135, Volume 1, *Special Operations Weather Training*, and AFI 15-135, Volume 2, *Special Operations Weather Standardization and Evaluation*. It applies to all active duty and Air National Guard SOWT personnel. This AFI may be supplemented at any level, but all supplements must be routed to AF/A3O-W, 1490 Air Force Pentagon, Washington, DC 20330-1490 for certification and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through MAJCOM publications/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, Management of Records, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>. The use of a name of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the USAF or the Department of Defense.

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Chapter 1

INTRODUCTION

1.1. General. This instruction establishes policy for Special Operations Weather Team (SOWT) operations. It serves as a capstone document for SOWT Tactics, Techniques and Procedures (TTPs) as described in AFTTP 3-1 and 3-3, *Guardian Angel*. The policies outlined in this instruction facilitate the employment of SOWT operators to effectively and efficiently accomplish their missions.

1.2. Scope. This volume outlines policy applicable to the operations of Special Operations Weathermen and Special Operations Weather Team Officers. For the purpose of this instruction, the term "SOWT" will apply to both enlisted (1W0X2) and officer (15WXC) AFSs, unless otherwise specified.

1.3. Operator Responsibilities. This volume, in conjunction with AFMAN 15-128, *Air and Space Weather Operations – Roles and Responsibilities*, AFMAN 15-129, *Air and Space Weather Operations, Processes, and Procedures*, establishes policy for SOWT under most circumstances but is not a substitute for sound judgment which must be exercised to ensure safe and effective mission accomplishment.

1.4. Deployment of SOWT. Individuals deploying to fill a SOWT requirement must deploy combat mission ready for the duty position they are tasked to support for that deployment. Refer to AFI 15-135, Volume 1, *Special Operations Weather Team Training*, for training program requirements.

1.5. Deviations. Deviations from this policy require specific approval of the MAJCOM unless an urgent requirement or extenuating circumstance dictates otherwise. In this case, the ranking member will take the appropriate action necessary to safely accomplish the mission. Such cases should be reported via After Action Report (AAR) or Lesson Learned (LL) in order to affect future operations, if deviation was warranted.

1.6. Waivers. Unless otherwise specified, HQ AF/A3O-W is the waiver authority for this instruction. Requested waivers to the basic guidance of this instruction are forwarded through applicable operations channels to HQ AF/A3O-W.

1.7. Key Words Explained.

1.7.1. "Will" and "shall" indicate a mandatory requirement.

1.7.2. "Should" indicates a preferred, but not mandatory, method of accomplishment.

1.7.3. "May" indicates an acceptable or suggested means of accomplishment.

1.7.4. "NOTE" indicates operating procedures, techniques, etc., considered essential to emphasize.

1.7.5. "CAUTION" indicates operating procedures, techniques, etc., which could result in damage to equipment or that are operationally sensitive which could result in political or legal ramifications if not carefully followed.

1.7.6. "WARNING" indicates operating procedures, techniques, etc., which could result in personal injury or loss of life if not carefully followed.

Chapter 2

SOWT MISSIONS/OPERATIONS

2.1. General. SOWT operations and missions apply Air Force Weather's core processes of *collection, analysis, prediction, tailoring, and integration* to enable Special Operations Forces (SOF) commanders to characterize the battle space environment and exploit environmental information to achieve the desired effects in the battle space. Unless otherwise specified in this document, SOWT will comply with all other AFIs, AFMANs and other Air Force Weather policy guidance and directives for conducting weather operations.

2.2. Environmental Reconnaissance (ER) and Austere Weather (AW) Operations. ER and AW are multi-component, outside-the-wire SOWT missions to collect, analyze, predict, tailor, and integrate critical hydrographic, geological, and meteorological information from critical points in the battlespace to enhance commanders' ability to make sound and time-sensitive operational decisions.

2.2.1. Environmental Reconnaissance (ER): JP 3-05, *Doctrine for Joint Special Operations*, defines ER as operations conducted to collect and report critical hydrographic, geological, and meteorological information, and is a subset of Special Reconnaissance (SR). ER is a multi-faceted mission undertaken to collect on all aspects of the environment in a given area. SOWT may be the supported or an enabling force during the execution of the following missions:

2.2.1.1. Tactical Weather Observations. Tactical weather observations are a key enabler for all SOF aviation and ground missions/operations.

