

Human Geography

Old discipline, new age: Building a capability for the U.S. Marine Corps

by Courtney D.B. Blackburn

The 32nd Commandant, General Charles Krulak, frequently spoke of the Roman Pro Consul, whose disciplined legions handily defeated Germanic tribes on the northern edge of the empire. Returning some years later when trouble rose again, he was soundly defeated by these same tribes. He lost his legions and he lost his life. Ne cras. Ne cras, he was heard to mutter—“not like yesterday.” An adaptive enemy had learned from its earlier defeat, whereas the Romans had learned little from their success. Our world is full of adaptive threats. Our largest potential vulnerability will be failing to recognize a changing world. Our success will be measured in how much we learn from our past, how well we observe the changing characteristics of warfare, and how well we anticipate the ways our enemies will choose to challenge Marines on the battlefield. These enemies, observant and cunning, have studied our every move. They have adopted Information Age capabilities. They use the tools at their disposal in creative and lethal ways. Ne cras.¹

Throughout history, adaptive enemies have learned from their defeats on the battlefield, and as is told in the narrative of the Roman Pro Council, successes on the battlefield will be measured in how much is learned from the past. Historical narratives have always been vital to understanding the systemic shifts that currently influence and affect the globe. Historically, battlefields have been deeply rooted in the human domain. A robust intelligence enterprise, however, is the key enabler to achieving the right effect, in the right place, and at the right time. The intelligence enterprise consists of tools and techniques that guide decision makers and operators to make the best deci-

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sions in a world where the dynamics of conflict are constantly changing. Human geography is a term, a tool, and a type of analysis that adds to the geo-literacy of competent leaders and warfighters. Since the Vietnam War, the USMC has recognized that war has changed from battle lines to urbanized warfare stacked against an enemy that is not always visible. Prior to Operation ENDURING FREEDOM, the Marine Corps lacked institutionalized capabilities, such as human geography, for leveraging similar requirements to better understand the impact of human activity and the environment in areas of operation. The Marine Corps is now equipped to understand the spatial and temporal patterns informed by human geography through the development of the MCIA's human geography capability in 2008.

Why Human Geography?

Human geography is defined as,

A major field of Geography that is centrally concerned with the ways in which place, space, and environment are both the condition of and the consequence of human activities and human characterization.²

Human geography analysis fused with geospatial modeling provides a means to characterize human behavior and understand how adversaries respond to societal, political, geographical, and resource-based pressures. Human geography enables the Marine Corps to be more flexible and anticipatory in its approach to conflict engagement and

humanitarian assistance and disaster relief among other strategic, operational, and tactical efforts. It provides a baseline of information that facilitates more complex analysis and is integrated into the traditional processes of intelligence preparation of the operational environment. Human geography analysis impacts the full spectrum of military operations from boots on the ground to commanders and decision makers who must arm our Marines with the tools necessary to face dynamic and complex terrain and cultural environments.

The growth of crowded, poorly governed, or lawless areas, particularly in and around the world's littorals, will confront future commanders with the need to consider complex terrain. Complex terrain adds informational and human aspects of the battlespace to the traditional geo-physical factors.³

How Does Human Geography Work?

The SATs (situational awareness tools) represent a holistic, anticipatory approach to the MCISRE (Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise) in the military operating environment. SATs are a series of models that combine human and physical geography with geospatial and all-source analysis to support first-level operational planning. SAT's provide the critical foundational layers in order to achieve two end results: visual cues for strategic planners for general planning purposes and prioritization of areas for further analysis at higher fidelity and enabling the identification of patterns and correlations required to perform country-specific deep dives and other advanced analytics for all-source assessments.

