P/A 45/38

7/10/83.

Dear Sir/Madam.

I am 27 years old married with 1 child. I have lived on a Farm in Balingup for 8 years now & will be here for a long time yet as I consider this my permanent home. Over the years I have done House Building Farming (All Aspects) Demolition & Swimming Teaching

At the moment I am unemployed and in an attempt to find work I had the thought does the Bureau of Meteology have people in their employ either Perth or Kadina. We have large Hills in our area of which there are very extensive views I am sure these hills would be excellent to take readings. If you are interested or would like further information I have enclosed a stamped addressed envelope to send. I'll not thankyou for reading my letter.

Yours Sincerely

[redacted]

JRF:KG

P/A → 45/38

[redacted]

Dear [redacted]

Thank you for your offer to carry out weather observations on your property. However as we already have a station at Bridgetown we have no requirement for another in the area.

We will place your name on the list of persons offering their services in this manner and should circumstances alter then we will contact you.

Yours sincerely

[redacted]

for Regional Director

11 October 1983

AS:ZP

45/38 P/A

[redacted]

Dear [redacted]

Please find enclosed some plans and specifications for an observation enclosure, together with a few pages which allow an approximate calculation of shadow effects at latitude 20 degrees south.

If the standard layout is followed then there are limitations on where a 10m mast may be sited without casting a shadow on the radiation sensor - close to the fence line near position C would probably be as good as any. The clearance from the fence is probably dependant on whether the mast is of the counterbalance or hydraulic-type and guyed or unguyed.

Please phone me if you have any further questions.

Yours sincerely

[redacted]

for Regional Director

24 April 1984

AS:ZP

45/38 [redacted]

[redacted]

Dear Sir

This Bureau, through our Head Office in Melbourne, is participating with the [redacted] during a two-week period in July, possibly starting on the 10th. The trials are designed to test the calibration of the over water wind fields which can be derived from this sytem. When operational the radar should provide an additional method of accurately locating tropical cyclones and better defining their wind fields. If satisfactory arrangements can be made regarding access to the data, then an improvement in the confidence attached to our tropical cyclone warnings will result.

During the trial period we will be attempting to gather additional observations from all offshore sources north of Exmouth. In this regard we believe the [redacted] could provide valuable additional data. We do not wish to change the established arrangements for operational receipt of meteorological data at 6-hourly intervals. We would, however, appreciate it if you are able to provide after the trial period a printout of the meteorological parameters, including sea state, logged more frequently on the Platform.

If you are able to agree to this request we will advise you of the dates of the trial when known.

Thank you for your consideration.

Yours faithfully

[redacted]

ACTG REGIONAL DIRECTOR

25 May 1984

[redacted]

74

45/38

[redacted]

The Director,
Bureau of Meteorology,
Dept of Science & Technology,
127 Wellington St,
PERTH 6000.

45/35
MFI

Dear Sir,

As a past observer for your bureau I have retained my interest in the weather and atmospheric phenomena and am at present a rainfall recorder, the results being sent to Melbourne monthly. I thought you may be interested in an unusual storm experienced here early this month.

On 9th January, at approximately 6:15 pm, what appeared to be a local 'tornado' occurred. Over a period of no more than 3-5 minutes, extremely strong winds buffeted the buidings from a SSEasterly direction, estimated at 100 km/hr. There were clouds of dust and sand, accompanied by 1.4 mm of rain. The rain reading was probably lower than the actual fall as it was practically horizontal.

The wind direction may not have been constant. At the house, where sand and dust was blown in all open doors and windows and part of a tree blew down; 100 metres east two unsecured 5000 gallon tanks travelled 100 metres and 200 metres respectively; this was all the work of SSE wind. However, only 50 metres east, that is between the other pieces of evidence, a roll of ringlock fencing wire was blown 50 metres southwards.

southerly

The phenomenon was clearly visible from approx 40 km away as a white column extending upwards, much in the style of our frequentsummer willy-willies.

