

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT

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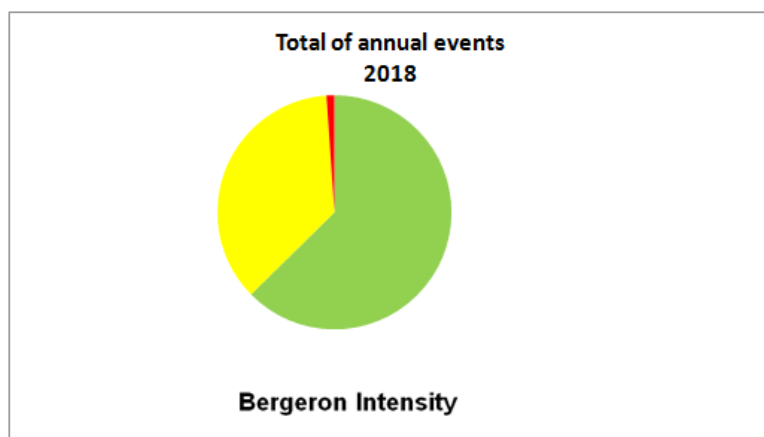
OCTOBER 2018

During this month, 11 events were registered among the 13 research stations located on the coast of the Antarctic utilized as references for the monitoring of bomb cyclones. There was a significant increase in cases in comparison to the same month of the previous year (+120%). The stations hit by cyclones this month were: Mirny, Casey, Marambio, Fossil Bluff, Dumont D'Urville and McMurdo. The most intense cyclone recorded was number 82/2018 at the Casey station on 13th with sustained winds of up to 38.5 m/s (86 mph). The cyclone which registered the lowest atmospheric pressure at sea level was the number 85/2018 at the Casey station, with values reaching 946.0 hPa.