We ask intelligence to describe in detail places we have never seen, to identify customs and attitudes of societies fun-

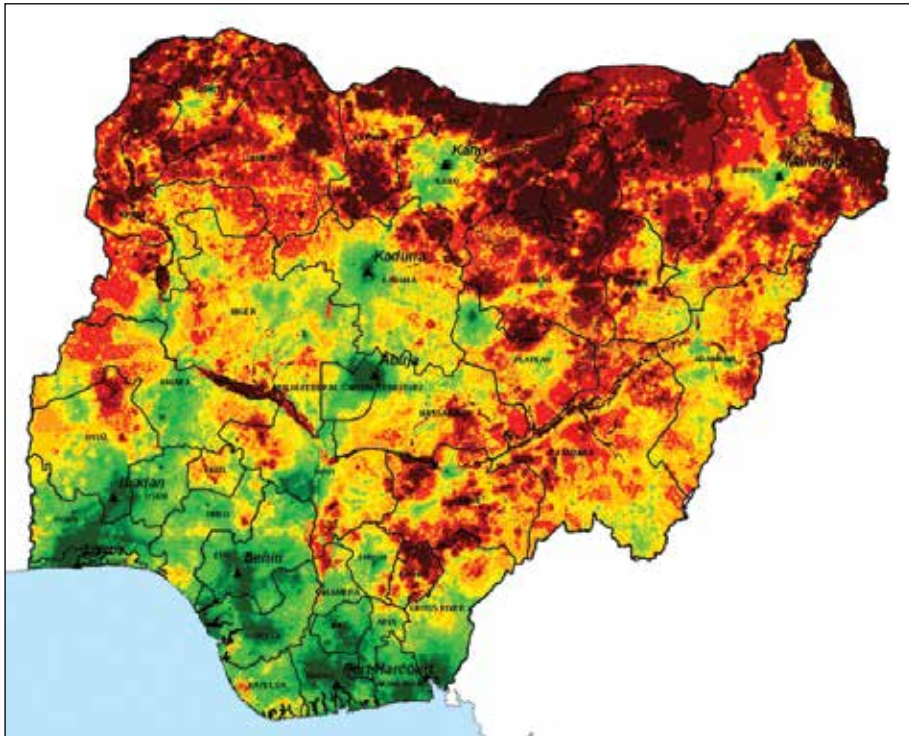


Figure 1. SAT models show the distribution of a country's GDP relative to population and other factors. (Image provided by author.)

damentally different from our own, to assess the capabilities of unique and unfamiliar military or paramilitary forces, and to forecast how these societies and forces will act in the future.⁴

The SAT models produce layers of data related to social and cultural topics. These topics include “governance” (used to determine where populations may be more or less vulnerable depending on their access to government services or where nefarious actors may flourish because of little or no effective government presence), “travel time” (used for strategic and tactical “time-phased” planning purposes, which identifies travel time in minutes to cities with populations larger than 50,000), and “societal support” (a summary of the density of factors that provides indicators of where people have or don't have access to support mechanisms in times of distress). Other topics include vehicle mobility, helicopter landing zones, drop zone suitability, aerial concealment, ambush vulnerabilities, flood potential, natural hazards, vulnerabilities, risks, and exposures, remote havens, economic fabric, market access, and access to healthcare. (See

Figure 1.) The economic fabric model is designed to estimate the spatial distribution of a country's economy or GDP (gross domestic product). Geographic features representing goods and services

are separated into three economic sectors: agriculture, service, and industry.

Exploitation of the SATs is best understood as a component of a larger, multi-INT (multiple intelligence)/all-source analytic framework called the IAH (integrated analytics hierarchy). The IAH places the SATs into an all-source analytical process with the intent of developing a deeper understanding of the human dimension of conflict one phase at a time. Conceptually, the IAH demonstrates how the premise “everything happens somewhere” becomes “everything happens somewhere for a reason.”⁵ Operationally, the IAH is a roadmap illustrating how to exploit the SATs as a foundation-level product to enable a robust anticipatory capability that provides a broader range of policy options and more decision lead-time to commanders. By leveraging spatial-temporal geographic modeling, the IAH incorporates multi-INT analysis to assess deteriorating atmospherics, anticipate future battlespaces, calculate second and third order effects of actions, and inform operational courses of actions. (See Figure 2.)