Yours sincerely,

[redacted]

[redacted]

[redacted]

45/38 [redacted]

[redacted]

Dear [redacted]

Thank you for your detailed description of a strong wind squall at Mt Burges Station at 6.15 p.m. on 9 January 1985. The fact that the squall was accompanied by 1.4 mm of rain suggests that it was produced by a thunderstorm. However, according to our information there were no clouds in the Mt Burges Station area on the evening of 9 January. Could the wind squall have occurred on the evening of Friday 11th of January when a line of thunderstorms oriented northwest to southeast developed between Southern Cross and Kalgoorlie about 4 p.m. and persisted till after midnight?

Using the weather observations made at Kalgoorlie Airport my estimate of the height of the base of thunderstorm clouds would be 3500 metres. The tops of the clouds would have been at about 11000 metres. Under the very hot and dry conditions prevailing nearly all the rain falling from these clouds would have evaporated before reaching the ground. At 6 p.m. Kalgoorlie Airport reported rain falling from high level cumulus clouds but not reaching the ground. In the region of the downdraft under a thunderstorm cloud the evaporating raindrops cool the air and make it heavier than the surrounding air. This, in turn, greatly increases the speed of the downrushing air and causes a strong windsquall at the surface.

Your description of an extremely strong windsquall from the SSE, lasting 3 to 5 minutes, which carried clouds of dust and sand matches that of a thunderstorm windsquall. Measured wind gust speeds during thunderstorms have at times exceeded 100 km/hr. The fact that two 5000 gallon tanks were moved 100 metres and 200 metres northward support your observation of extremely strong winds approaching 100 km/h. Also your description of the phenomenon from 40 km away as a white column extending upwards suggests a thunderstorm squall line made visible by uplifted dust and sand.

However, as you point out, a roll of ringlock fencing wire located between the house and the tanks which was blown 50 metres southward indicates the possibility of the occurrence of a tornado descending from the thunderstorm cloud. Tornadoes are generally narrow-varying from 100 metres to 1000 metres in diameter. The very dry air near the surface would make tornado formation very unlikely. Could the roll of fencing wire have been moved by a northerly wind gust which may have occurred ahead of the thunderstorms?

2/...

In our very sparsely populated country many local weather phenomena such as thunderstorm squalls and tornadoes are often not observed. The very few reports received are from people like you who maintain a keen interest in weather phenomena. I feel sure that you will be interested in the description of a tornado observed near Northam in December 1977 which is enclosed.

Thank you again for your excellent observations and for your continuing support as a rainfall observer for the Bureau.

Yours sincerely,

[redacted]

for Regional Director WA

5 March 1985

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[redacted]

Your Ref
Our Ref
Enquiries
Tele Direct [redacted]

Address all letters to Managing Director

Regional Director
Bureau of Meteorology
127 Wellington Street
PERTH W AUST 6000
(ATTENTION : MR [redacted])

Dear Sir

PROPOSAL TO LOCATE MWA RAIN GAUGE WITHIN PERTH BUREAU GROUNDS

Further to the telephone conversation between your [redacted] and our [redacted] the [redacted] wishes to confirm interest in installing a 200mm diameter tipping bucket rain gauge within the grounds of the Perth Meteorology Bureau.

The purpose is the collection of rainfall intensity data in the central Perth area as part of the [redacted] drainage gauging program. The information will enable us to relate rainfall to flows in stormwater drains in the Perth and Mt Lawley areas.

The installation would consist of a 600mm by 600mm by 700mm high galvanized cabinet on which a 300mm high Rimco rain gauge would be attached. The cabinet, which would house an electronic data logging device and jerry can to collect the rainfall for calibration purposes, will need to be sited on a 900mm by 900mm concrete base. The [redacted] would be responsible for all installation and calibration of the instrument.

The data logger will log the total rainfall that occurs in each six minute period, and store this record. At approximately three monthly periods, the logger will be removed, interrogated and the data stored on magnetic tape. Paper hardcopies of the record will also be produced, and copies of these would be made available to your Bureau if so desired.

If the proposal is acceptable to the Bureau of Meteorology, would you please contact our [redacted] so that the location and installation of the pluviograph can be arranged.

