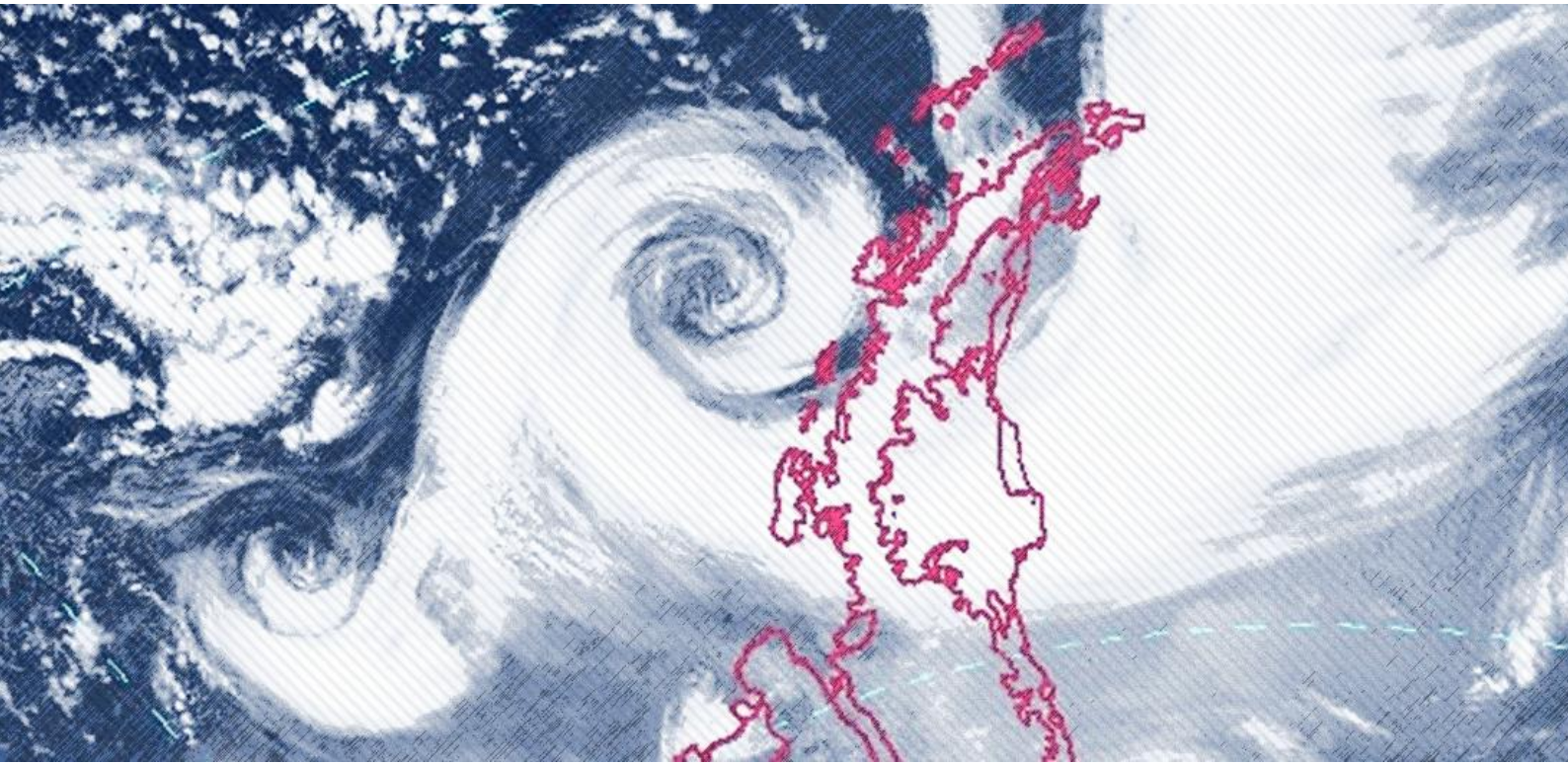




WORLD
ENVIRONMENTAL
CONSERVANCY

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

AUGUST 2023

During this month, only 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 hit by a cyclone this month was Neumayer, Halley, Syowa, Dumont D'Urville, Marambio and Frei. Of these 09 events 01 of them reached the level of an Antarctic hurricane.