2.2.1.1.1. SOWT provide tactical weather observations (surface and upper air) where commander's critical information requirements (CCIR) gaps in environmental information have been identified during the Joint Operational Planning Process (JOPP) to provide immediate situational awareness to commanders, Command and Control (C2) elements, and operators. SOWT determine areas along routes and on or near targets most likely to experience environmental conditions that adversely impact air and ground mission profiles. Based on operational considerations, SOWT determine best locations for primary, alternate, and tertiary observation points (OPs). SOWT should conduct tactical weather observing along flight routes, and at Forward Area Re-arm Refuel Points (FARRPs), Helicopter Landing Zones (HLZs), Areas of Interest (AOIs), and other operationally significant points.

2.2.1.1.2. SOWT provide real-time, on-target environmental reporting to enable close air support (CAS), terminal guidance, medical evacuation (MEDEVAC), airfield seizure and other operations. SOWT collect and disseminate environmental information ranging from complete weather observations, special weather observations, terrain, riverine, surf-zone and avalanche assessments. The first priority for disseminating complete weather observations in support of CCIR is to relay instantaneous environmental data directly to air and ground assets involved in ongoing operations. The second priority is to relay to SOF C2 and staff elements engaged in JOPP. SOWT will disseminate the observations to meteorological and oceanographic (METOC) centers supporting theatre operations and the Air Force

Weather Agency (AFWA). Special weather observations should include only those elements critical to support dynamic retasking of assets. The first priority for disseminating special weather observations is directly to forces operating weapon systems (air and ground) on the objective. SOWT will disseminate special weather observations to SOF C2 elements when operationally feasible.

2.2.1.2. Terrain and Route Reports (TERREP/RTEREP). SOWT conduct environmental summaries/assessments of a general area, specific location, or route during combat reconnaissance patrols or other missions. TERREP/RTEREPs are primarily designed to capture a “snapshot” of terrain characteristics most likely to have critical interactions with weather to produce environmental conditions that adversely impact ground mission profiles. TERREP/RTEREPs enable ground maneuver and provide general geological intelligence to planners, SERE specialists, terrain analysts, etc. SOWT will record data on an AFSOC Form 86. Dissemination of TERREP/RTEREPs will be to AFWA, METOC centers supporting theatre operations, and SOF C2. The first priority for dissemination of TERREP/RTEREPs in support of CCIR is to SOF C2 and staff elements engaged in JOPP. TERREP/RTEREPs may be disseminated to other government and non-government agencies to allow for use in humanitarian, nation-building, or other activities.

2.2.1.3. Avalanche Assessments. SOWT conduct avalanche assessments of avalanche-prone areas during combat reconnaissance patrols or other missions. Avalanche assessments are primarily designed to identify high-risk areas to enable ground maneuver and to provide snow depth analysis, snow-water-equivalent, and other measurements used to predict impacts to watersheds and flood potential. The first priority for dissemination of avalanche assessments in support of CCIR is to SOF C2 and staff elements engaged in JOPP. Avalanche assessments and snow measurements should be disseminated to AFWA, METOC centers supporting theatre operations and inter-theatre intelligence agencies, and may be disseminated to other government and non-government agencies to allow avoidance of avalanche and flood prone areas.

2.2.1.4. Riverine Assessments. SOWT conduct river assessments within and along river systems during combat reconnaissance patrols, small boat operations, or other missions. Riverine assessments are primarily designed to identify fording/bridging points, potential or actual flood areas, and natural and manmade features to enable combat ground maneuver and to predict and mitigate the impacts of flooding. Assessments measure critical operational information such as riverbank slope, bank classification, soil types, bottom profile, current, depth and other operational information as directed. SOWT will record data on an AFSOC Form 85. Dissemination of Riverine assessments will be to AFWA, METOC centers supporting theatre operations, and SOF C2. The first priority for dissemination of Riverine assessments in support of CCIR is to SOF C2 and staff elements engaged in JOPP. Riverine assessments may be disseminated to other government and non-government agencies to enable avoidance of avalanche and flood prone areas.

