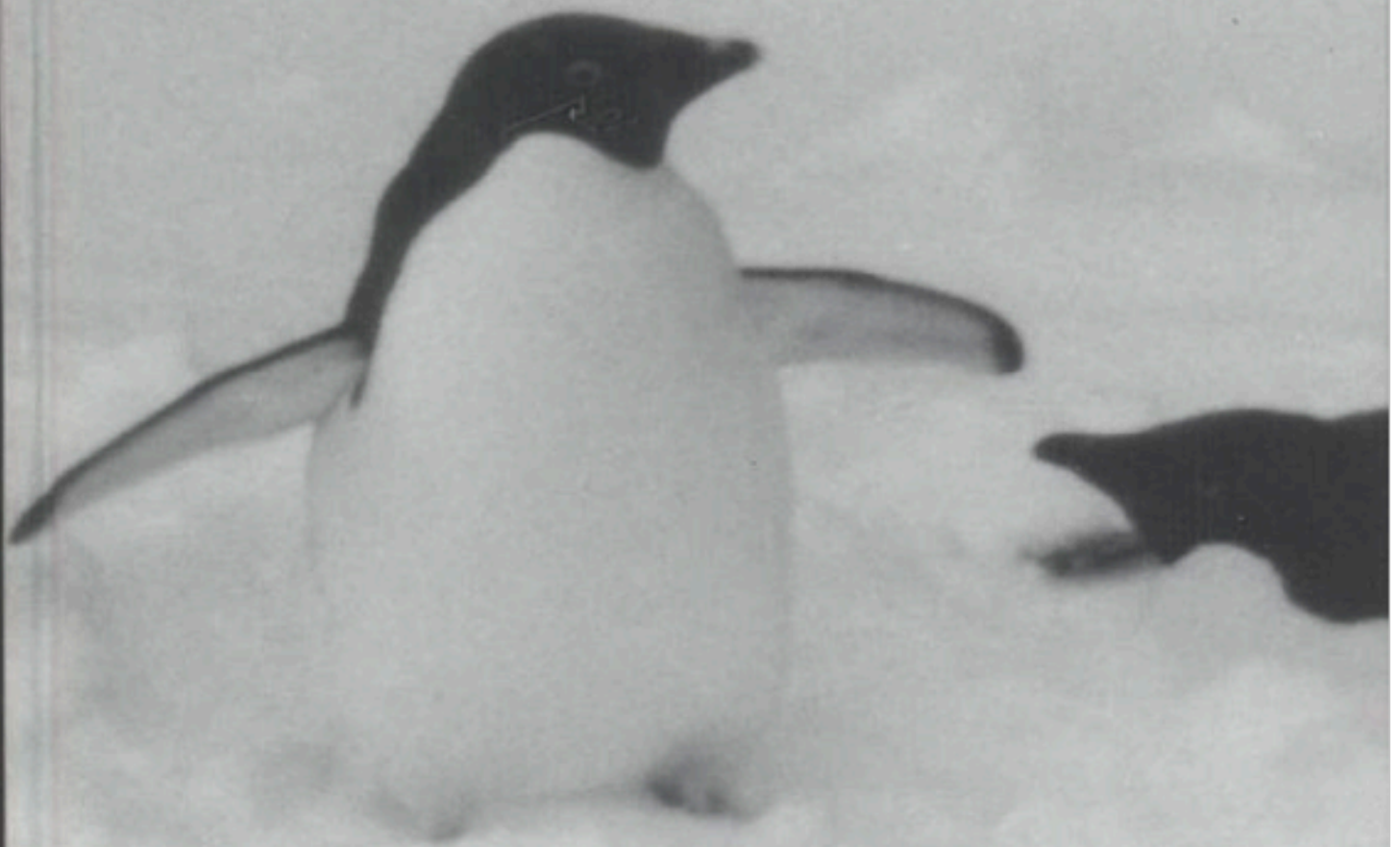


Foundations for Ecological Research West of the Antarctic Peninsula

Robin M. Ross
Eileen E. Hofmann
Langdon B. Quetin
Editors



ANTARCTIC RESEARCH SERIES

Copyrighted material

CONTENTS

The Antarctic Research Series <i>Board of Associate Editors</i>	xi
Preface <i>Eileen E. Hofmann, Robin M. Ross, and Langdon B. Quetin</i>	xiii
Historical Perspective	
Historical Perspective of Research in the Antarctic Peninsula Region <i>Sayed Z. El-Sayed</i>	1
Habitat Description	
Terrestrial and Freshwater Biotic Components of the Western Antarctic Peninsula <i>Ronald I. Lewis Smith</i>	15
Water Mass Distribution and Circulation West of the Antarctic Peninsula and Including Bransfield Strait <i>Eileen E. Hofmann, John M. Klinck, Cathy M. Lascara, and David A. Smith</i>	61
Spatial and Temporal Variability of Western Antarctic Peninsula Sea Ice Coverage <i>S. E. Stammerjohn and R. C. Smith</i>	81
Surface Air Temperature Variations in the Western Antarctic Peninsula Region <i>Raymond C. Smith, Sharon E. Stammerjohn, and Karen S. Baker</i>	105
Benthic Marine Habitats in Antarctica <i>Andrew Clarke</i>	123
Accumulation of Glacial Marine Sediments in Fjords of the Antarctic Peninsula and Their Use as Late Holocene Paleoenvironmental Indicators <i>Eugene W. Domack and Charles E. McClennen</i>	135
Distributions of Biological Populations	
Pelagic and Sea Ice Microbial Communities <i>David L. Garrison and Sylvie Mathot</i>	155
Phytoplankton: Quantitative and Qualitative Assessments <i>R. R. Bidigare, J. L. Iriarte, S.-H. Kang, D. Karentz, M. E. Ondrusek, and G. A. Fryxell</i>	173
Distribution of Antarctic Krill and Dominant Zooplankton West of the Antarctic Peninsula <i>Robin M. Ross, Langdon B. Quetin, and Cathy M. Lascara</i>	199