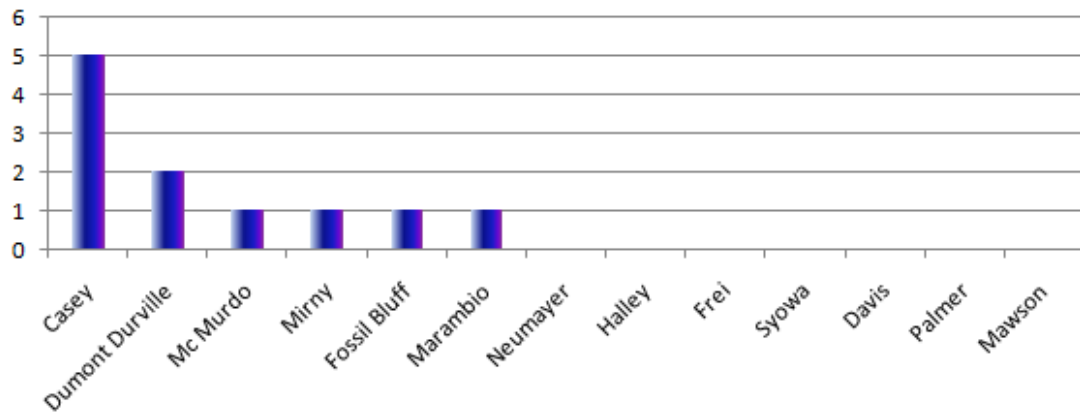
STATISTICS OF THE MONTH

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	03
B3	>1.8	Strong	00

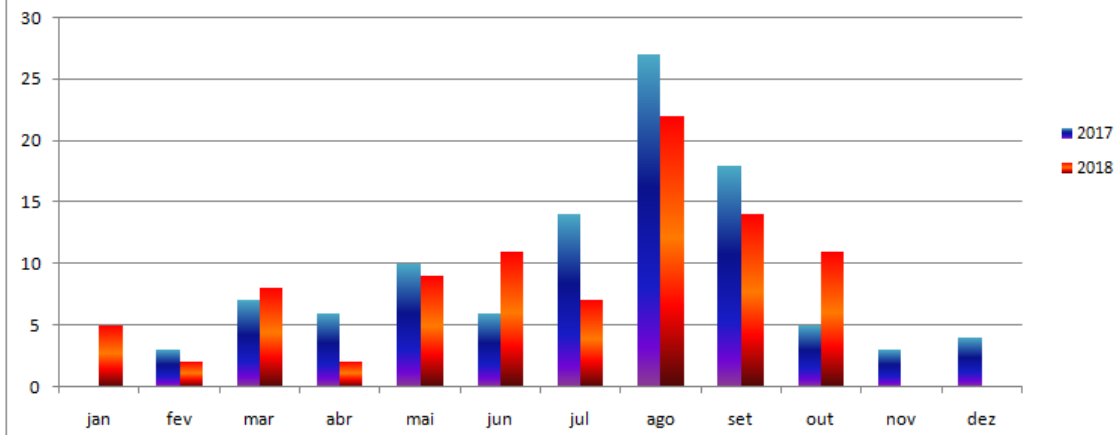
Highest pressure drop	Lowest recorded pressure	Highest sustained wind
33.1hPa/24h	946 hPa	38.5 m/s
Casey	Casey	Casey
Oct. 09th	Oct. 19th	Oct. 13th



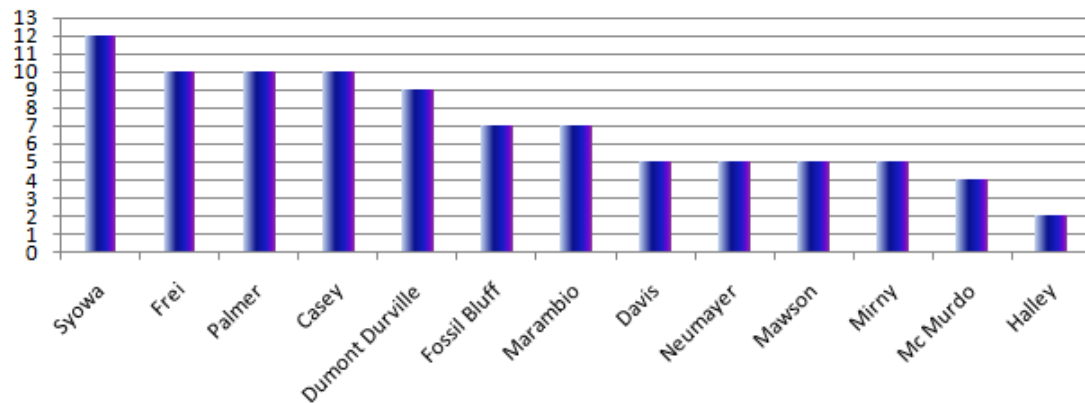
Total of events registered in each station in the month of October/2018



Explosive Cyclones in the Antarctic



Total of events registered by station in 2018



BOMB CYCLONE N°81/2018- DATA: OCT./09/2018
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)

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Drop of pressure in 24h	33.1 hPa
Minimum pressure registred on station	961.8 hPa
Min. pressure estimation in the cyclone core	955 hPa
Sustined maximum wind	36.5 m/s (82 mph)
Maximum wind gust	40.0 m/s (89 mph)
Bergeron	1.4 (moderate)

BOMB CYCLONE N°82/2018- DATA: OCT./13/2018
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)

