

Intelligence Preparation of the Battlespace



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Intelligence Preparation of the Battlespace

This pamphlet supports the academic curricula of the Marine Air Ground
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UNITED STATES MARINE CORPS
MSTP Center (C 54) MCCDC
3300 Russell Road
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FOREWORD

1. **PURPOSE.** MSTP Pamphlet 2-0.2, *Intelligence Preparation of the Battlespace*, is designed to assist the staff officer in understanding intelligence preparation of the battlespace (IPB), what IPB products are available, and when and how they are used during the Marine Corps Planning Process.
2. **SCOPE.** This pamphlet provides an overview of IPB and its role in planning, execution, and the targeting process. While the pamphlet is primarily focused at the Marine expeditionary force level, this information is applicable to the Marine Corps component and major subordinate commands.
3. **SUPERSESSSION.** None.
4. **CHANGES.** Recommendations for improvements to this pamphlet are encouraged from commands as well as from individuals. The attached User Suggestion Form can be reproduced and forwarded to:

Commanding General (C 54)
3300 Russell Road
Marine Corps Combat Development Command
Quantico, Virginia 22134-5001

Recommendations may also be submitted electronically to:
opso@mstp.quantico.usmc.mil

5. **CERTIFICATION.** Reviewed and approved this date.

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Throughout this pamphlet, masculine nouns and pronouns are used for the sake of simplicity. Except where otherwise noted, these nouns and pronouns apply to either sex.

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To: Commanding General, Marine Corps Combat Development
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Part I

Intelligence Preparation of the Battlespace

Intelligence preparation of the battlespace (IPB) is an analytical tool and process that is utilized to help understand the enemy, weather, terrain and other aspects of the environment, and the options and impact it presents to both friendly and threat forces. It is a systematic, continuous, and integrated process of analyzing the weather, terrain, and threat in a specific geographic area. IPB can be used for all types of operations. IPB integrates threat doctrine with the weather and terrain as they relate to the mission within a specific battlefield environment. This is done to determine and evaluate threat capabilities, vulnerabilities, and probable courses of action (COAs).

IPB products record and display graphically the results of the IPB process. They support staff estimates, planning and decisionmaking. IPB results can be incorporated into the intelligence estimate, but more importantly, IPB products can be easily and quickly visualized and absorbed by decisionmakers. The IPB process emphasizes providing intelligence in the form of graphics and images—formats that help the commander rapidly visualize, assimilate, and apply the intelligence in the decisionmaking process.

The IPB process and its products support the planning efforts of the commander, his staff, and the major subordinate commands. It helps the commander to selectively apply and maximize his combat power at critical points in time and space. IPB assists in the preparation of estimates, friendly COAs, and in the analysis and selection of friendly COAs. It helps friendly planning by providing predictive intelligence designed to help commanders understand the threat's probable intent and most likely future COA. The use of graphics to display intelligence increases the commander's ability to discern patterns as they are emerging and conduct recognitional or intuitive decisionmaking, thereby increasing operational tempo.

1001. Products

IPB products record and display graphically the results of the IPB process. Battlespace and weather evaluations help identify obstacles, mobility corridors, and avenues of approach; predict weather effects for numerous mobility options; and estimate sea conditions. IPB includes templating using a threat doctrinal assessment to show potential threat objectives and activities. See Appendix A for examples.

a. Modified Combined Obstacle Overlay

The modified combined obstacle overlay (MCOO) is a graphic of the battlespace's effects on military operations. It is normally based on a terrain overlay depicting all obstacles to mobility. The overlay is then modified to depict numerous additional factors. These factors can include cross-country mobility classifications, objectives, avenues of approach and mobility corridors, likely obstacles, defensible battlespace, likely engagement areas, key terrain, and built-up areas and civil infrastructure.

b. Threat Models

A threat model shows how the enemy prefers to conduct operations under ideal conditions. It is based on his normal or "doctrinal" organization, equipment, tactics, techniques, and procedures. Threat models result from a detailed study of the enemy. Threat models consist of three parts: doctrinal templates, a description of preferred tactics and options, and identification of high-value targets (HVTs).

c. Doctrinal Template

Doctrinal templates are diagrams of threat formations based on postulated threat doctrine and tactics and illustrate the disposition and activity of threat forces conducting a particular operation arrayed on ideal terrain. They depict the enemy's nominal organization, frontages, depths, boundaries, and control measures for combat. Doctrinal templates are usually scaled for use with a map background.

d. Description of Tactics and Options

The description of the threat's preferred tactics addresses the operations of the major units or elements portrayed on the doctrinal template and the

activities of different warfighting functions. It also contains a listing or description of the options available to the threat should the COA fail or succeed.

Even when the threat's preferred tactics can be depicted graphically in a doctrinal template, a complete threat model should include a textual description. This allows the doctrinal template to become more than a "snapshot in time" of the operation being depicted. It aids in mentally wargaming the operation over its duration during the development of threat COAs and situation templates. The description should address typical timelines and phases of the operation, points where units transition from one formation to another, decision criteria (if known) and how each warfighting function contributes to the operation's success. This analysis of the roles of warfighting functions, related in time and space, will aid in the later identification of HVTs and high-payoff targets (HPTs).

e. High-Value Targets and High-Payoff Targets

HVTs are assets that the threat commander requires for the successful completion of the mission. HVTs can include command and control nodes, types of equipment, airfields and refueling points, critical lines of communications such as ports or airfields, ammunition storage sites or distribution points, or regimental or division artillery groups. HPTs are those targets that must be successfully acquired and attacked to accomplish the friendly unit mission. Both sets of targets provide focus and set priorities for intelligence collection and attack planning. Only those targets identified during the targeting process as HPTs are placed on the target list.

f. Situation Template

A situation template is a doctrinal template modified through analysis to depict threat dispositions based on the effects of the battlespace, and the pursuit of a particular COA. This accounts for the threat's current situation with respect to the terrain, training and experience levels, logistic status, losses, and dispositions. Normally, the situation template depicts enemy units two levels down and critical points in the COA. The IPB process may develop more than one situation template to depict locations and formations at various times. At a minimum, a situation template is produced for the most likely and the most dangerous enemy COAs. If time permits, separate situation templates can be developed for each potential enemy COA.

g. Event Template and Matrix

The event template is derived from the situation template and depicts the named areas of interest (NAIs), which are areas where activity (or lack of activity) will indicate which COA the threat has adopted. Time phase lines indicate movement of forces and the expected flow of the operation and are also indicated on this template. The event template is a guide for intelligence collection planning. The event matrix depicts types of activity expected in each NAI, when the NAI is expected to be active, and any additional information to aid in collection planning. Like the situation template, an event template and matrix is developed for the most likely and most dangerous enemy COAs, with other COAs developed as required.

h. Decision Support Template and Matrix

The decision support template (DST) is normally developed during COA wargaming. It is derived from the doctrinal, situational, and event template. The DST depicts decision points (DPs), time phase lines associated with movement of threat and friendly forces, the flow of the operation, and other information required to execute a specific friendly COA. It is a key planning tool for use during transition and execution. The decision support matrix (DSM) provides a recap of expected events, DPs, and planned friendly actions in a narrative form. Together, these two tools show where and when a decision must be taken if a specific action is to take place. They tie DPs to NAIs, targeted areas of interest (TAIs), commander's critical information requirements (CCIRs), collection assets, and potential friendly response options. The DST and DSM may be refined as planning progresses after the war game.

i. Enemy Centers of Gravity

MCDP 1, *Warfighting*, defines centers of gravity (COGs) as any important source of strength. These may be mental, moral, or physical strength, power, or will. COGs may exist at each level of war: strategic, operational, and tactical. COGs may be tangible or intangible. COG analysis examines such aspects of threat strength as leadership, command and control capabilities, fielded forces, resources, infrastructure, population, and logistical and transportation systems to determine from which elements the threat derives freedom of action, combat power, or the will to fight. COGs are truly critical to the adversary strategy and should influence and affect threat strategy and potential COAs. There may be multiple COGs. At the

tactical level, the enemy's COG is normally an enemy unit. At the operational level, an enemy COG may also be a threat capability such as the ability to mass fires or conduct resupply. Once identified, COGs constitute a significant step in the development of plans, orders, and targets.

j. Critical Vulnerabilities

A critical vulnerability (CV) is something that the enemy needs to function effectively and is, or can be made, vulnerable to attack. CVs provide an aiming point for the application of friendly strengths against threat weaknesses. They are identified through a detailed COG analysis conducted by the entire staff to identify or refine threat COGs and to determine which threat weaknesses are CVs. Once identified, CVs assist the commander in choosing where, when, and what will constitute decisive action. By attacking CVs, the commander increases the potential that the attack may in fact be the decisive action.

The identification of COGs and CVs begins in the commander's battlespace area evaluation. It provides direction for the staff and drives the intelligence and fires planning efforts to locate and attack the enemy HPTs.

