ANTARKTIESE BULLETIN

JANUARY, 1965 — No. 7 — JANUARIE 1965

Published by the South African Antarctic Association
16, Anderson Street, Brooklyn, PRETORIA.

Uitgegee deur die Suid-Afrikaanse Antarktiese Vereniging
Andersonstraat 16, Brooklyn, PRETORIA

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REDAKSIONELE VERSUGTING

Eintlik moes daar in hierdie ruimte op die eerste bladsy van die tweede jaargang van die *Antarktiese Bulletin* 'n indrukwekkende artikel of oorsig verskyn het deur een of ander outoriteit oor Antarktiese navorsing, of oor die prestasies van ons Vereniging, of oor wat Suid-Afrika reeds in Antarktika gedoen het, ens. So 'n artikel is egter nie voorhande nie en dit is juis in verband met die probleem van onvoldoende ondersteuning van die lede van ons Vereniging vir die *Bulletin* dat ek aan hierdie aantekening nou die ereplek toeken instede van dit heel onderaan op die laaste bladsy weg te steek soos in die geval van Bulletin No. 1.

In die afgelope jaar is daar wel 'n aantal welkome bydraes deur ons lede gedoen, maar die redakteur moes tog die spit afbyt. Die Vereniging het meer as honderd lede, daar het reeds ongeveer sestig Suid-Afrikaners in Antarktika oorwinter, om nie te praat van tientalle kêrels wat op die eilande 'n jaar of meer deurgebring het nie. Het daar dan nie by hulle so 'n belangstelling of geesdrif ontwikkel nie dat die redakteur positiewe hulp en bydraes van baie van hulle kan verwag nie? Daar gebeur tog sekerlik nuuswaardige voorvalle wat op skrif gestel kan word nadat die ekspedisies terugkeer. Daar moet interessante fotos wees wat geplaas kan word. Populêr-wetenskaplike artikels sal vir die meeste van ons lede aanneemlik wees en ook aan buitestaanders, selfs buite ons landsgrense, 'n beeld gee van wat ons verrig. In hierdie verband kan die koördineerders van die programme 'n nuttige taak verrig. Die *Bulletin* gaan aan 'n hele aantal inrigtings en indiwidue oorsee.

Ek hoop u sal nie wegkoes as ek vanjaar persoonlike versoeke aan u gaan rig nie, want ek is seker daar is baie lig wat onder 'n koringmaat verberg word!

Notes on Biometeorology as Observed at Norway Station by the First South African National Antarctic Expedition (1960)

By J. J. la Grange

Abstract: Temperatures at different places inside the living quarters of the First South African National Antarctic Expedition (1960) indicate that they are effected by outside temperatures, especially when a strong surface wind is blowing. The additional clothing items worn during winter are fewer than one would expect if the large drop in outside temperature is considered. Personnel spending more hours per day outside, seem to feel the cold less than those who spend relatively more time inside the hut.

A few remarks about lichens on rocks, the migration of birds and corresponding climatological conditions, are included.

Introduction: Probably in few other places in the world is man subjected to such a complete change of climate as when he goes to spend a winter in Antarctica. However, today with comfortable housing, sufficient good food and effective clothing, he is able to alter his immediate climatic surroundings to such an extent as to survive an Antarctic winter.

The results presented in this paper relate to Norway Station (Latitude 70° 30′S, Longitude 2° 32′W), where the First South African National Antarctic Expedition was kindly granted the free use of the existing buildings by the Norwegian Government in January 1960. A plan of the buildings is shown in **Figure 1.**

Temperature: Heating was effected by a paraffin heater in the sleeping hut with ducts to each cubicle, and by paraffin cooking stoves in the kitchen/diningroom. A paraffin heater in the latter building was used on a few days only.

For the purpose of studying the effects of the heating, thermometers and, in a few cases, thermographs were installed at certain levels in most apartments and in the ice corridor. Hourly averages of the temperatures obtained within the main buildings are contained in **Table 1** for March to December 1960.

