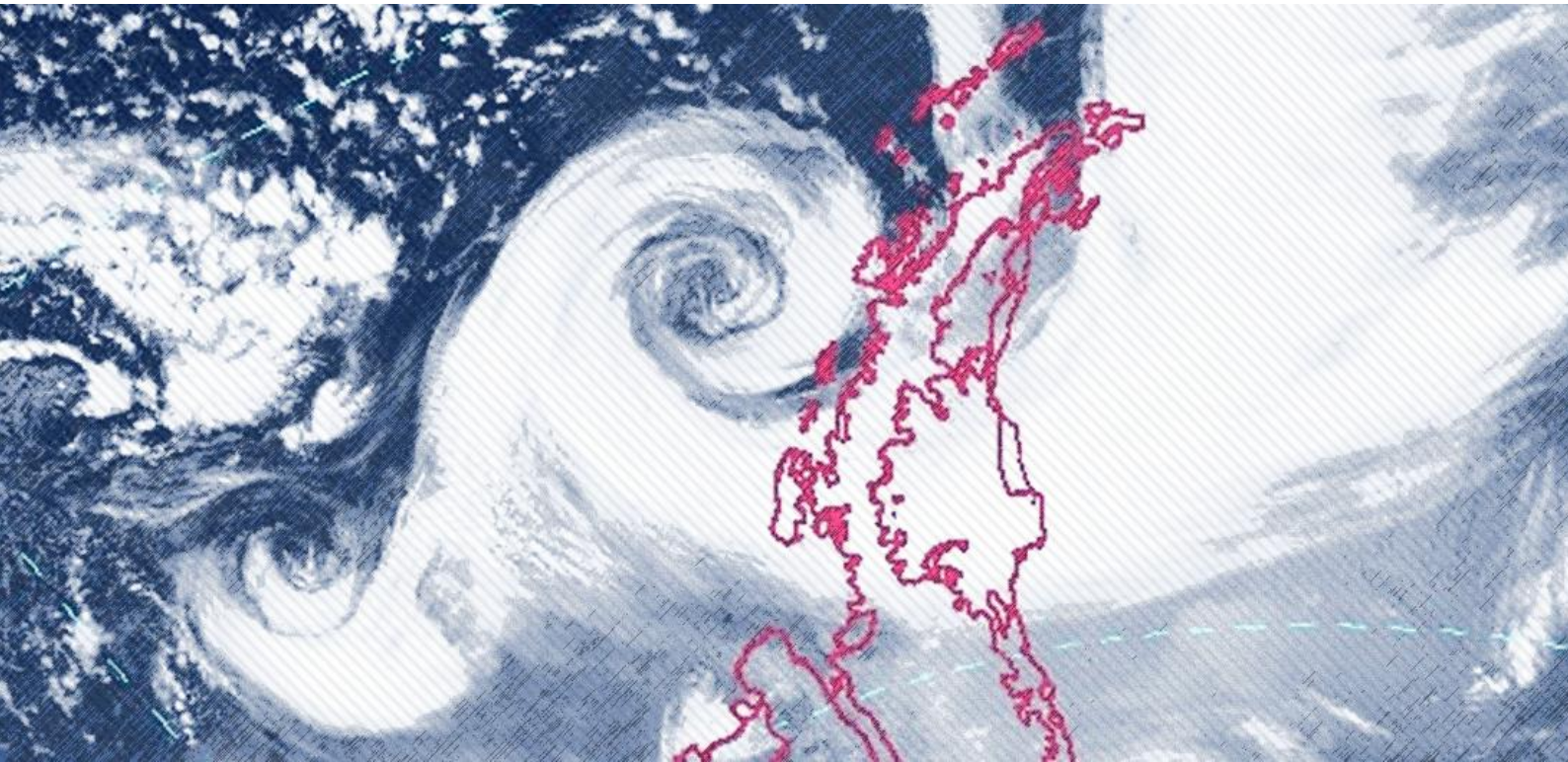




WORLD
ENVIRONMENTAL
CONSERVANCY

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT



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



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SEPTEMBER 2021

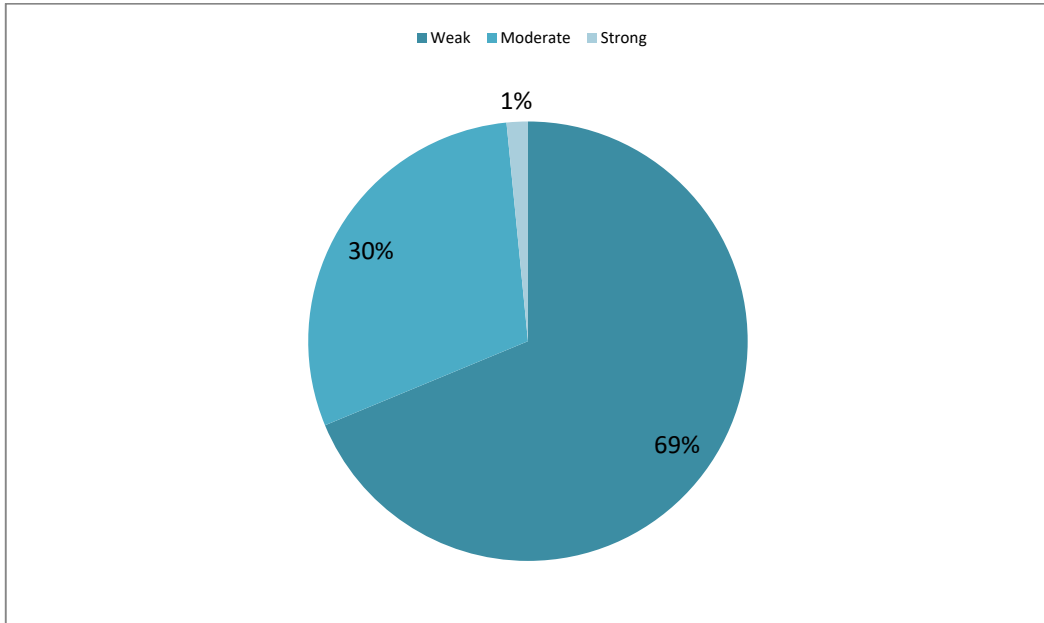
During this month, 13 events were registered among the 13 research stations located on the coast of the Antarctic utilized as references for the monitoring of bomb cyclones. The stations affected by cyclones this month were: Marambio, Fossil Bluff, Casey, Davis, Mawson, Frei, Mirny and Palmer. There was a increase (30%) in the number of cyclone s in comparison to the same month of the previous year (2020).