2.2.1.5. Oceanographic, Surf, and Littoral Assessments. SOWT conduct oceanographic, surf, and littoral assessments during small boat, scout swimmer, scuba, and other missions. Oceanographic, surf, and littoral assessments are primarily designed to identify beach-landing points to enable over-the-beach maneuver. Assessments

measure critical information such as beach slope, total usable beach length, cover, concealment, camouflage, beach bottom profiles, surf conditions, and entrance/exit points. The first priority for dissemination of oceanographic, surf, and littoral assessments in support of CCIR is to SOF C2 and staff elements engaged in JOPP. Oceanographic, surf, and littoral assessments should be disseminated to METOC centers supporting theatre operations and inter-theatre intelligence agencies and may be disseminated to other government and non-government agencies to allow for use in humanitarian, nation-building, or other activities.

2.2.2. Austere Weather (AW) Operations: AW operations are defined as SOWT missions that are not part of ER. These missions are unique to SOWT units and are focused on nontraditional methods of collecting/utilizing METOC data.

2.2.2.1. Nowcasting. SOWT provide on-the-objective nowcasts to predict the onset of critical weather elements, integrate those predictions into the commander's decision-cycle, and mitigate significant environmental impacts during ongoing operations. Nowcasting is a short-range weather forecast covering a very specific geographic area and based on a complete weather observation. The focus of the nowcast is on the combat critical weather threshold sensitivities for air and ground mission profiles of the forces operating in the objective area. SOWT will use knowledge of local effects to nowcast unforecasted, critical weather elements not captured by other mission execution forecast processes (MEFP), i.e. individual showers, thunderstorms, ceilings and visibility. The first priority for disseminating nowcasts is directly to forces operating weapon systems on the objective. SOWT will disseminate nowcasts to SOF C2 elements when operationally feasible.

2.2.2.2. Weather Networks/Sensor Emplacement. SOWT emplace sensors to provide real-time environmental conditions from data-sparse/data-void areas to support the overall theatre sensing strategy or to meet operational or tactical requirements. Weather networks and sensors are important solutions to answering environmental CCIR's and mitigating environmental chokepoints identified in the JOPP. Environmental chokepoints are those points, routes, and areas of interest, which may be significantly vulnerable to environmental impacts. Weather networks are comprised of strictly SOWT, a combination of human and automated, remote sensors, or strictly sensors. The placement location is often part of the theatre sensing strategy and should be discussed with lead weather functionals. Sensors are emplaced in locations deemed too hostile or sensitive for manned observations, when conditions do not warrant a SOWT, or when availability of SOWT operators is limited. Follow-on missions to service emplaced sensors should be considered based on tactical feasibility, duration of emplacement, and operational limits of the sensors. **WARNING:** Sensors that show indications of enemy compromise will be destroyed in place or abandoned.

2.2.2.3. Establishing SOF and Indigenous Weather Networks. SOWT establish SOF and indigenous limited-observation, weather networks to provide a more adequate weather data coverage. SOWT will first assess the overall METOC capabilities of the SOF and indigenous forces and be able to organize, train, equip, advise, and assist SOF and indigenous forces to build meteorological capacity/infrastructure. SOWT will help secure indigenous weather observing sites, expand the observation networks across the country, and increase the frequency of observations disseminated. SOWT should

possess/demonstrate language proficiency and be proficient in traditional and non-traditional instruction techniques to conduct this mission. Dissemination will be to SOF C2 and forces operating weapon systems within the representative area of the limited-observation. Dissemination may be to METOC centers supporting theatre operations and inter-theatre intelligence agencies. **CAUTION:** Limited observations are collected by non-weather personnel and will be assessed by qualified SOWT for accuracy before any dissemination, will identify the SOWT conducting quality control, and will be identified as data originating from a non-weather source.

2.2.2.4. Weather Site Surveys. SOWT conduct weather site surveys of existing airfield services, of airfields without services, and of assault landing zones to determine the level of existing weather operations or the requirement for weather capabilities. SOWT will be familiar with World Meteorological Organization (WMO) reporting methods, foreign meteorological systems, and be able to assess foreign data collection, assessment, prediction, and dissemination services for adequacy, accuracy, and utility to SOF and SOF enabled operations. SOWT will survey and report existing airfield weather services not currently identified within the WMO reporting network. SOWT will record data on an AFSOC Form 84. Dissemination of weather site surveys will be to AFWA, AMC/A3W, METOC centers supporting theatre operations, and SOF C2. Dissemination may be to other government and non-government agencies to allow for use in humanitarian, nation building, or other activities. **CAUTION:** The collection of information regarding the capabilities of a foreign nation is sensitive. SOWT will ensure weather site surveys of existing capabilities are conducted with the permission of appropriate national authorities and are strictly limited to weather services.

