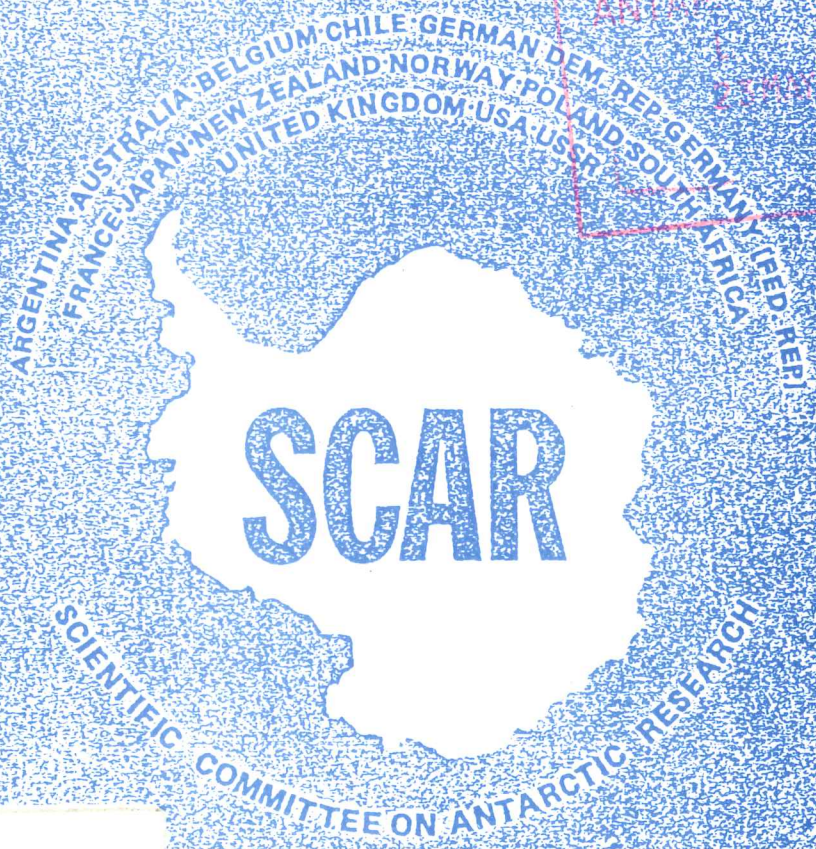
Symposium on Antarctic Logistics

SCAR

Scientific Committee on Antarctic Research



Part I

Academy of Sciences of the USSR
USSR State Committee for Hydrometeorology
and Control of the Natural Environment

THIRD SYMPOSIUM

ON

ANTARCTIC LOGISTICS

Held at Leningrad, USSR June 28 — July 3,1982

PROCEEDINGS

PART I

Under the Auspices of the
Working Group on Logistics
Scientific Committee on Antarctic Research (SCAR) of
the International Council of Scientific Unions

Sponsored by
Soviet Committee on Antarctic Research
The Arctic and Antarctic Research Institute

Local Hosts

The Arctic and Antarctic Research Institute
34, Fontanka, Leningrad, USSR

FOREWORD

This year marks the 25th anniversary of the International Geophysical Year (IGY), which initiated the first co-operative international scientific efforts in the Antarctic. Over these years it has become abundantly clear that this south polar region presents at least as great a challenge to the logistician as it does to the scientist. Additional problems have been encountered too as many of the scientific objectives have required investigations to be made in the more difficult and remote areas of Antarctica and the use of sophisticated equipment.

The Logistics Working Group of SCAR has studied many of these logistic problems and given special attention to the successes and failures in operation of newly developed technology. The Group's activities have however been limited as direct contact between members has usually been made only in alternate years at regular SCAR meetings.

When meeting at SCAR XVI (1980) members of the Logistics Working Group, in considering the question of methods of communication within the Group agreed that the most effective method of providing an updated and comprehensive report on current practices and new equipment was through a meeting of operators with considerable knowledge and experience in related fields. The Group noted the success of the two previous Logistics Symposia, Boulder, USA, 1962 and Tokyo, Japan, 1968, and agreed that a third symposium should be held at an early date preferably at the time of the next SCAR Meeting in Leningrad.

This publication is a result of those efforts made by all contributors and the arrangements made by the Soviet National Committee on Antarctic Research and the Arctic and Antarctic Research Institute in Leningrad. I believe the updated information presented here will greatly assist all logisticians in better planning facilities and operations and in coping with the numerous challenges of successfully supporting scientific endeavours in the Antarctic.

