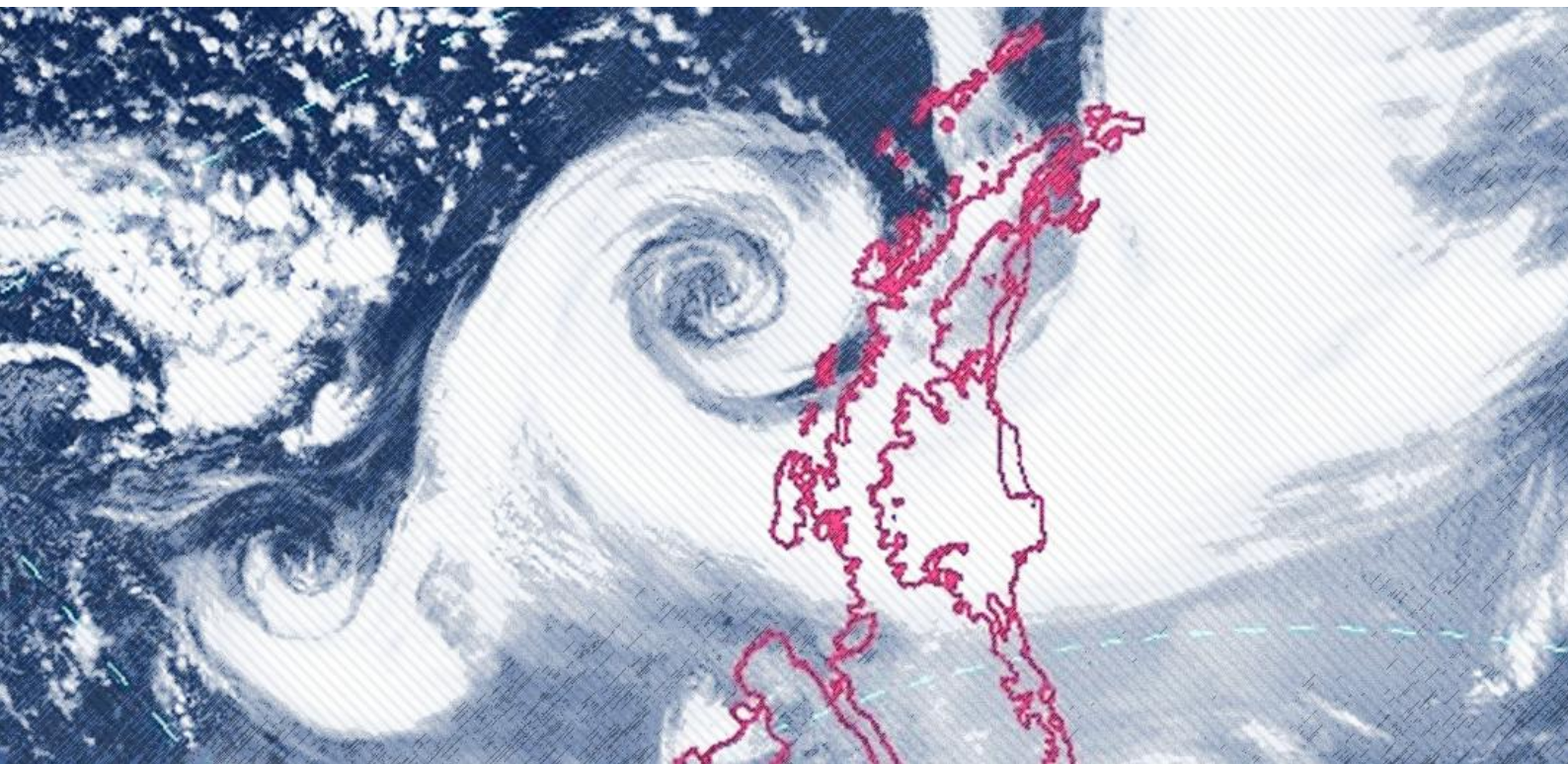




WORLD
ENVIRONMENTAL
CONSERVANCY

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT



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



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JULY 2020

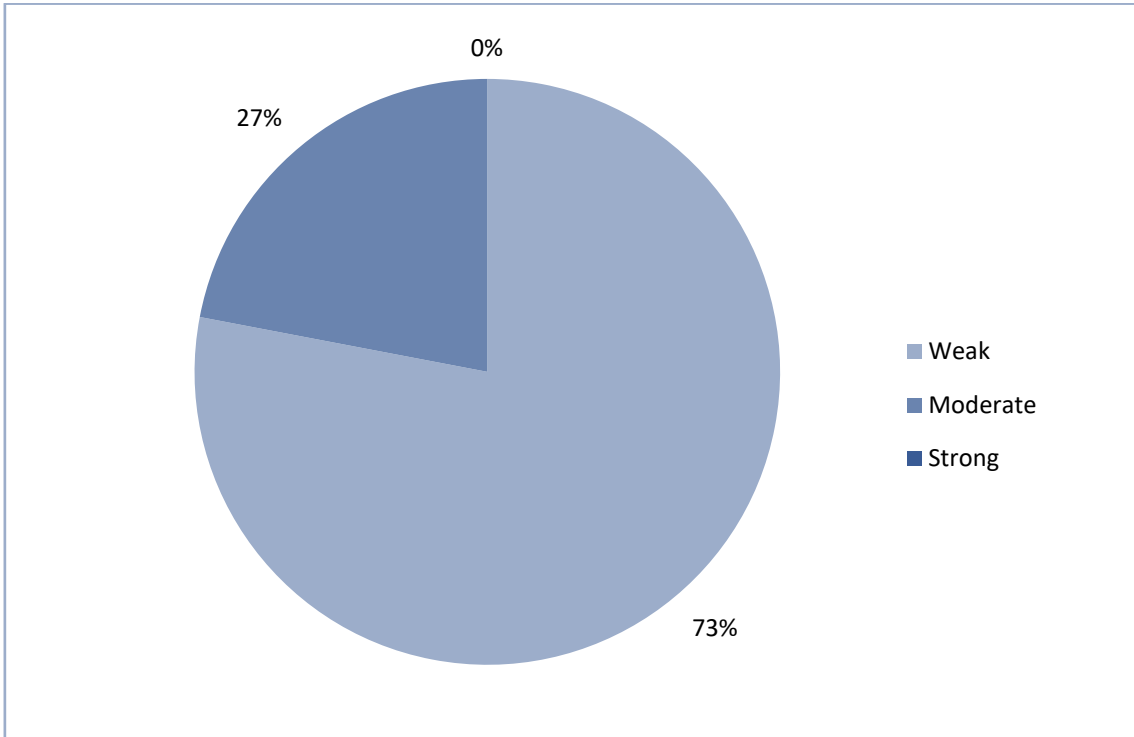
During this month, 10 events were registered among the 13 research stations located on the coast of the Antarctic utilized as references for the monitoring of explosive cyclones (bomb cyclones). The stations affected by cyclones this month were: Frei, Marambio, Casey, Syowa, McMurdo, Dumont D'Urville and Palmer. There was a significant increase of 43% in the number of cyclones in comparison to the same month of the previous year (2019).