From the values for July to October, during which time observations were made at three levels in the kitchen/dining room, it is clear to what extent the floor temperatures were lower than those at 1 metre above the floor and at the ceiling (2½ metres). On the average the vertical temperature gradient was greatest in August and September, when the difference between ceiling and floor was more than 8°C over all hours. Further, the greatest difference occurred between 1700 and 1800 GMT (which incidentally is the same as the local zone time at the station). This temperature difference is due to a substantial rise at ceiling level as against a fairly constant condition at floor level throughout the day.

Temperature variations in the course of the day were mainly connected with specific duties performed, e.g. lighting the kitchen stoves at about 0400 and preparing breakfast shortly after 0500.

The subsequent gathering of men caused temperatures to continue to rise till about 0700. After that, during the course of the daily activities, doors were opened and closed and inside temperatures consequently dropped. Probably adding to this drop was the introduction about this time of the day of a supply of snow from outside for domestic use. Later the temperatures rose again, especially when meals were prepared and served, e.g. between

1500 and 1800. After this the cooking stoves were put out and a further supply of snow was brought inside. After that temperatures dropped gradually till 0400 the next day, when the daily operations were resumed.

The largest differences between temperatures at different levels were found in the diesel room. On October 2, for instance, −7.8°C was measured at floor levels, 8.6°C at 1 metre and 31.7° at ceiling level (±2.2 metres). This is equivalent to a difference of nearly 40°C between one's feet and head.

Table 2 gives the temperatures observed by mercury thermometers 1 metre above the floor surface at chosen places inside the buildings and in the ice corridors. It is clear from these values that, on the whole, the radio room (without a heater) was the warmest due to the heat given off by the radio apparatus.

Although the building at the time was relatively well insulated by a snow cover of some 3 to 4.5 metres, inside temperatures were to a large extent affected by outside conditions, especially when a strong surface wind blew. Figure 2, which covers the period 1 to 15 December, gives a series of temperature curves for specific locations and indicates the influence of outside effects. Over the first four days, for instance, there was a strong wind associated with high outside temperatures which continued till the 8th. During this time the ice corridor value remained practically constant at −10°C, whilst at floor level in the kitchen/dining room the temperature fluctuated between the extremes of 0° and 10°C. For the second part of the chosen period, when the wind was practically calm, outside and ice corridor temperatures were very variable but not those at floor level in the kitchen/dining room. Ceiling temperatures both in this room and in the sleeping hut (which was not heated at this time of the year) were most variable in the first six days.

In spite of the thick insulating layer of ice, its porosity allowed a certain degree of intrusion of outside air, especially with the strong wind. A certain amount of outside cold therefore penetrated in that way. In addition, when the winds were strong the ventilation system, which consists of two concentric funnels allowing an outward flow of air along the one and an inward flow along the other, often failed. This necessitated that windows had to be opened more frequently than otherwise and added to producing variable inside temperatures during windy spells. Outside and in the ice corridor, on the other hand, such spells had a stabilizing effect on the air temperature.

TABLE 1

HOURLY AVERAGES OF TEMPERATURES (°C) AT GIVEN HEIGHTS INSIDE THE STATION BUILDINGS FOR TEN MONTHS IN 1960. (THE VALUES FOR MARCH RELATE TO THE SECOND HALF OF THE MONTH ONLY)

K/D = Kitchen/Dining room. Shp = Sleeping hut passage.

