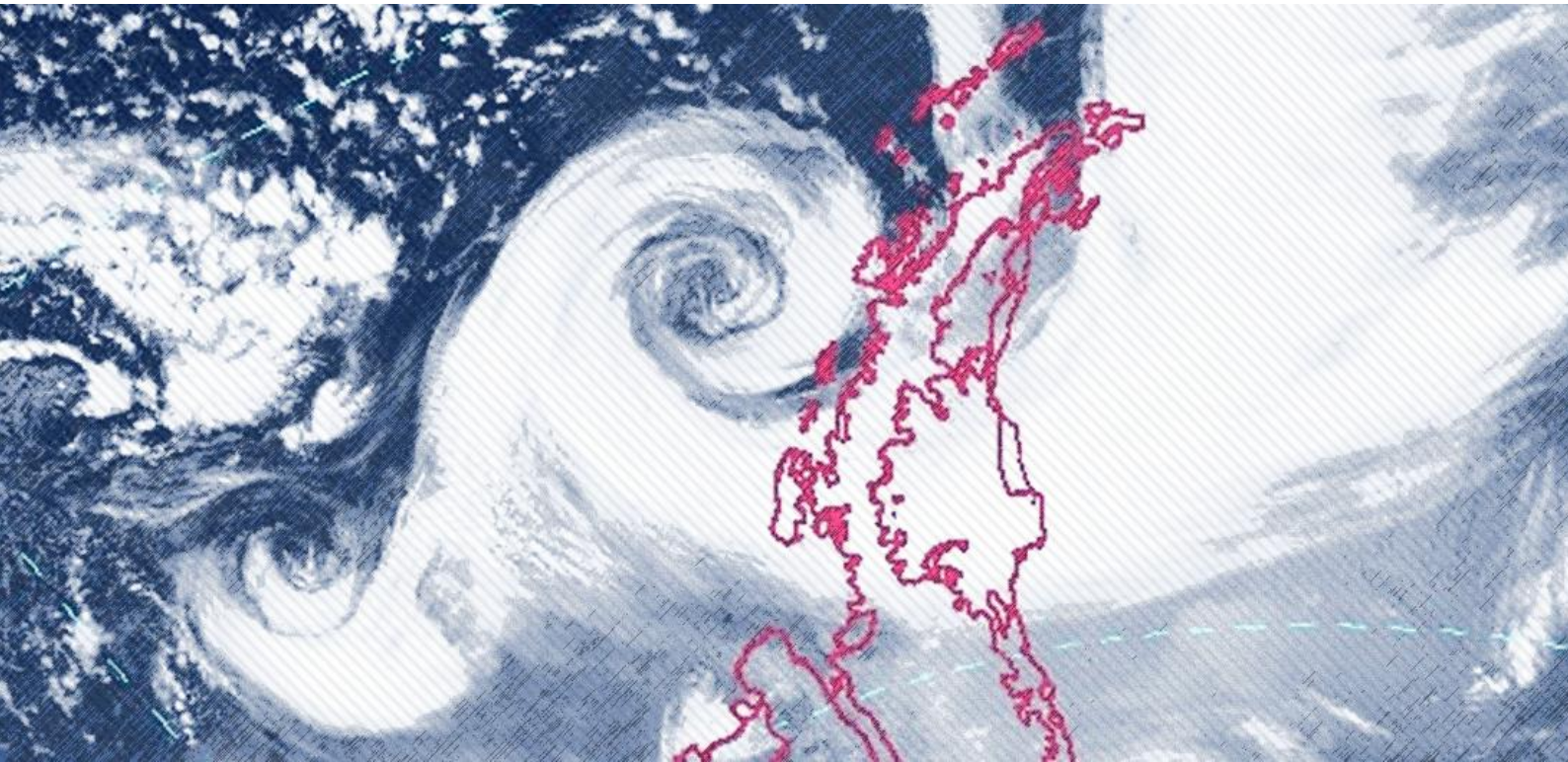




WORLD
ENVIRONMENTAL
CONSERVANCY

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT



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



MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT

APRIL 2023

During this month, 14 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 hit by a cyclone this month was Mawson, Frei, Palmer, Casey, Dumont D'Urville, Mirny and Davis.

TOTAL OF EVENTS REGISTERED IN STATIONS IN APRIL

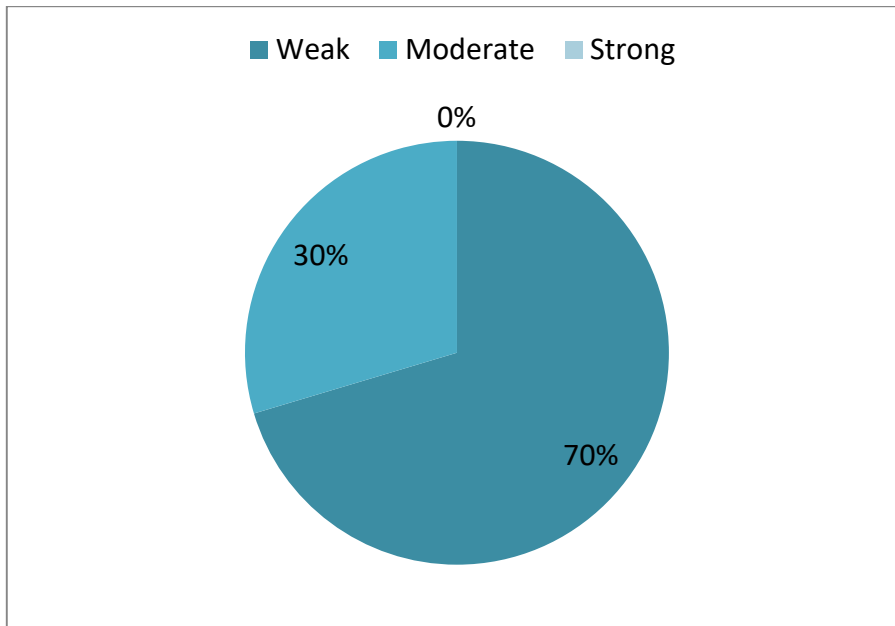
2017	2018	2019	2020	2021	2022	2023
06	02	08	12	08	08	14