STATISTICS OF THE MONTH

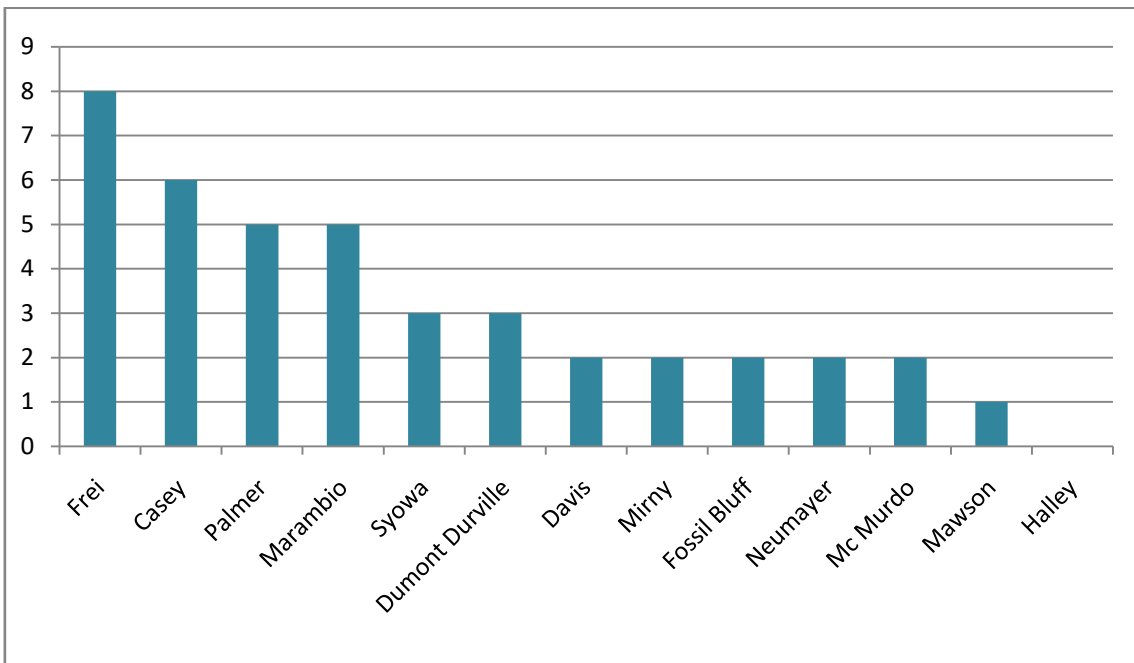
CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
B1	1 a 1.2	Weak	08
B2	1.3 a 1.8	Moderate	02
B3	> 1.8	Strong	00

HIGHEST PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-33.1 hPa/24h	948.9 hPa	44.5 m/s
Frei Station	Casey Station	Casey Station
July 24th	July 13rd	July 13rd

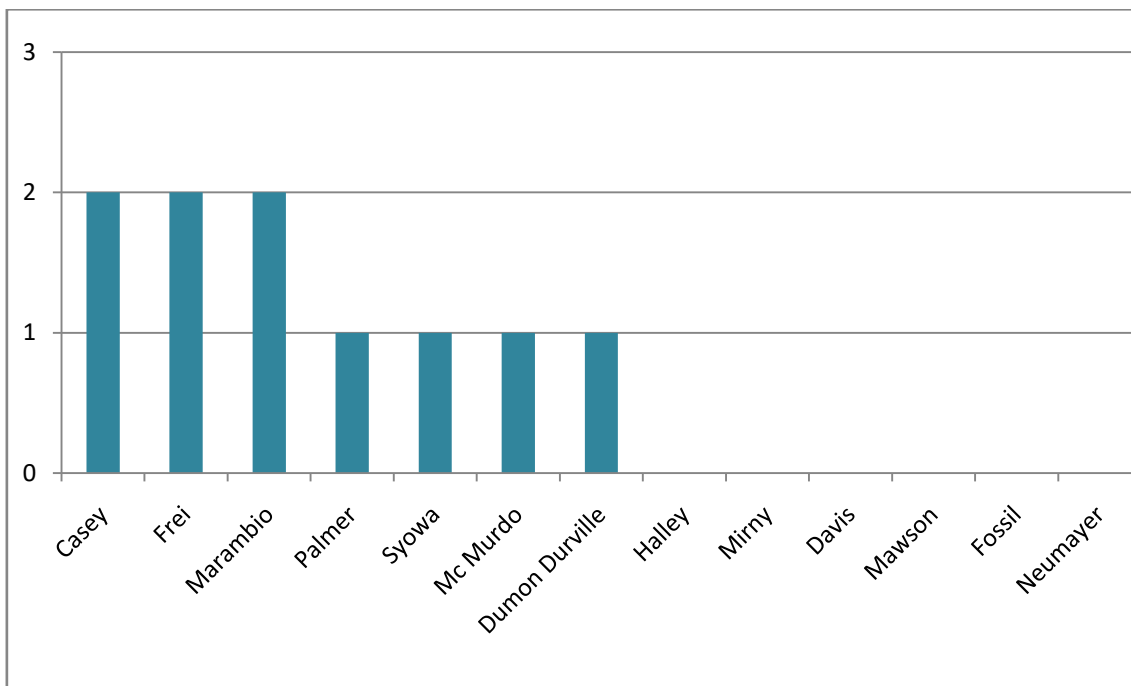
BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2020