1002. Production Responsibilities

The focus of national and theater IPB is on products that support strategic and operational-level planning and execution. Additional analysis and production is usually required to refine the IPB products developed by the following commands to provide the degree of detail needed at the tactical level.

a. Joint Staff J-2 and the Defense Intelligence Agency

The Joint Staff J-2 is the focal point for tasking the production of national-level IPB products in support of current and planned joint operations. The Joint Staff J-2 is also responsible for facilitating requests for IPB products from the national and theater-level decisionmakers. The Request for Information (RFI) desk in the J-2 National Military Joint Intelligence Center receives and validates all IPB related RFIs submitted and tasks national-level organizations for collection or production. Additionally, the Defense Intelligence Agency initiates and produces IPB products consistent with its areas of responsibility.

b. National Imagery and Mapping Agency

The National Imagery and Mapping Agency (NIMA) brings together in a single organization the imagery tasking, production, exploitation, and dissemination responsibilities and the mapping, charting, and geodetic functions of eight previously separate organizations of the defense and intelligence communities. It is responsible for providing timely, relevant, and accurate imagery, imagery intelligence, and geospatial information to Department of Defense and other government agencies. In addition to standard topographic and aeronautical maps of various scales, NIMA produces specialized maps, overlays, automated databases and software to aid in map-based evaluations. The tactical terrain analysis database consists of selected digital terrain information that can be manipulated, analyzed, and integrated with imagery products. Specialized NIMA products address such factors as:

- Cross-country mobility.
- Transportation systems (road and bridge information).
- Vegetation type and distribution.
- Surface drainage and configuration.
- Surface materials (soils).
- Ground water.
- Obstacles.

c. Theater Joint Intelligence Center

Each theater Joint Intelligence Center (JIC) is responsible for managing requirements and producing IPB products for its combatant commander and subordinate commanders during joint operation planning and ongoing operations. It is the focal point for planning and coordinating the overall IPB effort within the theater. The JIC integrates the joint force's IPB products to form a complete and detailed picture of an adversary's capabilities, vulnerabilities, and potential COAs.

The JIC ensures that its IPB analysis and production effort is coordinated and integrated with subordinate commands and organizations external to the theater. The JIC identifies information gaps in existing intelligence databases and formulates collection requirements and RFIs to address these shortfalls. The JIC may be requested to support another combatant commander's intelligence requirements.

d. Joint Force J-2

The joint force J-2 has primary staff responsibility for planning, coordinating, and conducting the overall IPB analysis and production effort at the joint force level. The J-2 uses the joint IPB process to respond to the commander's CCIRs and focus the intelligence effort (collection, processing, production, and dissemination) on intelligence questions crucial to joint force planning. To enhance the joint force's common view of the battlespace, the J-2 ensures that component command IPB products are disseminated to all components.

The J-2 is also responsible for incorporating the intelligence capabilities of supporting national agencies and joint commands into the IPB process, particularly in the areas of geospatial information and services (GI&S), meteorological and oceanographic (METOC), and strategic targeting. Additionally, the J-2 disseminates IPB products in time to support planning by other joint force staff sections and component command staffs, and ensures such products are continuously updated.

While the J-2 has impressive capabilities, it must be remembered that its products are intended primarily to support planning and execution at the operational level. Significant analysis and production effort is normally required to refine these products before they can be used at the tactical level.

e. Joint Intelligence Support Element

The joint intelligence support element (JISE) is a tailored subset of the theater JIC, functioning within the J-2 organization. It provides intelligence support to the joint force and subordinate commands. The JISE is tailored to fit the operating environment and can expand to meet the needs of the J-2. The JISE is the focal point for planning, coordinating, and conducting joint IPB analysis and production at the subordinate joint force level.

The responsibilities of the JISE include complete air, space, ground, and maritime order of battle analysis; identification of adversary COGs; analysis of command, control, communications, and computers; targeting support; collection management; and maintenance of a 24-hour watch. The JISE conducts its joint IPB analysis together with all other appropriate joint force and component command staff elements, particularly the GI&S and METOC staff officers. The JISE, with assistance from the GI&S and METOC staffs, identifies gaps in existing intelligence databases and

initiates collection requirements and RFIs. Additionally, the JISE should draw on the expertise of the J-4 in analyzing specific factors that would affect both friendly and adversary lines of supply, reinforcement, and inter- and intra-theater lines of communications.

f. Marine Corps Component

The Marine Corps component does not normally have the intelligence resources to conduct IPB analysis itself. Instead, it assists the MAGTF and other assigned or attached commands by conducting the detailed intelligence planning necessary to support Marine IPB efforts. The MAGTF will likely have tactical intelligence requirements for significant IPB analysis and products that are beyond its organic capabilities. The Marine Corps component consolidates its and the MAGTF's IPB requirements. It then ensures that these needs are addressed in a timely fashion by the joint force J-2 and other component commands that have overlapping IPB responsibilities.

1003. Primary Users

a. The Commander

The commander must be involved in the IPB process. The intelligence officer is the primary facilitator of the IPB process but he does not have sole responsibility for IPB. The commander must ensure that IPB is conducted in accordance with his intent, guidance, and intelligence priorities. He has to clearly articulate his information requirements to ensure that the IPB process will successfully support mission planning and execution. The commander uses IPB products from the start of the Marine Corps Planning Process (MCP) and throughout the execution of the operation.

b. Operational Planning Team

An operational planning team (OPT) may be formed to conduct integrated planning. It conducts mission analysis, develop and war game COAs, and may assist the staff to prepare and transition the order. The OPT is normally built around a core of planners from future plans or future operations and may include the future plans or future operations officer, assistant plans or future operations officer, future plans or operations chief, and a clerk/plotter. It integrates additional staff representatives (e.g., G-1, G-2, G-3, G-4, G-5, G-6, staff judge advocate, provost marshal, health services, and

public affairs) as appropriate to the mission. Warfighting function representatives, liaison officers, and subject-matter experts necessary to support planning may augment the OPT.

IPB supports the OPT's planning effort by recording and displaying critical planning information about the battlespace and the enemy. IPB assists the OPT in building situational awareness, facilitating orders development, and increasing tempo.

c. Red Cell

A Red Cell assists the commander in assessing his COAs against a thinking enemy. It identifies a full range of enemy COAs and portrays a doctrinally correct enemy during wargaming. A Red Cell can range in size from the intelligence officer to a task-organized group of subject matter experts. Using IPB products, the Red Cell refines the threat COAs that will be used during COA wargaming and develops planning support tools such as the synchronization matrix. The Red Cell may also participate in the analysis of enemy COGs. In addition to using IPB products, the Red Cell provides the OPT with additional detailed IPB analysis on the enemy, tailored to the planning needs of the OPT.

d. Fire Support Planners

The IPB process provides fire support planners with a framework for deciding where and when to employ limited fires resources to achieve decisive results. Given a selected COA and the input generated by the IPB process, target priorities can be developed. The target value analysis process identifies potential HVTs associated with critical enemy functions that could interfere with the friendly COA or that are key to enemy success. The target priorities are used by both fire support and intelligence systems in their target attack and collection plans. This process draws on IPB products and other sources; the ultimate products are the HPT list, the attack guidance matrix, and TAIs.

1004. The Marine Corps Planning Process

The MCPP provides the commander and his staff with the means to organize their planning activities and transmit the plan to subordinate

commanders. The MCPP focuses on the mission and the threat. It establishes procedures for analyzing a mission, developing COAs, and then analyzing COAs against the threat. IPB is vital to this process; it provides the analysis of the threat necessary for the thorough conduct of planning. The MCPP organizes the planning process into six manageable, logical steps (see Figure 1-1). It establishes procedures for analyzing a mission, developing and wargaming COAs against the threat, comparing friendly COAs against the commander's criteria and each other, selecting a COA, and preparing an operation order for execution. It provides the commander and his staff a means to organize their planning activities and transmit the plan to subordinates and subordinate commands. IPB in turn enables planners to view the battlespace in terms of the threat and the environment. It helps the planners determine how the enemy will react to proposed friendly COAs, determine the purpose of enemy actions and probable COAs, as well as what friendly operations the terrain and infrastructure will allow. IPB analysis and products are indispensable and they support decisionmaking throughout each step of the MCPP

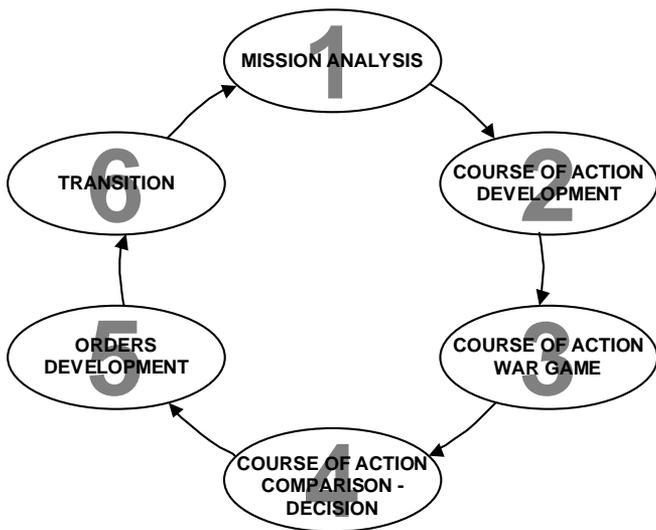


Figure 1-1. The Marine Corps Planning Process.