STATISTICS OF THE MONTH: APRIL 2023

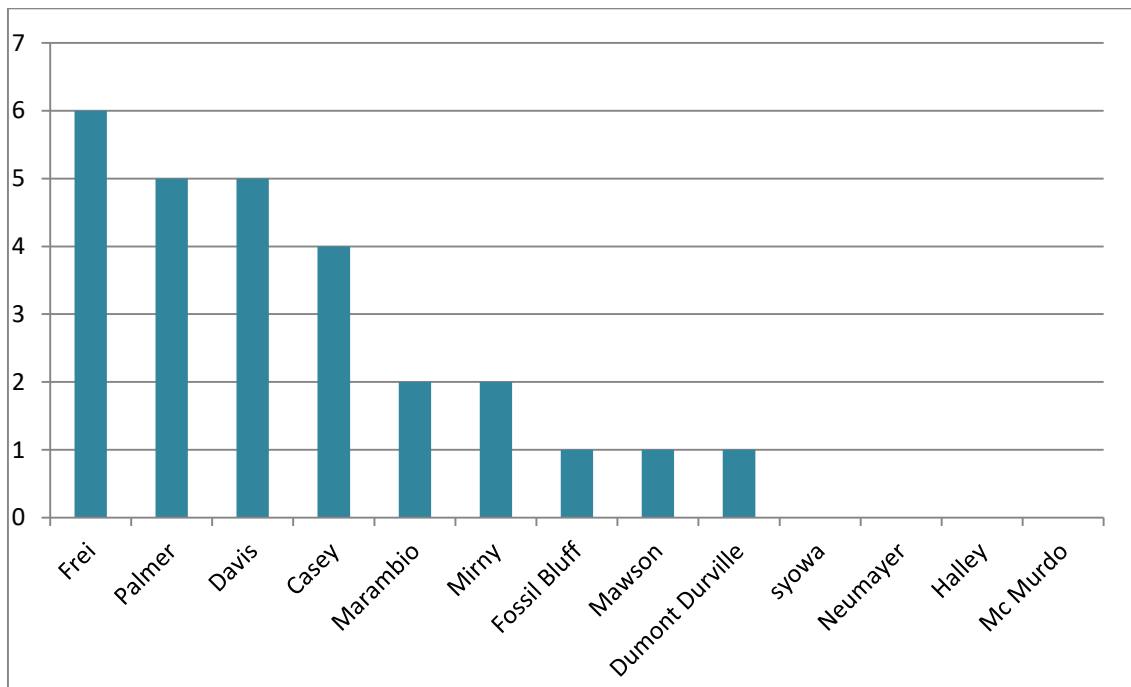
CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
B1	1 a 1.2	Weak	10
B2	1.3 a 1.8	Moderate	04
B3	> 1.8	Strong	00

HIGHEST PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-35.9 hPa/24h	955.3 hPa	31.5 m/s
Casey Station	Palmer Station	Casey Station
April 15	April 23	April 12

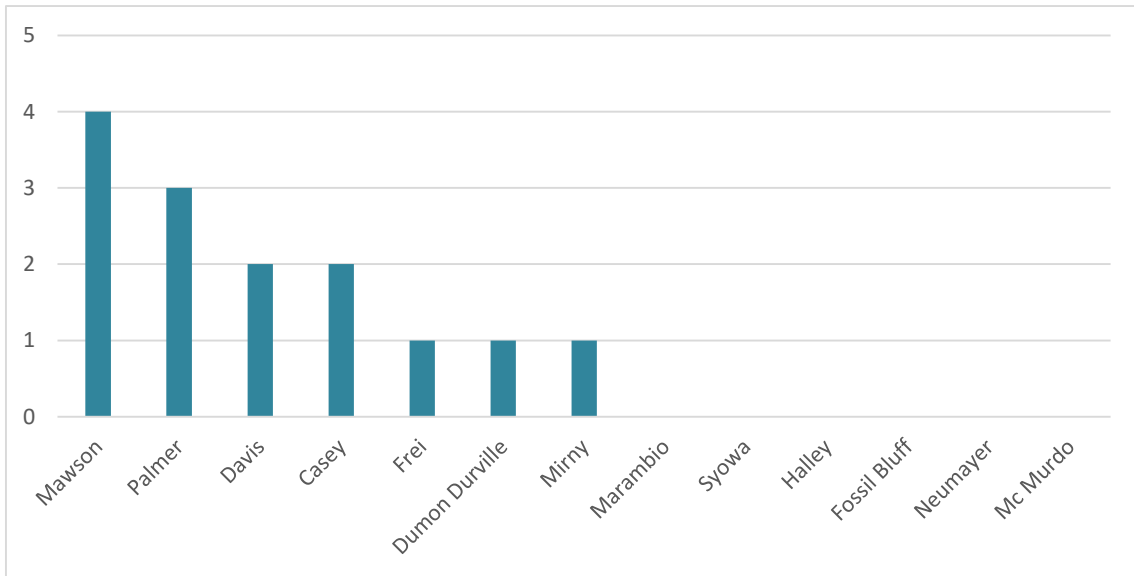
BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2023



