



Photo courtesy of Command Arms Accessories

Terrain Appreciation

By Sid Heal

It is nearly impossible to overestimate the effect terrain has on tactical operations, and it has been well-understood throughout history. Some of the earliest references are attributed to Sun Tzu and his seminal work, *The Art of War*,¹ in which he describes how various types of terrain will affect movement across it. And it was certainly well-understood during the time of the ancient Roman armies when Flavius Vegetius Renatus wrote, “The nature of the ground is often of more consequence than courage.”² More than a thousand years later, Frederick the Great stated, “. . . terrain for the military man is the same as the chess board for the player who wants to deploy and move his pawns, knights and elephants in the most effective way.”³ It is no less significant today.

Terrain is rarely flat, nor devoid of buildings, trees and other features. Furthermore, terrain that is disadvantageous for one opponent can be favorable for the other. Thus, it goes without saying that any assessment must consider both perspectives. *Terrain appreciation* is the

Terrain appreciation is the process used to glean insight from how terrain will affect an operation.

process used to glean insight from how terrain will affect an operation. Because it is a process, it is never fully complete and when conditions change, especially with lighting and weather, earlier versions may be rendered obsolete. Consequently, these factors must be incorporated into the process, especially as to their anticipated effects on visibility and trafficability.

There is no standard procedure or methodology for terrain appreciation but there are some commonalities. For example, nearly everyone begins with some type of map reconnaissance. A *map reconnaissance* is simply an inspection of one or more maps of an area in question to gain a general perspective. This provides a commander a quick and

easy orientation of the major features and serves as a basis for the more detailed terrain analysis that follows.

Aerial photographs provide even more insight because they depict micro-terrain. *Micro-terrain* is terrain that is tactically significant because it will have an impact on an operation but is too small or insignificant to be depicted on a map. Examples of micro-terrain may include ditches and small hills, sheds and other small buildings, or even fences, trees and hedges. When micro-terrain is particularly important, diagrams and sketches will be required to augment commercial maps.

The reverse of micro-terrain is prominent terrain. *Prominent terrain* is any terrain feature that can be easily identified and is displayed on a map. Prominent terrain may include features such as large hills, road intersections, rivers, bridges and cultural landmarks such as churches or schools. Prominent terrain is most often used for orientation as to direction and distance.

A *terrain analysis* is the process by which critical terrain features are identified and evaluated for their impact on a tactical operation. It consists of five components:

- *Key terrain* is the terrain that offers a marked advantage for whoever controls it.
- *Observations and fields of fire* identify features that provide an ability to observe and/or may be covered by weapons.
- *Cover and concealment* identify features that protect from the effects of weapons or prevent observation.
- *Obstacles* are objects or terrain features that will impede or stop movement of some kind. It goes without saying that what may stop a vehicle may have little or no effect on pedestrian movement.
- *Avenues of approach and escape* are just routes to reach an objective or provide a means of escape.⁴

When possible, a reconnaissance of the terrain may be conducted. Sometimes called a “pre-battle walk-through” or “leader’s reconnaissance,” commanders attempt to personally walk over the terrain or at least view it from a safe vantage point.⁵ When time or circumstances prevent an actual walk-through, it is often done from the air, especially in helicopters. While not as effective, an ability to actually view the terrain is so valuable that when unable to personally conduct one, many commanders assign the mission to reconnaissance teams.

Understandably, certain regions warrant more attention than others. Generally, there are three operational regions that merit particular interest. The most important region is the *area of operations* (sometimes referred to as *operational area*) or that area where an operation is actually being conducted, or is planned on being conducted. The area of operations (AO) is the geographical area associated within a single command where the commander has the authority to plan and conduct operations. In large disaster responses, there may be more than one AO, especially if the scenes are not contiguous.

Another region that merits closer scrutiny, although not usually to the same extent as an AO, is the region wherein a commander may not be in control of an area, but has an ability to influence actions on it. Accordingly, this region is called an *area of influence* and it is the geographical region in which a commander may influence an operation, even indirectly. Unlike an area of operations, which is usually quite conspicu-

ous, an area of influence is always somewhat subjective because what can be controlled is far more distinctive than what and how much it may be influenced. An example might be during a flood or HazMat spill where the runoff is leaving a commander’s AO and entering into another jurisdiction. While the commander may not be able to directly affect the area of influence, there are many possibilities for indirectly influencing it, such as damming or diverting the runoff, diluting it, and so forth. Together, an area of operations and an area of influence may be referred to as the *zone of action* since this is where a commander is actively attempting to influence the outcome of an operation.

The third region is called an *area of interest*. Areas of interest are those geographical regions of concern to a commander, either because of the impact on current operations or those that are planned, but that are unable to be controlled. The most common reasons that areas of interest are unable to be controlled is either because of a lack of personnel and resources, or more commonly in law enforcement, because of a lack of authority. While a commander may not be able to directly influence the actions within this area, they nevertheless merit concern and consideration as to how, and to what degree, they may impact a successful outcome of an operation. A good example might be a raging fire burning in one jurisdiction but with an expanding and dangerous plume cloud drifting toward another. While the responsibility for putting out the fire remains with one jurisdiction, the consequences resulting from the plume cloud can not be ignored.

Terrain appreciation provides insight and understanding for planning and organizing tactical and disaster responses of all types. As with all assessments, however, how comprehensive it is often depends upon the time and resources available. Nevertheless, a commander who makes the effort will gain a substantial advantage over one that does not. ♦

Endnotes

1. Circa 500 B.C.
2. Flavius Vegetius Renatus, *The Military Institutions of the Romans*, circa AD 378. By the fourth century, Flavius Vegetius Renatus was a celebrated military writer.
3. Frederick the Great, *Testament Politique*, 1768.
4. For more information on terrain analysis, see “Terrain Analysis,” *The Tactical Edge*, Summer 2000, p. 73.
5. An historical sidelight is that during the American Civil War, Confederate General Thomas “Stonewall” Jackson was accidentally killed by his own troops while conducting a terrain reconnaissance just before the battle of Chancellorsville in 1863.

THIS IS NO TIME TO QUESTION DEPENDABILITY.



SPEEDFEED®



SPEEDFEED STOCKS ARE DESIGNED TO PERFORM UNDER PRESSURE AND
■ 4 SHELLS FOR QUICK LOADING. ■
DEPENDABLE ■ ANY SITUATION ■

(800) 433-2909 • speedfeedinc.com

ALL SETS CARRY A LIFETIME GUARANTEE.

MADE IN THE USA.

© Armor Holdings, Inc.