

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT

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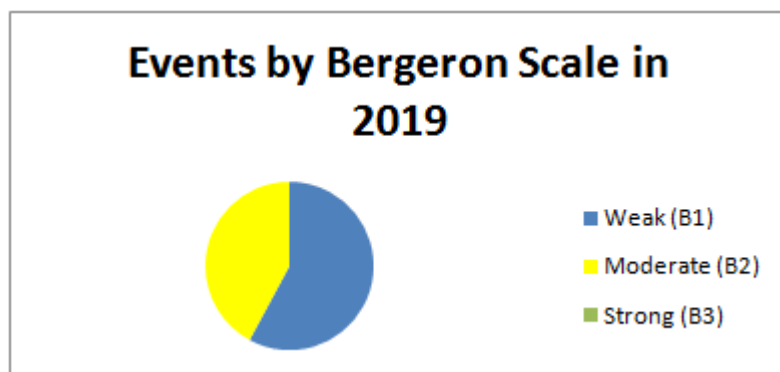
JUNE 2019

During this month, 16 events were recorded among the 13 research stations located on the coast of the Antarctic utilized as references for the monitoring of bomb cyclones. The stations that were affected by cyclones this month were: Casey, Syowa, Fossil Bluff, Frei, Mirny, Mawson, Davis, McMurdo, and Palmer. The most intense cyclone recorded was no. 34/2019 at the Palmer station on 24th with sustained winds of up to 43.0 m/s (96 mph). The cyclone with the lowest recorded atmospheric pressure at sea level was the no. 30/2019 at the McMurdo station, with values reaching 947.5 hPa.

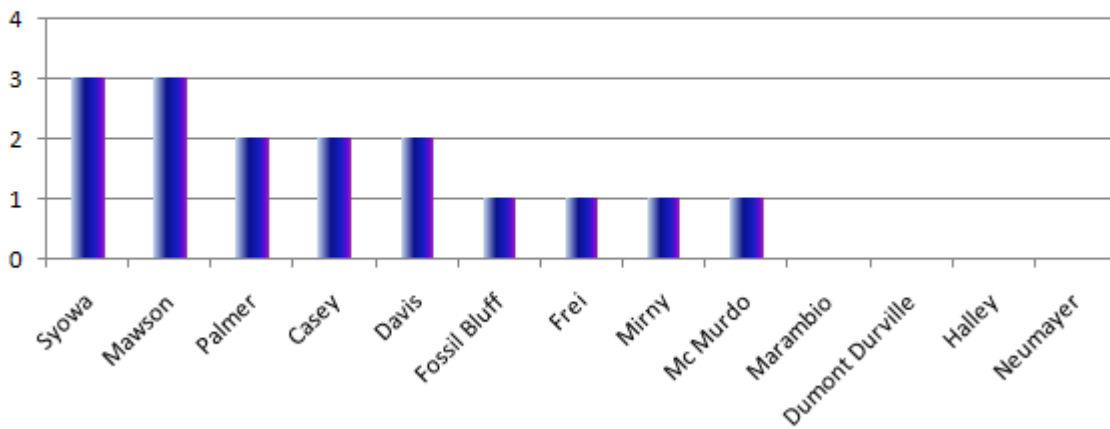
STATISTICS OF THE MONTH

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	06
B3	>1.8	Strong	00

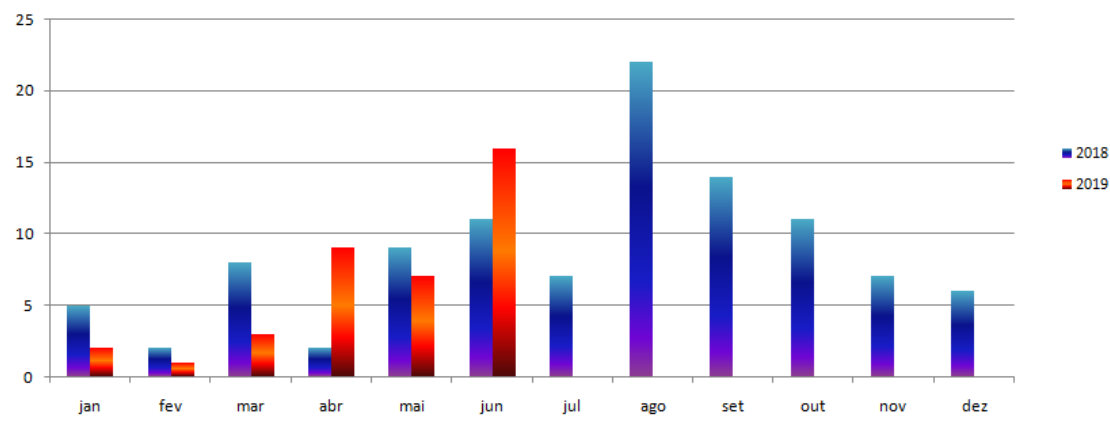
Highest pressure drop	Lowest recorded pressure	Highest sustained wind
37.9hPa/24h	947.5 hPa	43.0 m/s
Davis	McMurdo	Palmer
Jun. 10th	Jun. 11th	Jun. 24th