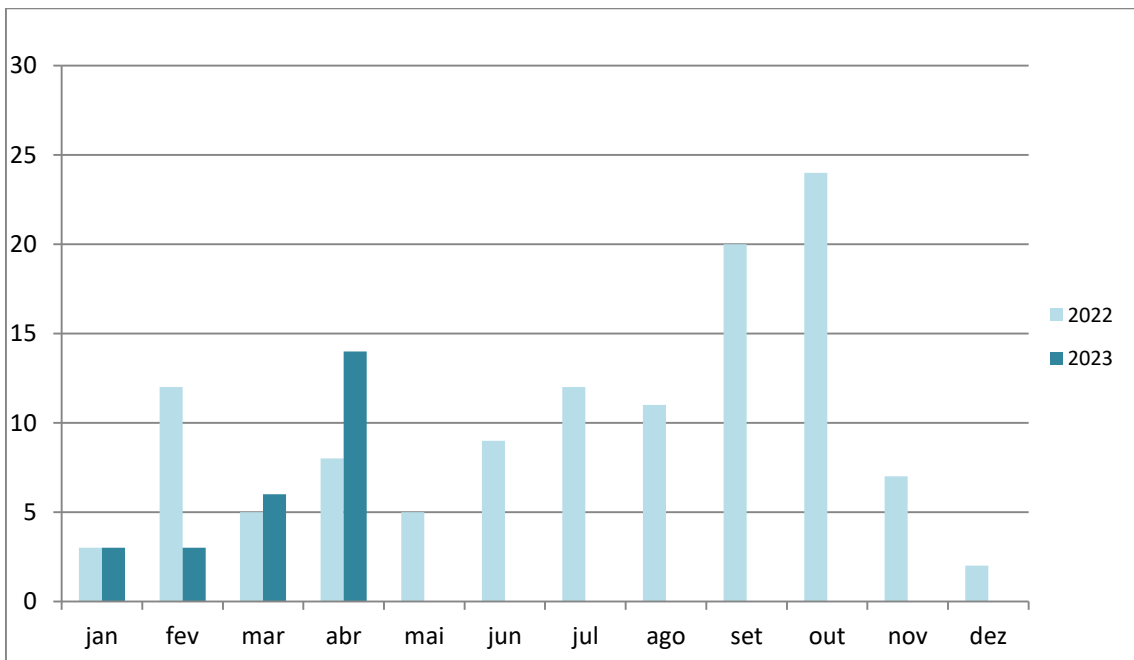
TOTAL OF EVENTS REGISTERED BY STATION IN 2023



TOTAL OF EVENTS REGISTERED IN EACH STATION IN THE MONTH OF APRIL/2023

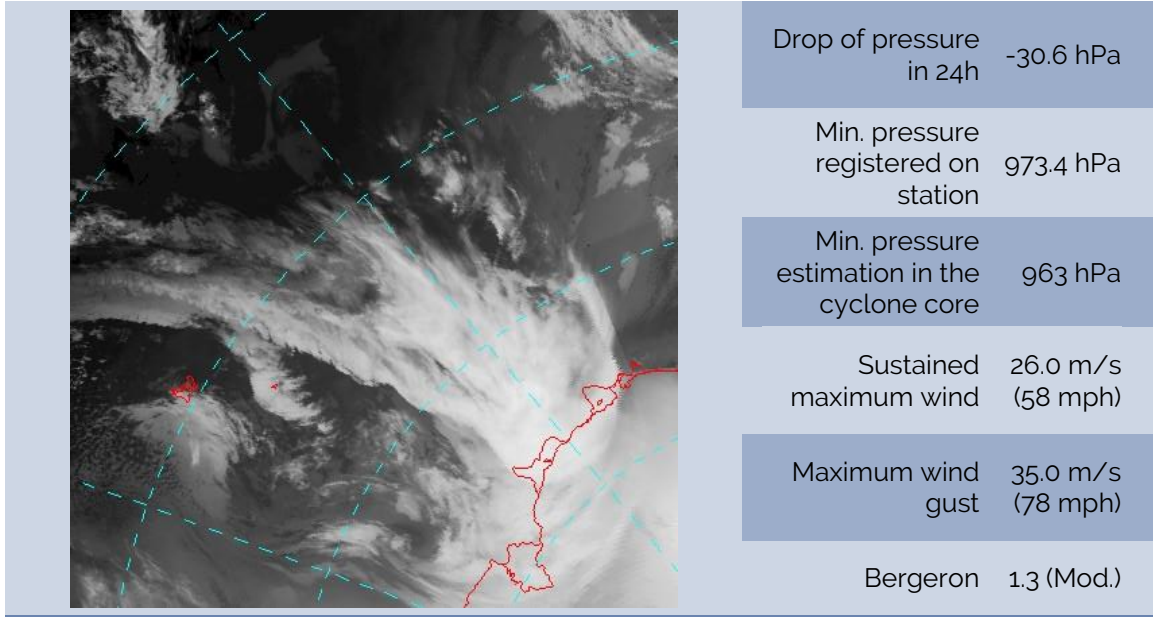


TOTAL EXPLOSIVE CYCLONES IN THE ANTARCTIC



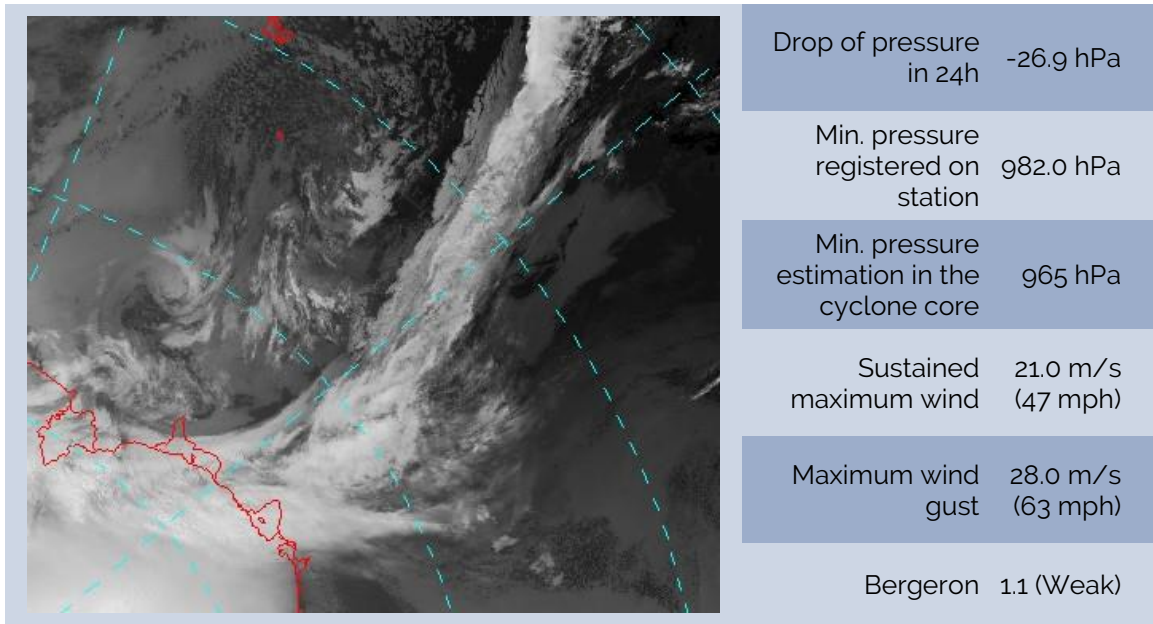
BOMB CYCLONE N°13/2023- DATE: APR./03/2023

LOCAL: DAVIS STATION – WMO 89571 (OPERATED BY AUSTRALIA)



BOMB CYCLONE N°14/2023 - DATE: APR./03/2023

LOCAL: MIRNY STATION – WMO 89591 (OPERATED BY RUSSIA)