STATISTICS OF THE MONTH

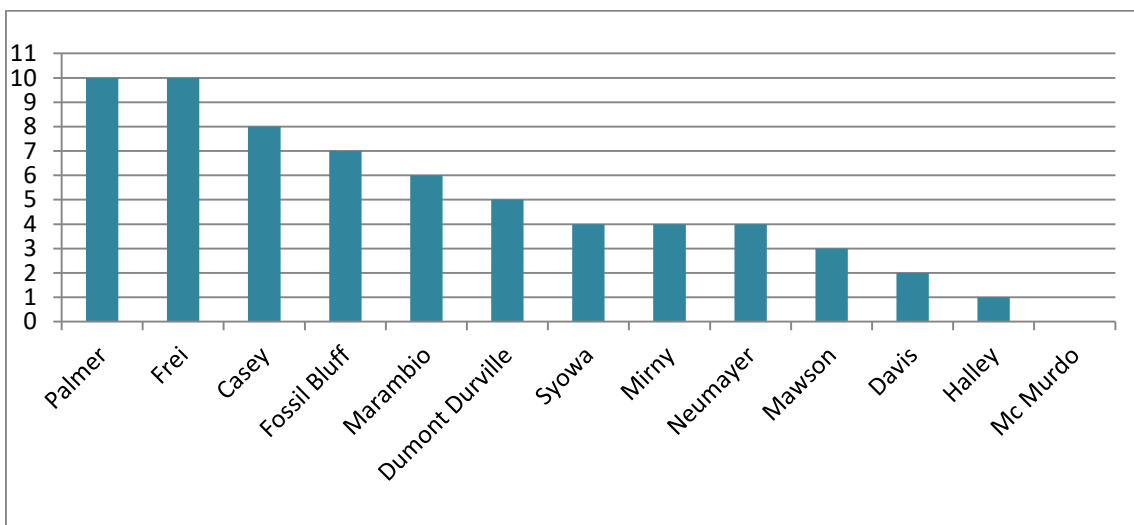
CLASSIFICATION	BERGERON SCALE	INTENSITY	TOTAL OF CASES REGISTERED IN THE MONTH
B1	1 a 1.2	Weak	10
B2	1.3 a 1.8	Moderate	03
B3	> 1.8	Strong	00

HIGHEST PRESSURE DROP	LOWEST RECORDED PRESSURE	HIGHEST SUSTAINED WIND
-37.3 hPa/24h	942.0 hPa	38.0 m/s
Mirny Station	Frei Station	Mawson Station
Sep. 11	Sep. 14	Sep. 25