TOTAL OF EVENTS REGISTERED IN STATIONS IN AUGUST

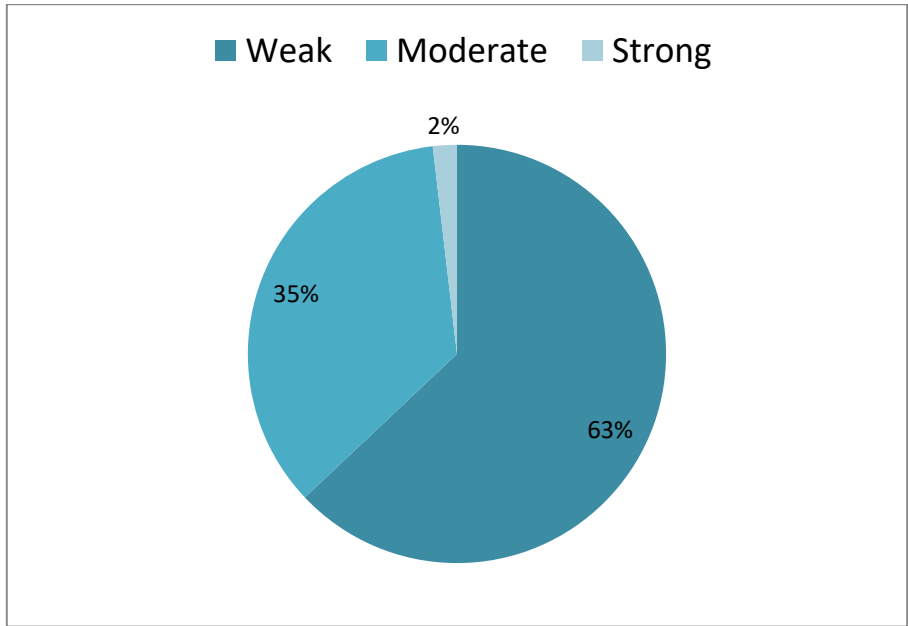
2017	2018	2019	2020	2021	2022	2023
24	20	07	08	09	11	09

STATISTICS OF THE MONTH: AUGUST 2023

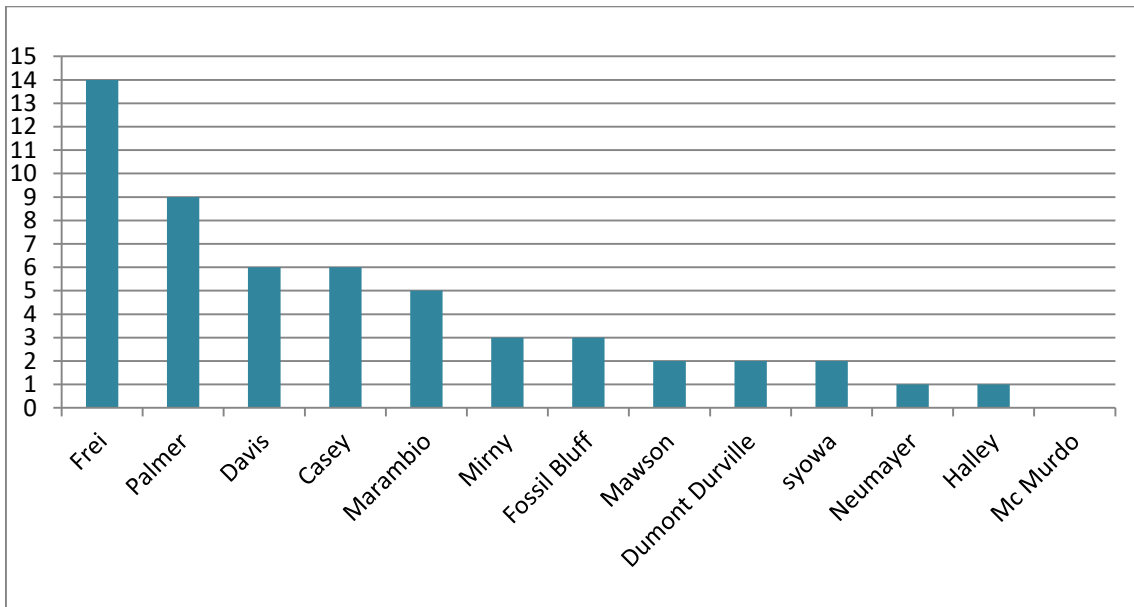
CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
B1	1 a 1.2	Weak	05
B2	1.3 a 1.8	Moderate	03
B3	> 1.8	Strong	01

