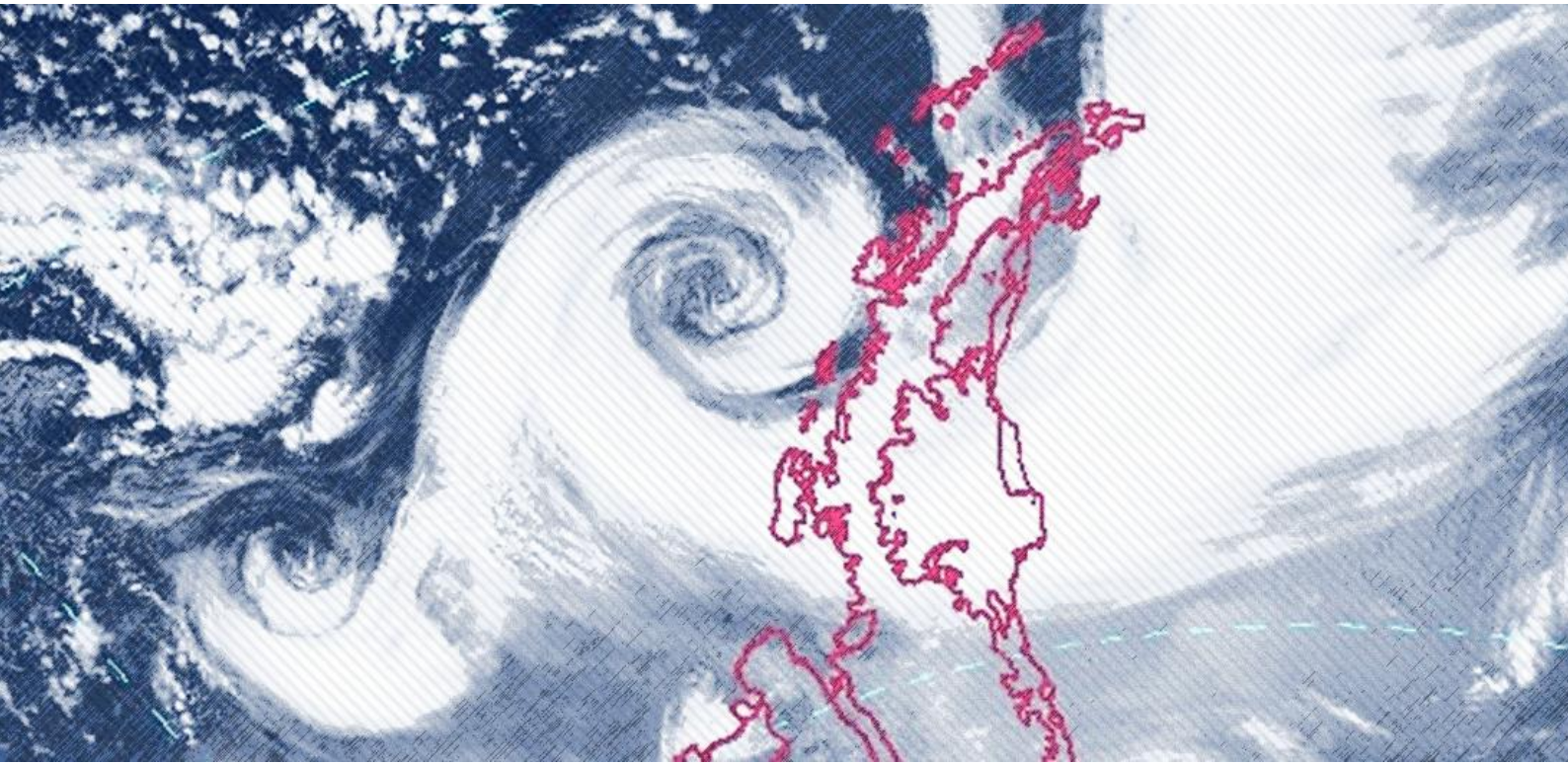




WORLD
ENVIRONMENTAL
CONSERVANCY

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

JULY 2023

During this month, only 06 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 Casey, Neumayer, Palmer and Frei. Of these 06 events 01 of them reached the level of an Antarctic Hurricane: Bomb Cyclone 40/2023 – Casey Station.