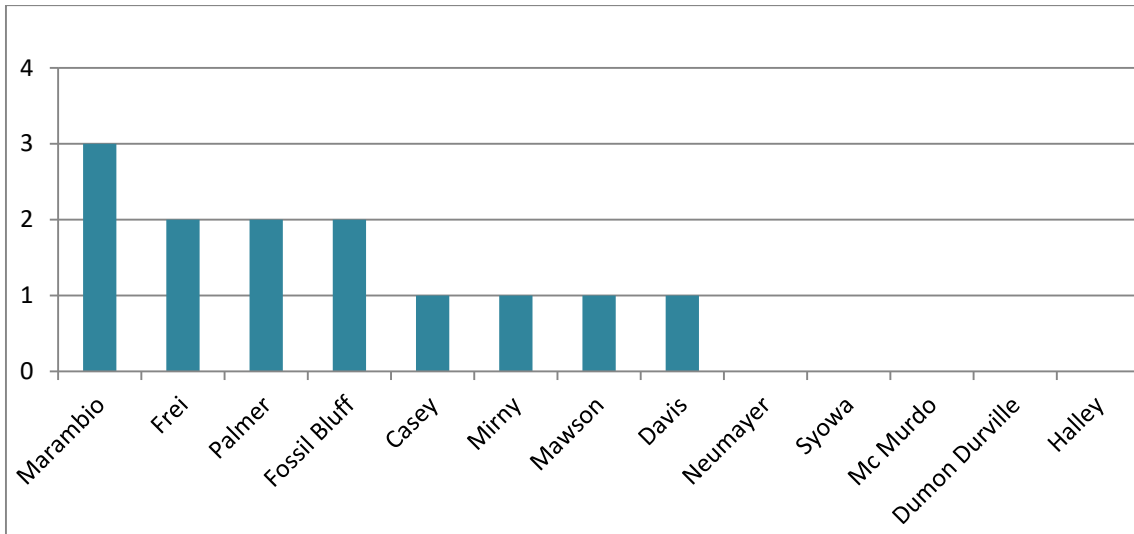
BERGERON INTENSITY TOTAL OF ANNUAL EVENTS IN 2021



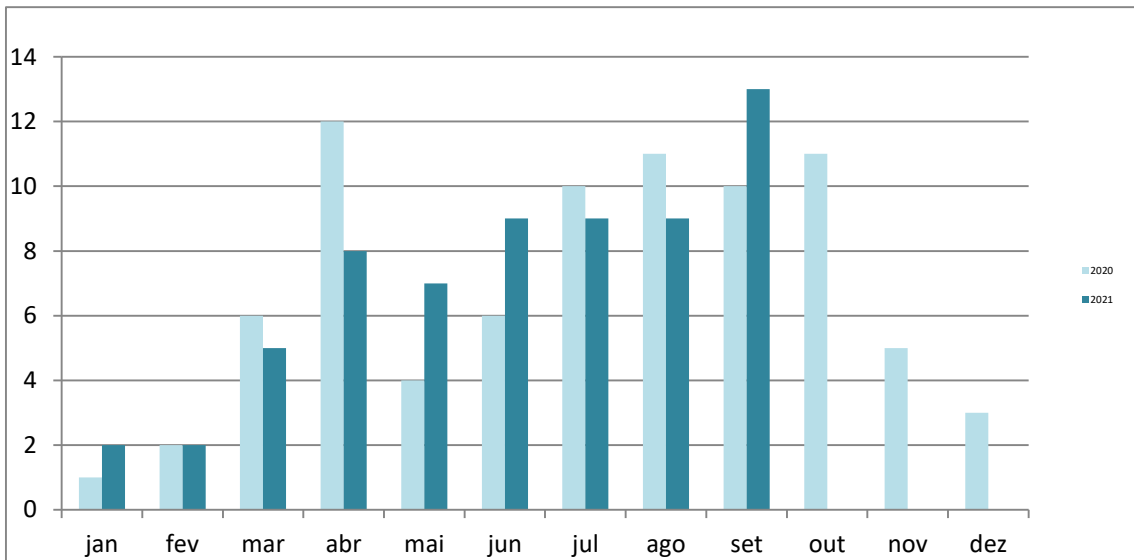
TOTAL OF EVENTS REGISTERED BY STATION IN 2021



TOTAL OF EVENTS REGISTERED IN EACH STATION IN THE MONTH OF SEPTEMBER/2021

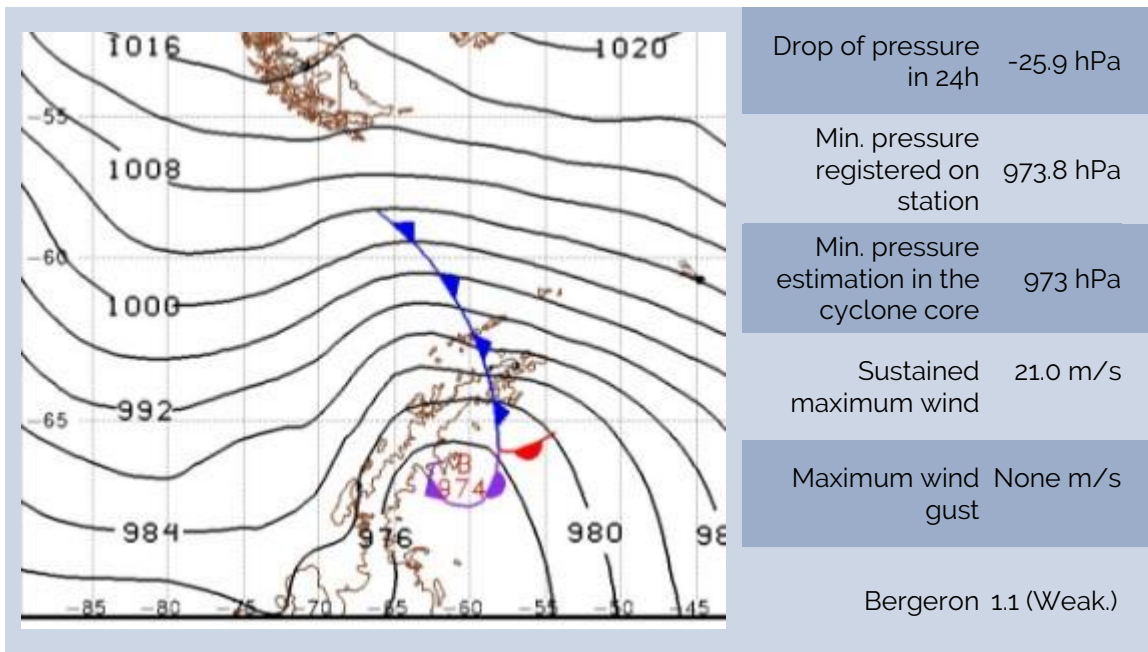