HIGHEST PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-52.9 hPa/24h	938.7 hPa	33.0 m/s
Dumont D'Urville Station	Dumont D'Urville Station	Dumont D'Urville Station
Aug. 02	Aug. 02	Aug. 02

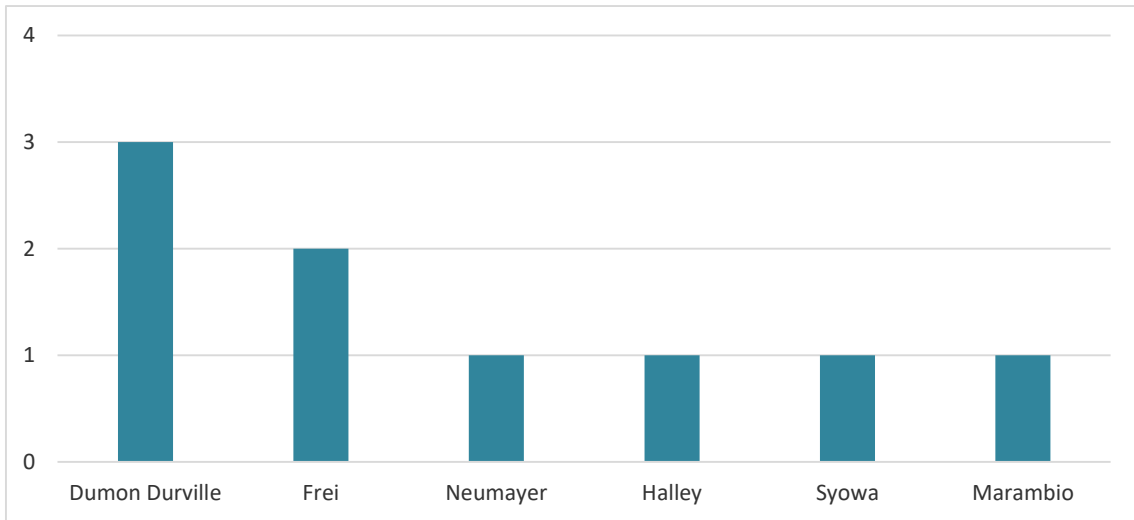
BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2023



