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# Military Modeling for Decision Making, 3d. ed.

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# BOOK REVIEWS

## Not Just for Geeks

Hughes, Wayne P., Jr., ed. *Military Modeling for Decision Making,* 3d. ed. Washington, D.C.: Military Operations Research Society, 1997. 375pp. $40

*MILITARY MODELING FOR DECISION MAKING* is a compendium of articles by distinguished practitioners of military operations research. In combination, they provide a useful perspective on the role of models to support decisions across a broad sweep of issues, ranging from the tactical employment of a single infantryman to the negotiation of treaties controlling nuclear weapons. This third edition discusses the effects that dramatic increases in computer power have wrought on the uses (and misuses) of models, the rapidly growing range of applications, and how the military services and the Department of Defense are attempting to manage their own applications.

There is a tendency for nonusers to look upon modeling as a "geek" world. This is not only wrong but dangerous, for both decision makers and analysts. This work makes a credible effort to explain the purpose, applications, and management of models to nonusers. It mostly succeeds.

The authors are experienced and credible developers, users, and managers of models. Most of them have experience as decision makers as well. The work begins with a series of monographs that survey the employment of models for warfare, starting with those used to support theater-level war planning and execution, then going on to nuclear warfare, air warfare, ground combat, and maritime and joint warfare applications. These are followed by discussions of modeling to support human resource management, logistics and sustainment, acquisition, and policy development, as well as the use of modeling for field experimentation and training. The book concludes with two chapters on verification, validation, and accreditation (VV&A). It might have been better, however, to place the chapter on field experimentation and training adjacent to the warfare modeling chapters.

As in any compendium, style, focus of content, and relevance for readers vary. Given the current interest in VV&A, most analysts should review the final two chapters.

The highlight of this book is the "Overview," written by the editor, Wayne Hughes. This should be required reading for decision makers and

supporting analysts who use, or intend to use, models. Hughes clearly lays out the appropriate uses of models and how best to avoid misapplication. His brief and to-the-point discussion of the relationship between client (decision maker), analyst, and models, on pages 13 and 14, is particularly pertinent.

Several chapters discuss the importance that real-world combat results and data have for model development and credibility. Since real-world combat is (thankfully) infrequent, such data should be eagerly sought after when it becomes available. Yet at least three authors allude to the fact that operations researchers are usually unprepared to identify and collect it. This would appear to be a fundamental planning failure on the part of the military operations research community. It needs fixing.

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Collins, John M. *Military Geography for Professionals and the Public.* Washington, D.C. National Defense Univ. Press (available from Govt. Print. Off. [202] 512-0132), 1998. 435pp. $39

This work discusses geography as an important factor in military operations. According to John Collins, "commanders at every level must consistently manipulate geographic influences advantageously to gain a decisive edge." In a democracy, citizens as well as politicians also must master any subject that is important to public policy. Therefore, Collins has written a book that will, as he intended, be useful as a textbook for civilians and as a handbook for military officers.

John M. Collins is a retired Army officer who fought in Europe, Korea, and Vietnam, and earned an M.A. in geography. Since his retirement in 1972, Collins has published ten books (most on the changing military balance between the United States and the Soviet Union), twenty studies for the Congressional Research Service, and various articles. He wrote this book while serving as a distinguished visiting research fellow at the National Defense University. It is, therefore, the result of a lifetime of practice, study, and reflection.

Collins's subject, military geography, is admittedly a broad one, but his book is an introductory work, and he has organized it coherently. Between a brief overview and three useful appendices (acronyms, glossary, and basic library), the book contains four major sections. Part 1, "Physical Geography," contains chapters on spatial relationships, such as the form of the land (rivers), oceans, and seashores, atmosphere, regional peculiarities (like frigid seas), inner and outer space (including strategic locations in space), and natural resources. Part 2, "Cultural Geography," contains