2.2.2.5. National Meteorological Service Assessments. SOWT conduct national meteorological services assessments as input to theatre capability assessments and to determine suitability for foreign internal defense (FID), counter-insurgency (COIN), or other SOF-enabled national scale operations. SOWT assess a nation's meteorological infrastructure strictly based on the nation's capability to provide operationally and tactically relevant and accurate weather information in support of SOF missions and mission profiles. National meteorological services assessments are an important part of the METOC operations support plan, which is itself part of the overall theatre operations plan (OPLAN) or operations order (OPORD) per Joint Publication 3-59, *Meteorological and Oceanographic (METOC) Operations*. The requirement for an assessment will be determined by the theatre's lead weather functionals, normally the responsible theatre Combatant Commander's Senior METOC Officer (SMO) and Joint METOC Officer (JMO). SOWT evaluate the level of technical sophistication of the nation's meteorological service, the level of competence of the nation's meteorologists, and locations of meteorological and oceanographic offices to determine the level of reporting reliability. SOWT will be familiar with World Meteorological Organization (WMO) reporting methods, foreign meteorological systems, and be able to assess foreign data collection, assessment, prediction, and dissemination services for adequacy, accuracy, and utility to operations. Dissemination of national meteorological services assessments will be to theatre C2 and lead weather functionals, AFWA, and METOC centers supporting theatre operations. Dissemination may be to other government and non-government agencies to allow for use in humanitarian, nation building, or other activities.

CAUTION: The collection of information regarding the capabilities of a foreign nation is sensitive. SOWT will ensure national meteorological services assessments are conducted with the permission of appropriate national authorities and are strictly limited to meteorological services.

2.2.2.6. Aerial Weather Reconnaissance. SOWT conduct aerial weather reconnaissance to assess weather enroute, within refueling orbits/routes, on objectives, or any location where other collection methods are inadequate to meet mission requirements or operational considerations preclude other forms of collection. Aerial weather reconnaissance provides highly accurate, real-time on-target mission watch and is useful in determining terrain influences, local weather effects, and determining slant range visibility. Aerial weather reconnaissance provides a limited capability to collect and assess other environmental conditions (i.e. snow coverage, river stage, and surf conditions) in support of ground or water operations. There is no set format for aerial weather reconnaissance reports. They should consist of single or multiple elements critical to the operations or may be a simple brevity code word indicating favorable/unfavorable conditions at that location or time. SOWT will disseminate aerial weather reconnaissance reports directly to forces operating weapon systems on the objective.

2.2.2.7. Operate Small Unmanned Aerial Systems (SUAS) and Remotely Piloted Aircraft (RPA). SOWT operate SUAS and leverage RPA to obtain and assess and verify critical environmental intelligence from forward areas where other collection methods are inadequate to meet mission requirements or operational considerations preclude other forms of collection. SOWT are capable of operating organic SUAS to collect environmental intelligence, as well as interpreting still and full-motion imagery from non-organic RPA to assess weather enroute, within refueling orbits/routes, on objectives, or any location where other collection methods are inadequate to meet mission requirements or operational considerations preclude other forms of collection. SUAS and RPA provide a limited capability to collect and assess other environmental conditions in support of ground or water operations. There is no set format for SUAS reports. They should consist of only those elements critical to the operations or may be a simple brevity code word indicating favorable/unfavorable conditions at that location or time. SOWT will disseminate SUAS reports directly to forces operating weapon systems on the objective. SOWT may disseminate SUAS reports to SOF C2 elements when operationally feasible. SOWT will disseminate RPA reports to SOF C2 and should disseminate RPA reports to forces operating weapon systems on the objective.

Chapter 3

INTEGRATION INTO OPERATIONS AND INTELLIGENCE PROCESSES

3.1. Introduction. SOWT will synthesize the outputs of collection, analysis, prediction, and tailoring and integrate them into operations and intelligence processes to enable commanders and their staffs to characterize the environment, and anticipate and exploit environmental information. SOWT will execute these core processes in the context of accuracy, relevancy, timeliness, and consistency to gain environmental situational awareness, achieve information superiority, fully exploit the asymmetrical environmental advantage necessary to apply and maximize combat power at critical points in space and time and execute the desired effects on the battlefield.