Part II

Mission Analysis

Mission analysis is the first step in planning, and it drives the MCPP. Its purpose is to review and analyze orders, guidance, and other information provided by higher headquarters and to produce a unit mission statement. During mission analysis, the IPB process is initiated and products are prepared that lay the foundation for continued planning.

2001. Center of Gravity Analysis

The staff conducts a detailed COG analysis based on the commander's guidance, threat doctrine, MCOO, and IPB templates to identify or refine threat and friendly COGs and to determine which friendly and threat weaknesses are CVs. The commander directs the strength of his force at those capabilities that are critical to the enemy commander's ability to function—to defend, attack, sustain, or command his forces.

2002. Convene the Red Cell

The Red Cell is formed during mission analysis. The G-2 briefs the Red Cell on the current enemy situation and provides it with the latest IPB products, to include the MCOO, and the doctrine, situation, and event templates. The Red Cell reviews and analyzes enemy doctrine as modified by the current intelligence picture. This information is used to focus the Red Cell's efforts on the enemy COG(s) and associated CVs for each enemy COA. The purpose is to validate or revise the G-2's analysis of the enemy COG(s) and CVs.

2003. Begin Development of Staff Estimates

The staff begins to gather information that will be refined throughout the MCPP and eventually become staff estimates. At this stage, a staff estimate

is a logical and orderly examination of all the factors affecting mission accomplishment. Elements of the MCOO and supporting analysis are incorporated into the “Characteristics of the Area of Operations” sections of the commander’s estimate, and the intelligence estimate. The logistics/combat support estimate includes IPB data likely to affect the logistics/combat service support situation, such as weather, terrain, hydrography, communication routes, and local resources. Factors affecting command, control, and communications (weather, terrain, transportation networks/communications routes, etc.) are included in the command, control, and communications estimate.

2004. Refine Area of Interest

The commander refines the area of interest to save time and effort by focusing only on those areas of concern. The area of interest should be drawn to include any characteristics of the battlefield, including threat units, which can affect the command within a given time period. The threat’s ability to project power, provide logistic support, move forces into or through the area of operation, or conduct intelligence operations against friendly forces should be considered. Doctrinal templates, along with basic order of battle information on the threat will show the limits of the threat to project power or move forces into the area of operations. The MCOO will provide information on the geography, key terrain, and the impact of the environment that may influence friendly or threat COAs. It will also depict potential avenues of approach. As additional information is collected during planning and doctrinal templates and MCOOs are updated, the area of interest may be adjusted to reflect the current threat analysis.

2005. Determine Commander’s Critical Information Requirements

CCIRs identify information on the friendly and enemy activities and environment that the commander deems as critical to maintaining situational awareness, planning future activities, and assisting in timely and informed decisionmaking. IPB products provide the information necessary to form a focused CCIR. CCIRs on the environment or avenues of approach can be based on analysis of the MCOO. Doctrinal templates can highlight

concerns over enemy capabilities and doctrine. Situation templates will provide projected locations for HPTs and HVTs and thus limit the geographic scope of threat CCIRs. Event templates contain an analysis of the threat movement rates and depict where intelligence resources should be focused to confirm or refute the location of HPTs and HVTs, as well as the selection of a COA by the enemy.

2006. Identify Requests for Information

RFIs are specific, time-sensitive ad hoc requirements for information or products. RFIs are generated to answer questions such as CCIRs that cannot be resolved with organic assets, and when the information does not exist within internal databases. CCIRs are used to determine the importance of each RFI—those RFIs directly tied to CCIRs are normally assigned the higher priority. RFIs tend to be more tightly focused in time and space than CCIRs, but they use the same IPB products that are used to generate CCIRs.

2007. Present the Mission Analysis Brief

At the conclusion of the mission analysis step of the MCPP, the OPT presents the commander with the results of their work. The mission analysis brief may be as simple as a proposed mission statement or may include the following products derived from IPB analysis. Upon approval by the commander, these become outputs that are vital inputs to subsequent steps in the MCPP—

- Area of interest.
- Intelligence estimate and refined IPB products (terrain analysis, weather analysis, threat integration [possible COAs]).
- Other initial staff estimates.
- COG analysis (friendly and enemy).
- Requests for information.
- Recommended CCIRs.

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Part III

Course of Action Development

During COA development, planners use the mission statement, commander's intent, and commander's planning guidance to develop COAs. The planners use IPB products to guide planning and ensure that the COAs are focused on enemy capabilities.

3001. Review Intelligence Preparation of the Battlespace Products

COA development begins with a review by the entire OPT of the existing IPB products. As necessary, planners with special expertise may contribute their individual analysis and modify the IPB products accordingly. This process allows the OPT to focus on the battlespace in terms of the environment and the threat. It helps the planners determine how the enemy will react to proposed friendly COAs, determine the purpose of enemy actions and probable COAs, as well as what friendly operations the terrain and infrastructure will allow. It is critical that planners use IPB to answer the two fundamental questions—the what and the how—that will be posed in COA development.

3002. Assess Relative Combat Power

Relative combat power assessment provides planners with an understanding of friendly and threat force strengths and weaknesses relative to each other. While force ratios are important, the numerical comparison of personnel and major end items is just one indicator that must be balanced with other factors, such as weather, morale, level of training, and cultural orientation. The goal of relative combat power assessment is to identify those threat weaknesses that can be exploited through asymmetric application of friendly strengths. Conversely, the commander seeks to protect friendly weaknesses from threat actions. The impact of terrain and weather as

depicted in the MCOO must be incorporated into the assessment. Factors such as off-road mobility, quality of lines of communications, size and location of avenues of approach, and night-vision capability may influence the results of the assessment. Doctrinal and situation templates may show the superior quality of friendly capabilities, or demonstrate vulnerabilities. Event templates will assist in the comparison of mobility factors.

3003. Refine the Center of Gravity Analysis

The commander and the staff refine the COG analysis begun during mission analysis. The COG analysis conducted during COA development is based on updated intelligence and other IPB products from the G-2, initial staff estimates, and input from the Red Cell. Of particular concern is the identification of CVs associated with each COG. The refined COGs and CVs are used in the development of the initial COAs as a focus of friendly combat power.

3004. Develop Initial Courses of Action and Targeted Areas of Interest

Using the commander's planning guidance, as well as updated IPB products, the relative combat power assessment, and COG analysis, planners begin developing possible ways the friendly force can accomplish the mission. His planning guidance may include the designated enemy COA against which the plan should be developed. The MCOO shows the geographic areas in which the friendly force can operate unhindered. It can also identify those areas where friendly operations might not be expected due to terrain restrictions. The situation and event templates depict enemy COAs that can be countered or exploited through friendly deception.

In addition to the COAs, TAIs can be developed. TAIs are based on the COG/CV analysis for the "what" and rely on the event template to show "where" and "when" a target can be struck. TAIs are usually avenues of approach or mobility corridors. Unlike the NAI, which is designated for watching enemy activity, the TAI is an area in which enemy activity will be interdicted or disrupted and cause him to abandon a particular COA. A TAI may be an engagement area where the interdiction of an enemy force by fire, maneuver, or jamming will reduce or deprive it of some capability.

3005. Prepare the Course of Action Briefing

Developed COAs, along with updated facts and analysis are briefed to the commander at the conclusion of COA development. Each COA is briefed separately and is sufficiently developed to withstand the scrutiny of COA wargaming. Although the COA brief is tailored to the needs of the commander and the amount of time available, the COA briefing will usually include the following IPB products—

- Updated intelligence estimate (terrain and weather analysis (MCOO), threat evaluation).
- Possible enemy COAs. At a minimum it will include the enemy COA the commander decided to plan against during COA development.

3006. Commander's Wargaming Guidance

Although IPB products are not directly used in the development of the commander's wargaming guidance, they are referred to and used as benchmarks during wargaming. Specific enemy COAs may be discussed for wargaming, as well as time-phasing contained in event templates. Evaluation criteria may include exploitation of enemy weaknesses/friendly strengths identified in the situation and event templates, defeat of the threat COGs through exploitation of CVs, degree of asymmetrical operations based on analysis of doctrine and capabilities, and the opportunity for maneuver derived from the MCOO.