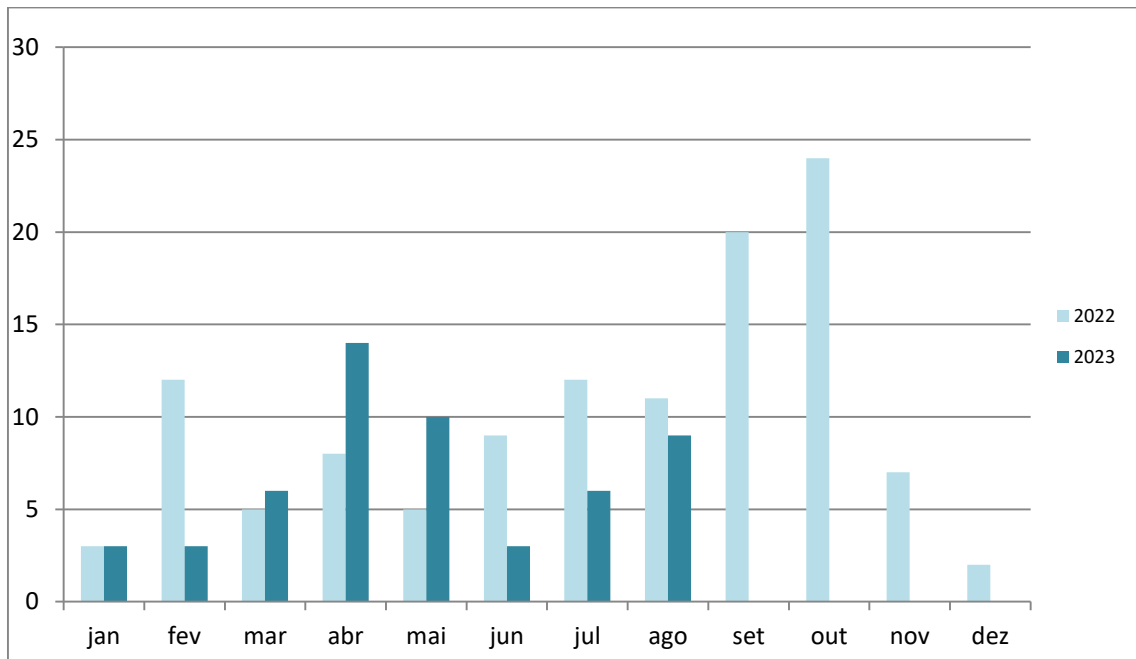
TOTAL OF EVENTS REGISTERED BY STATION IN 2023



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



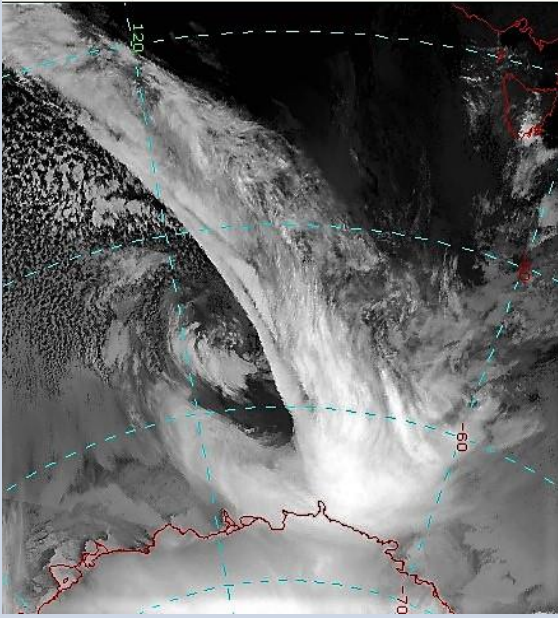
TOTAL EXPLOSIVE CYCLONES IN THE ANTARCTIC



BOMB CYCLONE N°46/2023 - DATE: AUG./02/2023

ANTARCTIC HURRICANE / AH-1

LOCAL: DUMONT D'URVILLE STATION – WMO 89642 (OPERATED BY FRANCE)



Drop of pressure in 24h -52.9 hPa

Min. pressure registered on station 938.7 hPa

Min. pressure estimation in the cyclone core 929 hPa

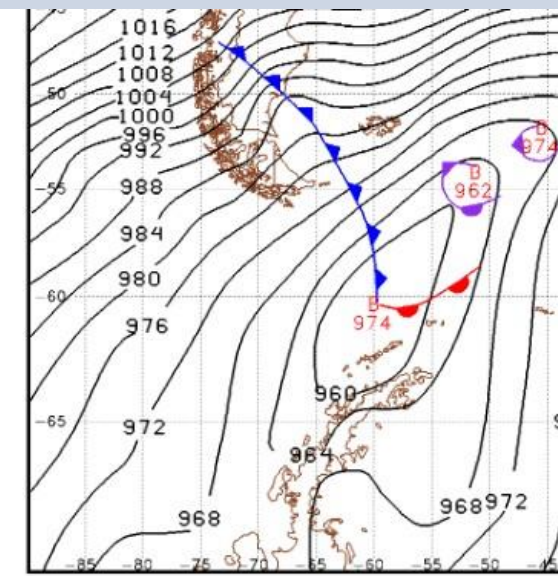
Sustained maximum wind 33.0 m/s (74 mph)

Maximum wind gust 47.5 m/s (106 mph)

Bergeron 2.2 (Strong)