TOTAL OF EVENTS REGISTERED IN STATIONS IN JULY

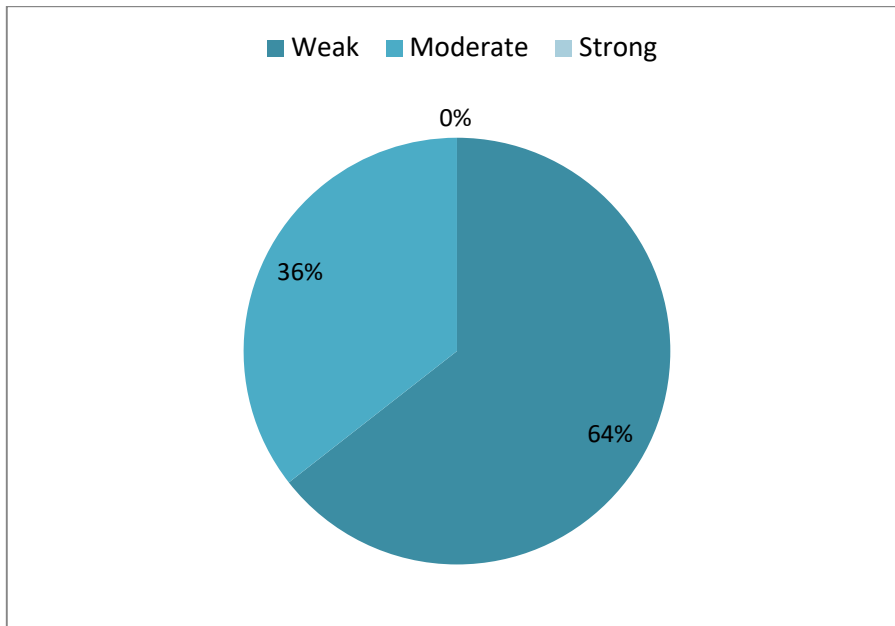
2017	2018	2019	2020	2021	2022	2023
14	6	7	10	9	12	06

STATISTICS OF THE MONTH: JULY 2023

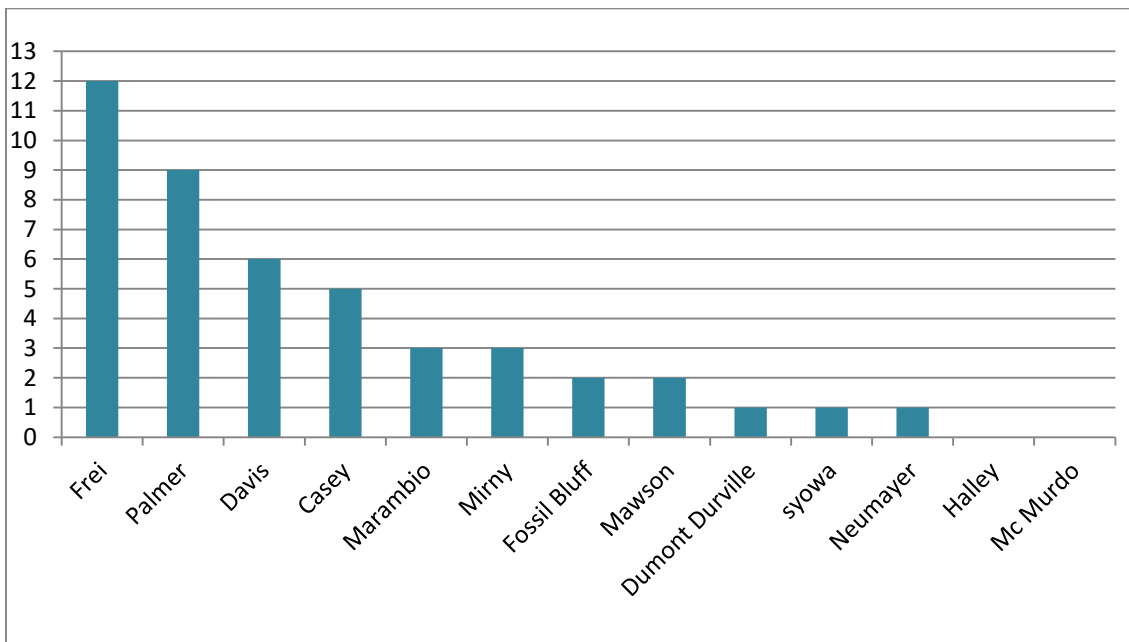
CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
B1	1 a 1.2	Weak	05
B2	1.3 a 1.8	Moderate	01
B3	> 1.8	Strong	00

