

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT

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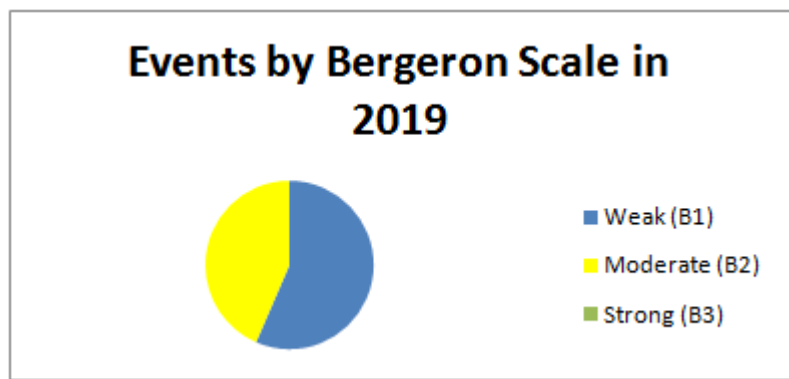
JULY 2019

During this month, 07 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 cyclones this month were: Frei, Palmer, Marambio, Fossil Bluff, Casey and Dumont D'Urville. The most intense cyclone recorded was no.41/2019 at the Palmer station on 26th with sustained winds of up to 44.0 m/s (98 mph). The cyclone which registered the lowest atmospheric pressure at sea level was the no.46 /2019 at the Dumont D'Urville station, with values reaching 958.4 hPa.

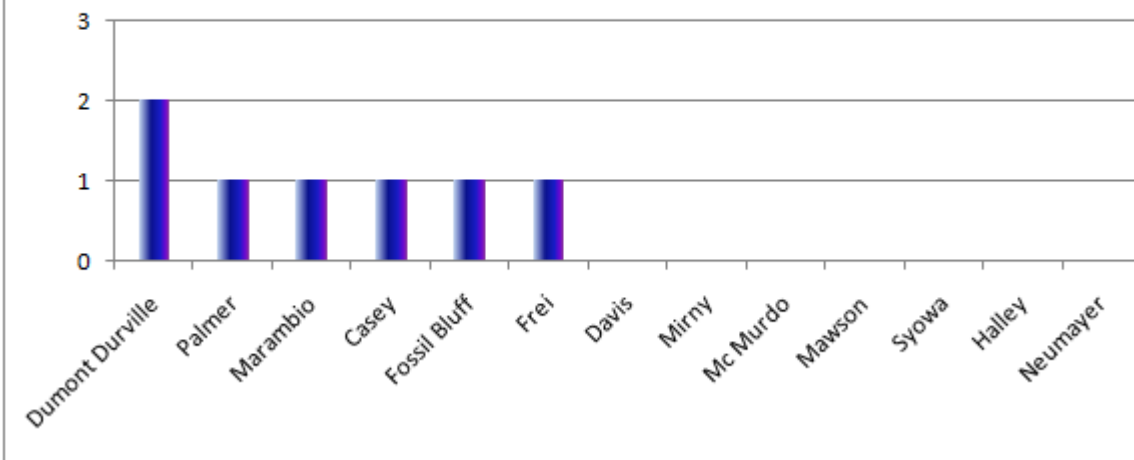
STATISTICS OF THE MONTH

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	02
B3	>1.8	Strong	00

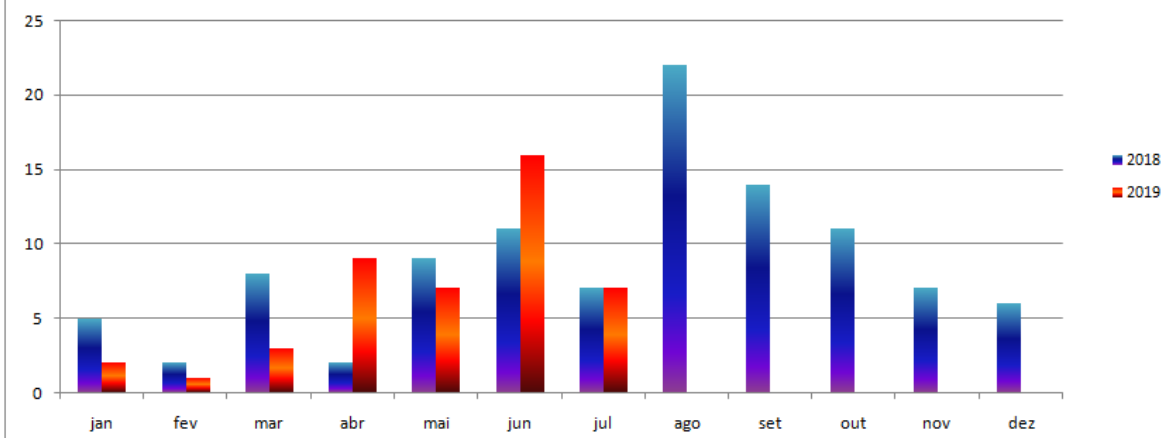
Highest pressure drop	Lowest recorded pressure	Highest sustained wind
-32.8 hpa/24h	958.4 hPa	44.0 m/s
Marambio	D. D'Urville	Palmer
Jul. 26	Jul. 31	Jul. 26