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Part IV

Course of Action War Game

COA wargaming involves a detailed assessment of each COA as it pertains to the enemy and the battlespace. Each friendly COA is wargamed against selected threat COAs. COA wargaming assists planners in identifying strengths and weaknesses, associated risks, and asset shortfalls for each friendly COA. COA wargaming also identifies branches and potential sequels that may require additional planning.

4001. Pre-Start Presentations

Threat COA models drive the wargaming of potential friendly COAs. They help the command build DSTs and other synchronization tools for use during mission execution. Prior to execution of the first moves and countermoves, the G-2 and the Red Cell should brief the OPT on the results of their analysis of the enemy COA. Much of the information should have been informally presented to the OPT prior to this point. However, it is useful to formally present a synopsis of the enemy force posture, mission, intent, and a brief description of the enemy COA.

The presentation should address the doctrinal actions the enemy would take before starting operations. These actions could include the establishment of logistics sites, reconnaissance screen, assembly areas, and obstacle belts. The presentation should include the facts and assumptions that help to shape the threat COAs. It should address activities occurring to the flanks of the command and other factors beyond the command's control, as well as assumptions about the threat (strength, rates of march) that generated the COA models and situation templates. The enemy doctrinal, situation, and event templates should be presented and made available throughout the war game. Various IPB briefing aids can be used during the war game—maps, terrain models, automated displays, or a combination of all—to emphasize specific branches of the threat COA.

4002. Conduct of the War Game

Based on the commander's guidance, the OPT will war game friendly COAs against selected enemy COAs (usually the most likely and most dangerous COAs). The start position for threat units should be based on the most current intelligence reports and the event templates for the particular COA as developed by the Red Cell.

During the action-reaction-counteraction drills, the Red Cell describes the location and activities of threat HVTs, emphasizing where and when these assets are of most importance to the threat's COA. This may prompt the staff to nominate certain HVTs as HPTs, making their engagement an integral part of the friendly COA under consideration. The timing of threat actions or triggers for movement may change as a result of the analysis conducted during the war game. The G-2 or designated recorder will update the situation and event templates associated with the threat COA.

The OPT will identify critical events and DPs that directly influence mission accomplishment. Each time the staff identifies a DP, the recorder should make the appropriate entries in the war game recording tools, such as the DST. DPs should be listed for each threat COA wargamed against each friendly COA. The DPs relate to identified critical events and are linked to NAIs, TAIs, and HPTs. The NAIs will eventually be used to build the intelligence collection plan.

4003. Intelligence Collection Plan

IPB identifies possible enemy COAs based on doctrine and observed patterns of behavior. The intelligence collection plan focuses on specific areas and activities, which, when observed, will reveal which COAs the threat has chosen. The process starts with the designation by the commander of his information requirements (CCIRs). CCIRs provide general guidance for the intelligence collection effort (what and why).

More specific guidance is contained in the event template. It is the guide for intelligence collection and reconnaissance and surveillance planning. The NAIs and time phase lines of an event template depict where to collect the information that will indicate which COA the threat has adopted.

An NAI can be a specific point, a route, or an area. They can match obvious natural terrain features, or arbitrary features such as time phase lines or engagement areas. During the COA war game, places where activity must occur if a particular threat COA is adopted are identified and designated as NAIs. The war game will also identify places where HPTs are located or will enter areas where they can be easily acquired and engaged. These areas will evolve into NAIs in support of targeting. NAIs could also include places the threat will most likely take certain actions or make certain decisions, such as the adoption of a branch plan or execution of a counterattack. NAIs are usually recommended by the G-2 during development of the threat COA, but can be submitted by any member of the OPT for an information requirement identified during the war game. NAIs and/or TAIs often support designated DPs that are linked to the commander's CCIR. Additional NAIs are developed from potential NAIs identified on the situation templates and the results of decisions made during wargaming of friendly COAs. An NAI provides "when" and "where" for the intelligence planner.

Additional analysis of the information required is necessary before the intelligence plan is completed. Each threat COA and its NAIs should be analyzed to determine specific activities. The activities that will confirm the COA selected by the threat are called indicators. The indicators are described in as much detail as possible and tell the collector exactly what activity to watch for and to report. The final step in the development of the intelligence collection plan is the assignment of collection assets to detect and report indicators. This can be done as part of the war game, where the capability of the command to support the intelligence requirements of the COA can be examined and shortfalls identified.

4004. War Game Brief

The COA war game brief presents the commander with the results of the staff's evaluation and wargaming. The G-2 or Red Cell should be prepared to brief the enemy COAs and defend the data produced during the war game. The brief includes the advantages and disadvantages of each COA, and suggested modifications. It may also include refined enemy COA situation templates, an updated MCOO, and detailed enemy COAs with branches that were identified during the war game.

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Part V

Post-War Game

Refined IPB products are generated by the war game process and used to support execution of the selected COA and continued planning for future operations.

5001. Post-War Game Products

The OPT entered the war game with a “rough” event template and must complete the war game with a “refined”, better, and more accurate event template. The event template with its NAIs and time phase lines will help the G-2 focus the intelligence collection effort. An event matrix can be used as a “script” for the intelligence representative in the OPT during the war game. It can also demonstrate if the command is relying too much on one or two collection platforms and if the friendly COA has overextended these assets.

The draft DST and DSM are also produced by the COA war game. The commander may identify critical events and potential DPs early in the planning process, perhaps as he articulates his commander’s battlespace orientation. Normally, DPs and TAIs should be on the draft DST as developed in the war game. Of course, as more information about friendly and enemy forces becomes available, the DST and DSM may change.

After a detailed analysis of the friendly COAs, the commander is now ready to compare those friendly COAs against each other and decide which is the best. The commander identifies that COA which has the highest probability of success against the enemy’s most likely/most dangerous COA (as based on the commander’s evaluation criteria). This COA is used to prepare the concept of operations that in turn forms the basis for orders development. During orders development, informal IPB products are incorporated into formal planning documents such as annexes to an operation order and used to support execution.

5002. Continued Planning

a. Current Operations

Current operations will assess ongoing shaping actions and the progress toward the commander's decisive action; monitor the status of forces and materiel, monitor rear area operations and coordinate terrain management; maintain essential maps and information; and provide future operations with situational awareness based on existing IPB products. When an unforeseen enemy action begins to develop, current operations will refine already existing branch plans or develop a branch plan using newly revised IPB products. New enemy COAs and templates will be produced to support the new situation. Current operations may develop new friendly COAs, allocate resources, and prepare fragmentary orders to modify the current order based on the revised IPB.

b. Future Operations

Future operations interacts with intelligence collection and the targeting process to shape the next battle and will continue planning activities during execution of the current plan. Regardless of whether an OPT is formed or not, future operations will coordinate with future plans and current operations to integrate planning for the next battle. Using newly generated IPB products, future operations will focus on changes to the MAGTF or major subordinate command missions; develop branch plans and sequels; and recommend potential CCIRs.

c. Future Plans

Future plans focuses beyond the immediate next battle or next phase that is being planned or executed and provides the link between higher headquarters and future operations. Future plans plans the command's next mission. Upon receipt of a mission from higher headquarters, future plans restarts the MAGTF's planning process. Future plans will require IPB analysis and products to support the new mission and new geographic area of interest. Depending on the situation, future plans may focus on a phase of a campaign, develop reconstitution requirements, or plan redeployment. Future plans may also require IPB support to develop sequels, support relationships for the next phase, and plans to ensure that the force does not reach a culminating point.

Part VI

IPB and the Targeting Process

The IPB process supports the four phases of the targeting process—decide, detect, deliver, and assess—by determining what targets should be attacked and identifying where they can be found. It is a starting point for, and integral to, the targeting process.

6001. Decide

IPB assists in developing targeting objectives and guidance by identifying significant threat military, economic, and political systems that are of importance to the MAGTF. The IPB process evaluates a threat's capabilities, vulnerabilities, doctrinal principles, and preferred tactics, techniques, and procedures. It is from the threat doctrine, training practices, and observed patterns and activities that accurate doctrinal templates are constructed. Doctrinal templates then aid in the initial identification of the threat's COGs, CVs, and HVTs.

During the construction of situation templates, HVTs are identified for a specific battlespace and COA. Concurrent with development of the situation template, the threat commander's decision cycle and points associated with each potential COA are examined and key assets become apparent. Those key assets are the HVTs associated with that particular COA or phase of a COA. During mission analysis, the staff prioritizes the HVTs and incorporates them into their planning considerations.

IPB uses three criteria to analyze potential targets:

- Importance to the threat's abilities to conduct operations.
- Importance to our ability to achieve a mission or objective.
- Importance as a measure of significance to the threat's capabilities.