3.1.1. SOWT will be engaged throughout the JOPP and Joint Intelligence Preparation of the Operational Environment (JIPOE). JIPOE includes all elements necessary to address the factors of mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC), as outlined in JP 2-01.3, *Joint Intelligence Preparation of The Operational Environment*. Terrain and weather are natural conditions that profoundly influence operations and favor those better prepared to operate in the environment.

3.1.2. SOWT will possess knowledge of critical thresholds of air and ground weapon systems, mission profiles and tactics, techniques and procedures (TTPs), will identify any unique thresholds for non-organic, foreign, non-standard, or specialized assets and weapon systems, and will identify and document sensitivities for adversary weapon systems, TTPs and capabilities to highlight opportunities to exploit environmental effects on the enemy.

3.2. Integration of Environmental Factors into Joint Operational Planning Processes. SOWT will be active participants in operational planning meetings established in the commanders and staff's battle rhythm, will use these meetings to maintain operational situational awareness, to provide environmental information/intelligence (e.g TERREP) during CONOP development to assist mission planning, to remain appraised of significant changes in operations (i.e. changes in timing, weapon systems, targets, objectives, etc.), and will provide environmental impacts based on critical thresholds of air and ground mission profiles under consideration in planning. These meetings include but are not limited to synchronization, joint fires, ROC drills, joint planning group, and future plans fusion cell.

3.3. Mission Analysis. SOWT will develop a running, staff estimate of the environment and impacts to mission profiles (routes, flight levels, targets, tactics, and timing) under consideration in JOPP.

3.3.1. SOWT will develop their staff estimate in context of and in parallel to JPIOE to enable commanders and their staffs to visualize the full extent of the operational environment (enemy, weather, and terrain) and to support the commander's situational understanding of the environment and influence decision making.

3.3.2. SOWT will provide command and staff updates when predicted conditions will either improve or deteriorate and cross critical weather threshold sensitivities for weapon systems considered in planning and will answer all environmentally related requests for information (RFIs) generated by commanders, their staffs, or combat elements.

3.3.3. SOWT will pay close attention to critical thresholds for “minimum force” weapon systems and capabilities due to their importance to the operation and will continue to update their staff estimate throughout JOPP based on changes to the environment, weather conditions, and the dynamic nature of the battlefield.

3.3.4. SOWT will tailor operational climatology for long range planning (several weeks to a year) and predictive products (numerical models, regional forecasts, etc.) from METOC Centers for crisis action planning (less than 10 days) for specific times and locations considered in the planning process to determine environmental effects.

3.3.5. SOWT will identify points, routes, and areas of interest which may be specifically vulnerable to environmental impacts (environmental choke points). Environmental choke points include but are not limited to: a rotary wing flight route across a mountain pass, river levels for a combat reconnaissance patrol making a river-crossing, or snowpack conditions for a dismounted SOF team traversing an avalanche-prone area.

3.3.6. SOWT will articulate and ensure commanders and their staffs understand those choke points and critical environmental impacts and appropriately influence commanders and their staffs to establish environmental CCIRs. SOWT may make recommendations for the execution of ER. Commanders may then direct SOWT to conduct environmental reconnaissance operations, to collect against those CCIR, in context of the overall mission and their intent.

3.3.7. SOWT will be actively engaged with staff intelligence officers to ensure their estimates support the intelligence staff’s three common tasks of analyze, disseminate, and assess and the functions that constitute the intelligence process: plan, prepare, collect, process, and produce. SOWT estimates to the staff intelligence officers (A/S/J-2) will include environmental assessments of impacts on enemy capabilities, weapon systems and mission profiles for possible/potential enemy COAs.

3.3.8. SOWT will complement intelligence, surveillance, and reconnaissance (ISR) in the development of battlespace awareness. Environmental estimates provided to the A/S/J-2 should also include assessments of environmental impacts on various ISR collection platforms to shape the ISR Collection Plan to optimize available ISR assets to answer CCIR.

3.4. Course of Action (COA) Development. SOWT will use operationally relevant environmental estimates, based on critical weather thresholds to: assess feasibility of missions, anticipate effectiveness of platforms, weapon systems, and munitions, identify opportunities to exploit environmental conditions for operational advantage, and determine optimal or favorable weather windows of opportunity for conducting operations.

