

BATTLEFIELD WEATHER EFFECTS

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PREFACE

This manual provides some of the more common critical weather (and environmental) effects data and applies that information to specific operations, systems, and personnel. Inclement weather degrades battlefield operations, affects weapons and other systems, and plays a major role in the effectiveness of troops in the field.

This data is intended to support the brigade and battalion S2 and staff. It is applicable to combat, combat service, and combat service support units and is intended for use by Active Component (AC), Reserve Components (RC), and Army National Guard (ARNG) units in both training and combat situations.

Use of these lookup tables and data is a three-step process. For additional information on how this is accomplished, see Appendix A. The three steps are--

- Using current weather observations and forecasted conditions, you look for weather extremes. That is, those conditions that will be too hot, too cold, too windy, too overcast, too wet, or too humid for normal operations.
- Turning to the lookup tables, you then identify specific operations, systems, and personnel that will be impacted.
- And finally, bringing any impacts and constraints you have identified to the attention of your commander and the rest of the staff.

The critical values presented here, together with current weather observations or future forecasts mentioned above, will provide you with the basic tools needed to perform these three steps. Data are presented in the form of simple lookup tables called weather tactical decision aids (WTDAs). These WTDAs are designed to point you toward your briefing of the commander and staff. Appendixes B through O are tailored toward specific types of units.

This manual does not make you an expert in all facets of weather and the total impact that inclement weather might have on an army in the field. Instead, it allows you to quickly understand the potential impact specific current and forecasted weather elements could have on your unit's plans today.

Not all weather and environmental data parameters impacting Army systems and operations are addressed. A listing of the weather and data parameters

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currently identified as impacting Army operations, systems, or personnel is at Appendix O.

If you determine that a weather element may have a severe or moderate impact on operations, systems, or personnel (friendly or threat), you alert the commander and staff to this potential impact. This allows your commander to--

- Request additional information.
- Modify his plans.
- Continue as originally planned, but aware of potential weather problems.

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This manual does not implement any International Standardization Agreements.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

INTRODUCTION

ACT 3, SCENE 2. Location: Second floor of 3d Army Headquarters Building, European Theater of Operations, Germany. Date: December 1944. Players: General George Patton and Army Chaplain Colonel James H. O'Neill. Patton speaks . . .

“Chaplain, write me a weather prayer.”

This prayer was subsequently issued, along with a Christmas card, to all 3d Army troops on December 22, 1944. In part, it read:

“Almighty and merciful Father . . . restrain these immoderate rains . . . grant us fair weather for battle . . .”

And, of course, as history has so well recorded, “December 23 dawned bright and sunny.” A miraculous 5-day break of clear weather followed, which permitted the Allied forces to take maximum advantage of their air superiority. This tremendously successful air support effort was one of the key factors that led to the German failure to attain its major objectives in the Battle of the Bulge.

Other historical accounts state that General Patton actually ordered his Chaplain to write this prayer in support of an earlier operation against the Siegfried Line. Nevertheless, it wasn't used until December 22, 1944.

This dramatic acknowledgment of the importance of weather on military operations is from the book Lucky Forward - The History of Patton's Third U.S. Army by Colonel Robert S. Allen (Vanguard Press, New York, 1947).

A half century later the same urgent concern about weather is reflected in FM 100-5 where weather is listed among the imperatives of battlefield operations. In addition, FM 100-5 states that weather and visibility conditions create advantages and disadvantages for combat forces. To fight effectively, commanders must acquire weather information about their entire areas of operations (AO) and areas of interest (AI).

As the S2, that is your job. Because we cannot count on a weather prayer to always supply this essential information to the commander, we need procedures that will provide accurate, timely, and tailored weather data to the commander.

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Since we cannot control the weather, the best alternative is to develop a thorough understanding of weather effects and their impact on friendly and threat military operations. Then we use this knowledge and information to our advantage.

Chapters 1, 2, and 3 provide background information on weather and its effects on Army systems and operations. Chapter 4 explains the use of the WTDAAs contained in Appendixes B through N.

CHAPTER 1

COMBAT ENVIRONMENT

Weather, terrain, and the time of day constitute the basic environmental setting for all military operations. These physical conditions affect operations, systems, and personnel and act as constraints on the combat options available to your commander. Part of your job is to alert your commander and the staff of the implications adverse weather may have on both friendly and threat tactics, techniques, and procedures (TTP).

WEATHER AND THE COMMANDER

FM 100-5 states that terrain and weather affect combat more than any other physical factors. Weather not only affects battlefield operations, weapons, and electronics systems but also affects the soldiers that make it all work. Commanders cannot control the weather, but they must be sensitive to the effects inclement weather has on their unit.

In your role as the brigade or battalion staff officer with primary responsibility for weather intelligence and planning, you may not be Patton's chaplain. But you have an even more important task than writing a weather prayer--that of keeping your commander informed of adverse weather problems. And in order to do this, you need to be familiar with weather terminology and the collection, forecasting, and reporting available to your command.

Separate and aviation brigades, armored cavalry regiments (ACRs), special forces groups (SFGs), and divisions and above have a United States Air Force (USAF) staff weather officer (SWO) and weather team (WETM). Their job is to collect, analyze, and advise the senior intelligence officer (SIO) of current and forecasted weather conditions which will affect operations.

At maneuver (and other) brigades and battalions, you have no SWO. It is therefore very important that you familiarize yourself with the observations, forecasts, and other services provided by SWOs and WETMs at higher echelons. You need a general working knowledge of meteorology and an understanding of this manual. The simple WTDA's presented here help you in putting several pieces of the weather puzzle together. They then aid you in translating weather information into a format understandable to your commander and staff.