

COMMONWEALTH OF AUSTRALIA

Tasmanian Divisional Office Bureau of,
METEOROLOGICAL BUREAU Meteorology.

Box 107 F, G.P.O., HOBART.

TELEPHONES: ~~4942~~
~~51479~~

17th December, 1956.

Dr. Reber,
Department of Electrical Engineering,
University of Tasmania,
Hobart, Tasmania.

Dear Dr. Reber,

1. As suggested during our recent conversation, the synoptic situations and significant weather during the periods of observation of static at Kempton and at Pt. Davey have been examined and the results are enclosed herewith.
2. With regard to the observations at Kempton it will be noted that on most cases a significant frontal passage has occurred with rainfall, and frequently thunderstorms indicating instability and convective type precipitation. The observations of August 24th and September, 22nd, 28th, and 29th show no evidence of any well defined frontal passage but, radiosonde soundings for these days at Hobart indicate a considerable degree of instability in the air mass, and strong South-West to South-East gradients were operating over Tasmania. On all occasions on which the static was reported, rainfall in the South East has been fairly general and chiefly of the order of 10 points to 50 points for the 24 hours. On August 26th and October, 3rd and 6th the disturbances appear to have been slightly pre-frontal.
3. The observations at Pt. Davey, again, on most occasions appear to be associated with a frontal passage. The observation on July 2nd does not appear to be similar to the other cases and is marked on your list as doubtful.
4. The characteristic situation in all cases would appear to be either a frontal passage close to the time of observations or a strong and unstable stream of Southern origin with convective type precipitation.


In your further study of this phenomena it may possibly be of interest to you to receive a copy of summarised thunderstorm data, which is supplied by this Bureau each month to the Electricity Supply Association of Australia.

P.T.O.

This gives an indication of times of passage of significant fronts, producing storms, and may be of use in your work. A copy of this for November is enclosed and if you would like to receive it regularly I would be pleased to forward you a copy each month.

This Bureau will be pleased to assist you in any further way with your investigation.

Yours faithfully,


(A. J. Shields).
Deputy Director.

Date.	Synoptic Situation	Thunder Reports & Significant Weather
1956 August 13th.	Low to the South West of Tasmania strong Westerly circulation fronts crossed Tasmania between 0900K and 1500K and later after 2000K.	Redpa - Thunder to W.S.W. at 0400K. Zeehan - Thunderstorm from 0800K. Waratah - Thunder 0630 - 0900K. Maatsuyker - Thunder to N.W. at 1100k. Tasman Is. - Thunder to S.E. at 2030K. Hobart - Lightning to S. at 2045k. Devonport - Lightning To N. at 2300K. (Rain $\frac{1}{4}$ to $\frac{1}{2}$ ins to 9a.m., on 14th in S.E. district. Central Plateau - Snow on night of 13th.)
August 14th.	Low to S. of Tasmania. Stormy S.W. circulation. front crossed the state between 0900K and 1200K.	Low Head - Thunder & Hail 0600-0815. Devonport - Lightning 0700/1000. Launceston - Thunder to N.W. at 0945. Flinders Is. - Thunder and Hail. C. Sorell - Thunder to N.W. Western Junction. - Thunder to N.E. 0820/0930. Zeehan - Thunder to W. Eddystone - thunder to W. 1050. Redpa - Thunder to N.W. 0740/0810 Maatsuyker - thunder to N.W. at 1100. (Rain $\frac{1}{4}$ to $\frac{1}{2}$ ins to 9a.m. on 15th in S.E. district. Central Plateau - Snow on night of 14th.)
August 23rd.	Low to S. of Tasmania very strong S.W. gradient - appear to have been a number of minor frontal passages.	C. Bruny - Thunder to N.N.E. 1845. Eddystone - Lightning to E. at 1930. (Rain $\frac{1}{4}$ to $\frac{1}{2}$ ins to 9a.m. on 24th in S.E. districts. Highland snow on Plateau & N. Highlands on night of 23rd.)
August 24th	Low to S. & S.E. of Tasmania. Very strong S.W. gradient and unstable stream. No evidence of frontal passage on charts or autographic instruments.	Redpa - Thunder to N.W. 115 to 1200 Tasman Is. - Thunder to S.W. at 0001 (Rain $\frac{1}{4}$ to $\frac{1}{2}$ ins in S.E. districts. to 9a.m. on 25th. Central Plateau & W. Coast snow on night 24th morning 25th)
August 26th	Westerly stream. Weak ridge over Tasmania with trough approaching from W. - prefrontal.	Nil thunder. (Rain 10 to 30 points in S.E. to 9a.m., on 27th.)
August 27th.	Low to S. of Tasmania. Front crossed State between 0600 & 1200K.	Thunder - Pt. Davey early morning Highland snow night of 26 morning of 27th (Rain chiefly 10/20 points S.E. districts to 9a.m. on 28th.)
September 22nd.	Low to S.E. Unstable S.W. stream but no apparent frontal passage.	St. Helens - Front thunder & lightning to S.W. at 1535K. (Rain 10 to 30 points scattered in S.E. districts to 9a.m. on 23rd.)