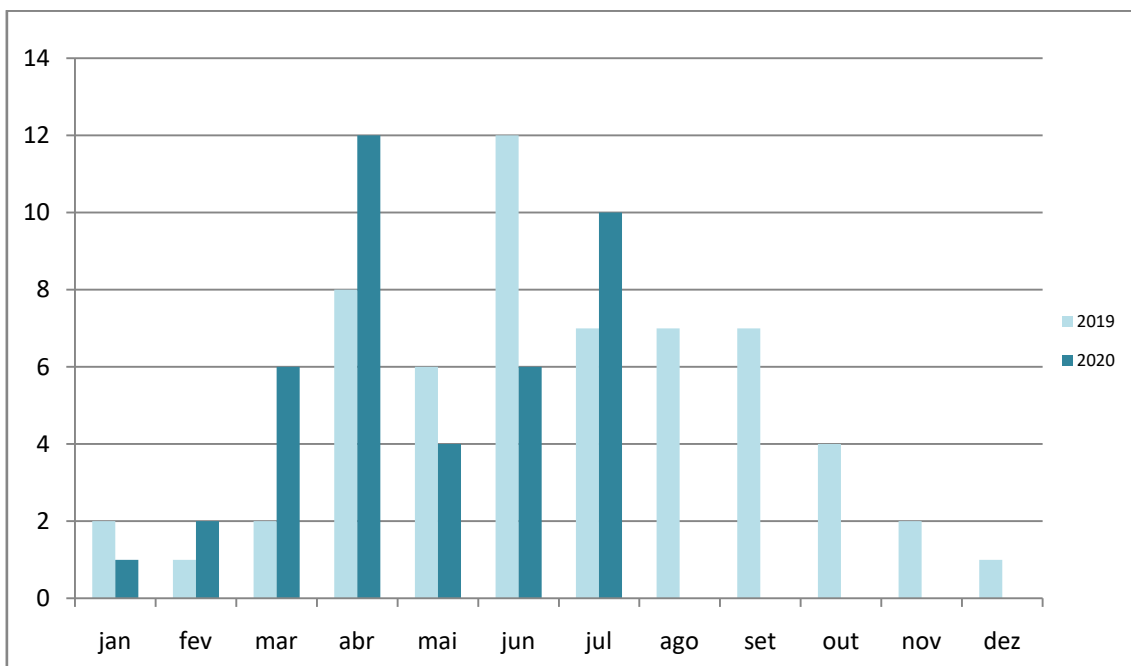
TOTAL OF EVENTS REGISTERED BY STATION IN 2020



TOTAL OF EVENTS REGISTERED IN EACH STATION IN THE MONTH OF JUL/2020