[redacted]

ACTING CHIEF PLANNING ENGINEER

May 6, 1985 :FC

(5607b)

[redacted]

45/39
P/A

78

F 294
Stock No. 400294

DEPARTMENT OF SCIENCE AND THE ENVIRONMENT
BUREAU OF METEOROLOGY

RECORD OF TELEPHONE CALL

File 45/38

FROM OBS A TO [redacted] TIME AND DATE 09/1600

Subject: Installation of Raingauge by [redacted]

I rang [redacted] and informed him that we would be agreeable to [redacted] installing a Kimo 200mm tipping bucket raingauge as requested in the Bureaus enclosure.

I discussed a site with SM(SS) [redacted] and we agreed that the best site would be alongside the pluvio nearest the Stevenson screen.

[redacted] will come around next week to view the site and arrange details.

As I will be away on station inspections I advised [redacted] to see [redacted]

[redacted]

9/5/85

Further action

STADAT		STATION IDENTIFICATION
ST.Q	7	Quadrant
ST.LA	339	Latitude
ST.LO	508	Longitude

5

DATE 270385		DATE
TIME	1015	Time
VALID	2	Validity Period
ASC.NO	2	Ascent Identification

S.DATA		SURFACE CONDITIONS
W.DIR	255.0	Wind Direction - Degrees
W.SPD	5.0	Wind Speed - Knots
S.TEM	10.3	Temperature - Degrees C

LAYER 0		LAYER 0 PRINTOUT
BG	255.0	Wind Direction - Degrees
SPD	8.0	Wind Speed - Feet/Second
HT	0	Height - Metres

LAYER 1		LAYER 1 ENTRY
ELEV	45.5	Elevation - Degrees
BG	271.2	Bearing - Degrees
HT	213	Height Metres, based on constants

LAYER 2	
ELEV	48.6
BG	296.6
HT	427

LAYER 3		
ELEV	38.8	
BG	310.0	----------Simulated Incorrect Entry
HT	640	

X X X X X X	ERROR Correction Initiated

LAYER 3		LAYER 3 RE-ENTERED
ELEV	38.8	
BG	310.8	----------Correct Entry
HT	640	

LAYER 4	
ELEV	34.3
BG	322.5
HT	853

SRMM	SOUND RANGING MET. MESSAGE
270385	Date
1015	Time
2	Ascent Identification
7	Station Quadrant
339508	Station Lat/Long
271032	Date/Time/Validity
284	Effective Wind Direction - Degrees
10	Effective Wind Speed - Feet/Second
49	Effective Temperature - Degrees F

```
STADAT
ST.#    7
ST.LA   339
ST.LO   508

DATE 270385
TIME    1045
VALID   2
ASC.NO  3

S.DATA
W.DIR   18.5
W.SPD   3.1
S.TEM   10.3
```

```
LAYER 0
BG      18.5
SPD     5.8
HT      0

LAYER 1
ELEV    46.2
BG      358.5
HT      213

LAYER 2
ELEV    45.8
BG      5.7
HT      427

LAYER 3
ELEV    46.5
BG      359.0
HT      640

LAYER 4
ELEV    46.8
BG      357.0
HT      853
```

Note: This example is similar to the previous SRMM except that new data are used and the balloon transits through ZERO during its brief flight.

```
ZERO ----------------
```

The Operator responds that the balloon has passed through ZERO and this alters the manner in which the calculations are carried out.

```
SRMM

270385
  1045
     3

     7
339500
271082

     1
     7
    49
```

	SBMM	STANDARD BALLISTIC MET. MESSAGE
	300485	Date
	1200	Time
	1	Ascent Identification
	7	Station Quadrant
	339513	Station Lat/Long
	301202	Date/Time/Validity
	8	Station Height
	14	Station Pressure
B-ZONE:	0	BALLISTIC MESSAGE - ZONE 0
	64	Wind Direction - Mils x 100
	0	Wind Speed - Knots
	984	Ballistic Temperature %
	16	Ballistic Pressure %
B-ZONE:	1	
	4	
	11	
	983	
	17	
B-ZONE:	2	
	6	
	14	
	982	
	18	
B-ZONE:	3	
	9	
	14	
	985	
	15	
B-ZONE:	4	
	10	
	13	
	986	
	13	