BOMB CYCLONE N°47/2023 - DATE: AUG./02/2023

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



Drop of pressure in 24h -26.8 hPa

Min. pressure registered on station 953.7 hPa

Min. pressure estimation in the cyclone core 953 hPa

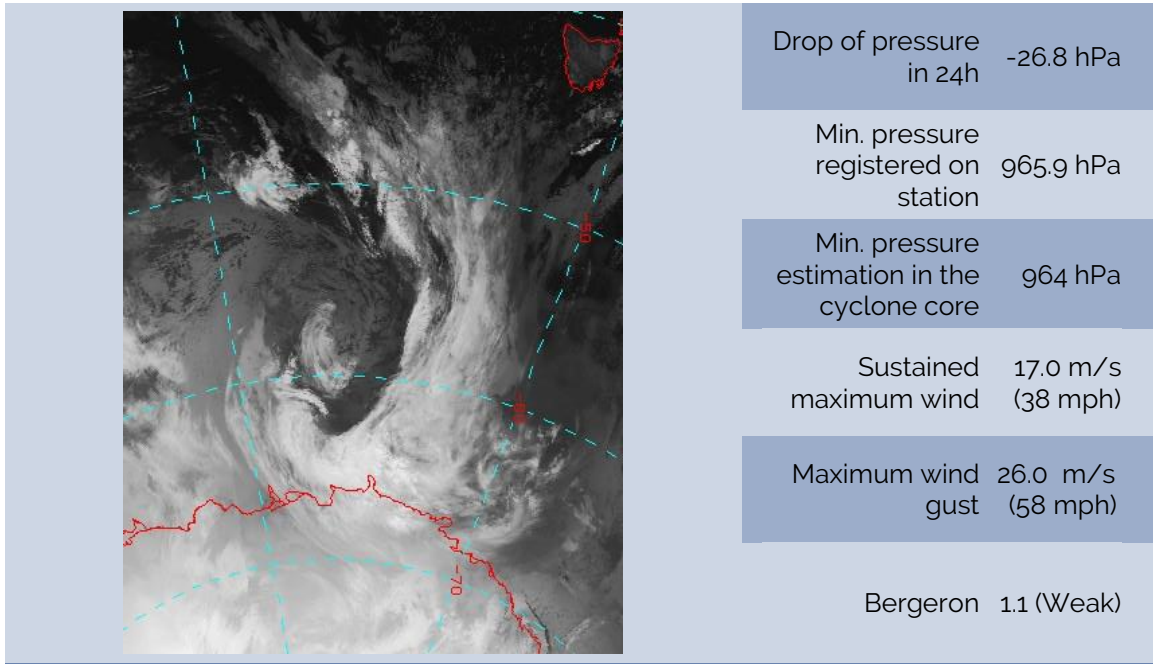
Sustained maximum wind 13.9 m/s (31 mph)

Maximum wind gust 15.5 m/s (35 mph)

Bergeron 1.1 (Weak)