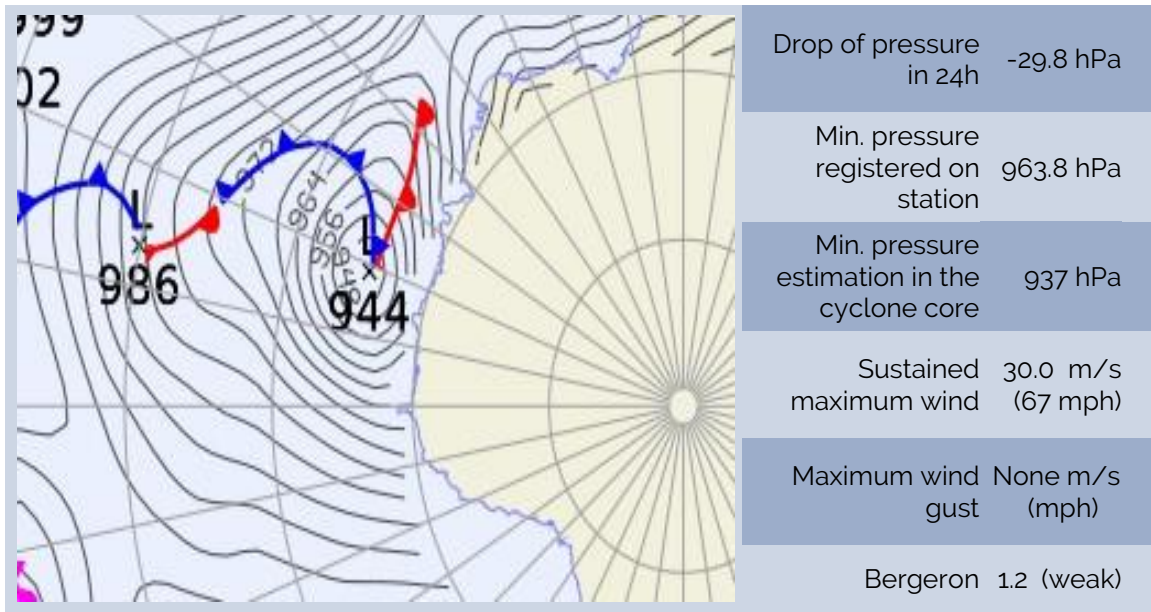


TOTAL EXPLOSIVE CYCLONES IN THE ANTARCTIC



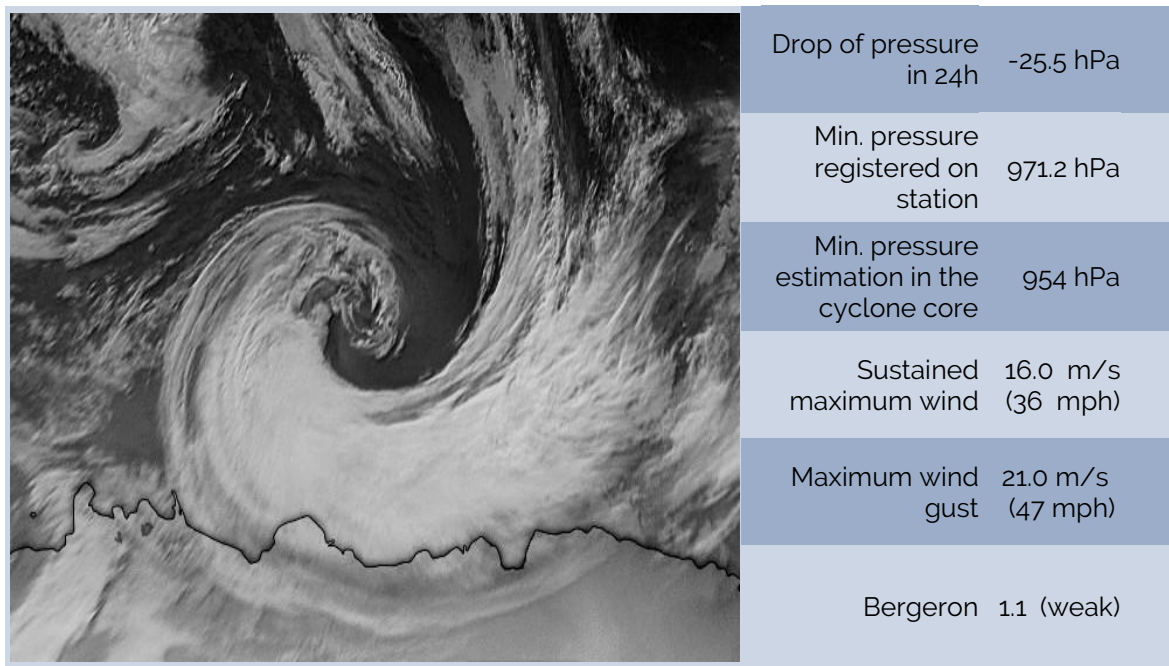
BOMB CYCLONE N°32/2020- DATE: JUL/10/2020