3.4.1. SOWT will articulate the need for austere weather and/or environmental reconnaissance operations to facilitate the overall operation. If adequate environmental information does not exist to accurately characterize and predict environmental conditions at critical chokepoints, SOWT capabilities should be employed to collect information and fill data gaps.

3.4.2. SOWT will develop a concept of operation (CONOP) to collect information as part of the COA development process in response to environmental CCIRs. These CONOPS will be presented to commanders and operations staff during COA development to ensure the proper inclusion of SOWT requirements and operations into the overall plan.

3.5. COA Analysis and Wargaming. SOWT will use operationally relevant environmental estimates, based on critical weather thresholds, in the analysis and wargaming of each tentative COA.

3.5.1. SOWT will participate in COA analysis to identify advantages and disadvantages of each COA based on their environmental estimate to include environmental impacts on the adversary's weapon systems and mission profiles in comparison to friendly capabilities.

3.5.2. SOWT will participate in COA wargaming to answer questions about environmental impacts to each COA, to inject ideas and insights about mission execution in the environment that otherwise might not have occurred, to re-highlight environmental impacts that are critically important to the overall success of the operation, and to inject environmental impacts on adversary capabilities and possible enemy responses to environmental influences.

3.6. COA Comparison and Approval. The commander may identify the environmental estimate as an important criteria or governing factor when comparing COAs. The SOWT environmental estimate is then used in COA comparison to influence the recommended COA and selection rationale.

3.6.1. SOWT will participate with the commander and his staff to objectively evaluate COAs against a set of criteria to identify the COA with the best probability of success. This is documented in a decision matrix using governing factors to assess the effectiveness of each COA. SOWT will integrate environmental impacts in the development of the decision matrix to ensure environmental impacts are recorded in the war gaming results.

3.6.2. SOWT will use the environmental estimate to identify actions to overcome disadvantages, make final tests for feasibility, mitigate risk to an acceptable level, and provide the most flexibility in weighing the relative merits of each COA.

3.7. Plan or Order Development. SOWT will assist in the expansion of the approved COA into a detailed joint operation plan or OPORD by first developing an executable CONOPS and will finalize and integrate any required environmental reconnaissance CONOPS.

3.8. Mission Execution. SOWT will use a running environmental estimate, mission execution forecasts, the common operating picture (COP), and mission watch to maintain and deliver environmental situational awareness and decision making products to commanders, staff, and weapon system operators during mission execution.

3.9. Running Environmental Estimate. SOWT will provide running environmental estimates that are based on new information and adjustments in the battle space as the operation proceeds. The running environmental estimate consists of updates to the operational impacts/effects across the spectrum of mission profiles that SOWT provide throughout the Joint Operational Planning Process. SOWT provide these updates based on their assessment of changes to the current and predicted state of the environment across the spectrum of combat critical environmental threshold sensitivities for SOF air and ground mission profiles. The running estimate serves as a staff technique to continuously support the commander's visualization and decision making, as well as the staff's assessment tool during planning and execution. Running estimates emphasize continuously updating the facts of the estimate, projections of future environmental conditions of the battlespace, and the conclusions and recommendations. The running estimate is a product of the entire battle staff.

3.10. Mission Execution Forecast (MEF). Just prior to execution and as required by supported units, SOWT will produce a MEF that provides leadership, staff, and weapon system operators with a clear synopsis of the predicted environment and anticipated impacts to the operation. With the exception of flight weather briefings, unit requirements will dictate its format, frequency, and contents.

3.10.1. SOWT will tailor the MEF to provide decision-quality environmental information for an operation and will ensure the MEF addresses the critical thresholds of mission and support assets employed (CAS, MEDEVAC, etc).

3.10.2. SOWT will continuously update, amend, and disseminate MEFs as they evaluate the impact of new facts and information from the battle space. This would include providing immediate updates to the battle-staff and weapon system operators during emergency planning (troops-in-contact, MEDEVAC, etc).

3.11. Common Operating Picture (COP). SOWT should integrate their respective inputs to the COP. Current military doctrine emphasizes the COP as the primary tool that provides the current situation and, when merged with the running estimates, facilitates the commander's situational understanding of the operational environment. The COP, combined with the environmental running estimate, is predictive and enhances the staff's ability to collect, process, store, and display information.