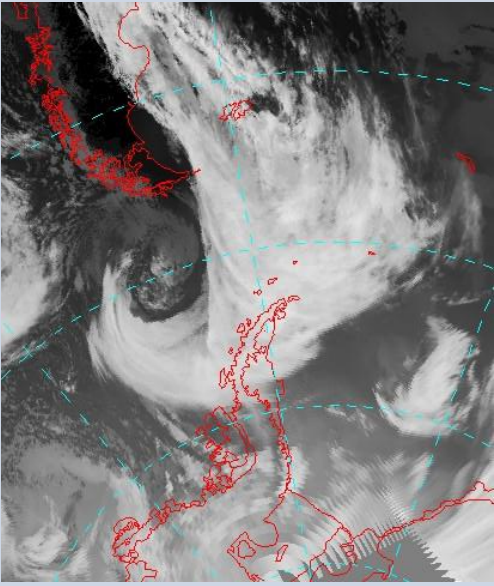
BOMB CYCLONE N°15/2023- DATE: APR./03/2023

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

NO IMAGE	Drop of pressure in 24h	-25.9 hPa
	Min. pressure registered on station	972.7 hPa
	Min. pressure estimation in the cyclone core	965 hPa
	Sustained maximum wind	31.0 m/s (69 mph)
	Maximum wind gust	39.5 m/s (88 mph)
	Bergeron	1.1 (Weak)

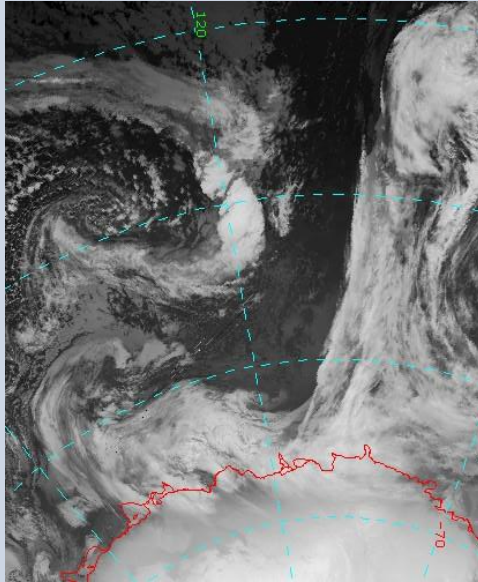
BOMB CYCLONE N°16/2023 - DATE: APR./06/2023

LOCAL: PALMER STATION – WMO 89061 (OPERATED BY U.S.A.)