HIGHEST PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-30.0 hPa/24h	951 hPa	38.5 m/s
Frei Station	Palmer Station	Casey Station
Jul 29	Jul 29	Jul 01

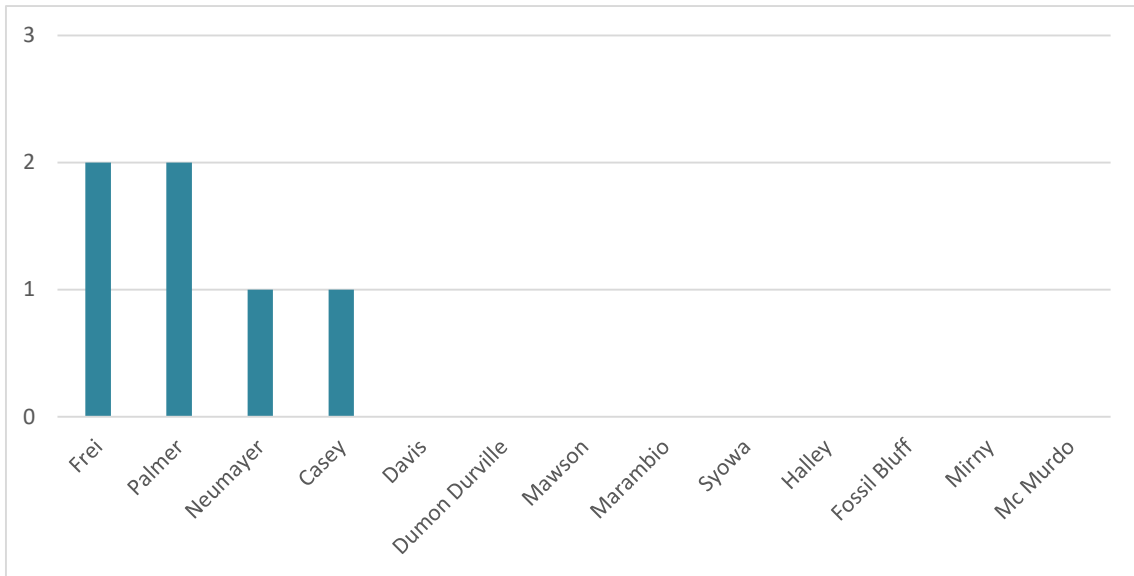
BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2023