Month	Locality	Height	01	02	03	04	05	06	07	08	09	10	11	12
March	K/D	1m	8·5	8·7	8·7	8·8	9·2	12·0	11·8	11·5	13·3	14·3	14·3	12·6
	shp	1m	6·0	6·0	5·9	6·0	6·2	5·9	5·9	5·9	6·0	6·0	5·9	5·8
April	K/D	1m	9·5	9·4	9·3	9·1	9·5	13·1	12·1	11·3	13·3	14·8	14·7	13·0
	shp	1m	4·3	4·3	4·3	4·3	4·4	4·1	4·1	4·0	4·1	4·1	4·1	4·1
May	K/D	1m	8·5	8·3	8·0	7·9	8·1	10·1	11·3	10·8	12·4	13·4	14·1	12·3
	shp	1m	5·8	5·8	5·7	5·7	5·8	5·6	5·7	5·7	5·9	5·8	5·8	5·8
June	K/D	1m	11·1	11·0	10·9	10·5	10·7	12·8	13·3	12·1	13·4	14·2	15·1	13·3
	shp	1m	6·4	6·3	6·2	6·1	6·2	6·1	6·2	6·2	6·4	6·5	6·5	6·5
July	K/D	Ceiling	11·2	10·9	10·7	10·4	10·8	12·4	13·0	12·0	12·9	15·1	15·8	14·0
	K/D	1m	10·2	9·9	9·8	9·6	9·8	11·1	12·1	11·1	12·2	13·5	14·4	12·8
	K/D	Floor	6·5	6·1	6·0	5·8	5·5	6·6	7·1	6·5	6·3	6·5	7·4	7·3
August	K/D	Ceiling	11·5	10·9	10·6	10·2	10·4	12·0	13·1	11·7	12·8	15·7	16·5	13·9
	K/D	1m	9·3	8·9	8·5	8·2	8·2	9·9	11·4	10·4	11·8	13·4	14·5	12·3
	K/D	Floor	4·7	4·5	4·3	4·1	3·8	4·5	5·0	4·2	4·5	5·2	6·2	5·3
September ..	K/D	Ceiling	8·6	8·4	8·1	7·9	8·1	9·3	10·9	10·2	10·6	13·3	15·3	12·5
	K/D	1m	6·8	6·2	6·4	6·1	6·1	7·4	9·0	8·3	8·8	10·7	12·1	10·5
	K/D	Floor	2·2	2·0	1·8	1·6	1·5	2·4	3·0	2·5	2·0	2·5	3·8	3·6
October	K/D	Ceiling	11·6	11·2	10·9	10·7	10·5	11·1	12·8	11·9	12·5	14·5	15·9	13·7
	K/D	1m	9·3	8·8	8·6	8·4	8·6	9·7	10·7	10·5	10·5	11·2	12·9	11·4
	K/D	Floor	4·5	4·3	4·1	3·9	3·8	4·5	4·8	4·4	4·4	4·5	5·4	5·0
November ..	K/D	Ceiling	10·8	10·8	10·8	10·5	10·6	11·0	12·2	11·7	12·3	15·0	15·6	13·7
		1m	9·3	9·3	9·1	8·9	9·0	9·9	10·9	10·6	10·5	11·8	13·2	11·9
December ..	K/D	1m	10·3	10·0	10·0	9·9	10·2	11·1	12·3	11·7	11·7	12·7	13·9	12·9