	Drop of pressure in 24h	-27.9 hPa
	Min. pressure registered on station	956.7 hPa
	Min. pressure estimation in the cyclone core	940 hPa
	Sustained maximum wind	23.0 m/s (51 mph)
	Maximum wind gust	None m/s (mph)
	Bergeron	1.1 (Weak)

BOMB CYCLONE N°17/2023 - DATE: APR./12/2023

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



Drop of pressure in 24h -31.1 hPa

Min. pressure registered on station 959 hPa

Min. pressure estimation in the cyclone core 959 hPa

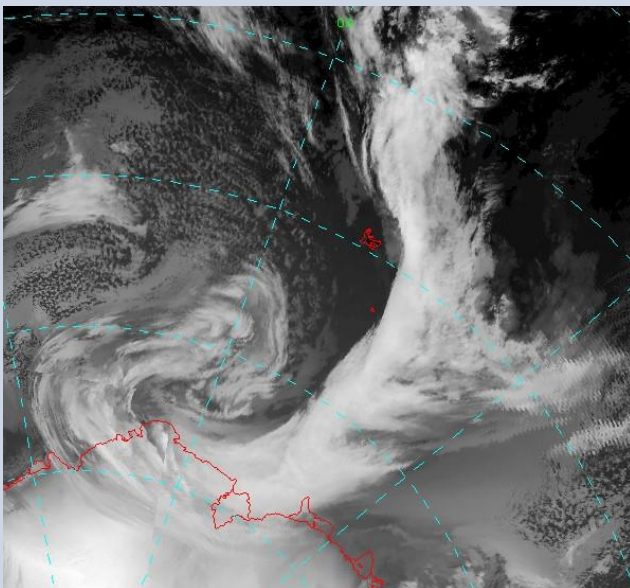
Sustained maximum wind 31.5 m/s (70 mph)

Maximum wind gust 41.5 m/s (93 mph)

Bergeron 1.3 (Mod.)

BOMB CYCLONE N°18/2023 - DATE: APR./13/2023

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



Drop of pressure in 24h -29.3 hPa

Min. pressure registered on station 973.8 hPa

Min. pressure estimation in the cyclone core 944 hPa

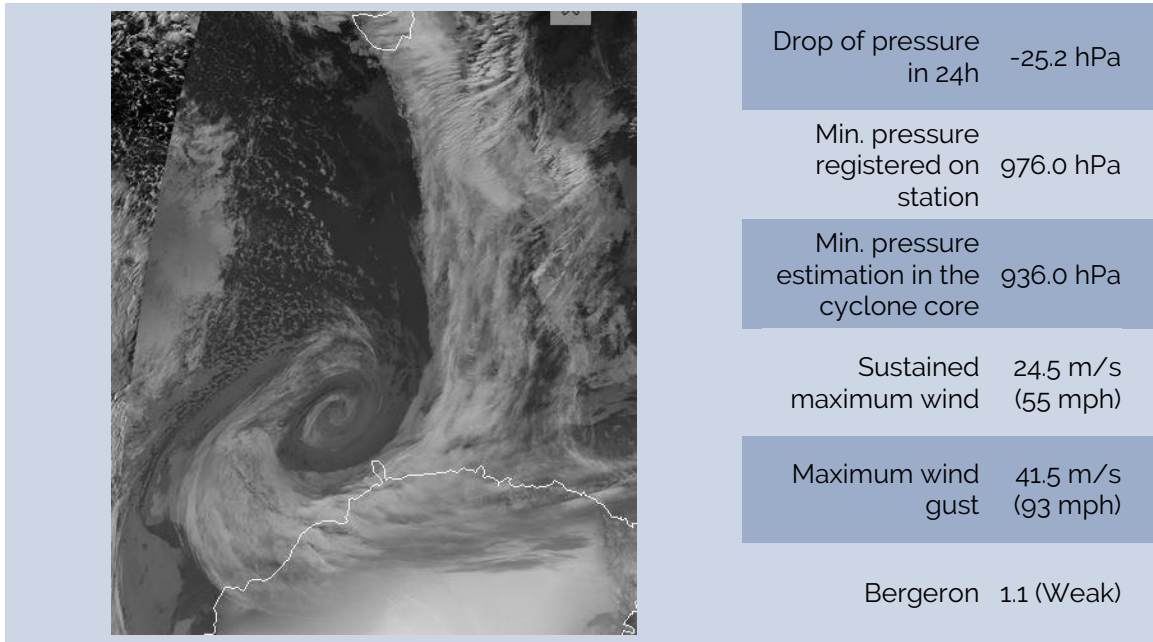
Sustained maximum wind 30.5 m/s (68 mph)

Maximum wind gust 41.5 m/s (93 mph)

Bergeron 1.1 (Weak)