HPTs are those targets that must be successfully attacked to accomplish the friendly unit mission. The staff validates the HVTs during the war game process. The HVTs are kept, modified, or replaced by other targets the staff identifies. The final products are prioritized and time-phased HPTs that are compiled into a prioritized list of HPTs that are to be acquired and attacked on order for the mission to succeed. This list of HPTs provides the overall focus and sets priorities for intelligence collection and attack planning. Considerations in the determination and prioritization of HPTs are—

- The sequence or order of appearance of the target.
- The ability to detect, identify, classify, locate, and attack the target.
- The degree of accuracy available from the acquisition systems.
- The ability to engage the target.
- The ability to suppress, neutralize, or destroy the target on the basis of attack guidance.

The decision of what attack system to use is made at the same time as the decision on when to acquire and attack the target. Coordination is required when deciding to attack with two different means (such as electronic attack and direct attack). Coordination requirements are recorded during the war game. The decision, recommended by the targeting team and captured in the attack guidance matrix, will then receive commander's approval. This guidance should include the following:

- A prioritized list of HPTs.
- When, how, and desired effects of attack.
- Any special instructions.
- Battle damage assessment (BDA) requirements and priorities.
- Target categories.
- Timing of attack.
- How targets are attacked.
- Restrictions.

Once the commander has approved a target, the G-2/S-2 should develop target/objective studies to support mission planning. Target and objective studies are focused, detailed intelligence products that aid in the application of fires or the maneuver of forces against a specific target set or area. Smaller MAGTFs and subordinate units can also use these studies for mission preparation and execution. They are graphically oriented and may

use many of the graphics derived during the IPB process. One such product is a target folder, which may contain the following information depending on the specific mission:

- Orientation graphic.
- Time-distance graphic.
- Weather forecast.
- Hydrographic forecast and astronomical data.
- Intelligence briefing notes for mission.
- Graphic intelligence summary.

The target list is refined throughout COA analysis, the war game, and COA comparison by the G-2/S-2, G-3/S-3, and the fire support coordinator. The target list represents targets that will best achieve or contribute to the commander's objectives. All targets placed on a target list resulting from the target development process are HPTs. The target list leads to the targeting conference. The result of the targeting conference sets the stage for the three remaining phases of the targeting process.

6002. Detect

During the detect phase, targets selected in the decide phase are acquired for attack. The G-2/S-2 has the responsibility for detection and tracking of each target selected for the command target list. The situation template depicts all confirmed threat locations to include those identified as targets in the IPB process. Targets that are unlocated will be doctrinally templated until their location is confirmed. The G-2/S-2 and staff create the event template and DST to depict predicted and current threat locations (templated or actual).

The locations where targets are anticipated are designated as NAIs on the DST. Situation, event, and DSTs help to identify NAIs. Once identified, NAIs can then be used to confirm or deny a threats activities or adoption of a particular COA. Additionally, threat DPs or decision phase lines, TAIs, and HPTs are identified. NAIs are used by the intelligence collection manager to focus on acquiring previously unlocated threat assets and confirm the location of previously acquired targets within the battlespace. The current intelligence map will display the locations of threat units and targets developed through intelligence collection and analysis.

The DST and synchronization matrix are management tools used to determine how the HPTs can be acquired and attacked. They allow war game participants to record their assessment of sensor systems and attack systems to acquire and attack HPTs at a critical event or phase of the battle. If the war game indicates that timeliness is critical, the intelligence collection manager plans and coordinates for the direct dissemination of targeting data from the collection asset to the fire support coordination center or even the attack asset to shorten the reaction time between acquisition and attack. The data should be passed simultaneously to the G-2/S-2 for additional analysis to confirm or change previous IPB products.

6003. Deliver

The third phase in the target process is the delivery of lethal and non-lethal fires to the target. Based on the G-2/S-2's knowledge of the target, a determination of the desired effect (divert, limit, disrupt, delay, damage, or destroy) and available weapons systems will determine the appropriate attack system identified during the decide phase.

During the war game, DPs were developed and linked to events, areas (NAIs and TAIs), or points on the battlefield. These DPs cue the command decisions and staff actions where and when tactical decisions are needed. When a DP is triggered that involves the attack of a designated target, the fire support coordinator, using the attack guidance matrix and the current situation, determines if the desired effect can still be achieved by the plan developed in the decide phase. If it cannot, he selects the appropriate friendly attack system to be employed. The fire support coordinator synchronizes and determines the time on target, the desired effect, and the attack system to support the commander's guidance and friendly COA.

6004. Assess

The key element of the assess phase from the perspective of IPB is BDA. BDA is the timely and accurate estimate of damage resulting from the application of military force, either lethal or non-lethal, against an objective or target. Producing BDA is primarily an intelligence responsibility, but requires extensive coordination with operations to be effective. During the

staff planning process the commander and intelligence officer identify, develop, and prioritize BDA requirements just like any other intelligence collection requirement.

BDA provides a series of timely and accurate “snapshots” of the effect operations are having on the threat. BDA helps commanders determine when or if their targeting effort is accomplishing their goals and objectives and provides commanders the information they need to quickly allocate or redirect forces to make the best use of available resources and combat power. The results of collection for BDA are also incorporated into the IPB process for continued analysis of the threat. The BDA can give the information needed to determine the next threat COA. An example is a threat that has suffered extreme casualties and forced to withdraw to the next defensible terrain. From this information the G-2/S-2 staff should be able to analyze the terrain, situation, and threat doctrine and be able to template the logical threat target locations and feasible COAs.

BDA is comprised of physical damage assessment (PDA), functional damage assessment (FDA) and target system assessment (TSA). MAGTFs will generally only perform the first two subsets of BDA.

a. Physical Damage Assessment

PDA estimates the quantitative extent of the physical damage occurring through munitions blast, fragmentation, and or fire damage effects to a planned target resulting from the application of military force. This assessment is based upon observed or interpreted damage. For example, visual observation of an enemy artillery battery (the target) verifies four self-propelled howitzers with tubes, recoil mechanisms and turrets shattered and dislodged, track damage to one howitzer is noted, and one howitzer has no visible damage. The PDA of the battery is judged to be 65 percent destroyed. PDA for larger, more complex targets is keyed to specific aim points and critical elements. Destruction of an entire building may not be necessary if the stated objective is to destroy a function (critical element) conducted in a section of the building.

PDA is also referred to as Phase I BDA. For ground combat, PDA is often referred to as the combat strength assessment. (The actual strength on hand of a ground unit in terms of operational tanks, armored vehicles, and artillery; expressed as either a count of equipment, or as a percentage of

personnel and equipment.) The unit controlling the weapon system, as well as the intelligence collection resources that can observe the damage, create Phase I BDA reports.

b. Functional Damage Assessment

FDA is an estimate of the effect of military force in degrading or destroying the functional or operational capability of the target to perform its intended mission. It measures the level of success of the force applied relative to the operational objective established against the target. This assessment is inferred based upon all-source intelligence and includes an estimate of the time required for reconstitution or replacement of the target function. For example, the physical damage to the four howitzers destroys the battery's ability to perform its intended function of providing a high rate of indirect fire from as many tubes as possible in support of the maneuver commander. Two howitzers may be able to provide limited support. Only one howitzer appears capable of providing normal fire support. The threat force is capable of reconstituting the battery (all six systems operational) within 24 hours. FDA is also referred to as Phase II BDA and is usually produced by the MAGTF and major subordinate command G-2s/S-2s.

c. Target System Assessment

TSA is a broad assessment of the overall impact and effectiveness of the full spectrum of military operations against an entire target system's capability. It may also be applied against an enemy's combat effectiveness. A TSA may also address significant subdivisions of the system relative to the commander's stated operational objectives. TSAs are produced from a compilation of the FDAs of individual targets within a system, and applied to the current system analysis or order of battle. For example, the threat's fire support system is known to have 21 artillery battalions. Partial destruction of one battery has minor impact on the effectiveness and capability of the threat's overall fire support system. TSA is a very complex and resource intensive process. For that reason, it is generally performed at the theater BDA cell. TSA is also referred to as Phase III BDA.

Appendix A

Planning Products

A-1. Modified Combined Obstacle Overlay

A MCOO is an IPB product used to depict the battlefield's effects on military operations. It is based on the combined obstacle overlay, a product that integrates analysis of road and bridges, vegetation, soil, drainage, and ground water factors into a single product that depicts the battlefield's effects on mobility. The MCOO adds the following additional considerations—

- **Cross-Country Mobility Classifications.** Areas of RESTRICTED and SEVERELY RESTRICTED cross-country mobility are marked with easily distinguishable symbology.
- **Avenues of Approach and Mobility Corridors.** These corridors are tailored to the type force under consideration, basing them on factors other than mobility as required. They are categorized by the size force they accommodate and ranked in priority order. While it is possible to put both ground and air mobility corridors and avenues of approach on the same overlay, clarity may require separate overlays. Both friendly and threat avenues are considered.
- **Counter-Mobility Obstacle Systems.** Only those known to exist within the area of interest are included.
- **Defensible Terrain.** Terrain along each avenue of approach is evaluated to identify potential battle positions or possible defensive sectors for subordinate units.
- **Engagement Areas.** The results of evaluating defensible terrain are combined with the results of evaluating observation and fields of fire to identify potential engagement areas.
- **Key Terrain.** Areas or terrain features which dominate the avenues of approach or objective areas are identified. These will usually correspond to terrain already identified as potential battle positions or intermediate objectives.

