

010
INT
2006

Introduction to Geography

Tenth Edition



ĐẠI HỌC QUỐC GIA HÀ NỘI
TRUNG TÂM THÔNG TIN THƯ VIỆN

AV-D1/2186

GIFT OF THE ASIA FOUNDATION
NOT FOR RE-SALE

QUÀ TẶNG CỦA QUỸ CHÂU Á
KHÔNG ĐƯỢC BÁN LẠI

Arthur Getis

San Diego State University

Judith Getis

Jerome D. Fellmann

University of Illinois,
Urbana-Champaign

With Contributions By

Victoria L. Getis

Ohio State University

Jon C. Malinowski

United States Military Academy

**Mc
Graw
Hill**

Higher Education

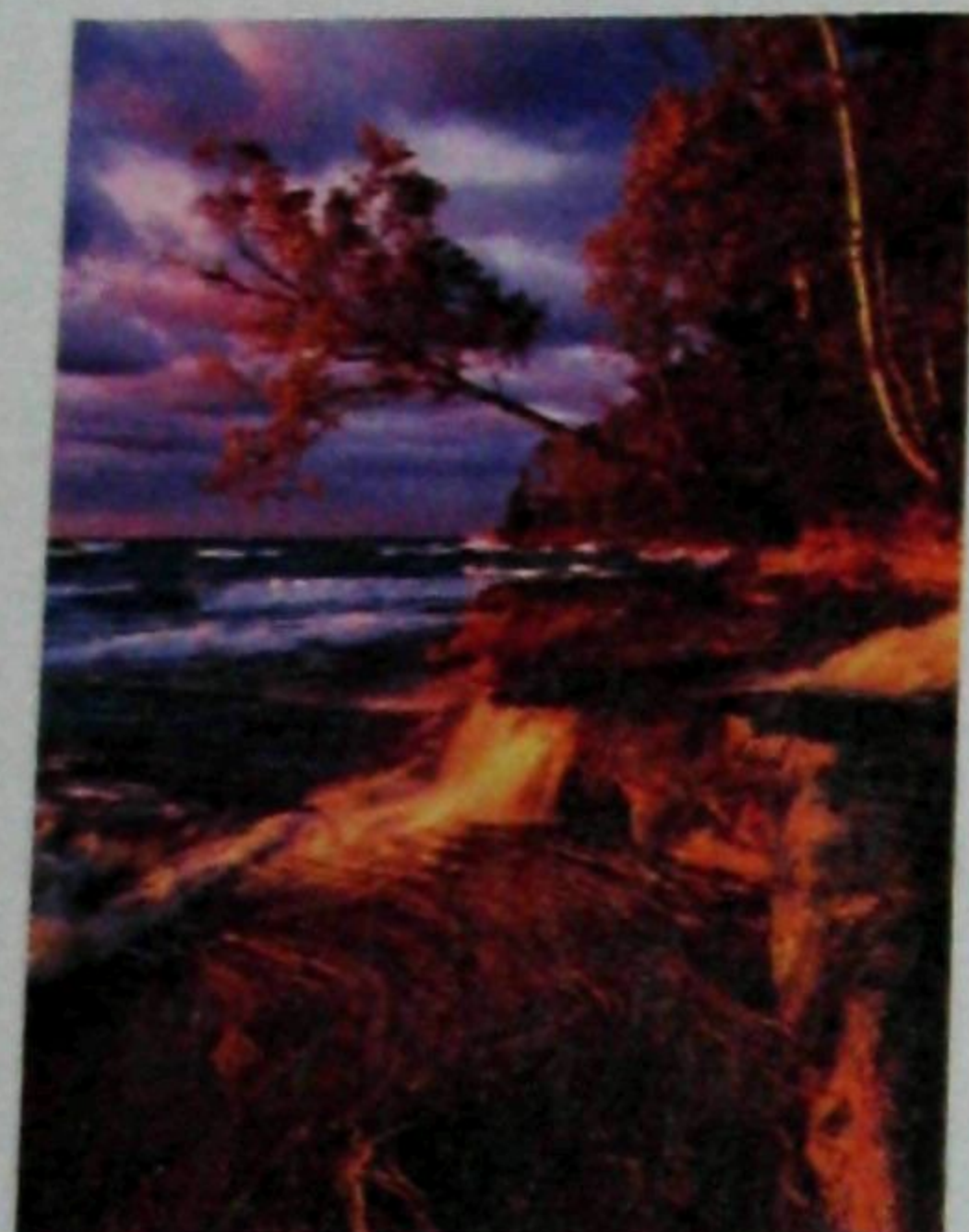
Boston Burr Ridge, IL Dubuque, IA Madison, WI New York San Francisco St. Louis
Bangkok Bogotá Caracas Kuala Lumpur Lisbon London Madrid Mexico City
Milan Montreal New Delhi Santiago Seoul Singapore Sydney Taipei Toronto