TOTAL EXPLOSIVE CYCLONES IN THE ANTARCTIC



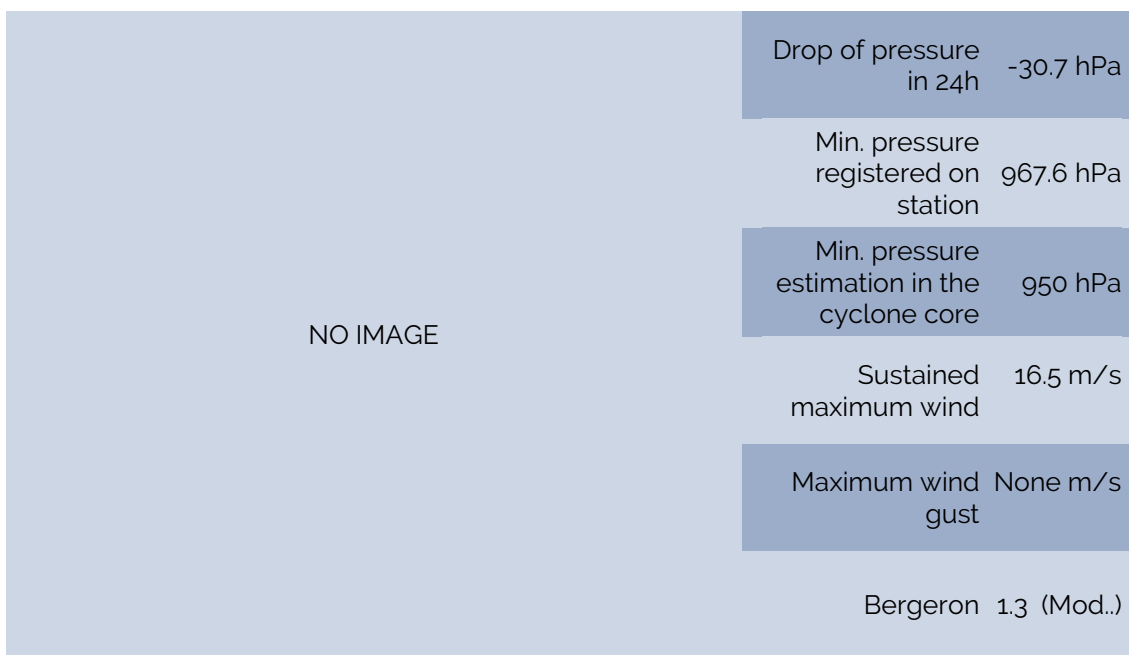
BOMB CYCLONE N°52/2021- DATE: SEP./06/2021

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



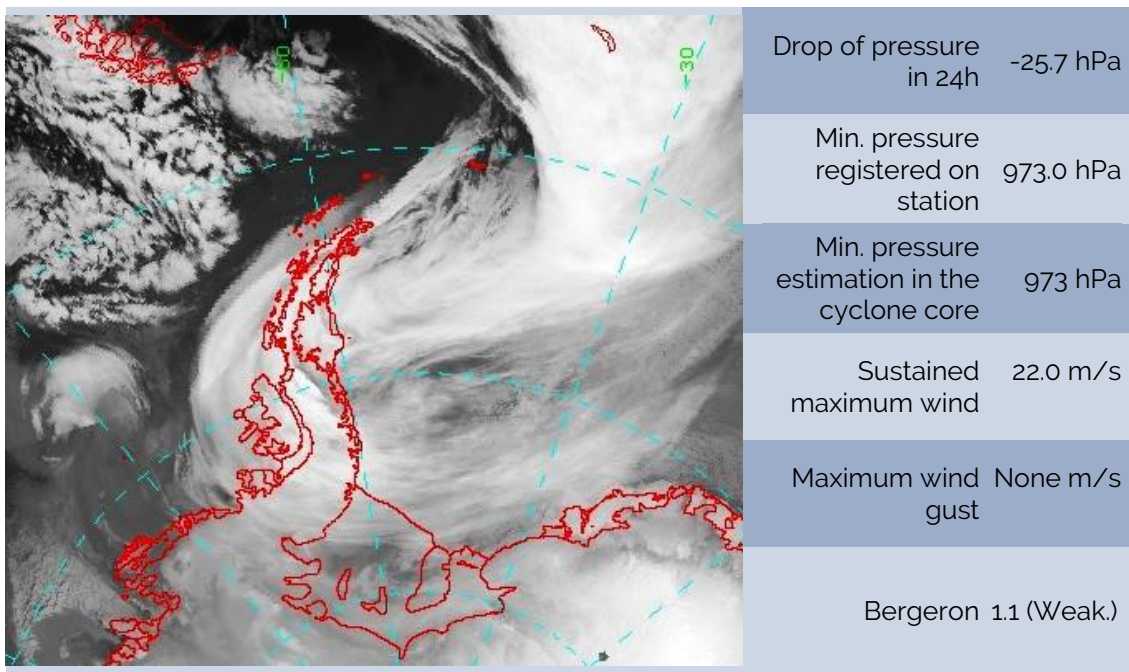
BOMB CYCLONE N°53/2021- DATE: SEP./06/2021