TABLE I—continued

Month	Locality	Height	13	14	15	16	17	18	19	20	21	22	23	24	Mean
March	K/D	1m	11·7	11·9	12·3	12·5	13·4	13·4	12·2	11·6	10·1	9·5	8·8	8·6	9·4
	shp	1m	5·8	5·7	5·6	5·6	5·5	5·5	5·6	5·7	5·7	5·8	5·8	5·7	5·8
April	K/D	1m	12·3	12·7	13·7	13·6	14·2	14·1	12·5	11·9	11·3	10·8	10·3	9·9	11·9
	shp	1m	4·1	4·2	4·2	4·2	4·1	4·1	4·1	4·1	4·1	4·2	4·3	4·3	4·1
May	K/D	1m	11·6	11·9	12·8	13·0	13·7	14·6	12·9	12·0	11·0	10·3	9·7	9·1	11·2
	shp	1m	5·8	5·8	5·8	5·8	5·9	5·9	5·9	6·0	5·9	6·0	6·0	6·0	5·8
June	K/D	1m	12·6	12·7	13·7	13·7	15·0	15·9	14·0	13·0	12·5	12·1	11·8	11·3	12·8
	shp	1m	6·5	6·5	6·6	6·6	6·6	6·7	6·7	6·7	6·7	6·6	6·6	6·5	6·5
July	K/D	Ceiling	12·9	14·1	15·3	15·5	16·3	17·0	15·2	13·8	13·0	13·0	12·4	12·0	13·3
	K/D	1m	11·8	12·3	12·9	13·2	13·6	14·9	13·4	12·5	12·0	11·6	11·1	10·6	11·9
	K/D	Floor	6·9	6·9	6·8	6·7	6·9	7·7	7·2	6·9	7·0	6·9	6·8	6·6	6·5
August	K/D	Ceiling	12·7	13·7	14·7	15·2	16·6	17·5	15·3	13·6	13·2	12·8	12·3	12·0	13·3
	K/D	1m	10·9	11·1	12·1	12·6	13·3	14·7	12·9	12·0	11·6	10·9	10·3	9·8	11·2
	K/D	Floor	4·7	4·5	5·3	5·5	5·5	6·5	5·6	5·7	5·7	5·5	5·3	5·0	5·0
September ..	K/D	Ceiling	10·9	11·4	12·3	12·5	14·4	15·4	13·6	11·9	11·0	10·2	9·8	9·3	11·1
	K/D	1m	9·4	9·0	9·5	9·5	10·5	12·0	10·8	9·7	9·1	8·3	7·7	7·2	8·8
	K/D	Floor	3·2	2·8	2·7	2·7	2·9	3·8	3·6	3·0	3·1	2·8	2·5	2·3	2·7
October	K/D	Ceiling	12·5	13·7	15·2	15·4	17·1	18·1	16·0	14·9	13·9	13·3	12·7	12·1	12·7
	K/D	1m	10·4	10·7	12·0	11·9	12·8	14·3	12·7	12·1	11·4	10·9	10·5	9·8	10·8
	K/D	Floor	4·5	4·5	5·2	5·1	5·5	6·2	5·5	5·6	5·4	5·2	5·1	4·8	4·8
November ..	K/D	Ceiling	11·9	12·7	13·2	13·9	16·0	16·7	14·4	12·6	12·0	11·4	11·1	10·9	12·6
	K/D	1m	10·7	10·3	11·3	11·4	12·5	13·9	12·3	11·2	10·7	10·2	9·7	9·5	10·7
December ..	K/D	1m	12·5	12·4	13·0	12·8	13·4	14·3	13·4	12·4	11·8	11·4	11·1	10·6	11·3

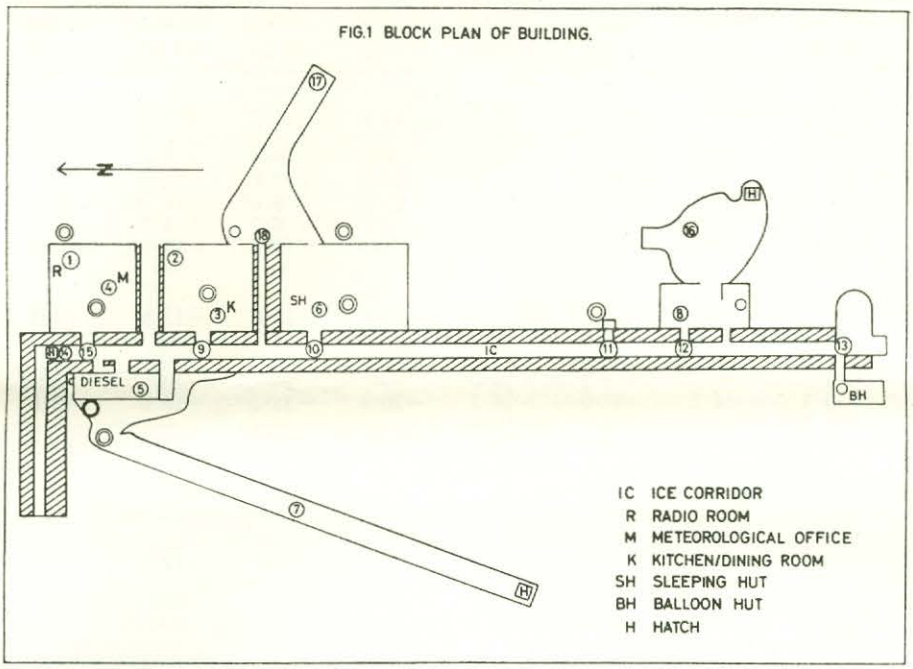

Fig. 1. Plan of buildings and tunnels. The numerals refer to localities listed in Table 2.