MINUTE 4
ELEV 34.1
BG 42.7
T.FR 59.9
TEMP= 3.4
HUM= 76
PR= 876
HT= 1195

C-ZONE: 3
99
14
2793
925

MINUTE 5
ELEV 35.3
BG 48.8
T.FR 58.5
TEMP= 1.1
HUM= 74
PR= 843
HT= 1504

MINUTE 6
ELEV 37.7
BG 59.8
T.FR 57.3
TEMP= -0.8
HUM= 66
PR= 812
HT= 1804

C-ZONE: 4
118
13
2766
869

```
MINUTE 1                    MINUTE 1 ENTRY                    2
ELEV   29.4                 Elevation - Mils
BG     21.8                 Bearing - Mils
T.FR   62.8                 Temperature Frequency from Sonde
TEMP=  6.9                  Calculated Temperature - Degrees C
HUM=   80                   Relative Humidity from Graph
PR=    977                  Pressure from Sonde Calibration Chart
HT=    383                  Calculated Sonde Height

MINUTE 2
ELEV   32.6
BG     32.0
T.FR   61.4
TEMP=  5.9
HUM=   76
PR=    942
HT=    602

 C-ZONE:     1              COMPUTER MESSAGE - ZONE 1
            40              Wind Direction - Mils x 100
            11              Wind Speed - Knots
          2827              Temperature - Degrees K
          1001              Pressure - Millibars
                            (Note: This printout is delayed
                                   until sufficient data has
                                   been entered.)
MINUTE 3
ELEV   33.6
BG     42.0
T.FR   60.8
TEMP=  4.9
HUM=   77
PR=    998 ----------------Simulated Incorrect Entry

X  X  X  X  X  X            ERROR Correction Initiated


MINUTE 3                    MINUTE 3 RE-ENTERED
ELEV   33.6
BG     42.0
T.FR   60.8
TEMP=  4.9
HUM=   77
PR=    989 ----------------Correct Entry
HT=    895

 C-ZONE:     2
            64
            15
          2808
           971
```

USER KEYS:	KEY ASSIGNMENTS
11 "ST"	ST = Station Data Entry
13 "CM"	CM = Standard Computer Met. Message
-15 "BM"	BM = Standard Ballistic Met. Message
21 "CH"	CH = Check Station Data Entries
23 "RV"	RV = Revise Minute Data Entries
STADAT	STATION IDENTIFICATION
ST.Q 7	Quadrant
ST.LA 339	Latitude
ST.LO 513	Longitude
ST.HT 8	Height
DATE 300485	DATE
TIME 1200	Time
VALID 2	Validity Period
ASC.NO 1	Ascent Identification
SOND 40059	SONDE IDENTIFICATION & CALIBRATION
T.FR 64.0	Temperature Frequency on Sonde
T.DRY 10.5	Temperature - Dry
T.WET 8.4	Temperature - Wet
DEP= 2.1	Calculated Difference
HUM.A 76.0	Humidity - A
HUM.B 70.0	Humidity - B
H.FR 75.0	Humidity Frequency on Sonde
ST.PR 1013.5	Station Pressure - Millibars
C.NO 4.6	Contact Number on Sonde
S.DATA	SURFACE CONDITIONS
W.DIR 0.0	Wind Direction - Degrees
W.SPD 0.0	Wind Speed - Knots
S.TEM 9.2	Surface Temperature - Degrees C
S.HUM 93.0	Surface Relative Humidity
S.PR 1013.5	Surface Pressure - Millibars
SCMM	STANDARD COMPUTER MET. MESSAGE
300485	Date
1200	Time
1	Ascent Identification
7	Station Quadrant
339513	Station Lat/Long
301202	Date/Tiem/Validity
8	Station Height
14	Station Pressure
C-ZONE: 0	COMPUTER MESSAGE - ZONE 0
0	Wind Direction - Mils
0	Wind Speed - Knots
2835	Temperature - Degrees K
1014	Pressure - Millibars

[redacted]

TIERMET

1. In gunnery it is necessary to correct for the prevailing meteorological conditions if accuracy is to be maintained; conditions are sampled by balloons carrying Radiosondes which are tracked by radar or theodolite. Extensive computations and transpositions are then needed to convert the raw data into the forms of a Computer, Ballistic or Sound-Ranging Message as required by the appropriate STANAG.