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



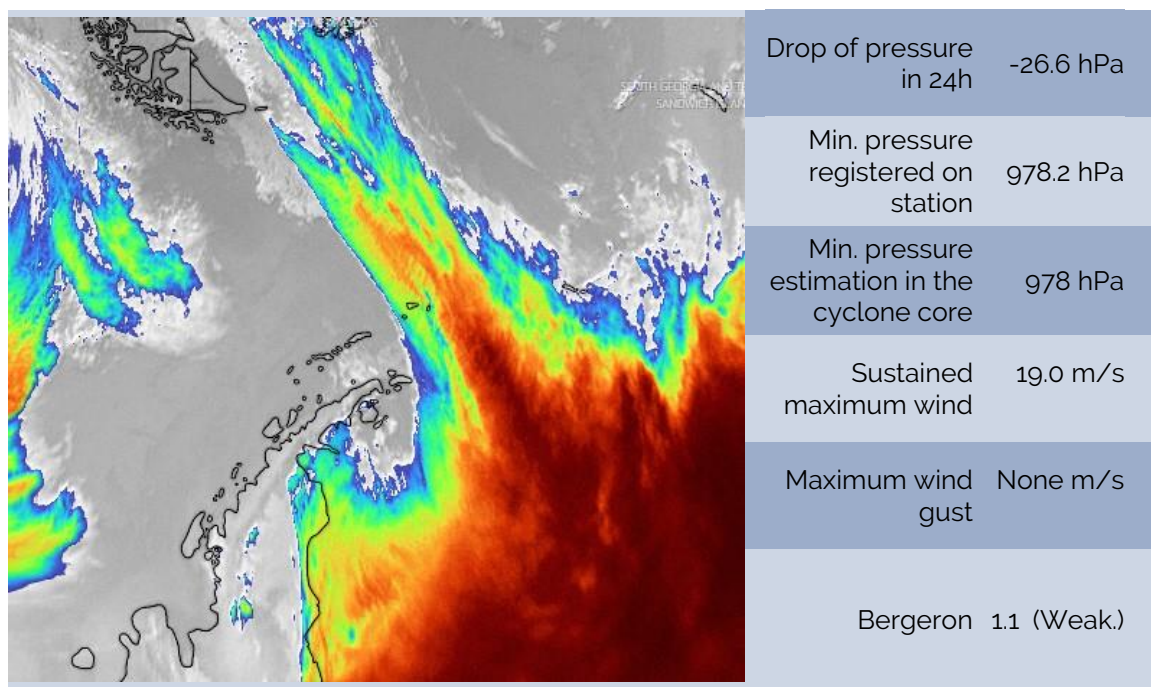
BOMB CYCLONE N°54/2021- DATE: SEP./06/2021

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



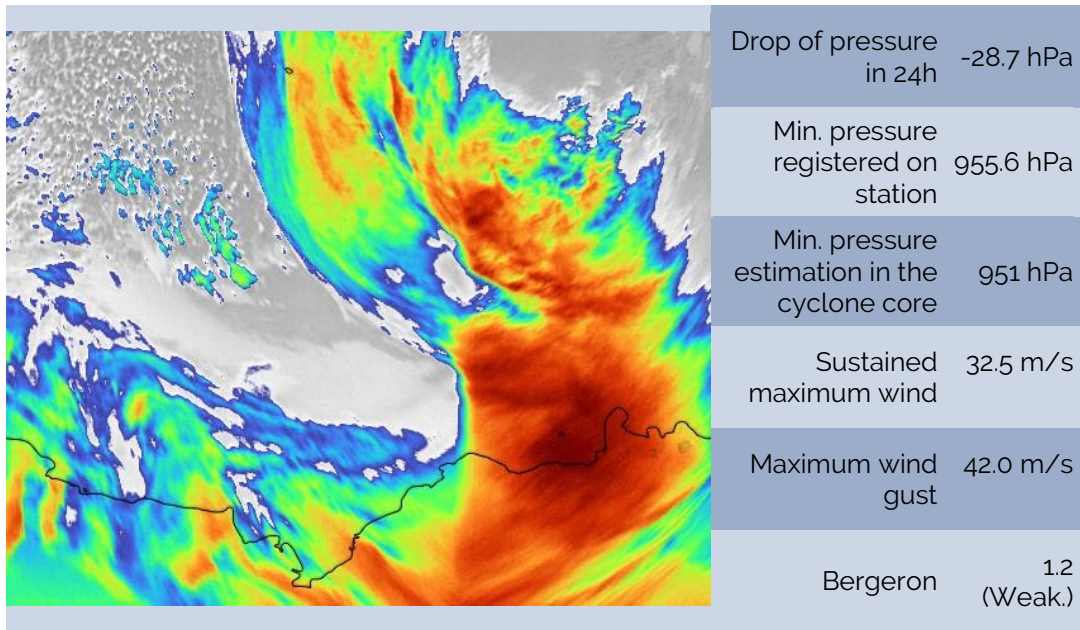
BOMB CYCLONE N°55/2021 - DATE: SEP./09/2021

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



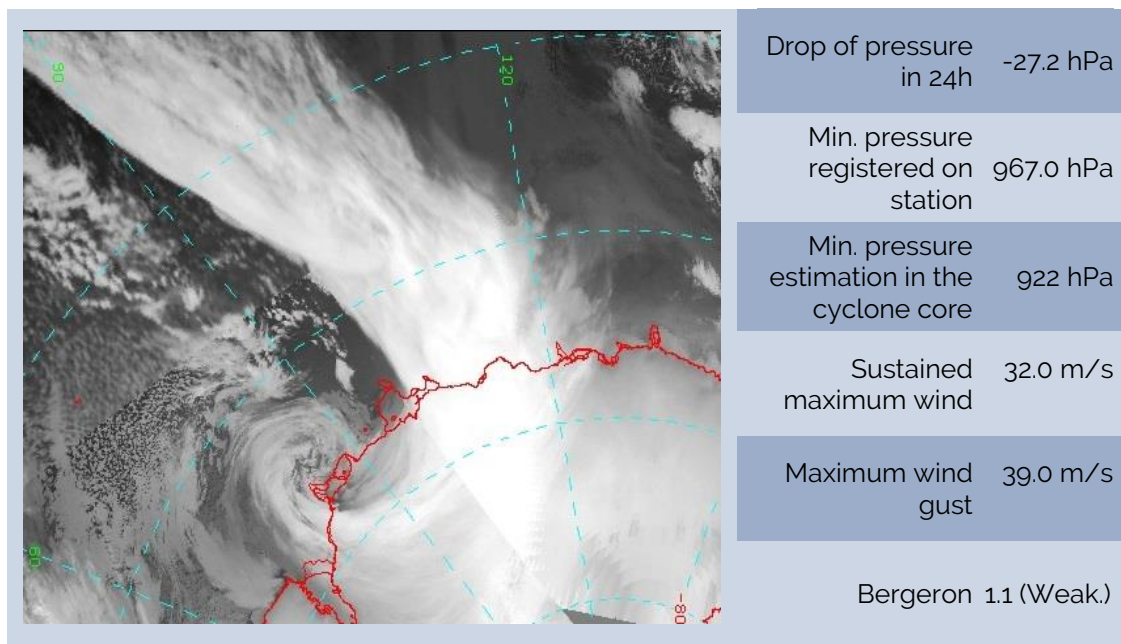
BOMB CYCLONE N°56/2021- DATE: SEP./10/2021