TABLE 2

TEMPERATURES (°C) AT 1m ABOVE FLOOR LEVEL IN CHOSEN LOCATIONS INSIDE THE BUILDING AND OUTSIDE ON VARIOUS DATES

%

R/R = Radio Room
E/L = Expedition Leader
K = Kitchen
W = Wall
D/T = Dog Tunnel
B/H = Balloon Hut
T = Toilet

M/O = Met. Office
D/R = Diesel Room
W/B = Work Bench
S/H = Sleeping Hut
S/R = Sledge Room
N/H = Northern Hatch
W/T = Water Tunnel

	Date	12/3/60	26/3/60	9/4/60	30/4/60	14/5/60	21/5/60	28/5/60	4/6/60	11/6/60	25/6/60
	Time (GMT)	12·00	11·30	15·45	15·00	15·00	13·00	14·00	13·00	15·30	15·30
	Locality (for numerals see Fig. 1)										
	Inside:										
1.	R/R	—	—	—	+19·0	+15·4	+16·0	+16·2	+15·3	+14·0	+12·1
2.	Off. (E/L)	+11·2	+15·5	+14·0	+11·0	+10·2	+11·8	+13·2	+ 9·2	+12·3	+11·9
3.	K. (against W)	+10·3*	+16·2*	+13·4	+11·7*	+11·4*	+12·2*	+13·9*	+11·0	+13·8	+12·5
4.	M/O	+16·5	+13·4	+17·0†	+15·1	+14·0	+15·8	+18·2	+15·0	+13·1	+13·6
5.	D/R (near W/B)	+16·4	+ 8·8	+15·4	+ 9·7	+14·2	+ 7·8	+ 8·2	+ 6·0	+ 4·9	+11·4
6.	S/H, Lobby	+ 8·5	+ 6·3	+ 5·0	+ 1·3	+ 9·8	+ 6·8	+ 5·9	+ 6·3	+ 7·3	+ 5·1
7.	D/T	—	—	—	—	—	—	—	—	−11·5	− 8·0
8.	S/R	− 7·2	− 8·5	− 9·3	−11·4	− 9·6	−10·0	−10·3	−12·7	−10·3	−10·0
	Ice Corridor:										
9.	Near K	− 4·5	− 8·8	− 9·9	−16·6	−10·8	− 9·7	−10·4	−20·7	−10·6	− 7·5
10.	Near S/H	− 4·8	− 8·6	− 9·7	−15·4	−10·0	−10·2	−10·5	−17·2	−11·2	− 9·6
11.	Near T	− 6·4	− 8·3	− 9·6	−14·8	−10·3	− 9·9	−10·3	−14·4	−10·4	−10·2
12.	Near S/R	− 6·6	− 8·4	− 9·6	−12·8	−10·2	−10·0	−10·4	−14·3	−10·4	−10·6
13.	Near B/H	− 7·5	− 8·9	−10·6	−13·0	−11·4	−11·9	−12·8	−14·8	−12·3	−12·6
14.	Near N/H (open)	− 5·8	− 8·5	−11·6	−16·6	−10·4	−10·6	−10·2	−25·2	−10·8	− 7·4
15.	Near M/O	− 4·7	− 8·6	−10·4	−16·4	− 9·4	− 7·4	− 9·2	−23·7	− 8·5	− 7·1
	Other:										
16.	New T. with closed hatch	− 6·9	− 8·4	− 9·4	−10·6	− 7·4	− 7·7	− 8·9	−10·6	− 8·4	− 9·5
17.	Furthest end of W/T	− 3·4	− 4·5	− 7·3	−11·4	− 6·7	− 6·5	−10·7	−10·9	−11·5	− 6·8
18.	W/T (passage between tunnel and ice corridor)	− 2·4	− 4·1	− 7·0	−11·4	− 8·4	− 6·9	−10·0	−11·4	−10·4	− 7·0
	Outside:										
	Screen Temp.	−14·9	−16·8	−18·1	−19·7	− 8·1	− 8·0	−20·0	−35·8	−20·9	−23·1
	Surface Wind	SSW17	N03	ESE17	WSW22	SE20	ESE28	E33	WSW10	ESE27	ESE28