Brief Contents

Preface ix

1 Introduction 3

2 Maps 25



PART 1

The Earth Science Tradition 52

3 Physical Geography:
Landforms 55

4 Physical Geography:
Weather and Climate 87

5 The Geography
of Natural Resources 133



PART 2

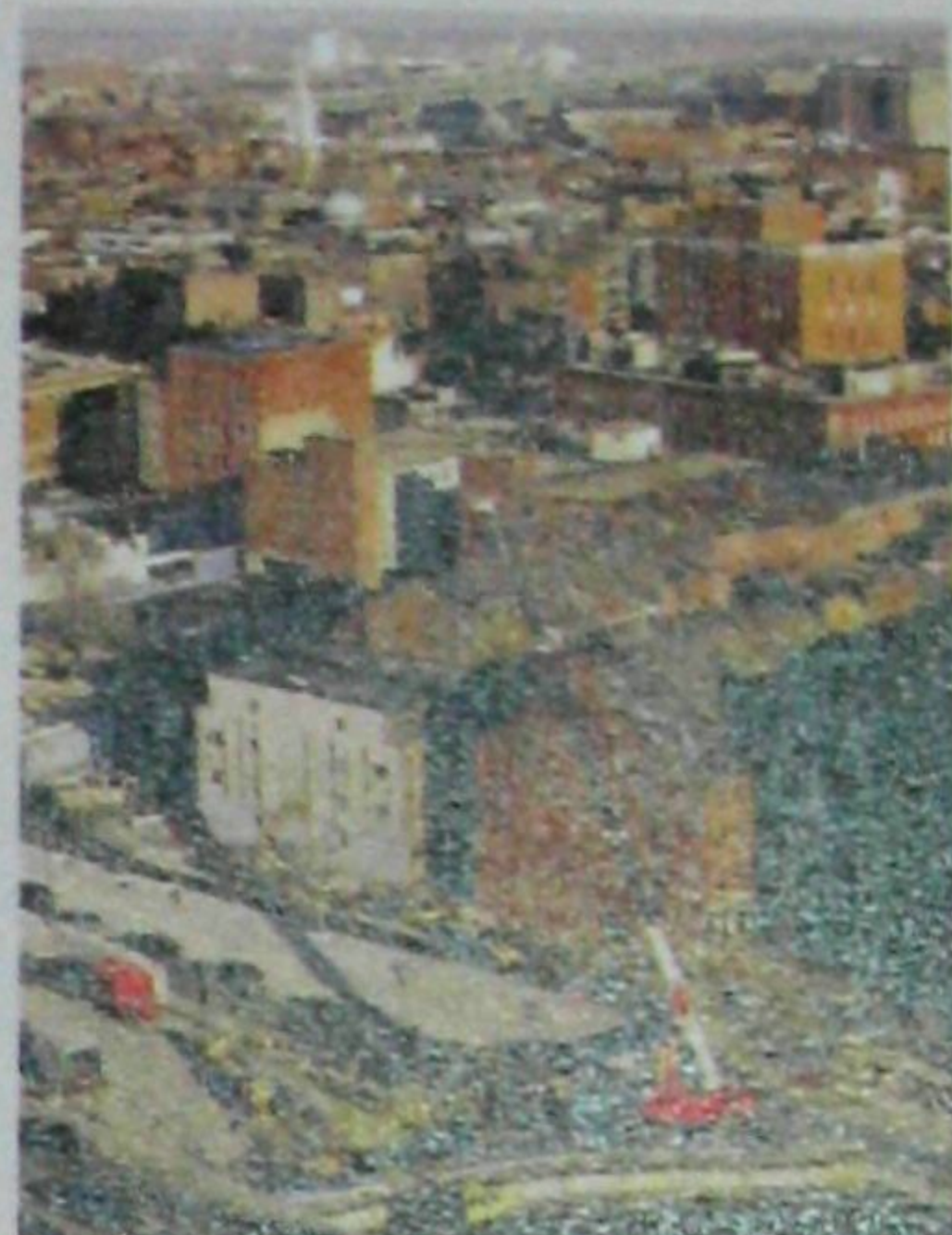
The Culture-Environment Tradition 176

6 Population
Geography 179

7 Cultural Geography 217

8 Spatial Interaction 267

9 Political Geography 299



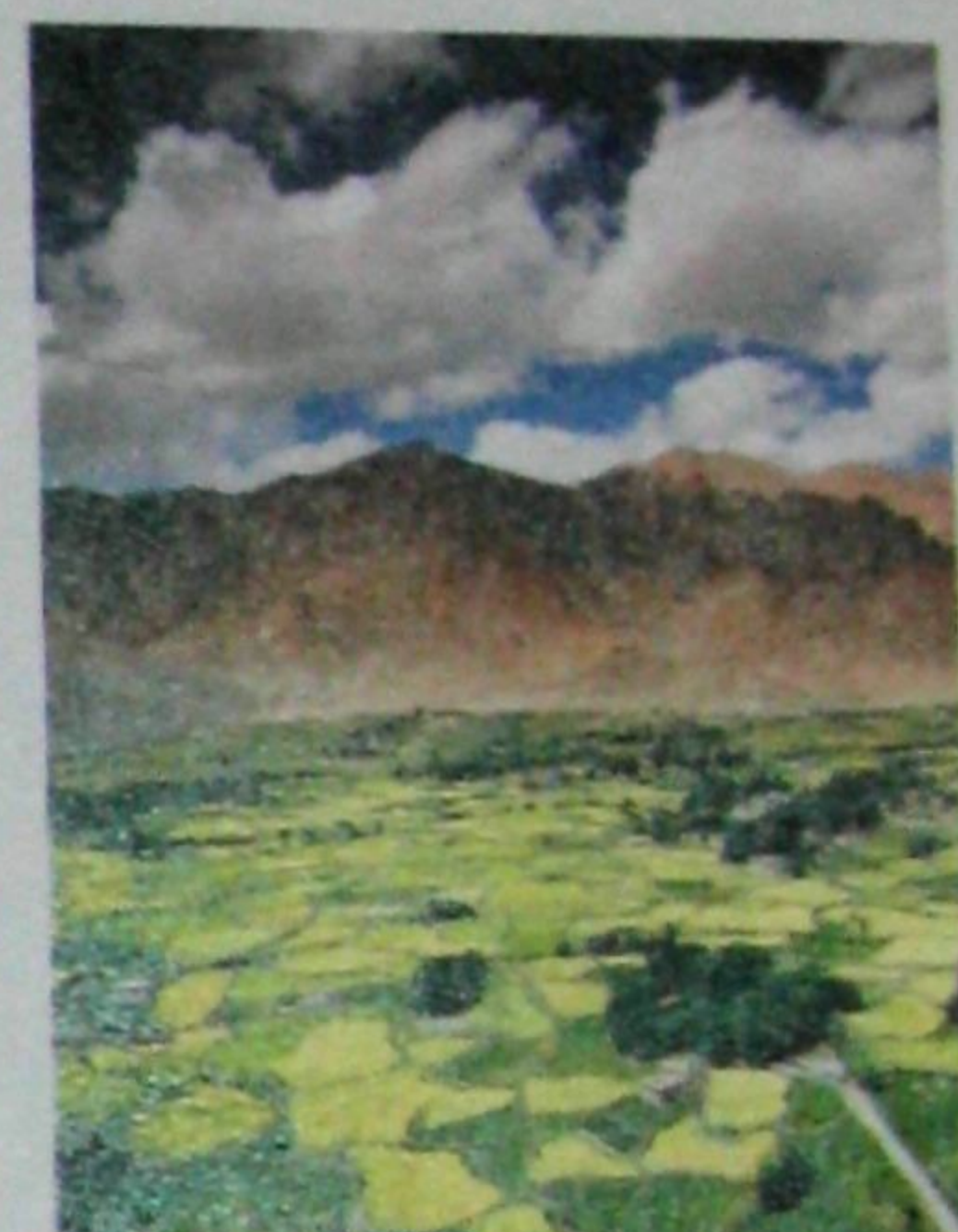
PART 3

The Locational Tradition 338

10 Economic Geography 341

11 Urban Geography 389

12 Human Impact
on the Environment 431



PART 4

The Area Analysis Tradition 466

13 The Regional
Concept 469

Appendices 489

Glossary 504

Index 517

Contents

Preface ix

CHAPTER 1

Introduction 3

- The Nature of Geography 4
- What Is Geography? 4
- Evolution of the Discipline 6
- Some Core Geographic Concepts 8
 - Location, Direction, and Distance 9