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



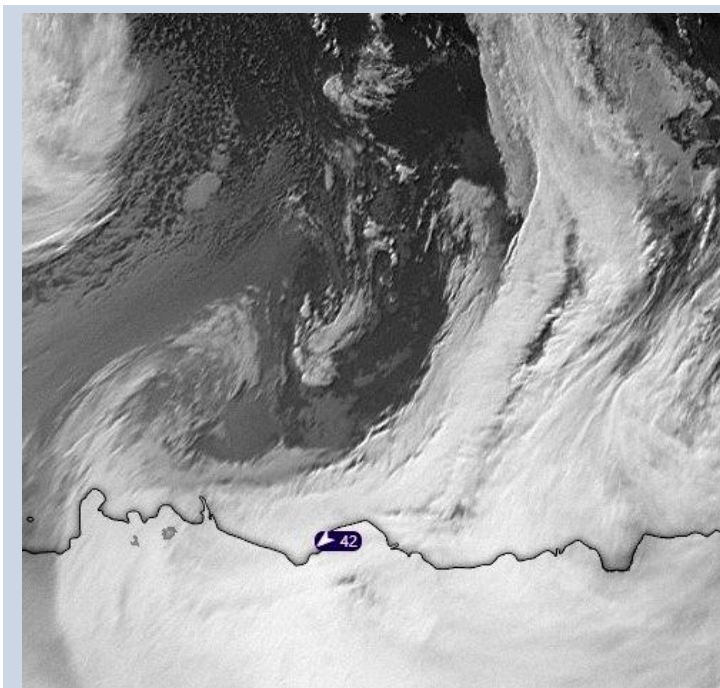
BOMB CYCLONE N°33/2020- DATE: JUL/12/2020

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



BOMB CYCLONE N°34/2020 - DATE: DATE: JUL/13/2020

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



Drop of pressure in 24h -27.8 hPa

Min. pressure registered on station 948.9 hPa

Min. pressure estimation in the cyclone core 947 hPa

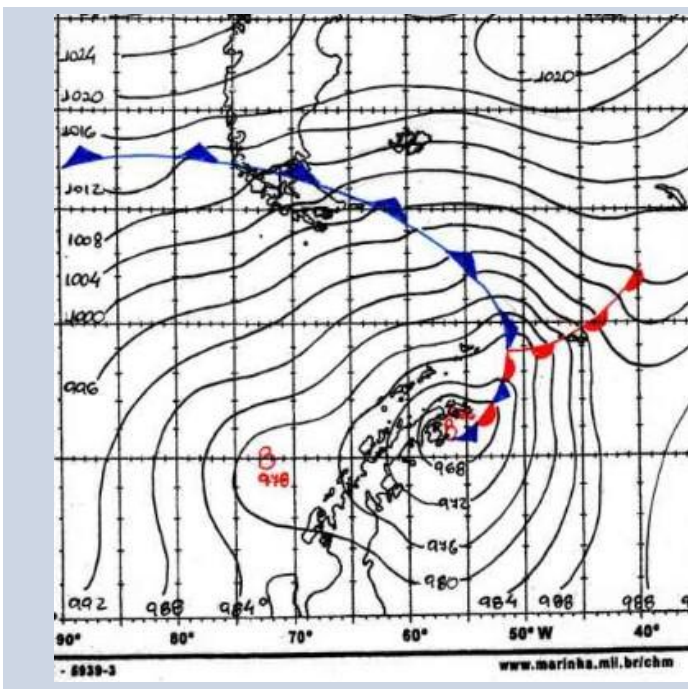
Sustained maximum wind 44.5 m/s (100 mph)

Maximum wind gust 52.5 m/s (117 mph)

Bergeron 1.2 (weak)