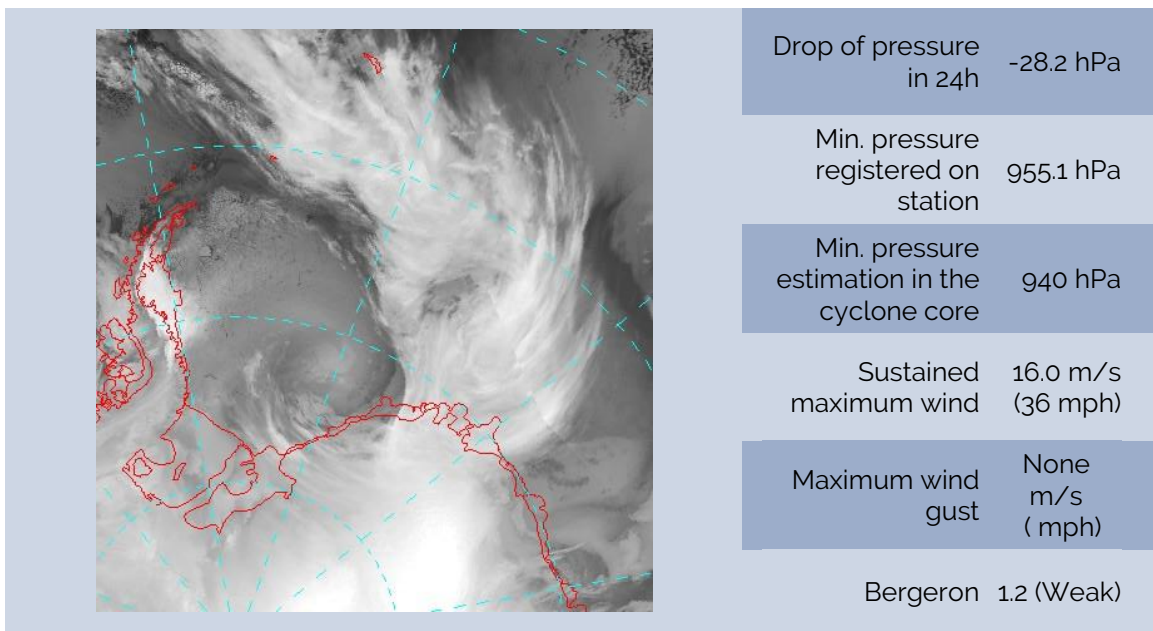
BOMB CYCLONE N°48/2023 - DATE: AUG./07/2023

LOCAL: DUMONT D'URVILLE STATION – WMO 89642 (OPERATED BY FRANCE)



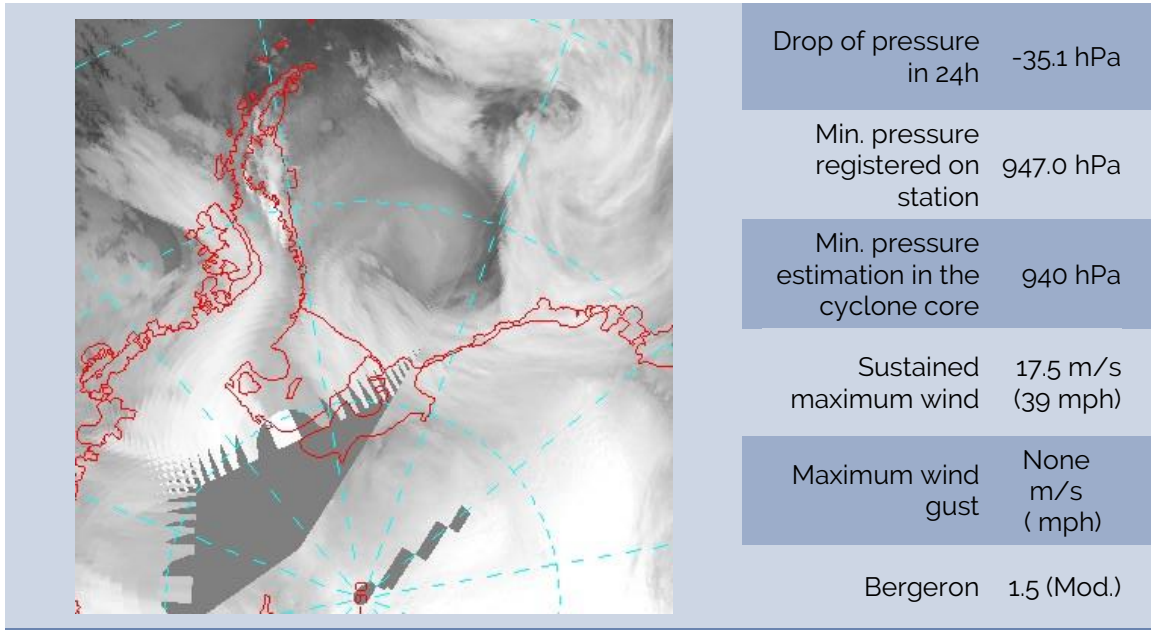
BOMB CYCLONE N°49/2022 - DATE: AUG./11/2023

LOCAL: NEUMAYER STATION – WMO 89 (OPERATED BY GERMANY)