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



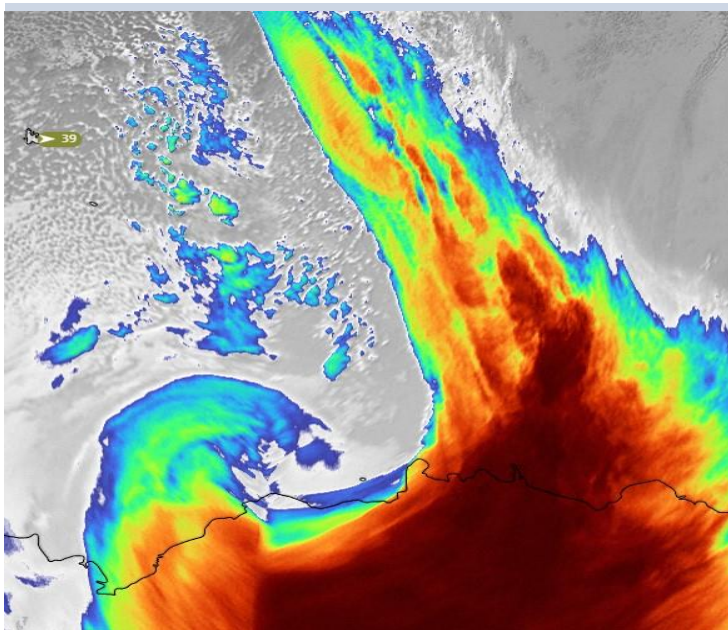
BOMB CYCLONE N°57/2021- DATE: SEP./11/2021

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



BOMB CYCLONE N°58/2021- DATE: SEP./11/2021

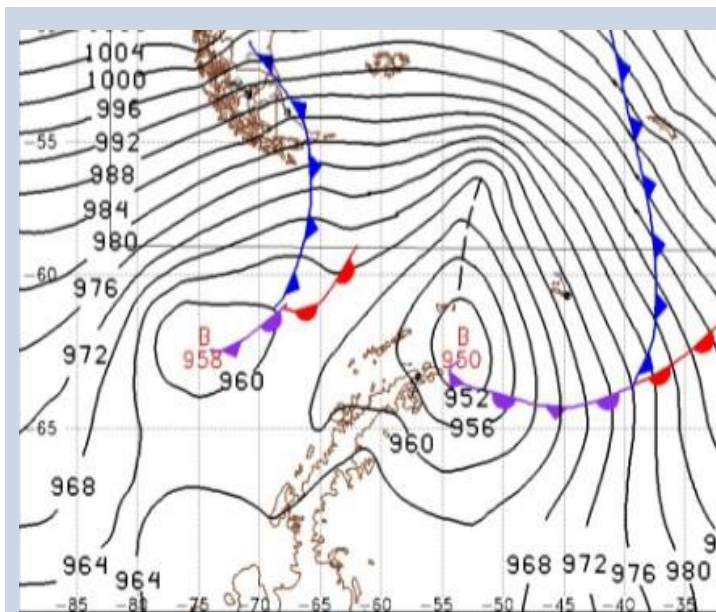
LOCAL: MIRNY STATION – WMO 89592 (OPERATED BY RUSSIA)



Drop of pressure in 24h	-37.3 hPa
Min. pressure registered on station	954.3 hPa
Min. pressure estimation in the cyclone core	922 hPa
Sustained maximum wind	16.5 m/s
Maximum wind gust	21.0 m/s
Bergeron	1.6 (Mod.)

BOMB CYCLONE N°59/2021- DATE: SEP./13/2021

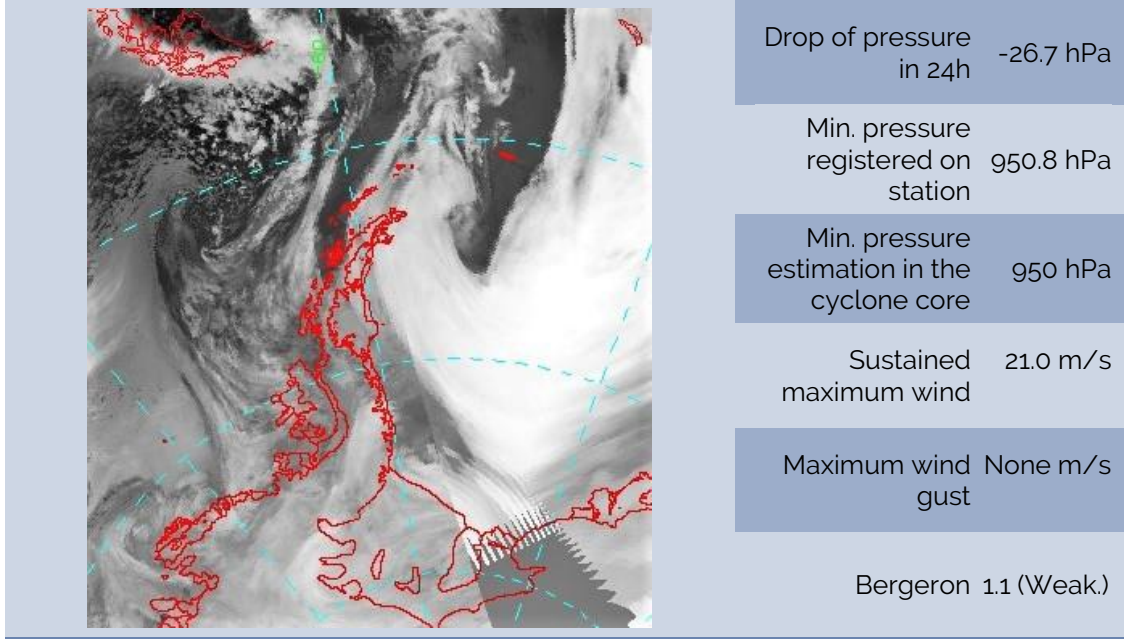
LOCAL: FREI STATION – WMO 89056 (OPERATED BY CHILE)



