

Contents

| | |
|--|-----------|
| <i>Foreword</i> | x |
| <i>Preface</i> | xii |
| Part I | |
| Introduction to military geography | 1 |
| 1 Military geography in the US: history, scope, and recent developments | 5 |
| EUGENE J. PALKA | |
| Military Geography's early roots—military geography within academia in the US (World War I, World War II, the Vietnam era, post-Vietnam era, Desert Shield and Desert Storm, end of the Cold War, Global War on Terror)—recent developments and a current appraisal—beyond the horizon | |
| 2 Military science for the non-professional | 21 |
| FRANCIS A. GALGANO | |
| Overview of US national security structure—levels of military operations—military units and basic weapons systems—types of operations (wartime operations, military operations other than war) | |
| 3 An introduction to geography for non-geographers | 38 |
| FRANCIS A. GALGANO | |
| Defining geography—subfields of geography—geography and its traditions—basic geographic concepts (location, size, scale, places and their military attributes)—regions—military regional analysis: the environmental matrix | |

4 Environmental security: a growing force in regional stability 54

KENT HUGHES BUTTS

Role of the environment in global and regional security—the concept of environmental security—environmental threats to security (combating terror, climate change, food security, water scarcity)

5 The environment and regional security: a framework for analysis 65

AMY RICHMOND KRAKOWKA

The environment, security, and conflict (environmental conflict: causes and results, defining environmental security)—a framework for analysis—the Rwandan genocide of 1994 (culture, society, governance, setting the stage: Rwandan population growth, land use, and ecocide)

6 Climate change and potential regional instability in the Arctic 79

EUGENE J. PALKA

A brief geography of the Arctic—the Northwest Passage—implications of the Law of the Sea Treaty—climate change and projected impacts—strategic-military considerations

7 The legacy of federal military lands in the US: a geographic retrospective 92

WILLIAM W. DOE III

Defining military lands and installations—historical evolution of military lands—environmental and ecosystem contexts—emerging land conflicts—twenty-first-century military lands

Part II

Historical and operational military geography 105

8 Streams and military landscape 109

FRANCIS A. GALGANO

The role of rivers in military operations—the US experience—streams and the Civil War landscape—physical setting: Eastern versus Western Theater—the battle for Island No. 10—summary of geographic factors

9 Methuen's Northern Cape Campaign, Anglo-Boer War, 1899–1902

124

HENDRIK A. P. SMIT

The importance of geography in war—geographic factors influencing the Northern Cape Campaign (terrain, infrastructure, weather, and climate)—the Anglo-Boer War—geography and battles of the Northern Cape Campaign (the Battle of Belmont, the Battle of Graspan, the Battle of Modder River, the Battle of Magersfontein)

10 The battle for Attu: physical geographic challenges of the Aleutian Campaign of World War II

143

EUGENE J. PALKA

The physical setting (location, terrain, climate, vegetation)—utility of Attu and the Aleutians—historical summary of the battle—geographic factors influencing the outcome (remote location, coastline and sea conditions, weather, terrain, relief)

11 Protecting the force: medical geography and the Buna–Gona Campaign

161

EUGENE J. PALKA AND FRANCIS A. GALGANO

Health versus disease—key terms related to disease ecology—distribution and diffusion of diseases—disease ecology—the triangle of human ecology—nutrition and health—the Buna–Gona Campaign—the fight for Papua—disease, health, and the Buna–Gona Campaign—response to the medical disaster

12 The geography of amphibious warfare

184

FRANCIS A. GALGANO

Amphibious operations (forms of amphibious warfare, characteristics of amphibious operations, amphibious doctrine: a geographic perspective, background and evolution, Orange Plan)—Operation Chromite, September 1950 (Operation Bluehearts: early planning, geography of Inchon, landing controversy)—epilogue: victory at Inchon

13 Bosnia and Herzegovina, 1992–5: epitomizing Yugoslavia's bloody collapse

201

STEVEN OLUIĆ

Bosnia and Herzegovina's physical setting—overwhelmed by the relicts of history—hatreds develop: 1918–45—post-World War II communist Yugoslavia—civil war comes to Bosnia (beginning of the end, Muslim–Croat fracture, Western intervention, the end of Bosnian Serb military dominance)

| | | |
|-----------------|---|------------|
| 14 | Afghanistan: Operation Enduring Freedom and military geographic challenges | 217 |
| | EUGENE J. PALKA | |
| | The impact of location—physical setting (topography, caves, soil, earthquakes, climate, vegetation)—human environment (cultural complexity, political instability, economic conditions, landmines and UXO) | |
| 15 | Iraq and Operation Iraqi Freedom: a military geography | 235 |
| | EUGENE J. PALKA, FRANCIS A. GALGANO, AND MARK W. CORSON | |
| | Historical background (the Saddam Hussein era)—Operation Iraqi Freedom—Iraq’s military operating environment—physical geography (location, physiography, hydrology, geographic regions, climate)—physical geography and military operations—human geography (cultural patterns, political geography, urban geography, and infrastructure)—geotechnology | |
| Part III | | |
| | Applied military geography | 261 |
| 16 | Military lands as spatial analogs for a twenty-first-century Army: natural environments for testing and training | 264 |
| | WILLIAM W. DOE III | |
| | Bailey’s ecoregional framework—military operating environments—the Army’s installations as analogs | |
| 17 | Aeolian processes and military operations | 278 |
| | JOSEPH P. HENDERSON | |
| | Overview of aeolian processes—physical mechanisms of dust erosion and transport—types of dust storms—dust storm source areas—effects on military operations—Operation Eagle Claw, 1980—Operation Iraqi Freedom, 2003—continued efforts to mitigate the effects of dust | |
| 18 | Infrastructure vulnerability in a catastrophic CSZ event and implications on disaster response for the Oregon coast | 295 |
| | WILEY C. THOMPSON | |
| | Geography, military geographers, and disaster response—recent events as a basis for planning—lifelines—anticipated damage to lifelines during a Pacific Northwest CSZ event—air bridge concept and implementation | |

19 Khe Sanh, Vietnam: examining the long-term impacts of warfare on the physical landscape 312

JOSEPH P. HUPY

Environmental impacts of warfare (pre-modern warfare and the advent of gunpowder, introduction of smokeless powder)—disturbances during the Second Indochina War—disturbance and recovery at Khe Sanh

20 Napoleonic know-how for stability operations 327

DOUGLAS E. BATSON

Competing land claims in post-conflict Afghanistan and Iraq—the “who” question in stability operations—send money, guns, lawyers—land administration domain model

21 Identicide in Sarajevo: the destruction of the National and University Library of Bosnia and Herzegovina 341

SARAH JANE MEHARG

Understanding people and their places—war practices—identicide (burning libraries: a military geography perspective, Sarajevo and the National and University Library of Bosnia and Herzegovina)—the Siege of Sarajevo

22 Geopolitics and the dragon’s advance: an exploration of the strategy and reality of China’s growing economic and military power and its effect upon Taiwan 358

CLIFTON W. PANNELL

Framework for strategy—salience of Taiwan—changing military goals and doctrine—growth and military expansion—force structure modernization—force disposition and the Taiwan factor—China’s military and the future

23 Ungoverned space and effective sovereignty in the Global War on Terror: western Pakistan 374

FRANCIS A. GALGANO

Ungoverned space and the Global War on Terror in Pakistan—the Federally Administered Tribal Areas—the role of effective sovereignty—classification of ungoverned space in the Federally Administered Tribal Areas

Contributors 391

Glossary 394

Index 419