TABLE 2—continued

	Date	9/7/60	23/7/60	7/8/60	21/8/60	17/9/60	2/10/60	16/10/60	30/10/60	11/12/60
	Time (GMT)	15·30	13·30	15·00	15·00	15·00	15·30	15·00	11·00	15·00
	Inside:									
1.	R/R	+11·1	+14·7	+16·8	+15·2	+11·7	+15·2	+ 9·0	+11·0	+13·8
2.	Off. (E/L)	+ 8·6	+12·0	+11·4	+11·6	+ 9·0	+ 8·2	+ 4·6	+11·6	+12·6
3.	K. (against W)	+10·8	+14·3	+12·1	+12·8	+ 9·5	+10·5	+ 7·4	+12·3	+10·5
4.	M/O	+13·3	+11·1	+12·1	+15·4	+11·0	+17·8	+14·0	+14·7	+14·5
5.	D/R (near W/B)	+16·1	+11·2	+ 9·9	+11·0[1]	+23·6[2]	+ 8·6[3]	+14·9[4]	+10·2[5]	+ 6·2[6]
6.	S/H, Lobby	+ 4·3	+ 6·4	+ 4·3	+ 4·7	+ 7·7	+ 8·7	+ 3·6	+ 3·1	+ 7·6
7.	D/T	−11·9	− 9·8	−13·0	−13·2	—	+12·3	−18·0	−14·4	—
8.	S/R	—	—	—	—	—	—	—	—	—
	Ice Corridor:									
9.	Near K	−11·4	−15·0	−18·0	− 9·8	−19·8	−15·6	−15·6	−12·5	− 8·0
10.	Near S/H	—	−17·3	−12·6	—	—	—	—	—	− 8·9
11.	Near T	—	—	—	—	—	—	—	—	—
12.	Near S/R	−11·3	—	−16·2	−14·0	—	—	—	—	− 8·4
13.	Near B/H	−13·8	−14·2	−17·0	−16·2	−20·6	−15·2	−16·0	−13·6	− 9·6
14.	Near N/H (open)	−11·7	−18·0	−14·0	−10·4	—	—	—	—	− 6·8
15.	Near M/O	−10·7	—	−18·4	− 9·2	−20·6	−14·0	−13·0	−11·9	− 7·4
	Other:									
16.	New T with closed hatch	—	—	—	—	—	—	—	—	− 6·0†
17.	Furthest end of W/T	−12·7	−13·0	−15·4	− 8·7	−15·0	−10·8	−12·8	−12·6	− 7·0
18.	W/T (passage between tunnel and ice corridor)	−10·0	−12·3	−15·2	−10·0	—	—	—	—	—
	Outside:									
	Screen Temp.	−13·9	−30·5	−21·8	−32·5	−32·5	−17·3	−15·3	−16·5	− 2·0
	Surface wind	E45	SW12	ESE17	ESE15	S07	SE13	E48	SE04	SW01

