

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT



By Romao, M. and Pires, L. B. M.



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JULY 2021

During this month, 09 events were registered among the 13 research stations located on the coast of the Antarctic utilized as references for the monitoring of bomb cyclones. The stations affected by cyclones this month were: Marambio, Casey, Syowa, Frei, Mawson and Palmer. There was a decrease (10%) in the number of cyclones in comparison to the same month of the previous year (2020).

STATISTICS OF THE MONTH

CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
B1	1 a 1.2	Weak	03
B2	1.3 a 1.8	Moderate	04
B3	> 1.8	Strong	00
HIGHEST PRESSURE DROP	LOWEST RE	CORDED PRESSURE	HIGHEST SUSTAINED WIND

PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-32.0 hPa/24h	956.1 hPa	42.5 m/s
Frei Station	Palmer Station	Mawson Station
Jul. 19	Jul. 30	Jul. 03



BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2021

TOTAL OF EVENTS REGISTERED BY STATION IN 2021



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TOTAL OF EVENTS REGISTERED IN EACH STATION IN THE MONTH OF JULY/2021





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BOMB CYCLONE N°34/2021- DATE: JUL/03/2021

LOCAL: MAWSON STATION - WMO 89564 (OPERATED BY AUSTRALIA)



BOMB CYCLONE N°35/2021- DATE: JUL/09/2021

LOCAL: CASEY STATION - WMO 89611 (OPERATED BY AUSTRALIA)

	Drop of pressure in 24h	-29.7 hPa
	Min. pressure registered on station	978.5 hPa
(Marcos) - Marcos	Min. pressure estimation in the cyclone core	956 hPa
	Sustained maximum wind	10.0 m/s
	Maximum wind gust	12.0 m/s
and the second second	Bergeron	1.2 (WeK.)

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BOMB CYCLONE N°36/2021- DATE: JUL/10/2021



LOCAL: MAWSON STATION - WMO 89564 (OPERATED BY AUSTRALIA)

BOMB CYCLONE N°37/2021 - DATE: JUL/19/2021

Drop of pressure -32.0 hPa in 24h Min. pressure registered on 972.3 hPa station Min. pressure estimation in the 972 hPa cyclone core Sustained 12.5 m/s maximum wind None Maximum wind m/s gust Bergeron 1.3 (Mod.)

LOCAL: FREI STATION - WMO 89056 (OPERATED BY CHILE)

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BOMB CYCLONE N°38/2021- DATE: JUL/19/2021



LOCAL: MARAMBIO STATION - WMO 89055 (OPERATED BY ARGENTINA)

BOMB CYCLONE N°39/2021- DATE: JUL/28/2021

LOCAL: SYOWA STATION - WMO 89532 (OPERATED BY JAPAN)



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BOMB CYCLONE Nº40/2021- DATE: JUL/29/2021

	Drop of pressure in 24h	-25.4 hPa
C ALT	Min. pressure registered on station	964.8 hPa
	Min. pressure estimation in the cyclone core	960 hPa
	Sustained maximum wind	14.0 m/s
	Maximum wind gust	None m/s
2000	Bergeron	1.3 (Mod.)

LOCAL: PALMER STATION - WMO 89065 (OPERATED BY U.S.A.)

BOMB CYCLONE Nº41/2021- DATE: JUL/30/2021

LOCAL: FREI STATION - WMO 89056 (OPERATED BY CHILE)

Drop of pressure in 24h	-30.9 hPa
Min. pressure registered on station	963.9 hPa
Min. pressure estimation in the cyclone core	955 hPa
Sustained maximum wind	14.5 m/s
Maximum wind gust	None m/s
Bergeron	1.3 (Mod.)

BOMB CYCLONE Nº42/2021- DATE: JUL/30/2021

	Drop of pressure in 24h	-30.2 hPa
	Min. pressure registered on station	956.1 hPa
	Min. pressure estimation in the cyclone core	955 hPa
	Sustained maximum wind	7.0 m/s
Charling and the second s	Maximum wind gust	None m/s
A CONTRACT OF A	Bergeron	1.3 (Mod.)

LOCAL: PALMER STATION - WMO 89065 (OPERATED BY U.S.A.)

SOURCES

https://worldview.earthdata.nasa.gov

http://www.bom.gov.au

https://data.aad.gov.au

http://www.smn.gov.ar

http://meteoarmada.directemar.cl

https://www.marinha.mil.br/chm/chm/dados-do-smm-cartas-sinoticas