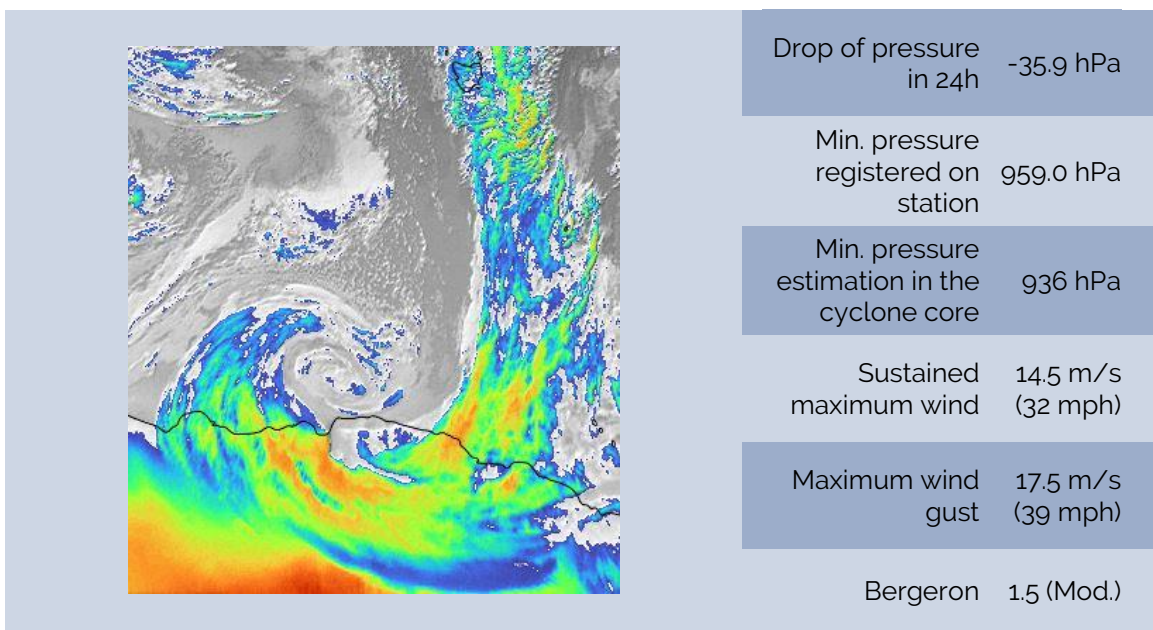
BOMB CYCLONE N°19/2023 - DATE: APR./15/2023

LOCAL: DUMONT D'URVILLE STATION – WMO 89564 (OPERATED BY FRANCE)



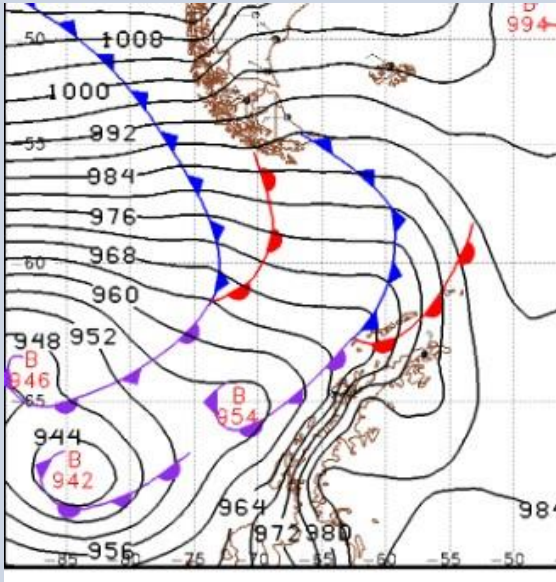
BOMB CYCLONE N°20/2023 - DATE: APR./15/2023

LOCAL: CASEEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)



BOMB CYCLONE N°21/2023 - DATE: APR./19/2023

LOCAL: PALMER STATION – WMO 89061 (OPERATED BY U.S.A)



Drop of pressure in 24h -26.2 hPa

Min. pressure registered on station 956.7 hPa

Min. pressure estimation in the cyclone core 940 hPa

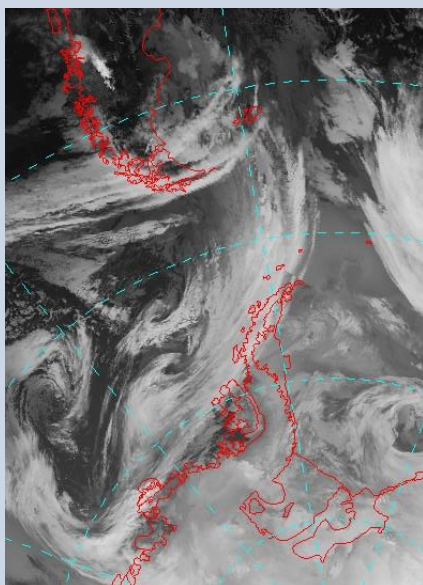
Sustained maximum wind 23.0 m/s (51 mph)

Maximum wind gust None m/s (mph)

Bergeron 1.1 (Weak)