Drop of pressure in 24h	-26.2 hPa
Min. pressure registered on station	956.4 hPa
Min. pressure estimation in the cyclone core	950 hPa
Sustained maximum wind	13.5 m/s
Maximum wind gust	None m/s
Bergeron	1.1 (Weak.)

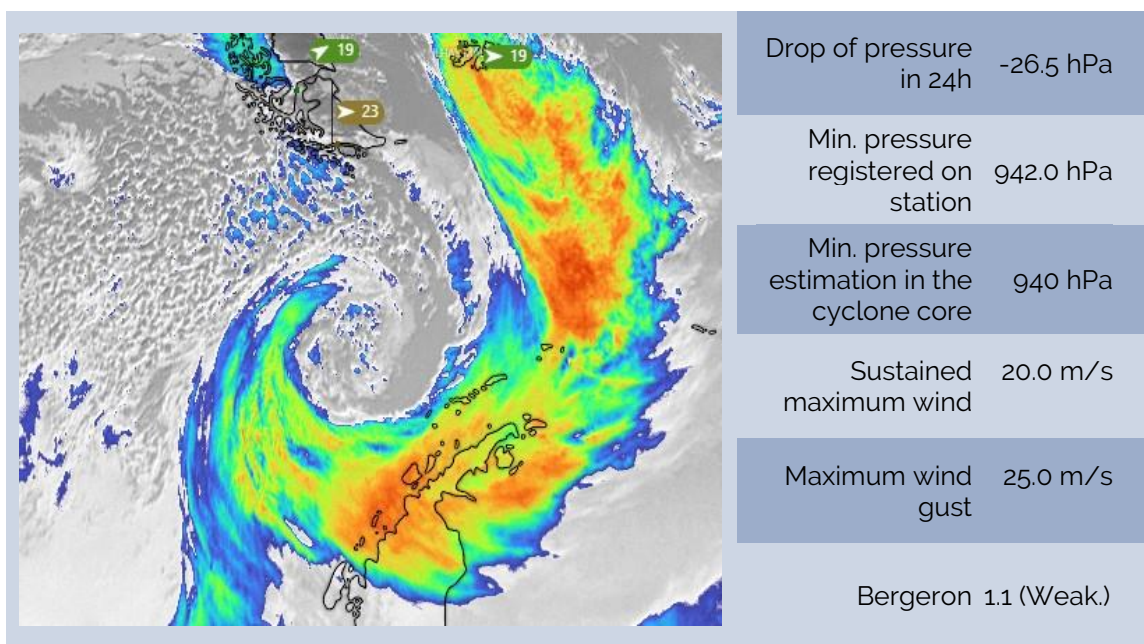
BOMB CYCLONE N°60/2021- DATE: SEP./13/2021

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



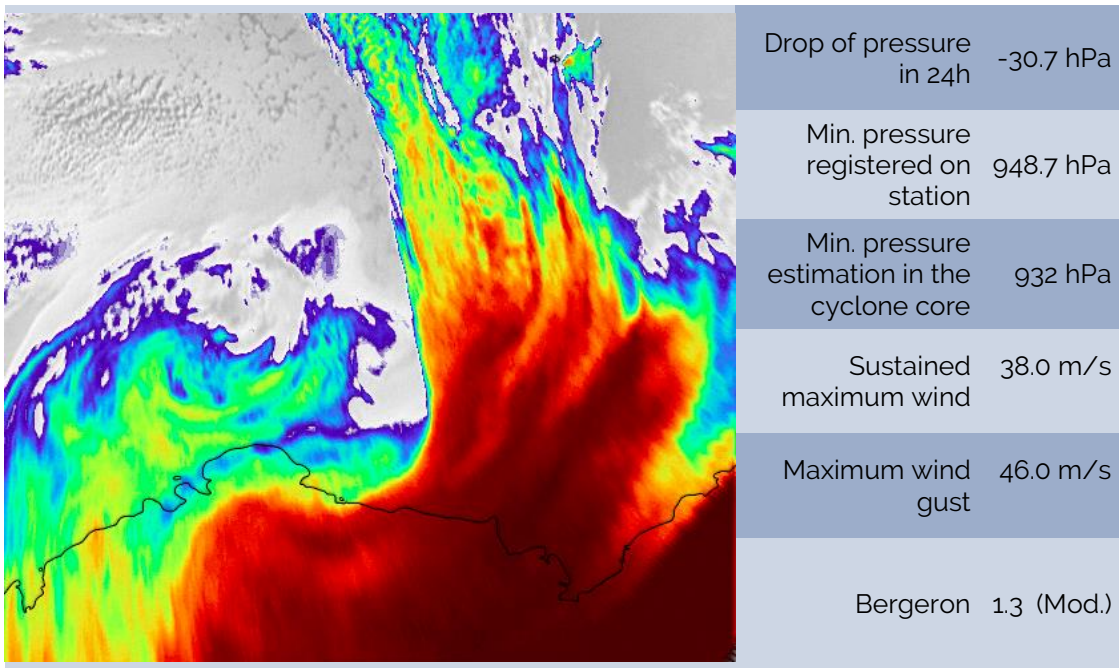
BOMB CYCLONE N°61/2021- DATE: SEP./15/2021