August.

Date	Synoptic Situation	Thunder Reports & Significant Weather.
September. 28th.	Complex Low near State and moving S. E. Light S.West stream. No evidence of any frontal passage on charts or autographic instruments.	Nil. Thunder. (Rain 40 to 60 points general in S.E. district to 9a.m. on 29th.
September. 29th.	S. to S.E. stream operating No evidence of any frontal passage on autographic instruments or charts,	Nil. Thunder (Rain isolated 5 point to 20 point totals in S.E. to 9a.m., on 30th.)
October. 1st.	Low to S. frontal Passage 1200 to 1800K.	Nil Thunder (Rain 40 to 80 points scattered in S.E. to 9a.m. on 2nd)
October. 3rd.	Low near Macquarie Island. Weak frontal passage 18000 to 2359 (prefrontal)	Nil. Thunder (Rain chiefly 10 to 30 points in S.E. districts to 9a.m. on 4th.
October. 6th.	Ridge over Tasmania and weak frontal passage early on 7th (prefrontal)	Nil. Thunder (Rain 10 to 20 points in South East. to 9a.m., on 7th.
October 10th.	Low to W. and South Frontal passage 1200 to 1800K.	Maatsuyker - Thunder to E at 0815 Low Head - Lightning at 1900 Flinders. Is. - Thunder at 1600 Stanley - Lightning to N.W. at night. Very Scattered 15/30 points in S.E. to 9a.m. on 11th.
October 11th	Weak frontal passages over State 0300/0600 and 0900/1500K.	Low Head- Heavy Thunder 0550 Launceston - Thunder N.W. at 1445 Rain falls less than 10 points in S.E. to 9a.m. on 12th.
October 13th	Frontal passage between 1800 and 2359 low to S.E.	C. Sorell - thunder to N.W. at 2015 for 15 minutes. (Rain 20/50 points can on S.E. to 9a.m. on 14th.
<u>HISS STATIC AT PORT DAVEY:-</u>		
Date	Synoptic Situation	Thunder Reports & Significant Weather.
June 14th	Low to South with frontal passage 14/2100 to 15/0600 across State.	Hobart - Lightning (distant) 200/2030. Maatsuyker- Thunder to N.W. at 1930 C. Sorell - Thunderstorm to N.W. & W. Swan Island - Lightning to N.E. & to S.W. at 2000. Pt. Davey. Thunder on night of 14th. (Rain 11pp points at Pt. Davey to 9a.m. on 15th.
June 17th.	Low to S.W. Strong W./S.W. stream Frontal passage 0300/0900.	Redpa - Thunder distant & faint 0300 C. Sorell - Storm for N.W. Rain. 111 points to 9a.m., on 18th at Pt. Davey.

Date	Synoptic Situation	Thunder Reports & Significant Weather.
June 18th.	Very Strong S.W. stream Deep low near Macquarie Is. No pronounced frontal pas- sage possibly weak. 1200/1500.	Nil Thunder. Rain 148 points to 9a.m. on 19th at Point Davey.
June 30th.	Low to S.E. strong S.W. and frontal passage 0900/1500.	Nil thunder. Rain 77 points to 9a.m. on 1st July.
July 2nd.	Ridge over Tasmania.	Nil Thunder. 1 point to 9a.m., on 3rd.
July 8th.	Low to S.E. Strong S.W. gradient & frontal passage 0300/0900.	Nil Thunder. (Rain 150 points to 9a.m. on 9th.
July 15th	Low to S.E. Moderate South gradient frontal passage 0600/0900.	Nil Thunder Sleet showers around 0900 at Pt. Davey 125 pts. to 9a.m. on 15th 24 pts. to 9a.m. on 16th.
July 20th	Frontal passage 0300 to 0900 low to south.	Nil thunder Rain 22pts. to 9a.m. on 20th. at Pt. Davey. 18pts. to 9a.m. on 21st.
July 21st.	Light W. gradient frontal passage after 2100.	Nil. Thunder. Rain 35 pts. to 9a.m. on 22nd at Pt. Davey.
July 22nd.	Strong W. Gradient frontal passage early hours of Morning.	C. Sorell - Thunder. Rain. 57 pts. to 9a.m. on 23rd. at Pt. Davey.