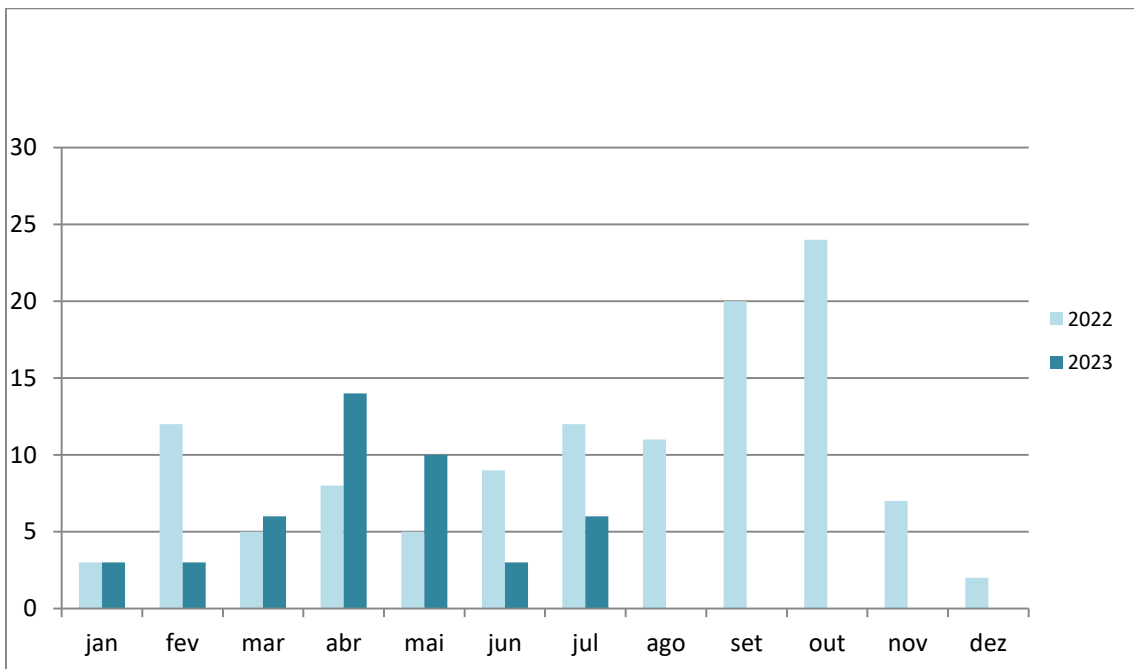
TOTAL OF EVENTS REGISTERED BY STATION IN 2023



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



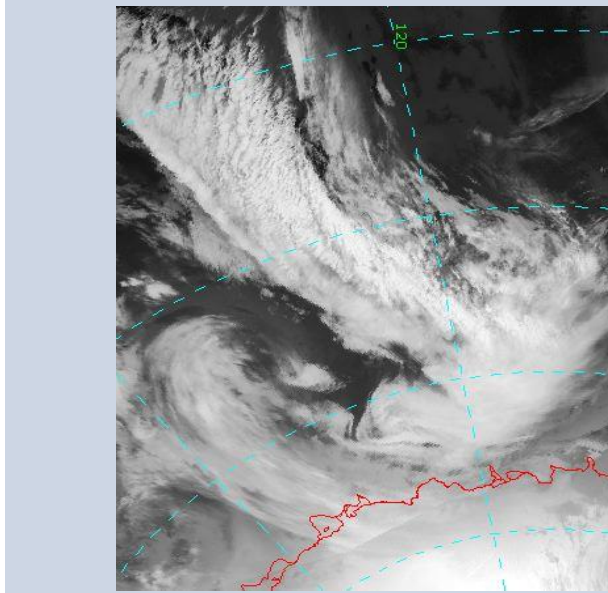
TOTAL EXPLOSIVE CYCLONES IN THE ANTARCTIC



BOMB CYCLONE N°40/2023 - DATE: JULY/01/2023

ANTARCTIC HURRICANE

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



Drop of pressure in 24h -25.0 hPa

Min. pressure registered on station 968.0 hPa

Min. pressure estimation in the cyclone core 967 hPa