BOMB CYCLONE N°22/2023 - DATE: APR./19/2023

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



Drop of pressure in 24h -24.7 hPa

Min. pressure registered on station 963.9 hPa

Min. pressure estimation in the cyclone core 940 hPa

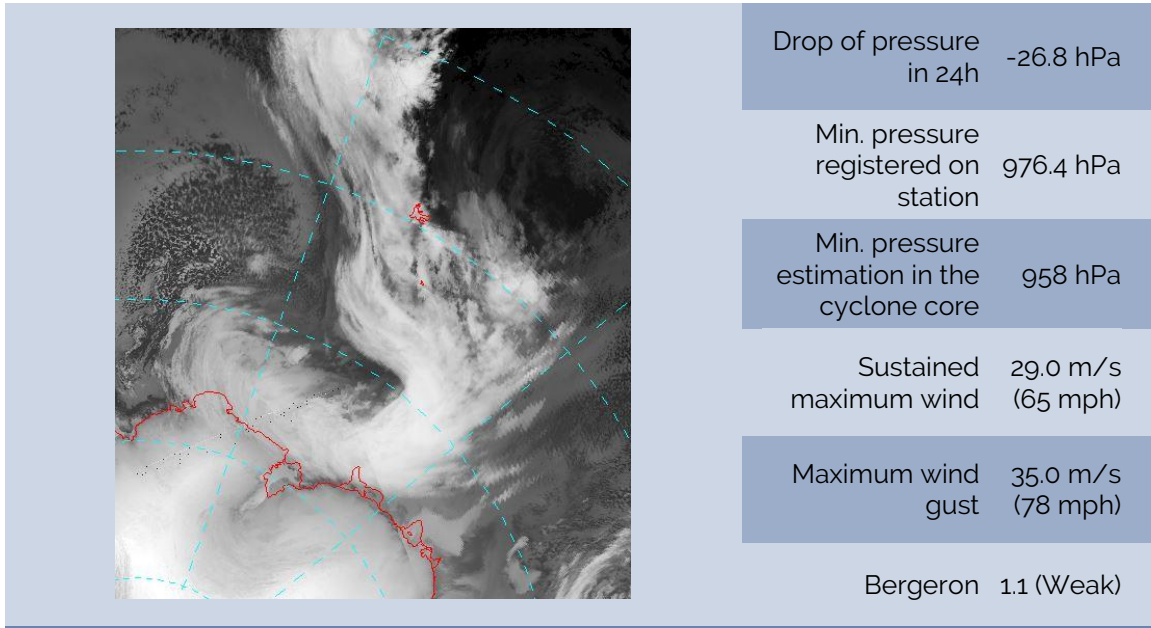
Sustained maximum wind 21.0 m/s (47 mph)

Maximum wind gust 33.6 m/s (75 mph)

Bergeron 1.0 (Weak)

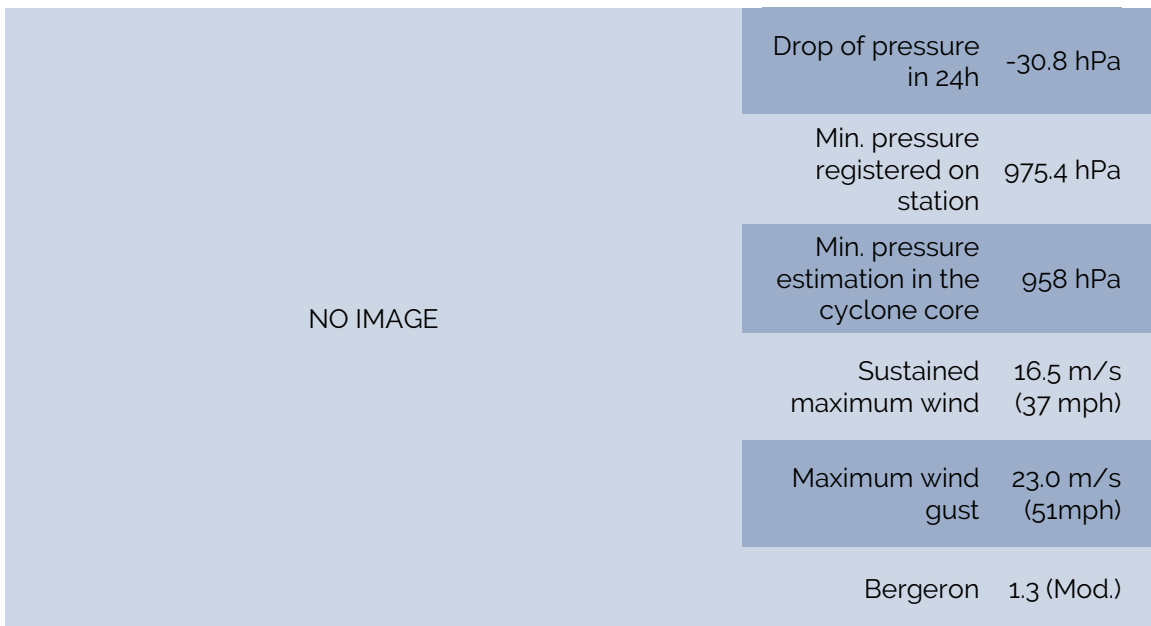
BOMB CYCLONE N°23/2023 - DATE: APR./23/2023

