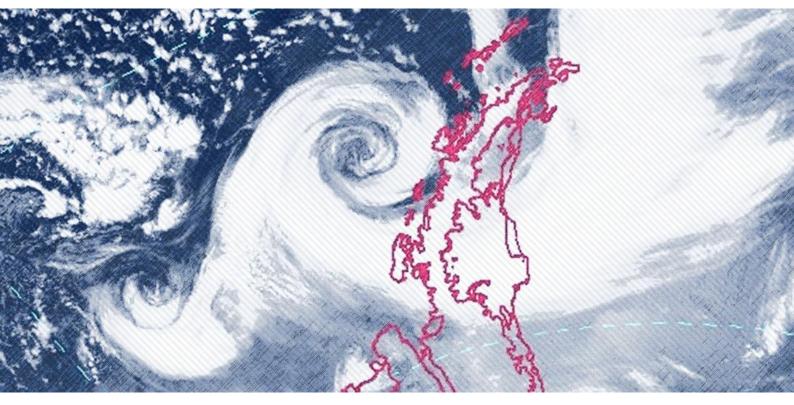


MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT



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



MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT

SEPTEMBER 2022

During this month, only 20 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 Fossil Bluff, Davis, Syowa, Mirny, Dumont D'Urville, Casey, Mawson, Marambio, Palmer and Frei. Of these 11 events 01 of them reached the level of an Antarctic hurricane.

TOTAL OF EVENTS REGISTERED IN STATIONS IN AUGUST

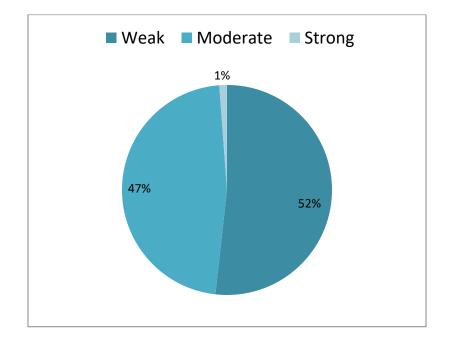
2017	2018	2019	2020	2021	2022
16	11	07	10	13	20

STATISTICS OF THE MONTH: SEPTEMBER 2022

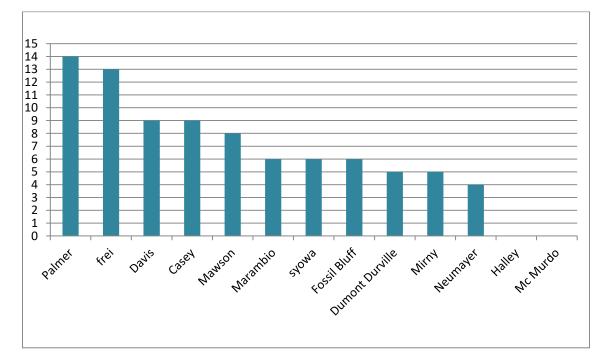
CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
Bı	1 a 1.2	Weak	09
B2	1.3 a 1.8	Moderate	10
B3	> 1.8	Strong	01

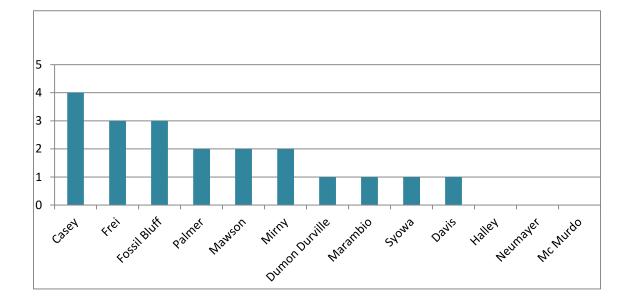
HIGHEST PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-49.8 hPa/24h	933.2 hPa	39.0 m/s
Davis station	Davis station	Casey station
Sept. 03	Sept. 03	Sept. 28

BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2022



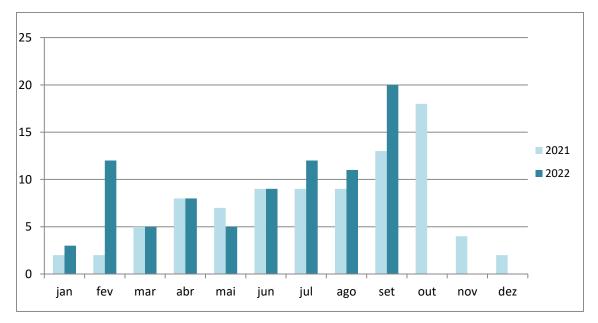
TOTAL OF EVENTS REGISTERED BY STATION IN 2022





TOTAL OF EVENTS REGISTERED IN EACH STATION IN THE MONTH OF SEPTEMBER/2022

TOTAL EXPLOSIVE CYCLONES IN THE ANTARCTIC



BOMB CYCLONE N°65/2022 - DATE: SEP./03/2022

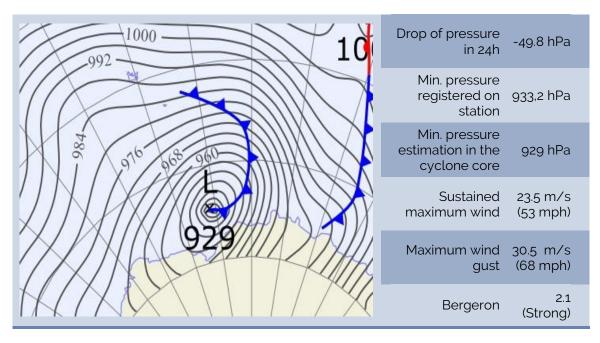
(ANTARCTIC HURRICANE CAT-1)

LOCAL: MIRNY STATION - WMO 89592 (OPERATED BY RUSSIA)

	Drop of pressure in 24h	-38.3 hPa
A A A A A A A A A A A A A A A A A A A	Min. pressure registered on station	953.8 hPa
	Min. pressure estimation in the cyclone core	934 hPa
CARLE CAR	Sustained maximum wind	34.0 m/s (76 mph)
	Maximum wind gust	42.0 m/s (94 mph)
	Bergeron	1.6 (Mod.)

BOMB CYCLONE N°66/2022 - DATE: SEP./03/2022

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



BOMB CYCLONE N°67/2022 - DATE: SEP./03/2022

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

	Drop of pressure in 24h	-33.1 hPa
	Min. pressure registered on station	947.3 hPa
NO IMAGE	Min. pressure estimation in the cyclone core	934 hPa
	Sustained maximum wind	26.5 m/s (59 mph)
	Maximum wind gust	33.5 m/s (75 mph)
	Bergeron	1.4 (Mod.)

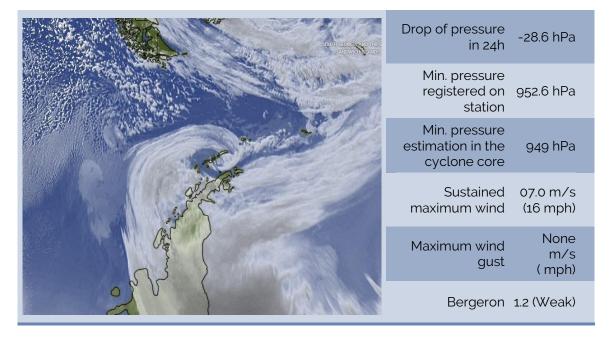
BOMB CYCLONE N°68/2022 - DATE: SEP./04/2022

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

1000 100	Drop of pressure in 24h	-31.4 hPa
	Min. pressure registered on station	960.9 hPa
50 916 968 960	Min. pressure estimation in the cyclone core	929 hPa
	Sustained maximum wind	21.5 m/s (48 mph)
	Maximum wind gust	25.5 m/s (57 mph)
HANK X/////X	Bergeron	1.3 (Mod.)