The IAH is represented as a pyramid and relies on a foundation of data gathered on the physical, operational, and human components of the operat-

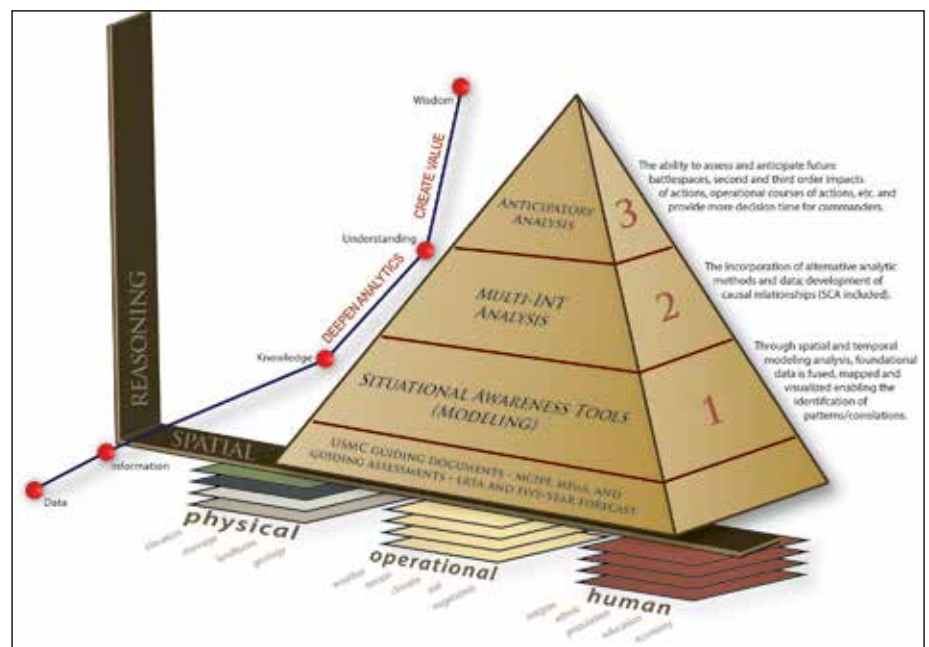


Figure 2. The IAH is a model designed to map and predict changes in the operating environment. (Image provided by author.)

ing environment as shaped by doctrine, guidance, and requirements. In Phase 1, spatial and temporal modeling techniques are used to fuse, map, and visualize foundation data to identify patterns and correlations that help analysts prioritize areas for additional study or future collection efforts. In Phase 2, the results from Phase 1 are used to conduct multi-INT analyses on key intelligence questions over areas of interest to the USMC, providing context to observed patterns that define causal relationships, and provide insight into why certain trends may be occurring. Phase 3 identifies the drivers behind specific Phase

2020 lays out a mission to support this transformation by providing always-on global situational awareness to afford Marines continuous advantage on the battlefield. The SATs provide the baseline information that describes the global condition (providing situational awareness) and enables analysts to exploit that information for anticipatory capability (providing continuous advantage).

Operationalizing Human Geography

The sustainability of human geography within the Marine Corps will depend on continuous implementation at the MEF, MIC (Marine intel-

partners, MCIA has established avenues by which to access stockpiles of valuable data, products, regional expertise, and research, enhancing the impact of international requirements.

In return, these agencies have contributed human geography data and products that aid in building the analytical framework provided by the SATs. These human geography products are typically ethnic, tribal, religious, language, and demographic maps and reports which present a baseline or foundational picture of the characteristics of populations living in areas of interest. This collaborative work has enabled the FVEY community to develop complementary methodologies and approaches to further the development and influence of human geography from a military perspective.

Across the spectrum of participants, human geography is carving a place in the bigger picture of defense in response to an ever-changing world.

2 outcomes, synthesizing information in a non-deterministic way and helping to define an early warning system for future conflict by incorporating a more holistic, all-source approach. In 2015, this concept was tested using the Philippines to identify potential areas of instability to anticipate conditions for conflict, whether a natural disaster would affect that activity, and where populations were most vulnerable.