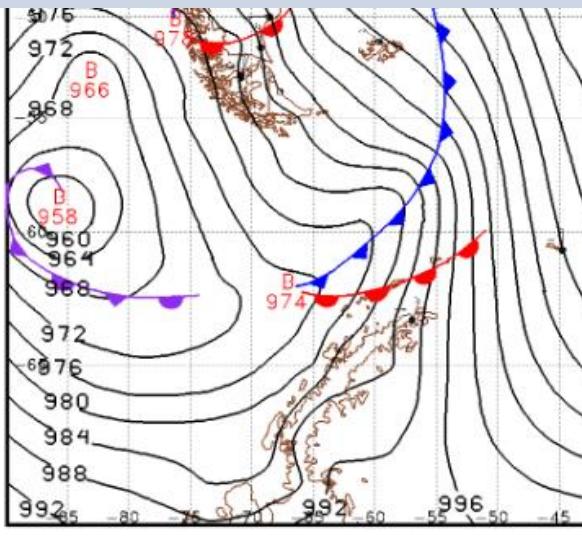
Sustained maximum wind 38.5 m/s (86 mph)

Maximum wind gust 44.5 m/s (99 mph)

Bergeron 1.0 (Weak)

BOMB CYCLONE N°41/2023 - DATE: JULY/03/2023

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



Drop of pressure in 24h -27.3 hPa

Min. pressure registered on station 972.8 hPa

Min. pressure estimation in the cyclone core 958 hPa

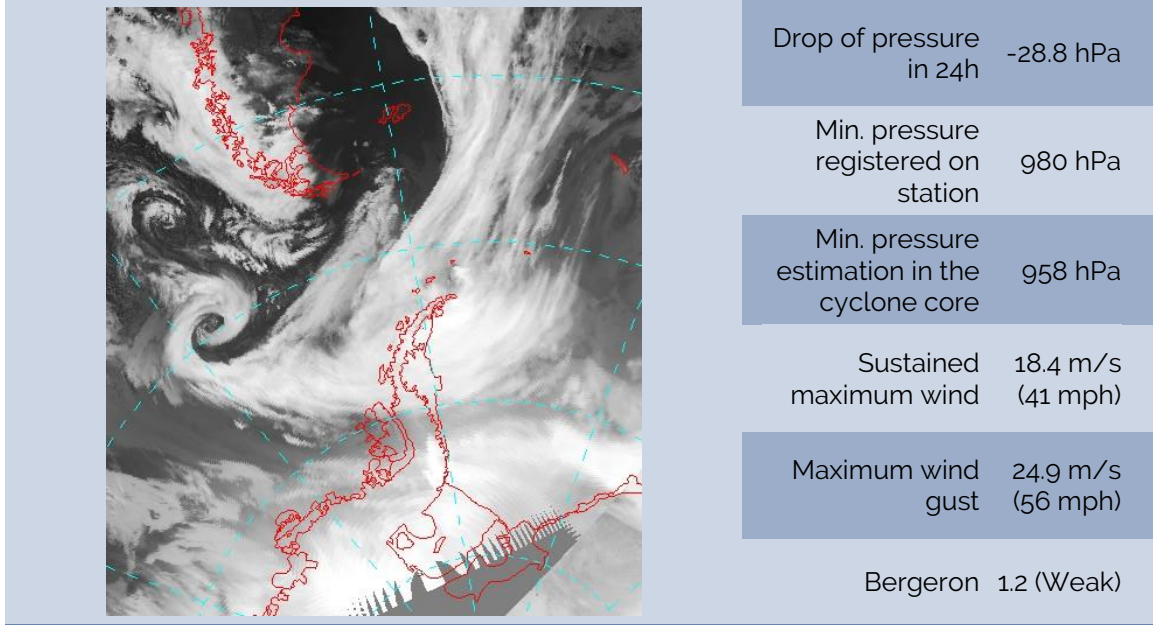
Sustained maximum wind 17.0 m/s (38 mph)

Maximum wind gust None m/s (mph)

Bergeron 1.1 (Weak)