2. A suite of programs has been developed for use with the HP-41CV or HP-41CX which replaces all the main calculations. Only the initial calibration data and the minute by minute observations are needed to produce the results in a form suitable for transmission.

3. The equipment needed is as follows:
   a. HP-41CV with an Extended Function and two Memory Modules or HP-41CX with two Memory Modules.
   b. Card Reader to load the programs; this is not needed at all times if the calculator is dedicated to meteorology.
   c. Thermal Printer and Interface Module; this is desirable but not essential if it is accepted that results must be copied by hand.
   d. Program Cards - twenty for the Computer/Ballistic Met Messages and five for Sound-Ranging.

4. The programs provide the results approximately minute by minute as follows:
   a. for the SCMM, using the Radiosonde to obtain Sonde heights with radar or theodolite elevation and bearing or radar range, elevation and bearing.
   b. for Wind Only Ascents, using radar range, elevation and bearing or theodolite elevation and bearing with an assumed rate of ascent.

   (Note: In any of the above modes should elevation data be lost the average rate of ascent is used.)

5. The SBMM is calculated automatically after the SCMM has been completed and takes about one minute per zone to complete.

6. The SRMM needs only layer elevation and bearing for four layers, except that the operator is required to indicate whether the balloon has transited through ZERO in order that the correct form of calculation is used. The final result is ready within about one minute of the last entry.

7. There are three main advantages for these programs:
   a. They produce more accurately and quickly since they eliminate calculation and transposition errors.
   b. Operator training is simplified.
   c. There can be staff savings.

8. Examples of the entries and results are attached.

= = = = = = =

[redacted]

BUREAU OF METEOROLOGY

DEPARTMENT OF SCIENCE AND TECHNOLOGY

40/115

15 MAY 1985

Regional Director,
WESTERN AUSTRALIA

BALMET CALCULATIONS

[redacted](RD ACT) has passed to Head Office some notes (attached) by a [redacted] concerning a program he has written for the HP-41CV plus some peripherals to compute and print ballistic wind messages in the form required by [redacted].

You may find them of some use.

Regards,

[redacted]

for Director of Meteorology

Encl:

SIGHTING OF UFO - [redacted]
Date: Saturday 15 June
Time: 5 am

At 8.00 am of the above date, [redacted] and [redacted] reported the sighting of a UFO to the Training Officer and the weather bureau officer, [redacted].

They reported that at 5 am this morning they saw a UFO in the sky. It was travelling at an altitude of about 800 feet, coming from the western hills, slowly at first, and then gathering speed and disappearing over the eastern hills. The object was balloon shaped, and made no noise. Its estimated size was a diameter of about 30 feet. It had a 'tail', which could have been a rudder. It was very bright and silvery, strong enough to catch the eye of observers. The sun was just rising, so some of the brightness could have been a reflection from the sun. It had no wings. It travelled in a straight path, without departing from its course. It was observed for approximately 15 minutes.

This story was related to me by [redacted] aged approximately 40, and a resident at [redacted].

[redacted]

[redacted]

Manager
Meteorological Office
Perth WA 6000

Dear Sir

RE: SIGHTING OF UFO

Attached is a statement reporting a sighting of an unidentified flying object over [redacted]

The sighting was made by [redacted] their children, [redacted] the two children of [redacted] and others.

I have taken their statement as spoken to me. Perhaps other people in the [redacted] may have also seen it.

Yours sincerely

[redacted]

Training Officer
15 June 1985

[redacted]

Originals forwarded to UFO investigation centre.
B 5/7/85

89

BJ:AL

45/38

[redacted]

Dear Sir

... The attached letter from [redacted] is forwarded for your information and any reply you would care to make.

Thank you.

Yours sincerely

[redacted]
for Regional Director

8 July 1985