BOMB CYCLONE N°35/2020 - DATE: JUL/23/2020

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



Drop of pressure in 24h -27.1 hPa

Min. pressure registered on station 961.6 hPa

Min. pressure estimation in the cyclone core 961 hPa

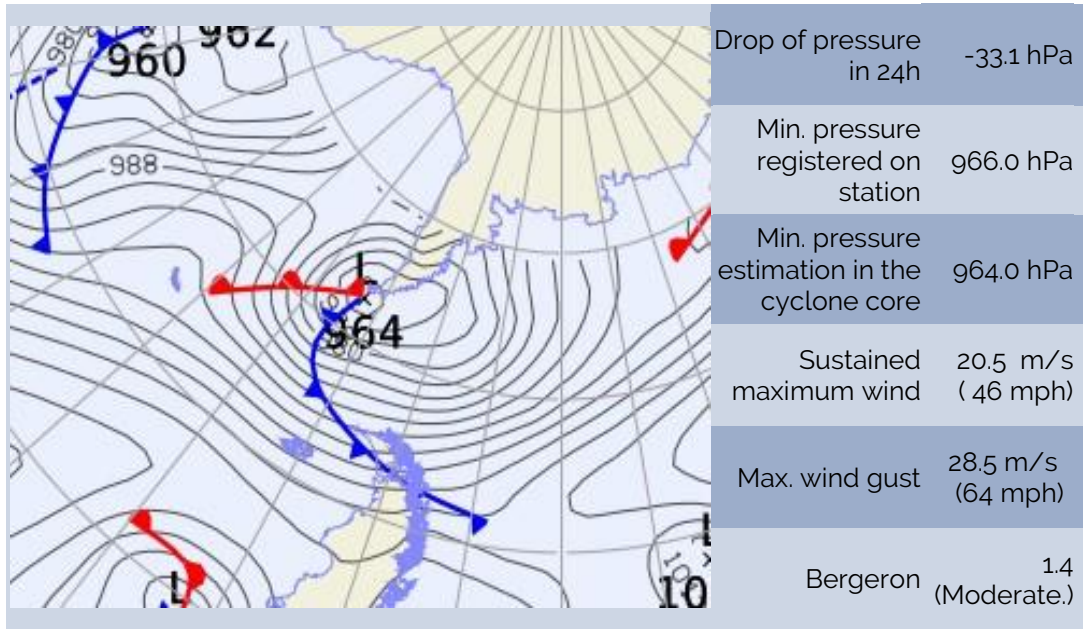
Sustained maximum wind 16.0 m/s (36 mph)

Maximum wind gust None m/s (mph)

Bergeron 1.1 (weak)

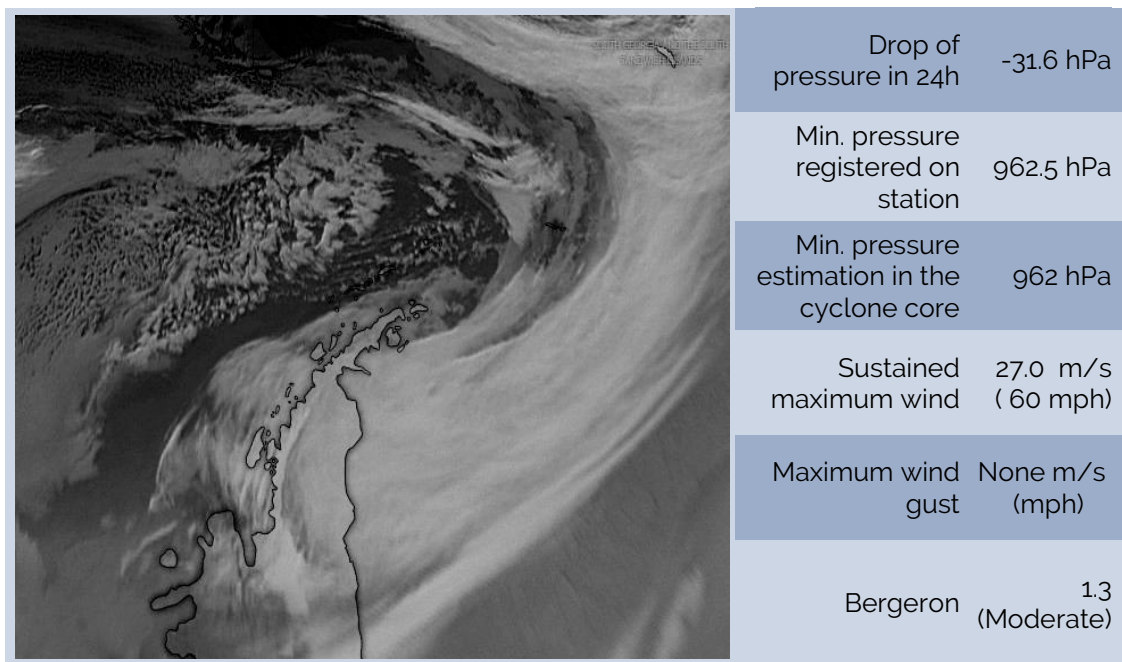
BOMB CYCLONE N°36/2020- DATE: DATE: JUL/24/2020