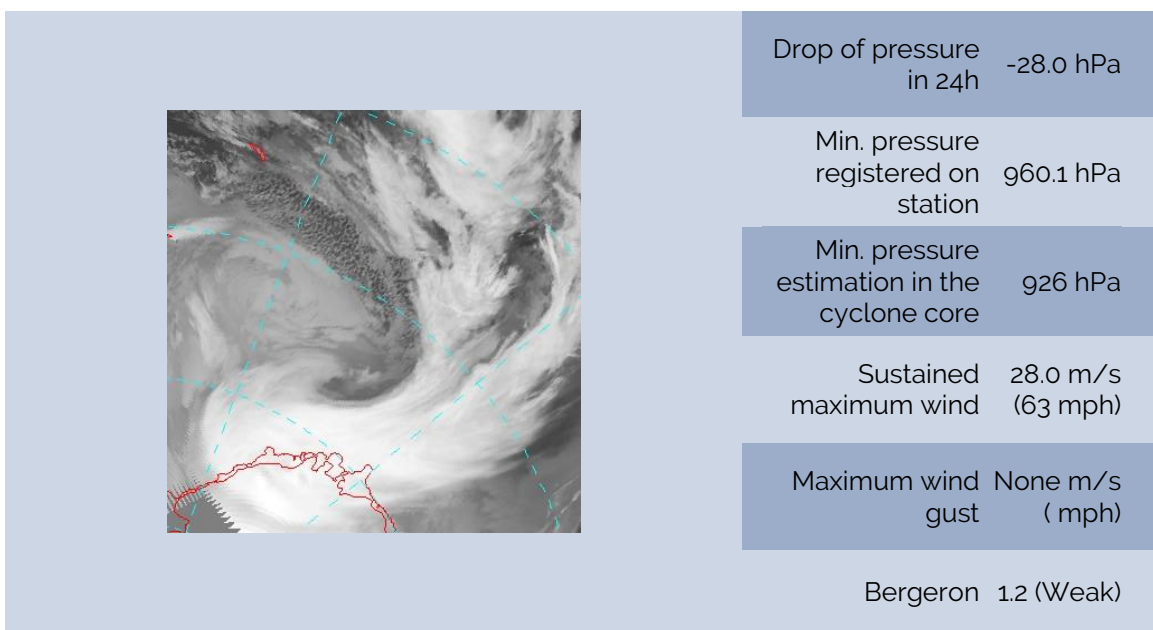
BOMB CYCLONE N°42/2023 - DATE: JULY/03/2023

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



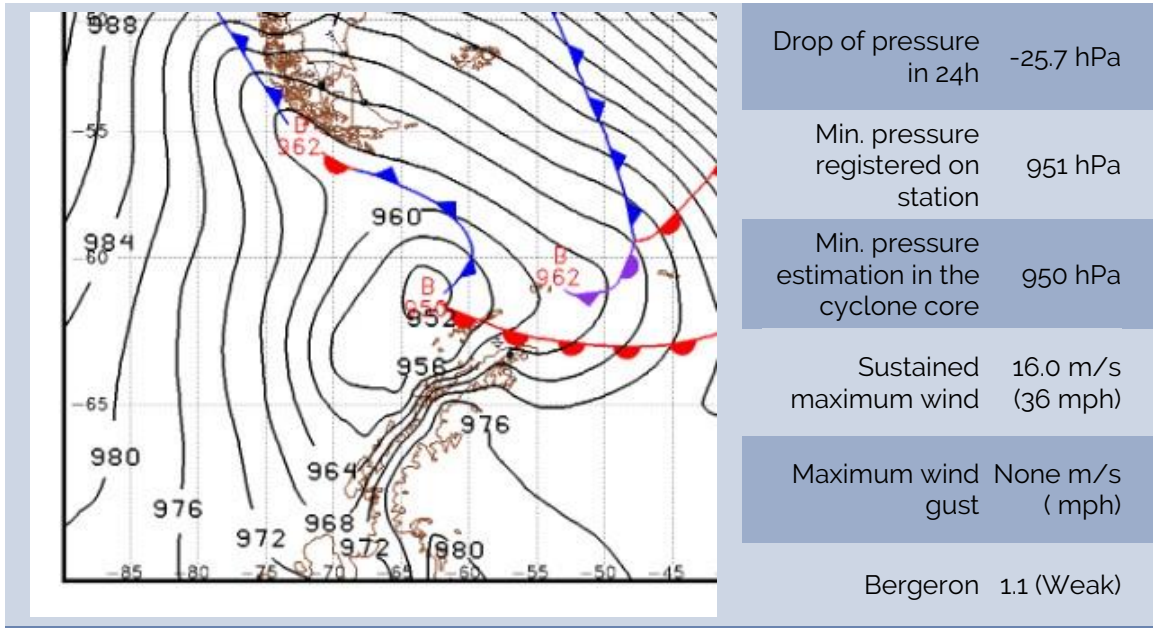
BOMB CYCLONE N°43/2023 - DATE: JULY/23/2023