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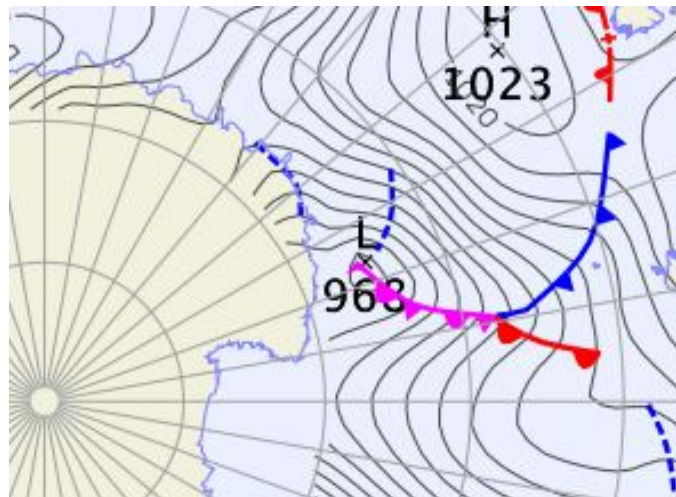
Drop of pressure in 24h	27.4 hPa
Minimum pressure registred on station	963.1 hPa
Min. pressure estimation in the cyclone core	955 hPa
Sustined maximum wind	38.5 m/s (86 mph)
Maximum wind gust	46.5 m/s (104 mph)
Bergeron	1.1 (weak)

BOMB CYCLONE N°83/2018- DATA: OCT./17/2018
LOCAL: McMURDO STATION – WMO 89664 (OPERATED BY U.S.A.)

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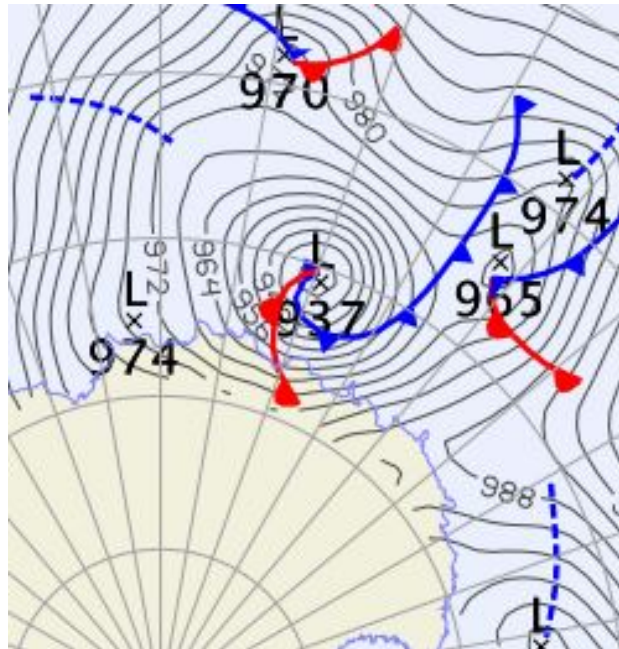
Drop of pressure in 24h	26.7 hPa
Minimum pressure registred on station	968.3 hPa
Min. pressure estimation in the cyclone core	none hPa
Sustined maximum wind	8.8 m/s (mph)
Maximum wind gust	10.5 m/s (104 mph)
Bergeron	1.1 (weak)

BOMB CYCLONE N°84/2018- DATA: OCT./17/2018
LOCAL: DUMONT D'URVILLE STATION – WMO 89642 (OPERATED
BY FRANCE)



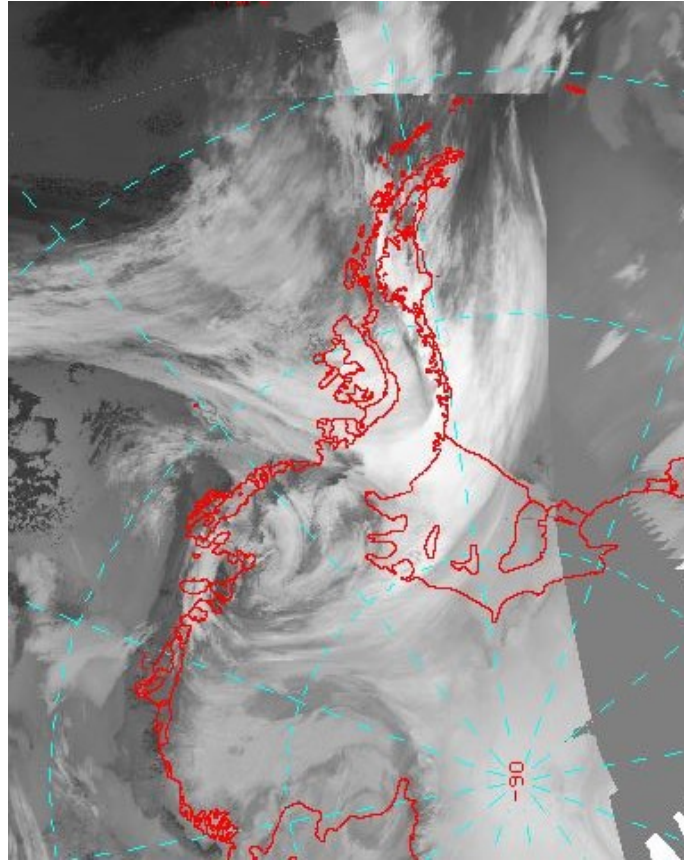
Drop of pressure in 24h	24.7 hPa
Minimum pressure registred on station	974.2 hPa
Min. pressure estimation in the cyclone core	968 hPa
Sustined maximum wind	8.5 m/s (19 mph)
Maximum wind gust	19 m/s (42 mph)
Bergeron	1.0 (weak)