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



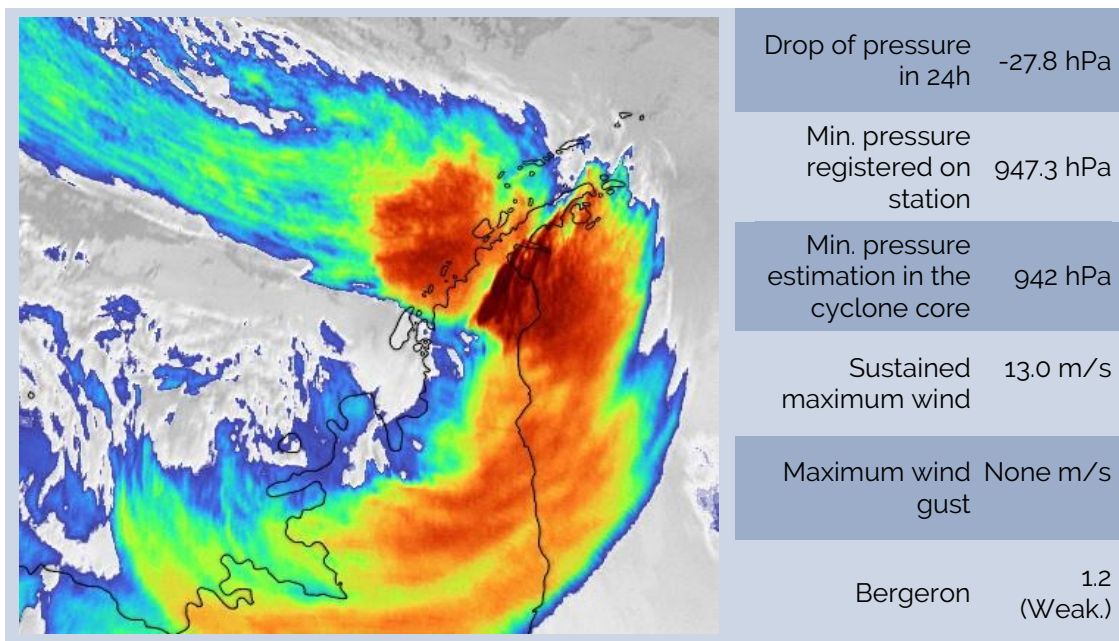
BOMB CYCLONE N°62/2021- DATE: SEP./25/2021

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



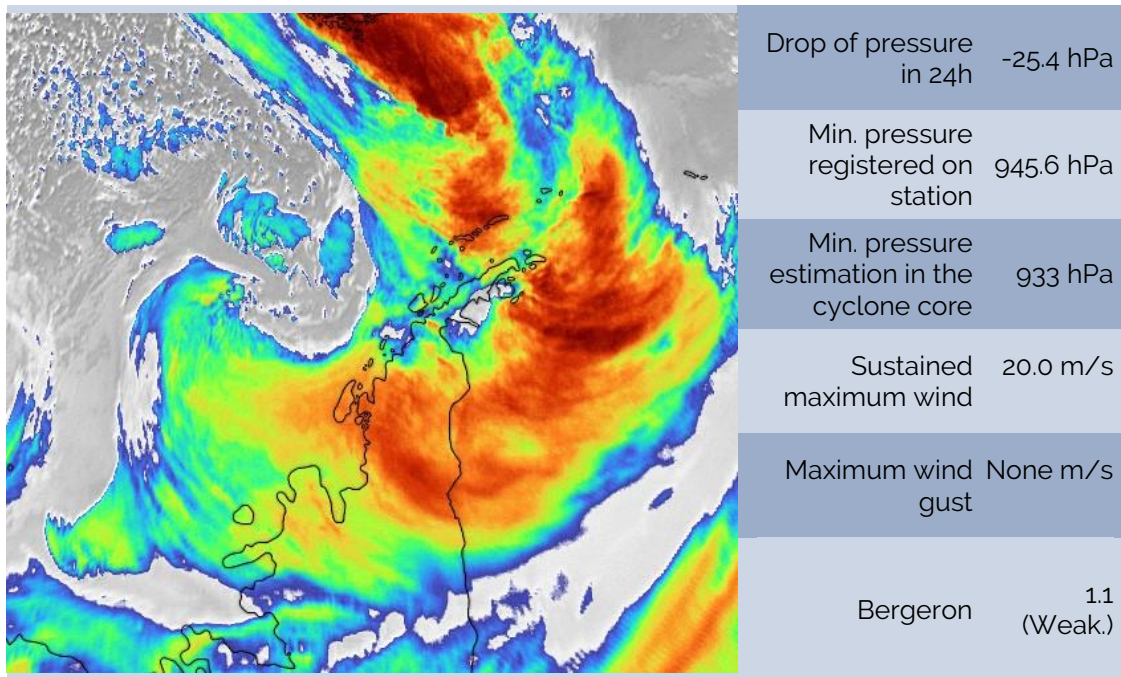
BOMB CYCLONE N°63/2021- DATE: SEP./26/2021

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



BOMB CYCLONE N°64/2021- DATE: SEP./29/2021

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



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>

GFS Model Forecast