

METEOROLOGY

MARION, GOUGH, NORWAY STATION, SANAE

Upper air observations were taken during the period 1. 1. 1962 to 31. 12. 1962 at Marion and Gough Islands, Norway Station and SANAE

Station	Type of Instrument	Observation and computation procedure	Frequency of observations and time of ascent
<u>(a) Upper air pressures, temperatures and humidities</u>			
Marion Island	Vaisala	As described in Vaisala manual	1 per day (0600 GMT)
Gough Island	do	do	do
Norway Station	do	do	1 per day at 1200 GMT from 1.1.62 - 8.2.62
SANAE	do	do	1 per day at 1200 GMT from 1.6.62 - 31.12.62
<u>(b) Upper winds</u>			
Marion Island	Vaisala radiotheodolite and optical theodolite	Graphic slide rule	1 per day at 0600 GMT
Gough Island	Optical theodolite	Slide rule	As often as conditions permitted
Norway Station	do	do	do (time 1200 GMT)

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tions.

METEOROLOGY

GOUGH ISLAND

Surface observations during period 1. 4. 1962 to 31. 3. 1963

Element	Measured at following times daily	Continuous Record	Instruments used
Temperature	0600, 1200, 1800 GMT	Yes	Spirit and mercury thermometers; bimetallic thermograph
Pressure	do	Yes	Kew barometer and barograph
Wind direction	do	No	Pressure plate anemometer (non-recording)
Wind speed	do	No	do
Precipitation	0600 GMT	Yes	5" Standard rain-gauge; Casella natural siphon rain recorder
Visibility	0600, 1200, 1800 GMT	No	Visual
Sunshine duration	Continuous	Yes	Campbell-Stokes recorder
Short wave radiation	Continuous	Yes	Robitzsch actinograph and Kipp solarimeter

Intermediate observations at 0000, 0300, 0900, 1500 and 2100 GMT were carried out and synoptic reports compiled and transmitted, but no returns were submitted for these hours.

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METEOROLOGY

MARION ISLAND

Surface observations during period 1. 4. 1962 to 31. 3. 1963

Element	Measured at following times daily	Continuous Record	Instruments used
Temperature	0600, 1200, 1800 GMT	Yes	Spirit and mercury thermometers; bi-metallic thermograph
Pressure	do	Yes	Casella Fortin barometer; barograph
Wind direction	do	Yes	Dines pressure tube anemograph
Wind speed	do	Yes	do
Precipitation	0600 GMT	Yes	Standard 5" rain-gauge with Nipher shield; Casella natural siphon rain recorder
Visibility	0600, 1200, 1800 GMT	No	Visual
Sunshine duration	Continuous	Yes	Campbell-Stokes recorder
Short-wave radiation	Continuous	Yes	Robitzsch actinograph and Kipp solarimeter

Intermediate observations at 0000, 0300, 0900, 1500 and 2100 GMT were carried out and synoptic reports compiled and transmitted, but no returns were submitted for these hours.

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COMPLETED PROGRAMMES 1962/63

Work was carried out at the following stations:

	<u>Location</u>	<u>Height</u>	<u>Personnel</u>
Norway Station	70°30'S, 2°52'W	55.7 m	10
SANAE Station	70°18'S, 2°21'W	52 m	13
Marion Island	46°53'S, 37°52'E	23 m	7
Gough Island	40°19'S, 9°54'W	5 m	7

UPPER ATMOSPHERE PHYSICS

1. IONOSPHERE

- (i) A vertical incidence sounder was set up at SANAE Base and monthly bulletins of ionospheric parameters have been issued, starting with June, 1962. The data for these bulletins are telexed to Rhodes University, Grahamstown, and edited there. Errors are corrected by telephone discussion with the observer in Antarctica.
- (ii) An oblique incidence pulse-transmission experiment is in progress between SANAE Base and Grahamstown. The pulses are radiated from SANAE at 10.74 Mc/s, at a power of about 10 KW and the amplitudes and relative delay times of pulses received in Grahamstown are photographed at $\frac{1}{2}$ minute intervals, during the hourly transmission schedule. The interest of this experiment is enhanced because reflection points of the signals in the ionosphere lie in the region of the anomalous penetration of the outer Van Allen belt particles to low altitudes, consequently upon the existence of the geomagnetic anomaly in the South Atlantic.

2. AIRGLOW

- (i) An Airglow photometer was operated aboard the research vessel, the 'RSA', of the Department of Transport, during the relief voyage from Cape Town to Marion Island in March, 1963.

3. COSMIC RAYS

- (i) A neutron monitor was operated aboard the 'RSA' during relief voyages to Gough Island in October, 1962, returning via Bouvet Island to Cape Town, then to the Antarctic Base, SANAE, and in March, 1963, to Marion Island via Durban.

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INTRODUCTION

As a result of recent reorganization, the South African National Committee for Antarctic Research (SANCAR) and its scientific Advisory Committee have been dissolved. The Department of Transport, through its Antarctic Division, continues to be responsible for mounting and maintaining the Antarctic Expeditions and has established an Interdepartmental Antarctic Committee consisting of the Secretaries for Transport and Foreign Affairs and the President of the Council for Scientific and Industrial Research to ensure high-level co-ordination and execution of South African Antarctic activities.

The Council for Scientific and Industrial Research has set up a Scientific Committee for Antarctic Research which, in addition to acting as the South African National Committee for SCAR, advises the Interdepartmental Antarctic Committee on the scientific aspects of the Republic's research programmes in Antarctica. An improved method of financing the scientific programmes over a five-year period has been introduced and should ensure better returns on the limited funds available.

The relevant addresses are:

The Secretary for Transport Private Bag 193 PRETORIA	and	The Secretary South African Scientific Committee for Antarctic Research Science Co-operation Division C S I R P O Box 395 PRETORIA
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A list of South African members of SCAR Working Groups is given at the end of the report.

The report that follows gives brief details of South African Antarctic Research programmes carried out during 1962 from SANAE Base, Queen Maud Land, and on Marion and Gough Islands, with an indication of programmes proposed for 1963. With the return of the Islanders to Tristan da Cunha, it is hoped to re-open the South African Meteorological Station on this Island as well.

All concerned in South Africa are looking forward to the SCAR - IUGS Antarctic Geological Symposium and the VIIIth Meeting of SCAR which are due to take place in Cape Town during September, 1963.

British National Committee on
Antarctic Research,
The Royal Society,
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tions.

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PRETORIA, JULY 1963

The Royal Society,
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SCIENTIFIC COMMITTEE FOR ANTARCTIC RESEARCH
FIFTH REPORT TO SCAR

South African National Antarctic Programmes
1962

(incorporating proposals for 1964)

S A COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

Pretoria, July 1963

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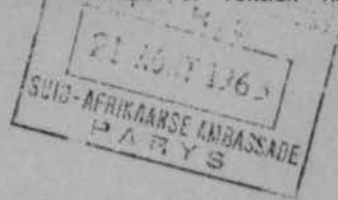
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RESEARCH



DEPARTEMENT VAN BUITELANDSE SAKKE.
DEPARTMENT OF FOREIGN AFFAIRS.



Met die komplimente van die
Sekretaris van Buitelandse sake.

With the Compliments of the
Secretary for Foreign Affairs.

*Die Ambassadeur
Paris.*

Te waghing

M. de Villiers

*M. Attaché
Inf. Consiller } H.C.*

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RESEARCH

Programmes

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