 - Location 9
 - Direction 10
 - Distance 10
 - Size and Scale 11
 - Physical and Cultural Attributes 13
 - Attributes of Place Are Always Changing 14
 - Interrelations between Places 14
 - Place Similarity and Regions 16
- Geography's Themes and Standards 17
- Organization of This Book 19
- Key Words 21
- For Review & Consideration 22
- Selected References 22

CHAPTER 2

Maps 25

- Maps as the Tools of Geography 26
- Locating Points on a Sphere 27
 - The Grid System 27
 - The Global Positioning System 28
- Map Projections 30
 - Area 30
 - Shape 31
 - Distance 31
 - Direction 31
- Scale 33
- Types of Maps 33
 - Topographic Maps and Terrain Representation 34
 - Thematic Maps and Data Representation 38
 - Point Symbols 38
 - Area Symbols 39
 - Line Symbols 40
 - Deceptive Practices 40

- Remote Sensing 42
 - Aerial Photography 42
 - Nonphotographic Imagery 42
 - Remote-Sensing Techniques 42
 - Satellite Imagery 44
- Geographic Information Systems 45
 - The Geographic Database 47
 - Applications of GIS 47
- Summary 49
- Key Words 50
- For Review & Consideration 50
- Selected References 51



CHAPTER 3

Physical Geography: Landforms 55

- Earth Materials 56
 - Igneous Rocks 56
 - Sedimentary Rocks 57
 - Metamorphic Rocks 58
- Geologic Time 58
- Movements of the Continents 58
- Tectonic Forces 62
 - Diastrophism 62
 - Broad Warping 62
 - Folding 62
 - Faulting 63
 - Volcanism 66

Gradational Processes 68

- Weathering 68
 - Mechanical Weathering 68
 - Chemical Weathering 69
- Mass Movement 70
- Erosional Agents and Deposition 71
 - Running Water 71
 - Stream Landscapes 72
 - Groundwater 74
 - Glaciers 75
 - Waves, Currents, and Coastal Landforms 76
 - Wind 80

Landform Regions 81

- Summary 83
- Key Words 83
- For Review & Consideration 84
- Selected References 84