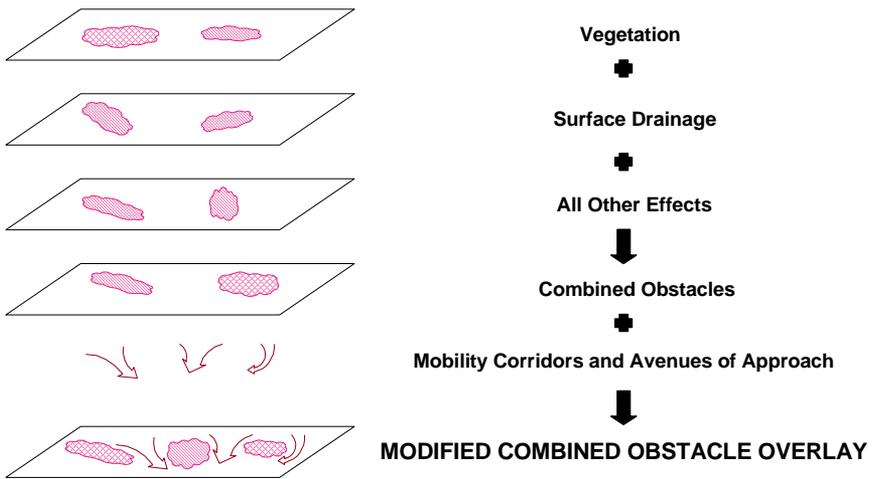


Figure A-1. Modified combined obstacle overlay.

A-2. Doctrinal Template

A doctrinal template illustrates the deployment pattern and disposition preferred by the threat's normal tactics when not constrained by the effects of the battlespace environment. It is usually scaled graphic depictions of threat dispositions for a particular type of standard operation, such as a battalion moving to contact or an insurgent ambush.

Doctrinal templates are constructed through an analysis of intelligence databases and an evaluation of the threat's past operations. The analysis should focus on patterns in task organization, timing, distances, relative locations, groupings, and use of terrain and weather. Some doctrinal templates consider the threat force as a whole, while others focus on a single battlefield function like intelligence or fires. Above all, doctrinal templates must be tailored to the needs of the unit or staff section creating them.

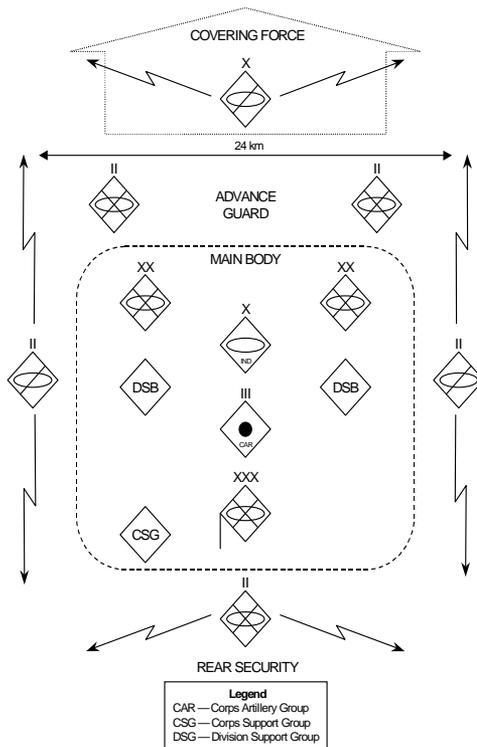


Figure A-2. Doctrinal template.

A-3. Situation Template

Situation templates are graphic depictions of expected threat dispositions should he adopt a particular COA. They usually depict the most critical point in the operation as agreed upon by the G-2/S-2 and G-3/S-3. An analyst may prepare several templates to represent different “snapshots in time” starting with the threat’s initial array of forces. These are useful in depicting points where the threat may adopt branches or sequels to the main COA, places where the threat is especially vulnerable, or other key points in the battle such as initial contact with friendly forces. Situation templates are used to support staff wargaming and then develop event templates.

Situation templates are based on the threat model for the operation under consideration. The doctrinal template is overlaid on the terrain products that

depict the battlespace environment's effects on operations. The product of choice is the MCOO, but this may vary with the situation. Using judgment and knowledge of the threat's preferred tactics and doctrine as depicted in the threat model, the dispositions portrayed on the doctrinal template are adjusted to account for the battlespace environment's effects.

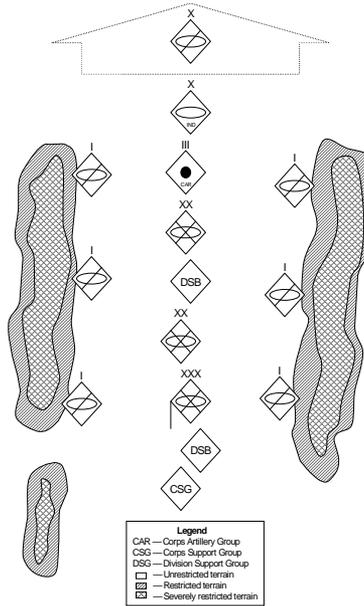


Figure A-3. Situation template.

A-4. Event Template and Matrix

The differences between NAIs, indicators, and time phase lines associated with each COA form the event template. Each COA is evaluated to identify its associated NAIs. Places where activity must occur if that COA is adopted are likely NAIs. Particular attention is paid to times and places where the threat's HVTs are employed or areas where they can be easily acquired and engaged. These areas will evolve into NAIs in support of targeting. Places where the threat is expected to take certain actions or make certain decisions, such as adoption of a branch plan or execution of a counterattack are considered. An NAI can be a specific point, a route, or an

area. They can match obvious natural terrain features or arbitrary features, such as time phase lines or engagement areas. NAIs are made large enough to encompass the activity of interest. NAIs and indicators associated with each COA are compared and contrasted to identify differences that will provide the most reliable indications of adoption of each unique COA. The selected NAIs are then marked on the event template. The initial event template focuses only on identifying which of the predicted COAs the threat has adopted. It is later updated and further refined to support friendly decisions identified during wargaming.

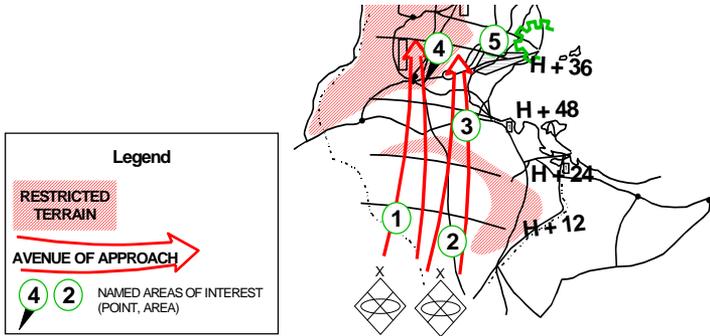


Figure A-4. Event template.

NAI	No Earlier Than	No Later Than	Event/Indicator
1	H + 6	H + 12	Brigade-sized forces moving North.
2	H + 6	H + 12	Brigade-sized forces moving North.
3	H + 12	H + 24	Orangeland forces enter Blueville. Northern Operations Group (NOG) driving on Jesara oilfields.
4	H + 14	H + 24	Orangeland forces seize junction of Hwys 7 and 8/NOG turns northwest towards Jesara.
5	H + 18	H + 24	Orangeland forces enter Tealton. NOG driving on Jesara.

Table A-1. Event matrix.

A-5. Enemy Courses of Action (Example—Most Likely COA)

Phase I—Delay/Withdraw

a. The 202nd and 203rd Mechanized Infantry Brigades will initially occupy prepared positions vicinity Mezzouna Oil Fields and Sfax. Once confronted

with a major allied ground offensive, these two brigades will begin, during darkness, to displace by echelon south towards Gabes. Make maximum use of minefields and obstacles to slow down the American advance. The 102nd Armor Brigade will conduct limited counterattacks to prevent penetration of our lines and to cover the withdrawal of our slower infantry. The 205th Mechanized Infantry Brigade will occupy positions vicinity Gafsa in order to provide early warning and to delay an envelopment by U.S. forces. Priority of fires from the 401st Artillery Regiment will go to the 202nd and 203rd Mechanized Infantry Brigades. Engineer Battalion will assist the 202nd and 203rd Mechanized Infantry Brigades develop defensive positions vicinity Mezzouna Oil Fields and Sfax. The Engineer Battalion then supports the 204th Mechanized Infantry as it builds the second echelon defenses vicinity Gabes.

b. The 301st Motorized Infantry Brigade will continue to occupy positions on Djerba Island. The 103rd Armor Brigade will be the NOG reserve. Second echelon brigades will continue to secure the coastal MSR (Route 1) for resupply of the NOG, and will establish an in-depth defense from the Libyan border to Gabes. Operational control of the forward brigades will be delegated to the commander of the 102nd Armor Brigade and the rear echelon brigades will be under the operational control of the commander of the 201st Mechanized Infantry Brigade.

c. Organic AAA and SA-7s, along with the NOG Air Defense Regiment, will support NOG forces. All fixed-wing aircraft will remain in Libya and will only be used to defend the homeland. Naval forces will primarily lay mines and attempt to hinder any attempt by U.S. forces to conduct an amphibious assault.