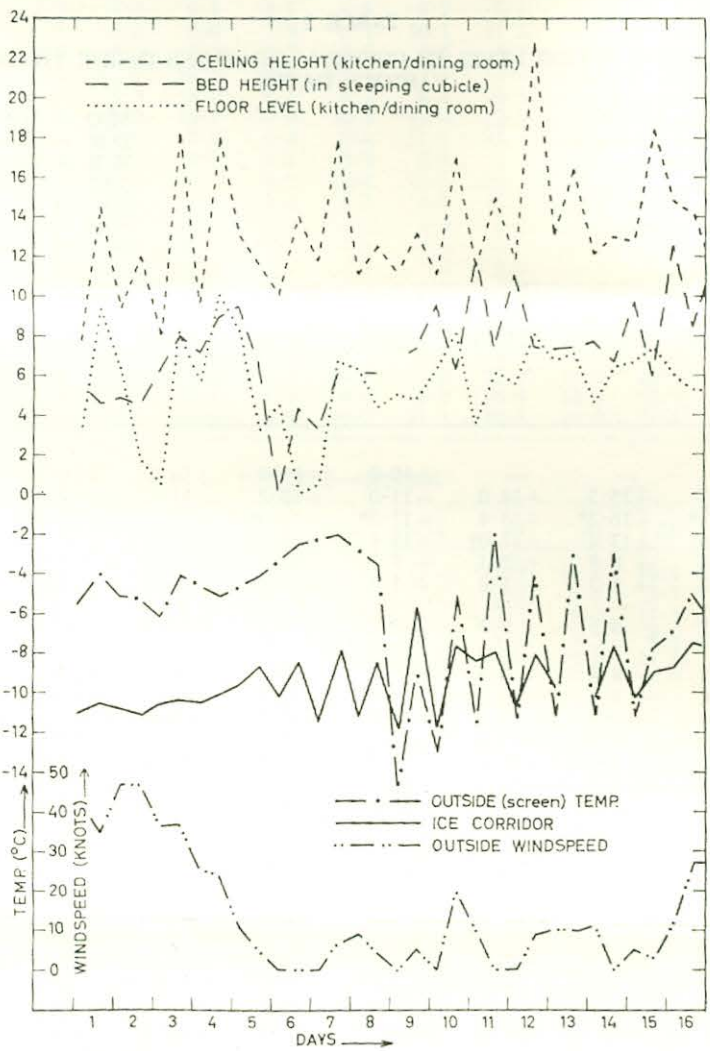

Fig. 2. Fluctuations of temperature inside and outside the buildings.

TABLE 3

Monthly mean relative humidities at 1m above floor level in two localities

Month	Kitchen/Dining Room		Sleeping Hut Passage	
Time	0500	1700	0500	1700
March*†	62	63	70	68
April*	59	62	68	68
May	61	67	58	57
June	58	64	55	54
July	63	67	—	—
August..	70	76	—	—
September	71	80	—	—
October	70	78	—	—
November	73	81	—	—
December	77	79	—	—

*Observations at 0430 and 1630 hours.

†Values for last 16 days of month.

Humidity: The monthly averages of relative humidity at 0500 and 1700 for March to December and at 1 metre above floor level were obtained by hair hygrographs for two apartments. These values are given in Table 3. The sleeping hut experienced no marked variation over the twelve hours, viz. less than 2 per cent in any month and usually not more than 5 per cent on individual days. The higher values in the mornings were most probably due to the nine men's breathing during the night. On the other hand, the kitchen/dining room values show much bigger daily fluctuations, often between 15 and 20 per cent on individual days. In this case the highest values occurred in the afternoon, obviously due to the increased amount of steam from cooking and from the men's breathing.

Clothing: Approximately twice a month personnel made a list of the various clothing items they wore and recorded the degree of comfort they experienced. Judging by the statistics so obtained (not shown) one finds that about double the amount of heat-retaining clothing is required in the Antarctic winter compared with that in summer. Further, man acclimatises to such an extent in winter that he wears appreciably less after having been there than before it under similar meteorological conditions. On the whole he wears remarkably less in Antarctica than one would expect by comparing the temperatures there with those in a temperate region.

Personnel also kept records of the periods which they spent outside. From these records it appears that, after a few months, those who had spent more time inside the buildings were much more sensitive to outside cold and wind than those who had spent relatively more time outside.

Botanical aspects: In the course of the year 22 single or groups of nunataks were visited. On most of these lichens were found. Those nunataks, on which none were seen, seem to have been exposed at a late stage so that no lichens had been able to settle there. In all cases where they were observed, their concentrations were thicker at the higher levels. It appeared that they did not prefer the sunny to the reverse sides of nunataks. They often grow in places where they will be covered during a snowfall. It is interesting to note under what adverse climatic conditions they grow even during winter.

Zoological aspects: The extent to which climate has a direct influence on the migration of birds is a matter of further research. It is, for instance, not unlikely that, in this connection, the duration of daylight is a more important factor than temperature.