3.12. Mission Watch. SOWT will conduct mission watch to monitor operations and environmental conditions based on critical thresholds. SOWT will update C2 elements, air and ground mission commanders, and staff should environmental conditions occur, or be predicted to occur, that differ from MEFs or environmental estimates.

3.13. Mission Debriefs. SOWT will have established mission debrief procedures, attend post-mission debriefs as mission and operational demands allow, and solicit feedback on environmental impacts to the operation as well as adequacy and accuracy of environmental products. SOWT will employ other debrief methods whenever direct feedback cannot be obtained. SOWT will use this information to evaluate MEFs, environmental estimates, and other products, applying metrics to verify forecast accuracy, validate quality and applicability of mission-tailored forecast products, and improve forecast processes, in order to optimize environmental information tailoring for future operations. SOWT will also leverage this information to conduct forecast reviews and to develop forecast rules of thumb.

Chapter 4

PLANNING ENVIRONMENTAL RECONNAISSANCE OPERATIONS

4.1. General. Effective and efficient planning of environmental reconnaissance (ER) operations ensures that SOWT capabilities are synchronized in support of the commander's objectives and, when required, in accordance with the theatre sensing strategy. The key to effective integration of ER operations is thorough and continuous participation in the JOPP. SOWT will identify mission critical environmental data voids during the JOPP, develop ER plans to meet CCIR within those voids, and staff plans for commander's approval. A data void may be as simple as high-fidelity, real-time ceiling observations to enable CASEVAC for a combat reconnaissance patrol (CRP) or as complicated as a multi-point environmental network over an entire operation area for multiple platform requirements.

4.2. Command and Control (C2) of SOWT. C2 of assigned or attached SOWT will be by a properly designated commander.

4.2.1. Commonly SOWT are assigned to a Joint SOF headquarters (HQ) to positions on a joint manning document. In this example, the Joint HQ commander has C2, OPCON, and TACON of assigned SOWT. SOWT are also commonly attached to SOF HQs below the Joint HQ level, in non-joint billets, and fall under OPCON of an AFSOF commander with tactical control (TACON) delegated by orders, to the unit of attachment. Similarly, SOWT attached to operational teams operating forward of HQ elements fall under OPCON of an AFSOF command element with TACON delegated to their respective operational team.

4.2.2. SOWT will understand the difference between the operational chain of command and staff functional oversight. The operational chain of command makes operational and employment decisions for the SOWT assigned under the commander. Final decision authority for employment rests with the commander. Staff functionals ensure that SOWT operations enable the commander's decision making and make recommendations on the employment of SOWT personnel to the commander.

4.3. Commander's CCIRs. CCIRs are elements of information, to include the environment, required by commanders that directly affect decision-making and dictate the successful execution of military operations. Commanders decide what information is critical based on experience, the mission, higher commander's intent, and the staff's input.

4.3.1. During mission analysis, SOWT determine whether sufficient data exists to mitigate and exploit environmental conditions or if a requirement for environmental reconnaissance exists. SOWT support the recommendation of environmental CCIR through an in-depth knowledge of unit operations and a thorough analysis of predicted environmental impacts and environmental sensing capabilities.

4.3.2. SOWT will identify critical thresholds for "minimum force" weapon systems and capabilities and environmental choke points, where weather can have the greatest impact on the operation, as likely CCIR candidates.

4.3.3. SOWT will conduct austere weather operations or environmental reconnaissance to collect critical environmental intelligence to satisfy environmental CCIRs.

4.4. Development and Staffing of Environmental Reconnaissance Plans. Requirements for ER operations can be identified and staffed at any level within the theatre SOF C2 architecture.

4.4.1. SOWT will develop ER COAs for proposed or approved environmental CCIR that describes:

- 4.4.1.1. Which of the core SOWT mission sets will be conducted.
- 4.4.1.2. Why the mission is required (purpose).
- 4.4.1.3. Who will execute the mission.
- 4.4.1.4. When the mission will begin.
- 4.4.1.5. Where the mission will occur.
- 4.4.1.6. How the mission will occur.