Phase II—Defense of Gabes

a. Taking advantage of the constrained terrain, minefields, and obstacles around Gabes, the 202nd, 203rd, and 205th Mechanized Infantry Brigades will occupy and defend the prepared positions at Gabes. The 102nd Armored Brigade will support the defense by sealing off and eliminating local penetrations. The 103rd Armored Brigade will act as reserve. Priority of fires from the 401st Artillery Regiment will go to the defending Mechanized Infantry Brigades. Should the second defensive belt be penetrated, all units are to fall back by echelon behind the third defensive belt at Medenine.

b. Prior to occupation of the second defensive belt, the 204th Mechanized Infantry Brigade will displace south and assist in the establishment of the third defensive belt vicinity Medenine. The remainder of NOG forces will be under the operational control of the 201st Mechanized Infantry Brigade.

c. Fixed wing aircraft and naval forces will have the same concept of operations as in Phase I.

A-6. Enemy Centers of Gravity (Example)

Orangeland Strategic Center of Gravity. The political leader of Orangeland is the strategic COG. Orangeland's *de facto* one-man rule and lack of formal governmental structure has focused power in the hands of Field Marshal Chilmand Sondo, the leader of Orangeland. There are no legal political parties. Opposition groups are for the most part in exile. The Army represents a latent political bloc inside the country, as does the Orangeland religious and tribal order, and other tribal groups. Sondo has encouraged infighting among his potential political and military successors to reduce internal threats to his power.

Orangeland Operational Center of Gravity. The NOG is the operational COG of Orangeland forces. It is composed of eight separate brigades and two artillery regiments. The NOG has the personal sponsorship of Sondo and is allowed to recruit personnel from the remainder of the Orangeland armed forces. As a result, the quality of personnel and equipment within this unit is without equal within the Orangeland armed forces.

Orangeland Tactical Center of Gravity. The 102nd and 103rd Armored Brigades are the tactical COG for the NOG. These are the best-equipped (only T-72 equipped units), most effectively led units within the NOG. In both exercises and in recent operations, the NOG has used the armored striking force of these brigades as its counterattack/exploitation force.

MEF Center of Gravity. The NOG perceives that the COG for the MEF is its mechanized capability. Based on its intelligence activities and media reports, the NOG probably has a rough estimate of the number and type of mechanized vehicles that the MEF has deployed. The NOG believes these assets will provide the MEF with speed, armored protection, and off-road

capability that it will find difficult to directly counter. It further believes the MEF will emphasize the speed and shock power of its mechanized units and that this capability, if not offset or countered, will be decisive in the upcoming engagement.

A-7. High-Value Targets/High-Payoff Targets

Assets that the enemy commander needs to successfully complete the mission depicted and described on the template are HVTs. HVTs are identified from an evaluation of the data base, the doctrinal template, its supporting narrative, and the use of tactical judgment. The initial list of HVTs is developed by mentally wargaming and thinking through the operation to identify those assets that are critical to the operation's success, particularly at critical junctures or phases. Assets which are key to executing the primary operation are identified, particularly those that are key to satisfying decision criteria. How the threat might react to the loss of an HVT is determined; his ability to substitute other assets or modify his plan to compensate is considered.

Examples of type HVTs include: command and control, intelligence, fire support, communications and information systems, air defenses, engineers, and logistics/CSS. After identifying the set of HVTs, they are ranked with regard to their relative worth to the threat's operation. An HVT's value usually varies over the course of an operation, so identify changes of value by phase. As key assets are identified, they should be grouped into one of the categories used to develop target sets to help develop targeting strategies.

Potential HPTs are identified through analysis of the situation templates and the identified HVTs. HPTs are those HVTs that must be attacked to give the commander a significant advantage in defeating the enemy. Developed on the basis of METT-T (mission, enemy, terrain and weather, troops and support available, time available), their selection does not depend on unit ability to acquire or attack them. If it is beyond unit capability, they can be passed to the next-higher echelon as a priority intelligence or fires requirement. This work is further analyzed in the war-gaming process where TAIs are developed that can indicate where HPTs might be most vulnerable to attack.

A-8. Relative Combat Power Assessment

Relative combat power assesses the relative strengths, weaknesses, and capabilities of friendly forces to enemy forces. The goal is to use friendly strengths (COGs) to exploit enemy weaknesses in developing COAs. The following table is an example of relative combat power assessment.

Friendly Forces				Enemy Forces			
Type Unit	Nos.	Value	Weight	Type Unit	Nos.	Value	Weight
Tank Bn	2	10	20	Tank Bn	10	4	40
Atk Helo Sqdn	6	9	54	Atk Helo Sqdn	2	6	12
Arty Bn	6	8	48	Arty Bn	10	6	60
MRL Bn	1	10	10	MRL Bn	3	6	18
FW Sqdn	12	10	120	FW Sqdn	2	5	10
EW BN	2	7	14	EW Bn	2	3	6
R&S Assets	2	9	18	R&S Assets	1	4	4
Total				Total			
			284				150
NOTES							

Table A-2. Example of relative combat power assessment.

A-9. Decision Support Template and Matrix

Although not inherently the responsibility of the G-2/S-2 or a product of the formal IPB process, the DST is an important product in the staff planning process and is the logical conclusion to the IPB. The DST relates time, space and threat actions to assist the commander in determining when decisions need to be made—either to employ fires or maneuver forces. It does not dictate decisions to the commander, but instead helps the commander think ahead in the battle to reduce uncertainty and aid in recognition or intuitive decisionmaking.

The DST is normally developed during COA wargaming as threat and friendly actions are compared in time and space. Unlike the previous products, the DST is a staff product prepared under the staff cognizance of the G-3/S-3, reflecting the judgment and expertise of the intelligence, maneuver, fires, CIS, and logistics support staffs. The products developed

during IPB—the threat COA models, the event template, and event matrix—form the basis for and drive wargaming and the development of the DST.

Through event templating, identification is made of those areas on the battlefield where significant events and activities will likely occur and where targets will likely appear. As the wargaming process proceeds, the staff identifies areas where the commander can influence the action through fire and maneuver. These areas are designated TAIs. A TAI may be an engagement point or area, usually along a mobility corridor, where the interdiction of threat forces by fires, maneuver or jamming will deprive or reduce a threat capability. It can also cause the threat commander to abandon a particular COA or require the use of unusual support to continue operations. Times and locations where HPTs will appear are particularly suited to become TAIs.

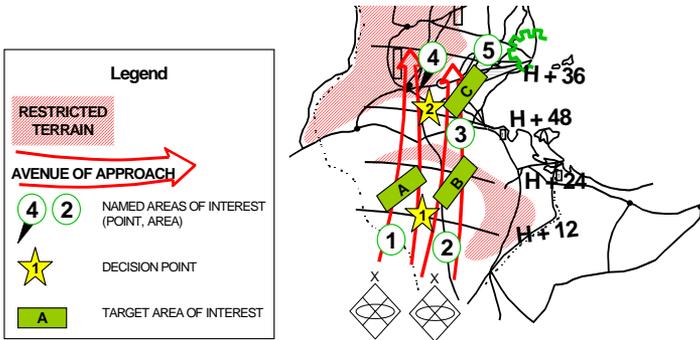


Figure A-5. Decision support template.

DP	Event	NET/NLT	NAI	TAI	Friendly Action
1	Orangeland forces enter Blueville/ NOG division driving on Tealton.	H + 14/ H + 24	1, 2	A, B	Covering force withdraws; MAW conducts interdiction west of PL TEAL.
2	Orangeland forces seize junction of Hwys 7 and 8. NOG turns northwest on Jesara.	H + 18/ H + 24	3, 4	C	1 st and 3 ^d MARDIVs execute branch plan HAWK.

Table A-3. Decision support matrix.