On February 20 about 50 Snow and Antarctic petrels were observed migrating to the north. After the winter, on the 6th October, three Antarctic petrels were seen near the coast whilst three Weddell seals were lying on the bay ice. On the 9th, at 1500, groups of five to ten Antarctic petrels were again seen near the ice front and only two hours later they had increased to about 50 per group. At the station, 20 miles inland, up to four petrels were observed on the 8th. On the next day, at 1600, about 150 of these birds hovered over the meteorological tower and then proceeded south. Altogether some 300 to 500 went south on this day. About 60 miles inland, groups of between 30 and 200 of them were seen flying in the same direction on the 9th. All these dates correspond to fairly rapid changes in the duration of sunshine and in the outside temperature, as is noticed from the monthly averages of the two elements in Table 4.

Birds and seals which visit Antarctica each year for breeding purposes choose the summer season to have and rear their young. Only the emperor penguin hatches its eggs in mid-winter.

TABLE 4

Monthly means of sunshine duration (hours), and temperature conditions (°C) in 1960

Month	Sunshine	Daily mean	Mean max.	Extreme max.	Mean min.	Extreme min.
Jan. ..	—	− 5·4	− 2·1	+ 5·0	−10·3	−18·3
Feb. ..	6·5	−11·4	− 7·1	− 1·2	−17·6	−31·3
Mar. ..	3·9	−15·5	−11·7	− 4·3	−20·8	−28·5
April ..	3·2	−22·5	−18·1	− 8·6	−28·5	−41·4
May ..	1·0	−20·5	−16·0	− 4·7	−24·9	−43·2
June ..	0·0	−24·2	−19·3	− 7·0	−30·2	−42·2
July ..	0·1	−26·3	−21·8	− 9·6	−31·9	−43·6
Aug. ..	1·2	−28·2	−23·3	−14·4	−34·0	−47·8
Sept. ..	4·2	−29·2	−23·7	− 9·8	−35·6	−45·8
Oct. ..	5·4	−18·6	−14·3	− 6·5	−24·9	−32·4
Nov. ..	8·1	−11·7	− 8·1	− 1·1	−17·1	−29·5
Dec. ..	12·5	− 5·9	− 1·6	+ 2·1	−10·7	−15·3
Year ..	—	−18·3	−13·9	+ 5·0	−23·9	−47·8

NUUS VAN SANAE EN DIE EILANDE

SANAE—30th November:

At present SANAE is a veritable hive of activity with the relief only a month- and-a-half away. The Base is being given a spring-cleaning. All members are hard at work rounding off various stages of their programmes. It is a pleasure to do outside work now, but the summer warmth has its disadvantages as well, since the soft snow surface is often very difficult to negotiate. There is a constant dripping of water in all buildings and snow passages are slippery. Recently a temperature of plus three degrees Celsuis was registered.

However, come summer or winter, it remains the same routine for our radio operator, George Bentley. His radio "skeds" keep him busy from six in the morning until seven at night and is often to be seen in his office late at night, making radio amateur contacts with different countries. The major contact with South Africa is, of course, Jan Smuts Aeradio Centre, through which scientific results, meteorological data, administrative traffic, as well as the private correspondence between members and their families are passed.

Besides these "skeds" he has regular daily "skeds" with other bases in Antarctica for the purpose of passing on meteorological data and other information. Contact is made four times daily with Mawson and once daily with Halley Bay. Phone contact is extremely useful for the geophysicists here for discussing various aspects of the ionospheric, magnetic, cosmic ray and other programmes with their counterparts in South Africa.

Contact was made during the year with most other bases, including Davis, Wilkes, General Belgrano, Eights, Stonington Island and Roi Baudouin. Monthly contact is made with Derdepoort Radio Station near Pretoria for private radio-telephone conversations and fortnightly telephone calls to enable the scientists to discuss pertinent questions with their programme co-ordinators. Furthermore, when parties are out in the field regular skeds have to be maintained with them.

On entering either the radio office or George's cabin, his neatness and handiwork are immediately apparent. Earlier in the year he built a small sledge from old skis to be drawn by three huskies.