Robert B. Thomson
Chairman/Secretary
SCAR Working Group on Logistics

30 November 1982

Members of SCAR Working Group on Logistics in attendance:

Capt Frederico S. Muller (Argentina)
Mr J. Boyd (Australia)
Mr Bruno F. Klaue (Chile)
Dr H Kohnen (F.R.G.)
Prof. K. Kusunoki (Japan)
Mr R.B.Thomson (New Zealand) Secretary
Dr M.S. Zalewski (Poland)
Mr J.G. Nel (South Africa)
Mr J.C. Bawden (United Kingdom)
Mr A.N. Fowler (U.S.A.)
Prof. E.S. Korotkevitch (U.S.S.R.)

Substitutes attending

G.R. Laclavere (France)
P. Glode (G.D.R.)

Others in attendance included many experts from member countries and observers from Brazil, China, India, Netherlands, WMO and COSPAR.

The average attendance at each session numbered approximately 45 persons.

EDITORIAL COMMENT

Papers in this volume have been checked but published generally as presented without official editing.

LIST OF CONTRIBUTORS

Mr B. Alarcon
Chilean Antarctic Inst
Luis Thayer Avenue
Casilla 16.521
Correo 9, Santiago
CHILE

Mr M.F. Araya
Dept of Geology & Geophysics
University of Chile
Beauchef 850, Casilla 2777
Santiago
CHILE

Mr A.N. Alechin
Arctic & Antarctic Research Inst
Soviet Committee on Antarctic Research
Fontanka 34, Leningrad 191104
USSR.

Dr V.G. Averigyanov
Arctic & Antarctic Research Inst
Soviet Committee on Antarctic Research
Fontanka 34, Leningrad 191104
USSR.

Miss G. Brante
University of Chile
Beaucheff 850, Casilla 2777,
Santiago
CHILE

Dr H. Bungenstock
Alfred Wegener Institute
Columbus Center
285 Bremerhaven
FEDERAL REPUBLIC OF GERMANY

Mr E.M. Carvajal
Chilean Air Force
CHILE

Chilean Antarctic Institute
Avenue Luis Thayer
Casilla 16.521
Correo 9, Santiago
CHILE

Mr R. Chinn
British Antarctic Survey
Madingley Road
Cambridge CB3 OET
UNITED KINGDOM

Prof. V.K.Chistyakov
The Leningrad Mining Instit
V.O. 21-st Line 2, Leningrad
198026, USSR.

Mr N. Clark
Antarctic Division, D.S.I.R.
P O Box 13247
Christchurch
NEW ZEALAND

Mr R.Cross
Antarctic Division
Dept of Science & Technology
Channel Highway,Kingston
Tasmania 7150
AUSTRALIA

Mr R.A. Dean
South African Scientific Committee for Antarctic Re
CSP, CSIR, P O Box 395
Pretoria 0001
SOUTH AFRICA

Mr K. Drescher
Meteorological Service of GD
Aerologisches Observatory
Lindenburg DDR 1231
Lindenburg
GERMAN DEMOCRATIC REPUBLIC

Dr L.I. Dubrovin
Arctic & Antarctic Research Institute
Soviet Committee on Antarctic Research
34, Fontanka, Leningrad 191
USSR.

Mr V.N.Efremenko
Arctic & Antarctic Research Institute
34, Fontanka, Leningrad 191104
USSR.

Mr M. Foster
National Science Foundation
1800 G Street NW
WASHINGTON DC

Mr A.N.Fowler
Division of Polar Programs
National Science Foundation
1800 G Street NW
WASHINGTON DC

Mr H. Gernandt
Meteorological Service of GDR
Aerologisches Observatory
Lindenburg DDR 1231
Lindenburg
GERMAN DEMOCRATIC REPUBLIC

Mr P. Glode
Meteorological Service of GDR
Aerologisches Observatory
Lindenburg DDR 1231
Lindenburg
GERMAN DEMOCRATIC REPUBLIC

Mr K.B. Gosbell
Dept of Transport & Construction
Tivoli Court
239-241 Bourke Street
Melbourne, Victoria 3000
AUSTRALIA

Mr T. Hannuki
National Institute of Polar Research
9-10 Kaga 1-Chome, Itabashi-ku
Tokyo 173,
JAPAN

Prof. Dr. G Hempel
Alfred Wegener Institute of Polar Research
Columbus Center
285 Bremerhaven
FEDERAL REPUBLIC OF GERMANY

Mr R. Holdsworth
Physics Department
University of Waikato
Private Bag, Hamilton
NEW ZEALAND

Mr I.E.B. Holmes
Antarctic Division
Dept of Science & Technology
Channel Highway, Kingston
Tasmania 7150
AUSTRALIA

Mr K. Ishizawa
National Institute of Polar Research
9-10 Kaga 1-Chome,
Itabashi-ku
Tokyo, 173
JAPAN

Mr K.W. Jacobs
Dept of Community Development
Private Bax X65
Pretoria 0001
SOUTH AFRICA

Dr V.D. Klokov
Arctic & Antarctic Research Institute
34, Fontanka, Leningrad 191104
USSR.