LOCAL: NEUMAYER STATION – WMO 89002 (OPERATED BY GERMANY)



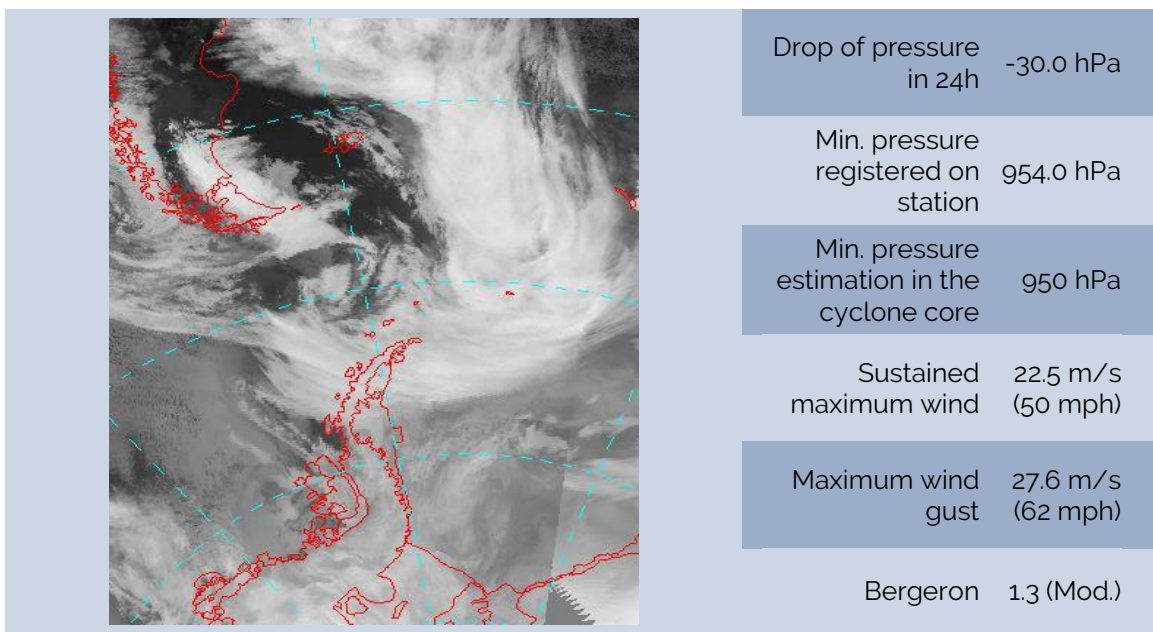
BOMB CYCLONE N°44/2023 - DATE: JULY/29/2023

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



BOMB CYCLONE N°45/2023 - DATE: JULY/29/2023

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



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>

<https://amrc.ssec.wisc.edu/>