# TABLE OF CONTENTS

Glossary of Selected Terms	. vii
Preface	xi

## CHAPTER 1 GLACIOLOGY AND GLACIAL GEOMORPHOLOGY

Introduction	2
Concept of Glaciology	3
Structural Glaciology	
The Role of Fieldwork in Glaciology and Glacial Geomorphology	
References	
Referencesimilation	

#### **CHAPTER 2 GLACIER ICE**

Introduction	
Ice Masses and Ice Facies	43
Sampling Glacier Ice	53
Ice Analysis	
References	73

# CHAPTER 3 GLACIER MELTWATER

Introduction	
Sources of Glacial Meltwater	
Glacial Meltwater Features Depend on Glacier Type and Location	
Glacial Meltwater Erosion	
Meltwater Channel	
Landforms Created By Meltwater	
Jökulhlaups	
References	

#### CHAPTER 4 ICE RADAR

Introduction	116
Radar Basics	116
Ice Radar Equipment	136

Field Radar Surveys	143
Field Application and Interpretation of Ice Radar	151
References	155

#### CHAPTER 5 GLACIER MASS BALANCE AND MOTION

Introduction	
Glacier Mass Balance	
The Energy Budget of Glaciers	
Glacier Motion	
References	

#### CHAPTER 6 GLACIGENIC SEDIMENTS

Introduction	.204
Introduction to Field Sedimentology	
Colour and Organic Content	
Sediment Texture	
Particle Morphology: The Shape and Roundness of Sedimentary Particles	
Bedding	
Sedimentary Structures	
Turbidity Currents and Graded Beds	
Clast Macrofabrics	
Laboratory Analysis	
References	

# CHAPTER 7 MAPPING GLACIERS AND GLACIAL LANDFORMS

Introduction	
Desk-Based Studies	244
Remotely Sensed Data	248
Mapping Glacier Structures (Structural Glaciology)	
References	

## CHAPTER 8 MONITORING AND RECONSTRUCTING GLACIER FLUCTUATIONS

Introduction	284
Concept of Monitoring and Reconstructing Glacier Fluctuations	
Remotely Sensed Images	
Fieldwork Mapping and Historical Documents	
References	
Index	325