Mr B.R. Koci
Polar Ice Coring Office
University of Nebraska-Lincoln
Lincoln, Nebraska 68588-0200
U.S.A.

Dr H. Kohnen
Alfred Wegener Institute of Polar Research
Columbus Centre
285 Bremerhaven
FEDERAL REPUBLIC OF GERMANY

Prof. E.S. Korotkevitch
Arctic & Antarctic Research Institute
Soviet Committee on Antarctic Research
34, Fontanka, Leningrad 191104
USSR.

Dr. A.M. Kozlovsky
Arctic & Antarctic Research Institute
34, Fontanka, Leningrad 191104
USSR.

Prof. B.B. Kudryashov
The Leningrad Mining Institute
V.O. 21-st Line 2, Leningrad
198026, USSR.

Mr K.C. Kuivinen
Polar Ice Coring Office
University of Nebraska-Lincoln
Lincoln, Nebraska 68588-0200
U.S.A.

Mr K. Kusunoki
National Institute of Polar Research
9-10 Kaga 1-Chome,
Itabashi-ku, Tokyo 173,
JAPAN

Capt B. Leith

SOUTH AFRICA

Mr G.H. Lewis
Physic & Engineering Laboratory, D.S.I.R.
P O Box 2111
Christchurch
NEW ZEALAND

Mr S. Mannhardt
Doisch Consult
Elsen: heimerstrasse 63,
Munchen
FEDERAL REPUBLIC OF GERMANY

Dr C. Marangunic
Chilean Antarctic Institute
Avenue Luis Thayer
Casilla 16.521
Correo 9, Santiago
CHILE

Prof. A.L. Matusov
Arctic & Antarctic Research Inst
Soviet Committee on Antarctic Research
34, Fontanka, Leningrad,
191104, USSR

Mr P.J. McDonald
Antarctic Division
Dept of Science & Technology
Channel Highway, Kingston
Tasmania 7150
AUSTRALIA

Mr R. McEwan
Antarctic Division
Department of Science & Technology
Channel Highway, Kingston
Tasmania 7150
AUSTRALIA

Mr C. Monteath
Antarctic Division
D.S.I.R.
P O Box 13247
Christchurch
NEW ZEALAND

Mr V.A. Morev
Arctic & Antarctic Research Institute
34, Fontanka, Leningrad 1911
USSR.

Mr J.G. Nel
Department of Transport
Private Bag X193
Pretoria
SOUTH AFRICA

Mr R. Radrigan
University of Chile
Beauchef 850, Casilla 2777
Santiago
CHILE

Mr J.R. Rojas
Dept of Geology & Geophysics
University of Chile
Beauchef 850, Casilla 2777
Santiago
CHILE

Dr. A.A. Romanov
The Arctic and Antarctic Rese
Institute, 34, Fontanka,
Leningrad, 191104, USSR

Mr V.E. Shirshov
Arctic & Antarctic Research Institute
34, Fontanka, Leningrad, 19
USSR.

Mr A. Smith
British Antarctic Survey
Madingley Road
Cambridge CB3 OET
UNITED KINGDOM

Mr J.F. Splettsotesser
Minnesota Geological Survey
University of Minnesota
St Paul, Minnesota 55108
U.S.A.

Mr R.B. Thomson
Antarctic Division
D.S.I.R.
P O Box 13247
Christchurch
NEW ZEALAND

Mr R.A. Tillson
Polar Ice Coring Office
University of Nebraska-Lincoln
Lincoln, Nebraska, 68588-0200
U.S.A.

Mr B. Tripphahn
Meteorological Service of GDR
Aerologisches Observatory
Lindenburg DDR 1231
Lindenburg
GERMAN DEMOCRATIC REPUBLIC

Mr G. Varcoe
Antarctic Division
D.S.I.R.
P O Box 13247
Christchurch
NEW ZEALAND

P. Vasquez
Department of Geology and
Geophysics
University of Chile
Beauchef 850, Casilla 2777
Santiago
CHILE

Mr V. Villanueva
Chilean Antarctic Institute
Avenue Luis Thayer
Ojeda 814, Cassilla 16521
Correo 9, Santiago
CHILE

Mr A. Vrana
Antarctic Division
Dept of Science & Technology
Channel Highway, Kingston
Tasmania 7150
AUSTRALIA

Mr D.B. Waldrip
ITT Antarctic Services Inc
Paramus
New Jersey 07652
U.S.A.

Mr G.F. Webers
Macalester College
St Paul
Minnesota 55105
U.S.A.

Mr I. Weber
University of Chile
Beauchef 850, Casilla 2777
Santiago
CHILE

CONTENTS

Page

PART III