BOMB CYCLONE N°69/2022 - DATE: SEP./05/2022

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

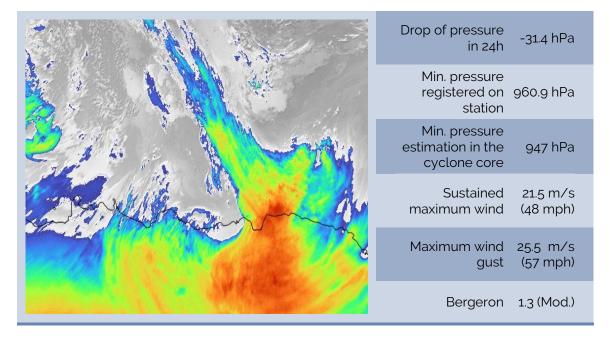


BOMB CYCLONE N°70/2022 - DATE: SEP./05/2022

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

Drop of pressure in 24h	-40.1 hPa
Min. pressure registered on station	949.2 hPa
Min. pressure estimation in the cyclone core	949 hPa
Sustained maximum wind	24.0 m/s (54 mph)
Maximum wind gust	29.5 m/s (66 mph)
Bergeron	1.7 (Mod.)

BOMB CYCLONE N°71/2022 - DATE: SEP./06/2022



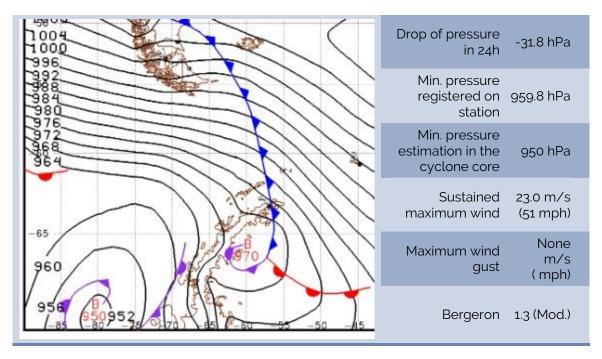
LOCAL: CASEY STATION - WMO 89611 (OPERATED BY AUSTRALIA)

BOMB CYCLONE N°72/2022 - DATE: SEP./07/2022

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

	Drop of pressure in 24h	-37.1 hPa
	Min. pressure registered on station	952.6 hPa
	Min. pressure estimation in the cyclone core	933 hPa
and the second second	Sustained maximum wind	25.0 m/s (56 mph)
and the	Maximum wind gust	None m/s (mph)
	Bergeron	1.5 (Mod.)

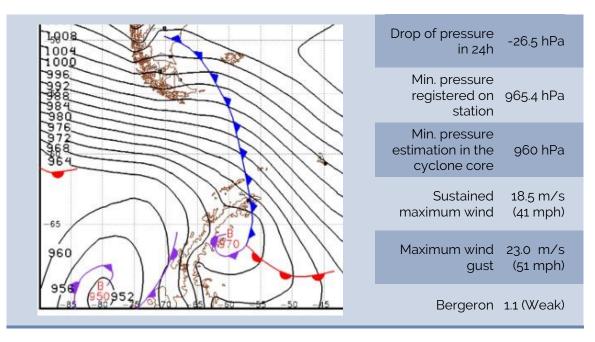
BOMB CYCLONE N°73/2022 - DATE: SEP./09/2022



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

BOMB CYCLONE N°74/2022 - DATE: SEP./09/2022

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



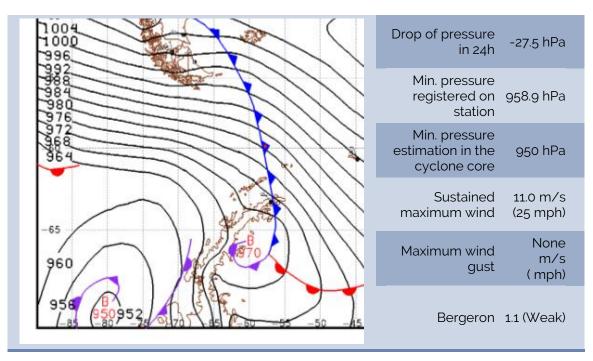
BOMB CYCLONE N°75/2022 - DATE: SEP./09/2022

	Drop of pressure in 24h	-27.4 hPa
	Min. pressure registered on station	970.9 hPa
	Min. pressure estimation in the cyclone core	950 hPa
	Sustained maximum wind	15.0 m/s (34 mph)
Entrance Contraction	Maximum wind gust	None m/s (mph)
	Bergeron	1.1 (Weak)

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

BOMB CYCLONE N°76/2022 - DATE: SEP./09/2022

LOCAL: FOSSIL BLUFF STATION - WMO 89065 (OPERATED BY U.K.)