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



BOMB CYCLONE N°37/2020- DATE: DATE: JUL/24/2020

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



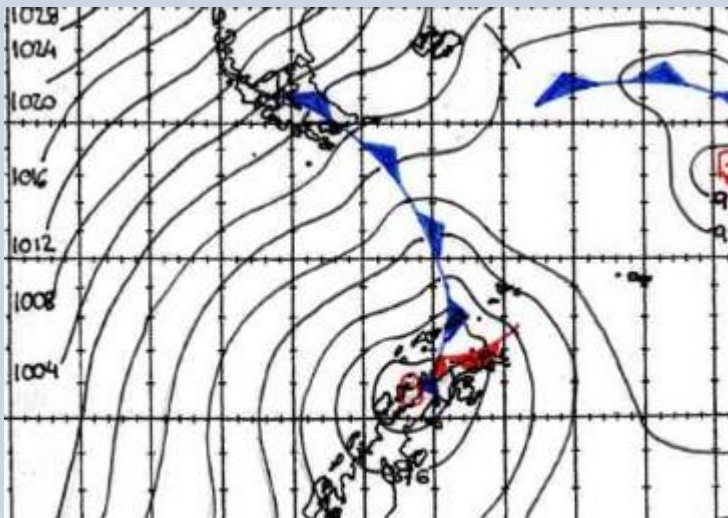
BOMB CYCLONE N°38/2020- DATE: DATE: JUL/25/2020

LOCAL: MCMURDO STATION – WMO 89664 (OPERATED BY U.S.A.)

NO IMAGE	Drop of pressure in 24h	-29.2 hPa
	Min. pressure registered on station	954.0 hPa
	Min. pressure estimation in the cyclone core	947 hPa
	Sustained maximum wind	18.0 m/s (40 mph)
	Maximum wind gust	None m/s (mph)
	Bergeron	1.2 (weak)

BOMB CYCLONE N°39/2020- DATE: DATE: JUL/27/2020

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

	Drop of pressure in 24h	-28.5 hPa
	Min. pressure registered on station	968.0 hPa
	Min. pressure estimation in the cyclone core	968 hPa
	Sustained maximum wind	18.0 m/s (40 mph)
	Maximum wind gust	22.5 m/s (50 mph)

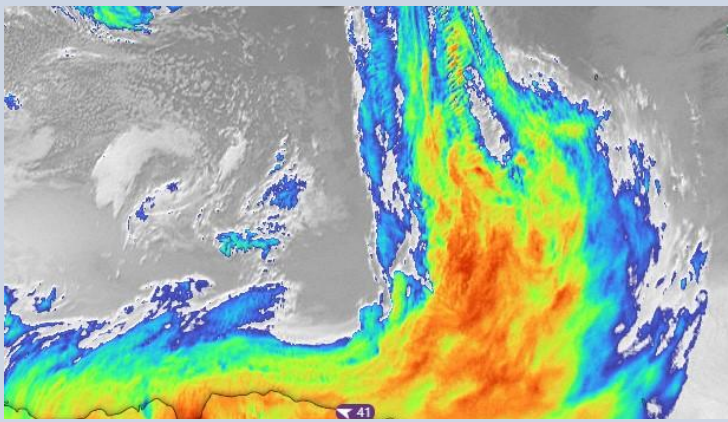
BOMB CYCLONE N°40/2020- DATE: DATE: JUL/27/2020

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

NO IMAGE	Drop of pressure in 24h	-26.8 hPa
	Min. pressure registered on station	970.9 hPa
	Min. pressure estimation in the cyclone core	968 hPa
	Sustained maximum wind	12.0 m/s (27 mph)
	Maximum wind gust	None m/s (mph)
	Bergeron	1.1 (weak)

BOMB CYCLONE N°41/2020- DATE: DATE: JUL/28/2020

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

	Drop of pressure in 24h	-26.4 hPa
	Min. pressure registered on station	970.2 hPa
	Min. pressure estimation in the cyclone core	946 hPa
	Sustained maximum wind	20.5 m/s (46 mph)
	Bergeron	1.1 (weak)

Maximum wind gust	40.0 m/s (89 mph)
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Bergeron	1.1 (weak)
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SOURCES

AMRC – UW Madison

<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>