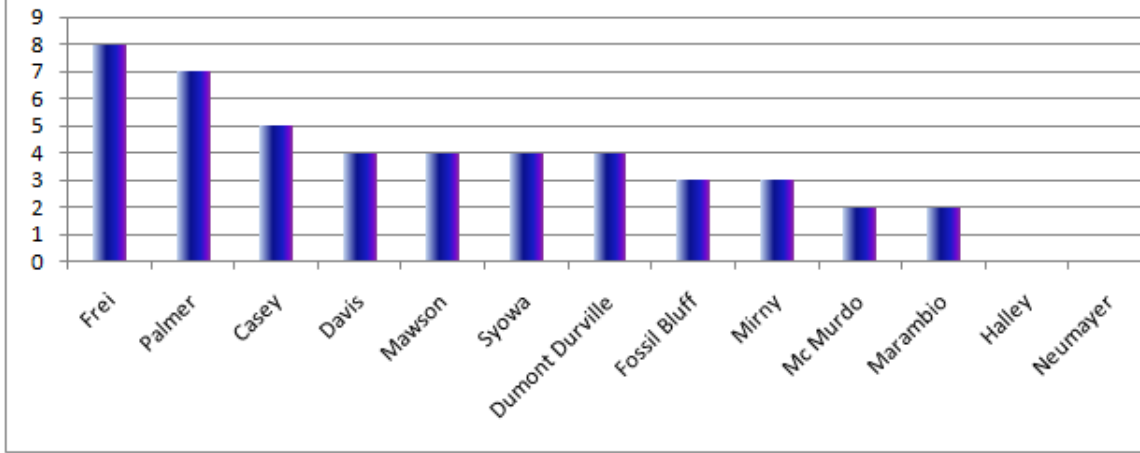
Total of events registered in each station in the month of July/2019



Total Explosive Cyclones in the Antarctic



Total of events registered by station in 2019



BOMB CYCLONE N°40/2019- DATE: JULY/09/2019

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

Drop of pressure in 24h	-25.2 hPa
Minimum pressure registered on station	958.4 hPa
Minimum pressure estimation in the cyclone core	none hPa
Sustained maximum wind	35.5 m/s (79 mph)
Maximum wind gust	40.5 m/s (91 mph)
Bergeron	1.1 (weak)

BOMB CYCLONE N°41/2019- DATE: JULY/26/2019

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

Drop of pressure in 24h	-27.8 hPa
Minimum pressure registered on station	972.0 hPa
Minimum pressure estimation in the cyclone core	972 hPa
Sustained maximum wind	44 m/s (98 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°42/2019 - DATE: JULY/26/2019

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

Drop of pressure in 24h	-29.1 hPa
Minimum pressure registered on station	980.7 hPa
Minimum pressure estimation in the cyclone core	972 hPa
Sustained maximum wind	22.0 m/s (49 mph)
Maximum wind gust	28.0 m/s (63 mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°43/2019- DATE: JULY/26/2019

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

Drop of pressure in 24h	-32.8 hPa
Minimum pressure registered on station	977.8 hPa
Minimum pressure estimation in the cyclone core	972 hPa
Sustained maximum wind	19.5 m/s (44 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.4 (moderate)

BOMB CYCLONE N°44/2019- DATE: JULY/26/2019

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

Drop of pressure in 24h	-25.5 hPa
Minimum pressure registered on station	977.3 hPa
Minimum pressure estimation in the cyclone core	972 hPa
Sustained maximum wind	13.0 m/s (29 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.1 (weak)

BOMB CYCLONE N°45/2019- DATE: JULY/29/2019

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

Drop of pressure in 24h	-27.7 hPa
Minimum pressure registered on station	961.8 hPa
Minimum pressure estimation in the cyclone core	960 hPa
Sustained maximum wind	31.4 m/s (70 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°46/2019- DATE: JULY/31/2019

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

Drop of pressure in 24h	-30.1 hPa
Minimum pressure registered on station	958.4 hPa
Minimum pressure estimation in the cyclone core	954 hPa
Sustained maximum wind	35.5 m/s (79 mph)
Maximum wind gust	49.5 m/s (111 mph)
Bergeron	1.3 (moderate)

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>