BOMB CYCLONE Nº77/2022 - DATE: SEP./13/2022

(ANTARCTIC HURRICANE CAT-1)

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

	Drop of pressure in 24h	-27.1 hPa
	Min. pressure registered on station	953.3 hPa
	Min. pressure estimation in the cyclone core	951 hPa
Not CARDON	Sustained maximum wind	35.0 m/s (78 mph)
and -	Maximum wind gust	46.8 m/s (105 mph)
	Bergeron	1.1 (Weak)

BOMB CYCLONE Nº78/2022 - DATE: SEP./15/2022

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

	Drop of pressure in 24h	-26.3 hPa
	Min. pressure registered on station	972.1 hPa
	Min. pressure estimation in the cyclone core	960 hPa
and a second	Sustained maximum wind	20.5 m/s (46 mph)
-70 -70	Maximum wind gust	36.5 m/s (82 mph)
	Bergeron	1.1 (Weak)

BOMB CYCLONE Nº79/2022 - DATE: SEP./16/2022

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

	Drop of pressure in 24h	-37.2 hPa
	Min. pressure registered on station	961.0 hPa
	Min. pressure estimation in the cyclone core	960 hPa
	Sustained maximum wind	30.0 m/s (mph)
	Maximum wind gust	36.5 m/s (mph)
- mana	Bergeron	1.6 (Mod.)

BOMB CYCLONE N°80/2022 - DATE: SEP./16/2022

LOCAL: MIRNY STATION - WMO 89592 (OPERATED BY RUSSIA)

NO IMAGE	Drop of pressure in 24h	-25.9 hPa
	Min. pressure registered on station	963.0 hPa
	Min. pressure estimation in the cyclone core	959 hPa
	Sustained maximum wind	23.0 m/s (51 mph)
	Maximum wind gust	26.0 m/s (58 mph)
	Bergeron	1.1 (Weak)

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT - World Environmental Conservancy

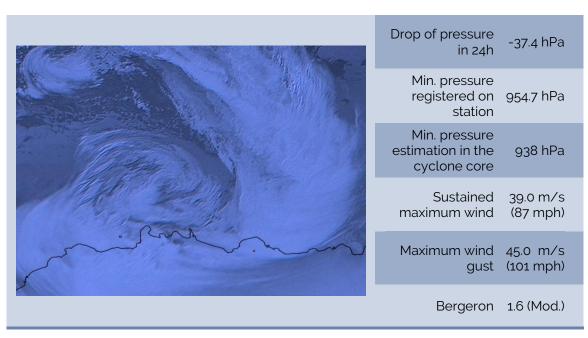
BOMB CYCLONE N°81/2022 - DATE: SEP./22/2022

	Drop of pressure in 24h	-31.2 hPa
	Min. pressure registered on station	963.9 hPa
	Min. pressure estimation in the cyclone core	930 hPa
	Sustained maximum wind	16.5 m/s (37 mph)
A State of the sta	Maximum wind gust	None m/s (mph)
	Bergeron	1.3 (Mod.)

LOCAL: FOSSIL BLUFF STATION - WMO 89065 (OPERATED BY U.K.)

BOMB CYCLONE N°82/2022 - DATE: SEP./28/2022

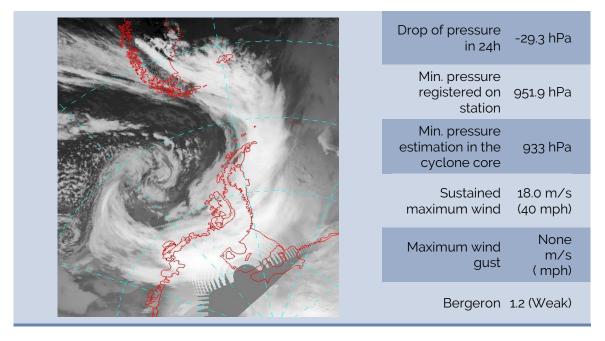
(ANTARCTIC HURRICANE CAT-1)



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

BOMB CYCLONE N°83/2022 - DATE: SEP./29/2022

LOCAL: FOSSIL BLUFF STATION - WMO 89065 (OPERATED BY U.K.)



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/