The Distribution of Antarctic Marine Benthic Communities <i>Andrew Clarke</i>	219
Midwater Fish Ecology <i>Adolf K. Kellermann</i>	231

Factors Controlling the Distribution of Seabirds: Winter-Summer Heterogeneity in the Distribution of Adélie Penguin Populations <i>William R. Fraser and Wayne Z. Trivelpiece</i>	257
The Breeding Biology and Distribution of Adélie Penguins: Adaptations to Environmental Variability <i>Wayne Z. Trivelpiece and William R. Fraser</i>	273
Marine Mammals of the Southern Ocean <i>Daniel P. Costa and Daniel E. Crocker</i>	287
Control of Biological Distributions	
Microbiological Oceanography in the Region West of the Antarctic Peninsula: Microbial Dynamics, Nitrogen Cycle and Carbon Flux <i>David M. Karl, James R. Christian, John E. Dore, and Ricardo M. Letelier</i>	303
Phytoplankton Biomass and Productivity in the Western Antarctic Peninsula Region <i>Raymond C. Smith, Heidi Dierssen, and Maria Vernet</i>	333
Factors Affecting Distribution and Abundance of Zooplankton, With an Emphasis on Antarctic Krill, <i>Euphausia superba</i> <i>Langdon B. Quetin, Robin M. Ross, Thomas K. Frazer, and Karen L. Haberman</i>	357
Marine Benthic Populations in Antarctica: Patterns and Processes <i>Andrew Clarke</i>	373
Human Disturbance	
Human Activity and Disturbance: Building an Antarctic Site Inventory <i>Ron Naveen</i>	389
Marine Disturbance-Contaminants <i>Mahlon C. Kennicutt II and Susanne J. McDonald</i>	401
Marine Disturbances-Commercial Fishing <i>David J. Agnew and Steve Nicol</i>	417
Summary	
The Western Antarctic Peninsula Region: Summary of Environmental and Ecological Processes <i>The Palmer LTER Group</i>	437