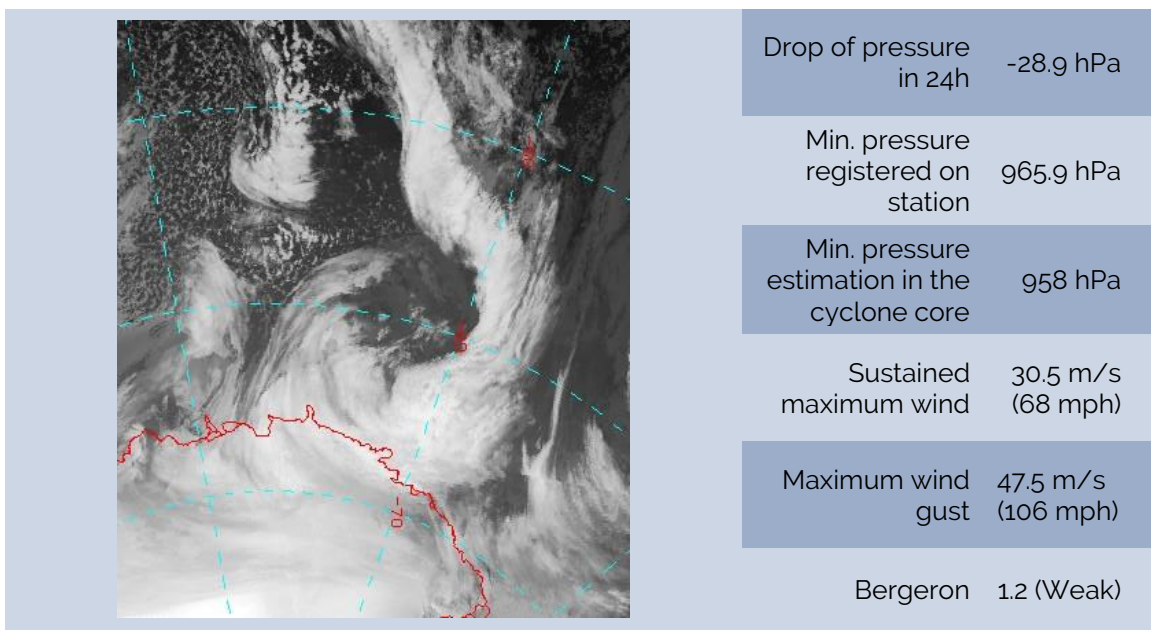
BOMB CYCLONE N°50/2022 - DATE: AUG./11/2023

LOCAL: HALLEY STATION – WMO 89022 (OPERATED BY U.K.)



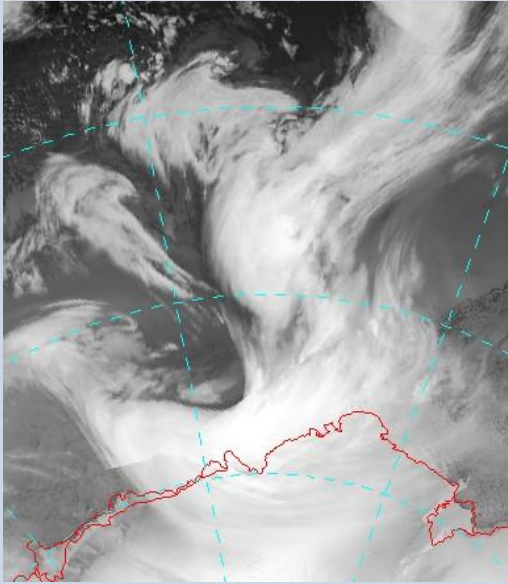
BOMB CYCLONE N°51/2023 - DATE: AUG./16/2023

LOCAL: DUMONT D'URVILLE STATION – WMO 89642 (OPERATED BY FRANCE)