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



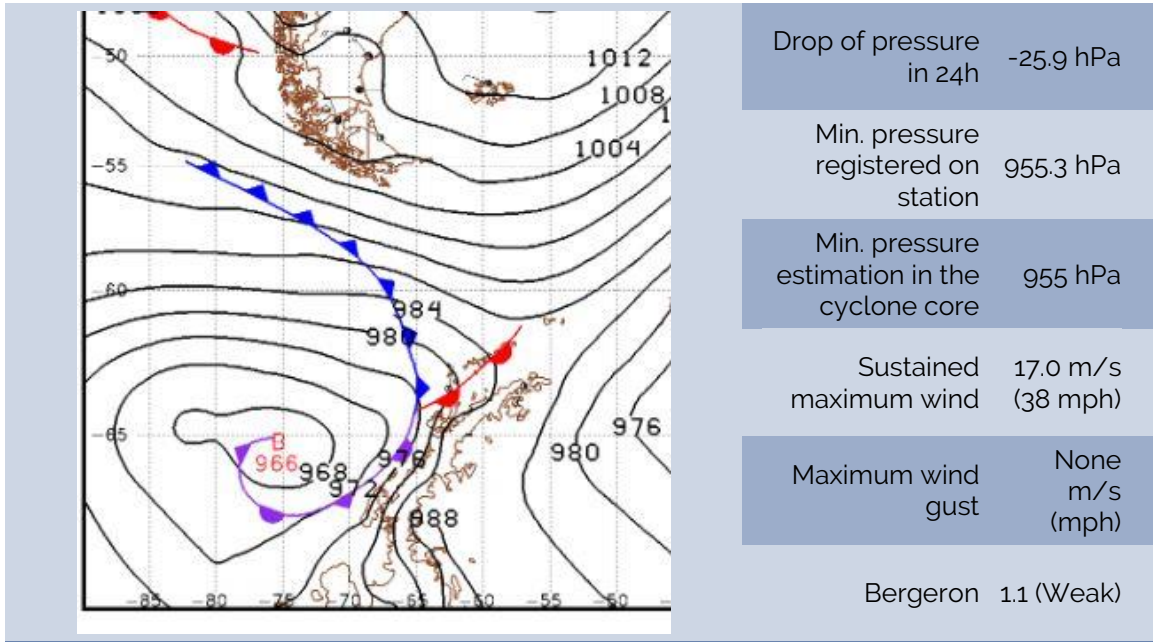
BOMB CYCLONE N°24/2023 - DATE: APR./23/2023

LOCAL: DAVIS STATION – WMO 89571 (OPERATED BY AUSTRALIA)



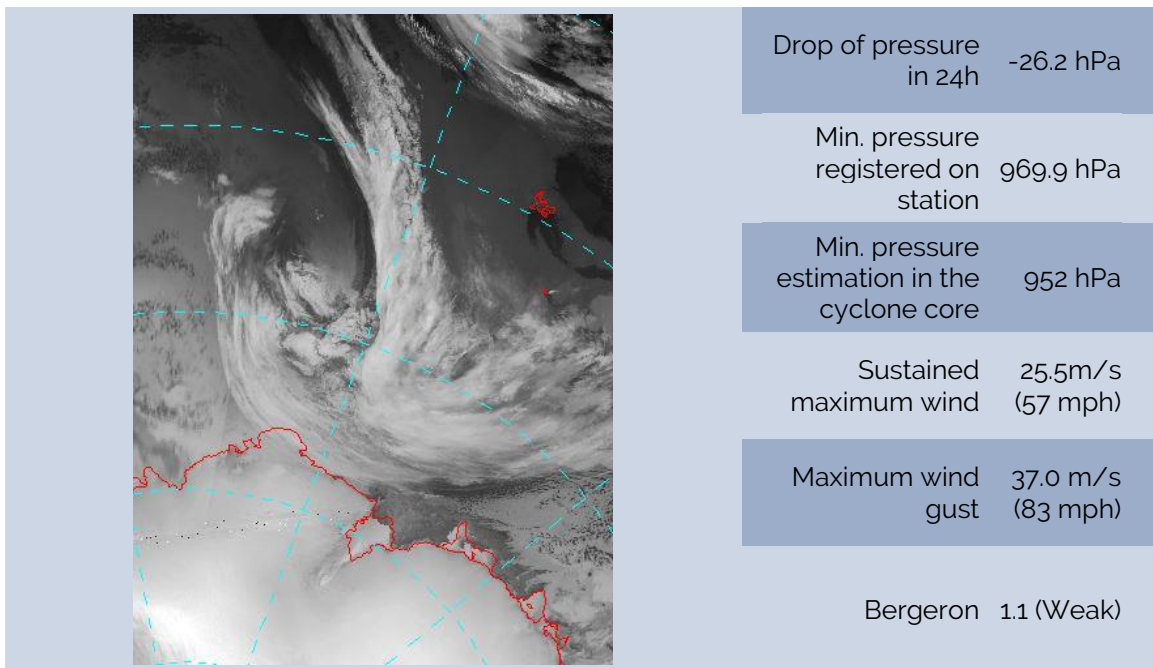
BOMB CYCLONE N°25/2023 - DATE: APR./23/2023

LOCAL: PALMER STATION – WMO 89061 (OPERATED BY U.S.A.)



BOMB CYCLONE N°26/2023 - DATE: APR./26/2023

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



SOURCES

<https://worldview.earthdata.nasa.gov>

<http://www.bom.gov.au>

<https://data.aad.gov.au>

<http://meteoarmada.directemar.cl>

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

[www. https://amrc.ssec.wisc.edu/](https://amrc.ssec.wisc.edu/)