CHAPTER 4

Physical Geography: Weather and Climate 87

- Air Temperature 89
 - Earth Inclination 89
 - Reflection and Reradiation 91
 - Lapse Rate 92
- Air Pressure and Winds 92
 - Pressure Gradient Force 94
 - The Convection System 95
 - Land and Sea Breezes 95
 - Mountain and Valley Breezes 96
 - The Coriolis Effect 96
 - The Frictional Effect 97
 - The Global Air-Circulation Pattern 97
- Ocean Currents 98
- Moisture in the Atmosphere 99
 - Types of Precipitation 101
 - Storms 102
- Climate, Soils, and Vegetation 104
 - Soils and Climate 104
 - Soil Formation 104
 - Soil Profiles and Horizons 107
 - Soil Properties 108
 - Soil Classification 110
 - Natural Vegetation and Climate 110
 - Succession 110
 - Natural Vegetation Regions 110

Climate Regions 112

Tropical Climates 114

Tropical Rain Forest 114*Savanna* 114

Dryland Climates 116

Hot Deserts 116*Midlatitude Deserts and Semideserts* 118

Humid Midlatitude Climates 118

Mediterranean Climate 119*Humid Subtropical Climate* 120*Marine West Coast Climate* 121*Humid Continental Climate* 122

Subarctic and Arctic Climates 123

Climatic Change 123

Long-Term Climatic Change 124

Short-Term Climatic Change 125

The Greenhouse Effect and Global Warming 126

Summary 129**Key Words 129****For Review & Consideration 129****Selected References 130****CHAPTER 5****The Geography of Natural Resources 133****Resource Terminology 135**

Renewable Resources 135

Nonrenewable Resources 135

Resource Reserves 136

Energy Resources and Industrialization 137**Nonrenewable Energy Resources 137**

Crude Oil 138

Coal 141

Natural Gas 143

Oil Shale and Tar Sands 144

Nuclear Energy 146

Nuclear Fission 146*Nuclear Fusion* 147**Renewable Energy Resources 148**

Biomass Fuels 148

Wood 148*Waste* 148

Hydropower 148

Solar Energy 150

Other Renewable Energy Resources 152

Geothermal Energy 152*Wind Power* 154**Nonfuel Mineral Resources 154**

The Distribution of Nonfuel Minerals 156

Copper: A Case Study 157

Land Resources 159

Soils 159

Wetlands 163

Forest Resources 164

U.S. National Forests 166*Tropical Rain Forests* 167**Resource Management 169****Summary 172****Key Words 173****For Review & Consideration 173****Selected References 173****CHAPTER 6****Population Geography 179****Population Growth 180****Some Population Definitions 182**

Birth Rates 182

Fertility Rates 183

Death Rates 186

Population Pyramids 190

Natural Increase 193

Doubling Times 193

The Demographic Transition 194

The Western Experience 196

A Divided World Converging 198

The Demographic Equation 200

Population Relocation 200

Immigration Impacts 200

World Population Distribution 200

Population Density 204

Overpopulation 205

Urbanization 207

Population Data and Projections 207

Population Data 207

Population Projections 209

Population Controls 210**Population Prospects 212****Summary 213****Key Words 214****For Review & Consideration 214****Selected References 215****CHAPTER 7****Cultural Geography 217****Components of Culture 218****Interaction of People and Environment 220**

Environments as Controls 220

Human Impacts 221

Subsystems of Culture 221

The Technological Subsystem 222

The Sociological Subsystem 226

The Ideological Subsystem 228

Culture Change 229

Innovation 230

Diffusion 230

Acculturation 233

Cultural Diversity 235**Language 236**

Language Spread and Change 237

Standard and Variant Languages 238

Language and Culture 242

Religion 246

Classification and Distribution of Religions 246

The Principal Religions 248

Judaism 248*Christianity* 250*Islam* 253*Hinduism* 254*Buddhism* 255*East Asian Ethnic Religions* 257**Ethnicity 257****Gender and Culture 259****Other Aspects of Diversity 261****Summary 263****Key Words 264****For Review & Consideration 265****Selected References 265****CHAPTER 8****Spatial Interaction 267****The Definition of Spatial Interaction 269****Distance and Spatial Interaction 269****Barriers to Interaction 269****Spatial Interaction and Innovation 270****Individual Activity Space 271**

Stage in Life 274

Mobility 275

Opportunities 275