Appendix B

Glossary

Section I Acronyms

Note: Acronyms change over time in response to new operational concepts, capabilities, doctrinal changes, and other similar developments. The following publications are the sole authoritative sources for official military acronyms:

1. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
 2. MCRP 5-12C, *Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms*.
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BDA	battle damage assessment
CCIR	commander's critical information requirement
COA	course of action
COG	center of gravity
CV	critical vulnerability
DP	decision point
DSM	decision support matrix
DST	decision support template
FDA	functional damage assessment
GI&S	geospatial information and services
HPT	high-payoff target
HVT	high-value target

IPB	intelligence preparation of the battlespace
JIC	Joint Intelligence Center
JISE	joint intelligence support element
MAGTF	Marine air-ground task force
MCDP	Marine Corps doctrinal publication
MCOO	modified combined obstacle overlay
MCPP	Marine Corps Planning System
MCRP	Marine Corps reference publication
MCWP	Marine Corps warfighting publication
MEF	Marine expeditionary force
METOC	meteorological and oceanographic
METT-T	mission, enemy, terrain and weather, troops and support available, time available
MSTP	MAGTF Staff Training Program
NAI	named area of interest
NIMA	National Imagery and Mapping Agency
NOG	Northern Operations Group
OPT	operational planning team
PDA	physical damage assessment
PIR	priority intelligence requirement
RFI	request for information
TAI	targeted area of interest
TSA	target system assessment

Section II Definitions

Note: Definitions of military terms change over time in response to new operational concepts, capabilities, doctrinal changes, and other similar developments. The following publications are the sole authoritative sources for official military definitions of military terms:

1. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
 2. MCRP 5-12C, *Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms*.
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B

battle damage assessment—The timely and accurate estimate of damage resulting from the application of military force, either lethal or non-lethal, against a predetermined objective. Battle damage assessment can be applied to the employment of all types of weapon systems (air, ground, naval, and special forces weapon systems) throughout the range of military operations. Battle damage assessment is primarily an intelligence responsibility with required inputs and coordination from the operators. Battle damage assessment is composed of physical damage assessment, functional damage assessment, and target system assessment. Also called **BDA**. (JP 1-02)

C

centers of gravity—Those characteristics, capabilities, or localities from which a military force derives its freedom of action, physical strength, or will to fight. (JP 1-02)

commander's critical information requirements—Information regarding the enemy and friendly activities and the environment identified by the commander as critical to maintaining situational awareness, planning future activities, and facilitating timely decisionmaking. Also called **CCIR**. **Note:** CCIRs are normally divided into three primary subcategories: priority intelligence requirements, friendly force information requirements, and essential elements of friendly information. (MCRP 5-12C)

course of action—1. A plan that would accomplish, or is related to, the accomplishment of a mission. 2. The scheme adopted to accomplish a task or mission. It is a product of the Joint Operation Planning and Execution System concept development phase. The supported commander will include a recommended course of action in the commander's estimate. The recommended course of action will include the concept of operations, evaluation of supportability estimates of supporting organizations, and an integrated time-phased data base of combat, combat support, and combat service support forces and sustainment. Refinement of this database will be contingent on the time available for course of action development. When approved, the course of action becomes the basis for the development of an operation plan or operation order. Also called **COA**. (JP 1-02)

critical vulnerability—An aspect of a center of gravity that if exploited will do the most significant damage to an adversary's ability to resist. A vulnerability cannot be critical unless it undermines a key strength. Also called **CV**. (MCRP 5-12C)

D

decision point—An event, area, or point in the battlespace where and when the friendly commander will make a critical decision. Also called **DP**. (MCRP 5-12C)

decision support matrix—An aid used by the commander and staff to make battlefield decisions. It is a staff product of the war-gaming process which lists the decision point, location of the decision point, the criteria to be evaluated at the point of the decision, the action or options to occur at the decision point, and the unit or element that is to act and has responsibility to observe and report the information affecting the criteria for the decision. Also called **DSM**. (MCRP 5-12A)

decision support template—A staff product initially used in the war-gaming process which graphically represents the decision points and projected situations and indicates when, where, and under what conditions a decision is most likely to be required to initiate a specific activity (such as a branch or sequel) or event (such as lifting or shifting of fires). Also called **DST**. (MCRP 5-12A)

G

geospatial information and services—The concept for collection, information extraction, storage, dissemination, and exploitation of geodetic, geomagnetic, imagery (both commercial and national source), gravimetric, aeronautical, topographic, hydrographic, littoral, cultural, and toponymic data accurately referenced to a precise location on the earth's surface. These data are used for military planning, training, and operations including navigation, mission planning, mission rehearsal, modeling, simulation and precise targeting. Geospatial information provides the basic framework for battlespace visualization. It is information produced by multiple sources to common interoperable data standards. It may be presented in the form of printed maps, charts, and publications; in digital simulation and modeling databases; in photographic form; or in the form of digitized maps and charts or attributed centerline data. Geospatial services include tools that enable users to access and manipulate data, and also includes instruction, training, laboratory support, and guidance for the use of geospatial data. Also called **GI&S**. (JP 1-02)

H

high-payoff target—A target whose loss to the enemy will significantly contribute to the success of the friendly course of action. High-payoff targets are those high-value targets, identified through wargaming, which must be acquired and successfully attacked for the success of the friendly commander's mission. Also called **HPT**. (JP 1-02)

high-value target—A target the enemy commander requires for the successful completion of the mission. The loss of high-value targets would be expected to seriously degrade important enemy functions throughout the friendly commander's area of interest. Also called **HVT**. (JP 1-02)

I

intelligence preparation of the battlespace—(See joint Pub 1-02.) In Marine Corps usage, the systematic, continuous process of analyzing the threat and environment in a specific geographic area. Also called **IPB**. (MCRP 5-12C)

J

Joint Intelligence Center—The intelligence center of the joint force headquarters. The joint intelligence center is responsible for providing and producing the intelligence required to support the joint force commander and staff, components, task forces and elements, and the national intelligence community. Also called **JIC**. (JP 1-02)

joint intelligence support element—A subordinate joint force forms a joint intelligence support element as the focus for intelligence support for joint operations, providing the joint force commander, joint staff, and components with the complete air, space, ground, and maritime adversary situation. Also called **JISE**. (JP 1-02)

M

Marine Corps Planning Process—A six-step methodology which helps organize the thought processes of the commander and staff throughout the planning and execution of military operations. It focuses on the threat and is based on the Marine Corps philosophy of maneuver warfare. It capitalizes on the principle of unity of command and supports the establishment and maintenance of tempo. The six steps consist of mission analysis, course of action development, course of action analysis, comparison/decision, orders development, and transition. Also called **MCP**. **Note:** Tenets of the MCP include top down planning, single battle concept, and integrated planning. (MCRP 5-12C)

meteorological and oceanographic—A term used to convey all meteorological (weather) and oceanographic (physical oceanography) factors as provided by Service components. These factors include the whole range of atmospheric and oceanographic phenomena from the sub-bottom of the earth's oceans up to the space environment (space weather). Also called **METOC**. (JP 1-02)

modified combined obstacle overlay—A product used to depict the battlespace's effects on military operations. It is normally based on a product depicting all obstacles to mobility, modified to also depict the following, which are not prescriptive nor inclusive: cross-country mobility classifications (such as RESTRICTED); objectives; avenues of approach and mobility corridors; likely locations of countermobility obstacle systems;

likely engagement areas; and key terrain. Also called **MCOO**. (MCRP 5-12C)

N

named area of interest—A point or area along a particular avenue of approach through which enemy activity is expected to occur. Activity or lack of activity within a named area of interest will help to confirm or deny a particular enemy course of action. Also called **NAI**. (MCRP 5-12C)

O

operational planning team—A group built around the future operations section which integrates the staff representatives and resources. The operational planning team may have representatives or augmentation from each of the standard staff sections, the six warfighting functions, staff liaisons, and/or subject matter experts. Also called **OPT**. (MCRP 5-12C)

P

priority intelligence requirements—Those intelligence requirements for which a commander has an anticipated and stated priority in his task of planning and decisionmaking. Also called **PIR**. (JP 1-02)

R

request for information—1. Any specific time-sensitive ad hoc requirement for intelligence information or products to support an ongoing crisis or operation not necessarily related to standing requirements or scheduled intelligence production. A request for information can be initiated to respond to operational requirements and will be validated in accordance with the theater command's procedures. Also called **RFI**. (JP 1-02)

T

targeted area of interest—The geographical area or point along a mobility corridor where successful interdiction will cause the enemy to either abandon a particular course of action or require him to use specialized engineer support to continue, where he can be acquired and engaged by

friendly forces. Not all targeted areas of interest will form part of the friendly course of action; only targeted areas of interest associated with high-payoff targets are of interest to the staff. These are identified during staff planning and wargaming. Targeted areas of interest differ from engagement areas in degree. Engagement areas plan for the use of all available weapons. Targeted areas of interest might be engaged by a single weapon. Also called **TAI**. (MCRP 5-12C)