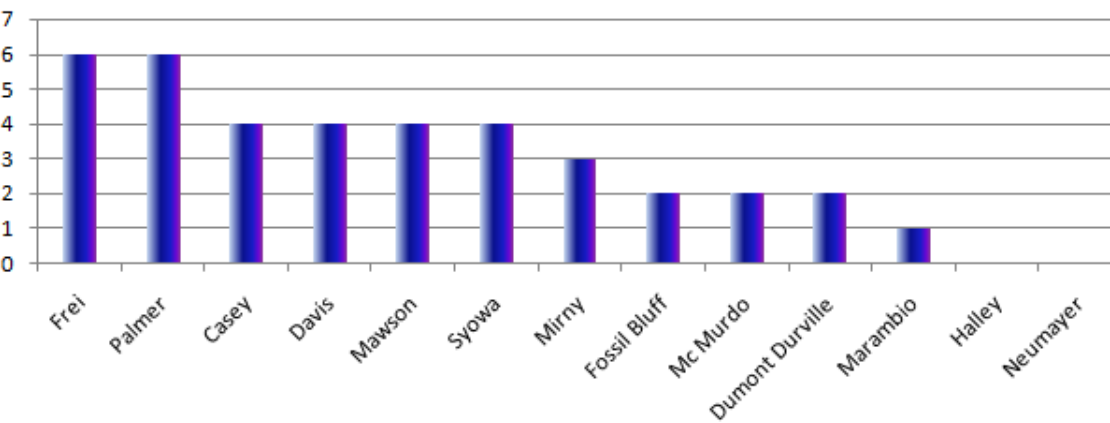
Total of events registered in each station in the month of June/2019



Total Explosive Cyclones in the Antarctic



Total of events registered by station in 2019



BOMB CYCLONE N°23/2019- DATE: JUNE/01/2019
LOCAL: SYOWA STATION – WMO 89532 (OPERATED BY JAPAN)

Drop of pressure in 24h	-24.5 hPa
Minimum pressure registered on station	955.8 hPa
Minimum pressure estimation in the cyclone core	964 hPa
Sustained maximum wind	25.7 m/s (mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.3 (moderate)

BOMB CYCLONE N°24/2019- DATE: JUNE/02/2019
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-28.2 hPa
Minimum pressure registered on station	970.5 hPa
Minimum pressure estimation in the cyclone core	962 hPa
Sustained maximum wind	23.0 m/s (51 mph)
Maximum wind gust	31.0 m/s (69 mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°25/2019- DATE: JUNE/04/2019
LOCAL: SYOWA STATION – WMO 89532 (OPERATED BY JAPAN)

Drop of pressure in 24h	-30.8 hPa
Minimum pressure registered on station	964.0 hPa
Minimum pressure estimation in the cyclone core	964 hPa
Sustained maximum wind	11.8 m/s (mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.3 (moderate)

BOMB CYCLONE №26/2019- DATE: JUNE/09/2019
LOCAL: MAWSON STATION – WMO 89564 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-26.0 hPa
Minimum pressure registered on station	968.5 hPa
Minimum pressure estimation in the cyclone core	944 hPa
Sustained maximum wind	39.5 m/s (88 mph)
Maximum wind gust	44.5 m/s (99 mph)
Bergeron	1.1 (weak)

BOMB CYCLONE №27/2019- DATE: JUNE/10/2019
LOCAL: DAVIS STATION – WMO 89571 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-37.9 hPa
Minimum pressure registered on station	958.3 hPa
Minimum pressure estimation in the cyclone core	958 hPa
Sustained maximum wind	26.5 m/s (59 mph)
Maximum wind gust	37.5 m/s (84 mph)
Bergeron	1.6 (moderate)

BOMB CYCLONE №28/2019- DATE: JUNE/10/2019
LOCAL: MIRNY STATION – WMO 89592 (OPERATED BY RUSSIA)

Drop of pressure in 24h	-33.8 hPa
Minimum pressure registered on station	968.4 hPa
Minimum pressure estimation in the cyclone core	959 hPa
Sustained maximum wind	26.0 m/s (mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.4 (moderate)

BOMB CYCLONE №29/2019- DATE: JUNE/10/2019
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-30.8 hPa
Minimum pressure registered on station	974.8 hPa
Minimum pressure estimation in the cyclone core	971 hPa
Sustained maximum wind	28.5 m/s (64 mph)
Maximum wind gust	33.5 m/s (75 mph)
Bergeron	1.3 (moderate)

BOMB CYCLONE N°30/2019- DATE: JUNE/11/2019
LOCAL: MCMURDO STATION – WMO 89664 (OPERATED BY
U.S.A.)