BOMB CYCLONE N°52/2023 - DATE: AUG./22/2023

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



Drop of pressure in 24h -29.1 hPa

Min. pressure registered on station 980.3 hPa

Min. pressure estimation in the cyclone core 954 hPa

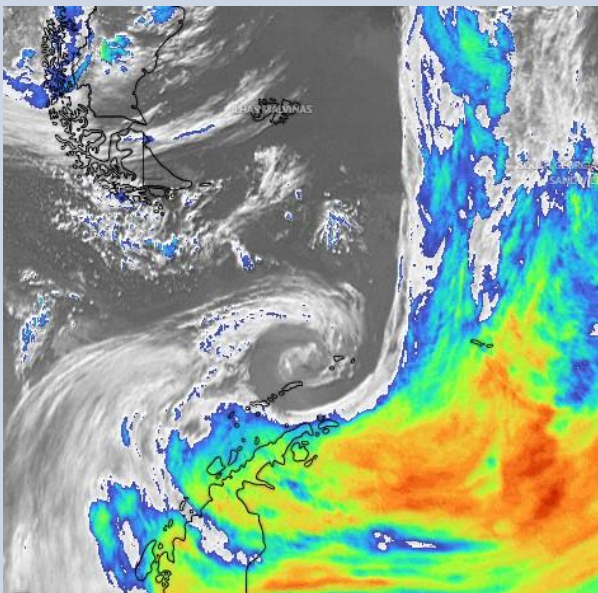
Sustained maximum wind 29.5 m/s (66 mph)

Maximum wind gust None m/s (mph)

Bergeron 1.2 (Weak)

BOMB CYCLONE N°53/2023 - DATE: AUG./31/2023

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



Drop of pressure in 24h -32.2 hPa

Min. pressure registered on station 965.5 hPa

Min. pressure estimation in the cyclone core 964 hPa

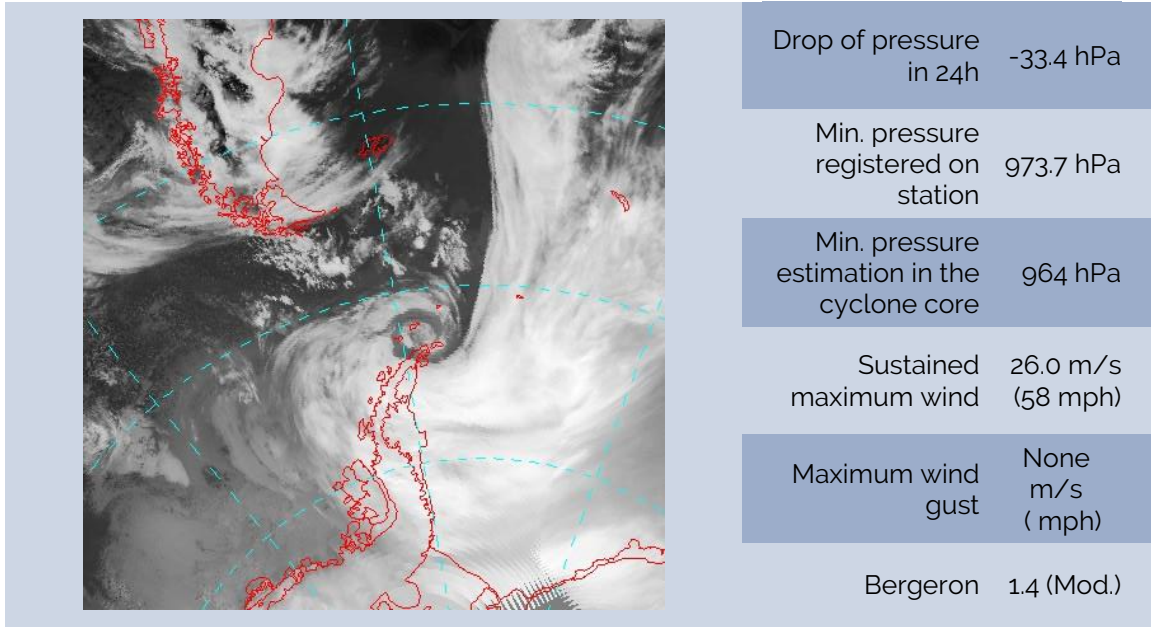
Sustained maximum wind 18.0 m/s (40 mph)

Maximum wind gust 25.5 m/s (57 mph)

Bergeron 1.3 (Mod.)

BOMB CYCLONE N°54/2023 - DATE: AUG./31/2023

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



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/>