4.4.2. SOWT will staff COAs through the appropriate operations (A/S/J-3) and operations-plans (A/S/J-35) staff officers for approval. Once an ER COA is approved, SOWT will coordinate with the same staff officers to develop CONOPs for the execution of ER operations. CONOPs will be staffed through various levels of the theatre C2 architecture depending on the risk and sensitivity of the overall operation. SOWT attached to an operational team may develop ER COAs which do not require higher HQ staffing. In such cases, the team leader will approve an ER COA and execute the mission without formal staffing.

4.4.3. SOWT will develop and staff CONOPs that clearly and concisely express what the ER mission will accomplish and how it will be done using available resources. Once CONOPs are approved, the appropriate A/S/J-3 will issue a Fragmentary Order (FRAGO) that task subordinate units to answer CCIR through the execution of ER operations.

4.4.4. SOWT may determine ER requirements at the operational team level [Operations Detachment Alpha (ODA), Marine Special Operations Team (MSOT), MSOT, SEAL Team, coalition SOF team, etc.] as a supplement to an existing CONOP in support of their team's mission. During team mission CONOP development, SOWT should determine requirements for ER to mitigate the impact of the environment during the operation. SOWT will coordinate with their operational team leadership to be included in the CONOP's task organization (TASKORG). In addition, the SOWT will include his designated purpose. Upon approval of the CONOP and subsequent TASKORG, SOWT conduct ER operations to collect environmental intelligence that aids their operational team in accomplishing their mission.

4.5. Mission Execution. SOWT will conduct ER for CONOPs approved by a properly designated commander, tasked through FRAGO when appropriate, in accordance with established AF TTPs and unit SOPs.

4.6. Forms Adopted: AFSOC Form 84, Weather Facility Site Survey; AFSOC Form 85, Tactical Riverine Assessment; AFSOC Form 86, TERREP; and AFSOC Form 87, AFSOC Flight Weather Briefing.

PHILIP M. BREEDLOVE, Lt Gen, USAF
DCS, Operations, Plans and Requirements

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

JP 2-01.3, *Joint Intelligence Preparation of the Operational Environment*, 24 May 2000
JP 3-05, *Doctrine for Joint Special Operations*, 17 April 1998
AFPD 15-1, *Atmospheric and Space Environmental Support*, 8 January 2001
AFI 15-135 Vol 1, *Special Operations Weather Team Training*,
AFI 15-135 Vol 2, *Special Operations Weather Team Standardization and Evaluation*
AFI 15-128, *Air and Space Weather Operations – Roles and Responsibilities*, 26 July 2004
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Abbreviations and Acronyms

AAR— After Action Report
AFI— Air Force Instruction
AFMAN— Air Force Manual
AFPD— Air Force Policy Directive
AFRIMS— Air Force Records Information Management System
AFSs— Air Force Specialties
AFWA— Air Force Weather Agency
AOI's— Areas of Interest
AW— Austere Weather
C2— Command and Control
CCIR— Commander's critical information requirements
COA— Course of Action
COIN— counter-insurgency
CONOP— concept of operation
COP— Common Operating Picture
ER— Environmental Reconnaissance
FARRP— Forward Area Re-arm Refuel Points
FID— foreign internal defense
FRAGO— Fragmentary Order
HLZ— Helicopter Landing Zone

HQ— Headquarters

ISR— intelligence, surveillance, and reconnaissance

JIPOE— Joint Intelligence Preparation of the Operational Environment

JOPP— Joint Operational Planning Process

LL— Lesson Learned

MAJCOM— Major Command

MEF— Mission Execution Forecast

MEFP— Mission Execution Forecast Processes

METOC— Meteorological and Oceanographic

METT—TC - Mission, Enemy, Troops, Terrain and weather, Time available, and Civilian considerations

MSOT— Marine Special Operations Team

ODA— Operations Detachment Alpha

OP's— Observation points

OPLAN— Operations Plan

OPORD— Operations Order

OPR— Office of Primary Responsibility

RDS— Records Disposition Schedule

RFI— Request for Information

RPA— Remotely Piloted Aircraft

RTEREP— Route Report

SOF— Special Operations Forces

SOWT— Special Operations Weather Team

SR— Special Reconnaissance

SUAS— Small unmanned aerial systems

TACON— Tactical Control

TERREP— Tactical Environmental Reconnaissance Report

TTPs— Tactics, Techniques and Procedures

WMO— World Meteorological Organization