Drop of pressure in 24h	-28.1 hPa
Minimum pressure registered on station	947.5 hPa
Minimum pressure estimation in the cyclone core	943 hPa
Sustained maximum wind	13.0 m/s (29 mph)
Minimum pressure registered on station	15.5 m/s (35 mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°31/2019- DATE: JUNE/13/2019
LOCAL: FOSSIL BLUFF STATION – WMO 89065 (OPERATED BY
U.K.)

Drop of pressure in 24h	-33.0 hPa
Minimum pressure registered on station	970.6 hPa
Minimum pressure estimation in the cyclone core	957 hPa
Sustained maximum wind	18.5 m/s (41 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.4 (moderate)

BOMB CYCLONE N°32/2019- DATE: JUNE/20/2019
LOCAL: SYOWA STATION – WMO 89532 (OPERATED BY JAPAN)

Drop of pressure in 24h	-31.9 hPa
Minimum pressure registered on station	952.4 hPa
Minimum pressure estimation in the cyclone core	941 hPa
Sustained maximum wind	22.0 m/s (49 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.3 (moderate)

BOMB CYCLONE N°33/2019- DATE: JUNE/21/2019
LOCAL: MAWSON STATION – WMO 89564 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-24.9 hPa
Minimum pressure registered on station	964.7 hPa
Minimum pressure estimation in the cyclone core	952 hPa
Sustained maximum wind	40.0 m/s (89 mph)
Maximum wind gust	50.0 m/s (111 mph)
Bergeron	1.0 (weak)

BOMB CYCLONE N°34/2019- DATE: JUNE/24/2019
LOCAL: PALMER STATION – WMO 89061 (OPERATED BY U.S.A.)

Drop of pressure in 24h	-24.6 hPa
Minimum pressure registered on station	967.7 hPa
Minimum pressure estimation in the cyclone core	960 hPa
Sustained maximum wind	43.0 m/s (96 mph)
Maximum wind gust	none m/s (mph)
Bergeron	1.0 (weak)

BOMB CYCLONE N°35/2019- DATE: JUNE/25/2019
LOCAL: McMurdo STATION – WMO 89664 (OPERATED BY U.S.A.)

Drop of pressure in 24h	-26.1 hPa
Minimum pressure registered on station	953.9 hPa
Minimum pressure estimation in the cyclone core	941 hPa
Sustained maximum wind	26.0 m/s (58 mph)
Maximum wind gust	33.0 m/s (74 mph)
Bergeron	1.1 (weak)

BOMB CYCLONE Nº36/2019- DATE: JUNE/25/2019
LOCAL: FREI STATION – WMO 89056 (OPERATED BY CHILE)

Drop of pressure in 24h	-25.1 hPa
Minimum pressure registered on station	965.5 hPa
Minimum pressure estimation in the cyclone core	965 hPa
Sustained maximum wind	24.5 m/s (55 mph)
Maximum wind gust	28.0 m/s (63 mph)
Bergeron	1.0 (weak)

BOMB CYCLONE Nº37/2019- DATE: JUNE/26/2019
LOCAL: MAWSON STATION – WMO 89564 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-29.3 hPa
Minimum pressure registered on station	965.5 hPa
Minimum pressure estimation in the cyclone core	940 hPa
Sustained maximum wind	35.5 m/s (mph)
Maximum wind gust	46.5 m/s (mph)
Bergeron	1.2 (weak)

BOMB CYCLONE Nº38/2019- DATE: JUNE/27/2019
LOCAL: DAVIS STATION – WMO 89571 (OPERATED BY AUSTRALIA)

Drop of pressure in 24h	-27.1 hPa
Minimum pressure registered on station	962.0 hPa
Minimum pressure estimation in the cyclone core	941 hPa
Sustained maximum wind	21.5 m/s (mph)
Maximum wind gust	29.5 m/s (mph)
Bergeron	1.1 (weak)

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>