In complex terrain crowded with multiple adversaries and disparate threats intermixed with populations of various loyalties and motivations, Marines must be able to understand the battlespace with sufficient clarity to identify the points of advantage and disadvantage.⁶

The SATs and the IAH framework directly support Marine Corps doctrine from both an intelligence and operational perspective. The *Expeditionary Force 21* capstone concept (Washington, DC: HQMC, 2014) describes how the, “Marine Corps must transform itself into a force optimized for security operations and crisis response, while maintaining its superior capability to engage in long-term conflicts.” Consequently, the *MCISRE Plan 2015–*

intelligence centers), and SPMAGTF level. These groups are MCIA’s customers and practitioners. The SAT data and models have played a critical role in supporting tasking and requirements for the SPMAGTF-AF (SPMAGTF-Africa). Geographic intelligence personnel assigned to the SPMAGTF-AF have used the SAT’s to produce analytical products that have helped in assisting commanders and supporting ground units in understanding their areas of operation including ambush, aerial concealment, religion, economics, and tribes. According to a previous SPMAGTF-AF’s geographic intelligence chief the use of the SAT’s had “opened up new doors and endless possibilities to the analysis of human geography.”

In addition to Marine Corps assets, the human geography capability has found great partnerships with the FVEY (Five Eyes) community. Collaborative production and analysis with the Defence Geographic Centre in the United Kingdom, the Australian Geospatial-Intelligence Organization in Australia, and GEOINT New Zealand has proven invaluable in institutionalizing socio-cultural research and performing data acquisition in places where data had not previously been available. By providing SAT training to these

What’s the Future?

Human geography is not just about the tools, techniques, and data—it is a sense of understanding that transcends the customer’s traditional views of preparation of the battlespace. The warfighter and the decision maker must glean the training, education, and means of understanding to comprehend the future battlespace and make concerted efforts to minimize the impact of war on both themselves and those they lead. The future Marine Corps includes cross-discipline efforts to integrate and leverage open-source tools, data, and services in an unclassified environment that are needed to ensure wider dissemination to broader audiences, including non-government organizations and other intelligence customers. These cross-discipline efforts include tools that better amass, aggregate, and evaluate diverse types of data; leverage open source software for dynamically displaying data; and exploiting dissemination platforms like amazon web services in order to reach broader audiences. Reaching broader audiences requires better and faster access to tools and services, information technology infrastructure that supports advanced software packages, faster processing speeds, better access to unclassified platforms, and less restrictive security constraints.

MTTs (mobile training teams), through refined training materials, training workshops, and operational exercises, are necessary for supporting MEF elements in their use and integra-

failures. Sometimes it is not without a price; a price paid in resources, the lives of those who serve, and past challenges in understanding the complexity of the human domain. Across the spectrum

Historical narratives have always been vital to understanding the systemic shifts that currently influence and affect the globe.

tion of human geography. MTTs connect analysts with human geography experience and skill sets with Marine commanders and decision makers responsible for responding to operational needs, strategic planning, and tactical support.

History prevails regardless of the lessons learned from it, and the sum of successes will ultimately overcome any

of participants, human geography is carving a place in the bigger picture of defense in response to an ever-changing world that demands success on the part of the decision maker and the warfighter. When the warfighter is faced with the next conflict, further understanding the human domain will help ensure that the outcome is, "Ne cras."

Notes

1. MCIA, *Future Operating Environment 2015-2025*, (Quantico, VA: 2015).
2. National Geospatial-Intelligence Agency definition of human geography, (Springfield, VA).
3. Headquarters Marine Corps, *Marine Corps Operating Concept (MOC)*, (Washington, DC: September 2016).
4. Headquarters Marine Corps, *MCDP 2, Intelligence*, (Washington, DC: 1997).
5. Dr. Vanessa Lawrence, former Director-General and Chief Executive, Ordnance Survey, UK. Mr. James Hill, Director of the Geospatial Intelligence Division, MCIA.
6. *MOC*.





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