BOMB CYCLONE N°85/2018- DATA: OCT./19/2018
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)



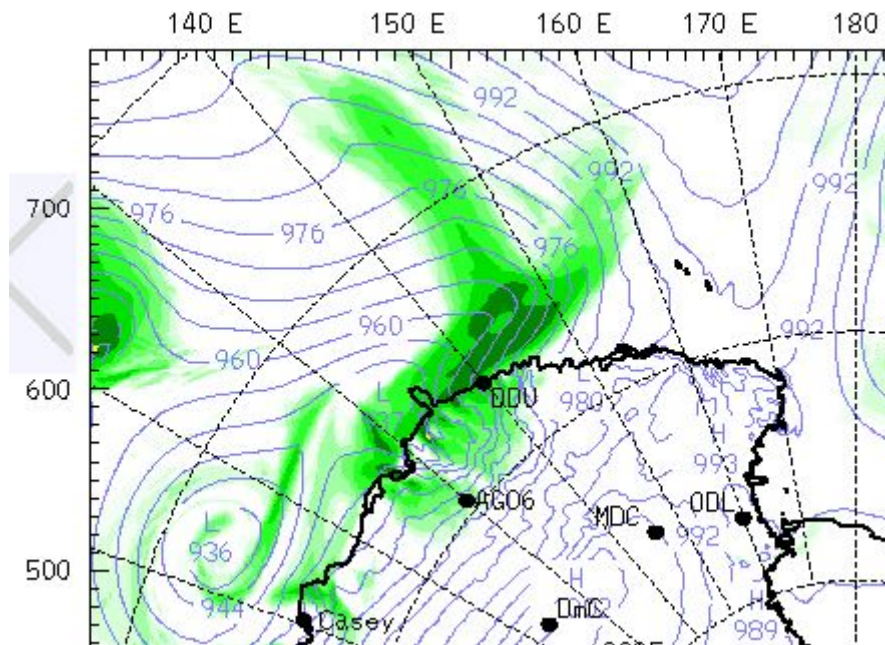
Drop of pressure in 24h	28.2 hPa
Minimum pressure registred on station	946.0 hPa
Min. pressure estimation in the cyclone core	937 hPa
Sustined maximum wind	38.5 m/s (86 mph)
Maximum wind gust	43.5 m/s (97 mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°86/2018- DATA: OCT./19/2018
LOCAL: FOSSIL BLUFF STATION – WMO 89065 (OPERATED BY
U.K.)



Drop of pressure in 24h	28.8 hPa
Minimum pressure registred on station	972.8 hPa
Min. pressure estimation in the cyclone core	962 hPa
Sustined maximum wind	15.3 m/s (34 mph)
Maximum wind gust	None m/s (mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°87/2018- DATA: OCT./19/2018
LOCAL: DUMONT D'URVILLE STATION – WMO 89642 (OPERATED BY FRANCE)



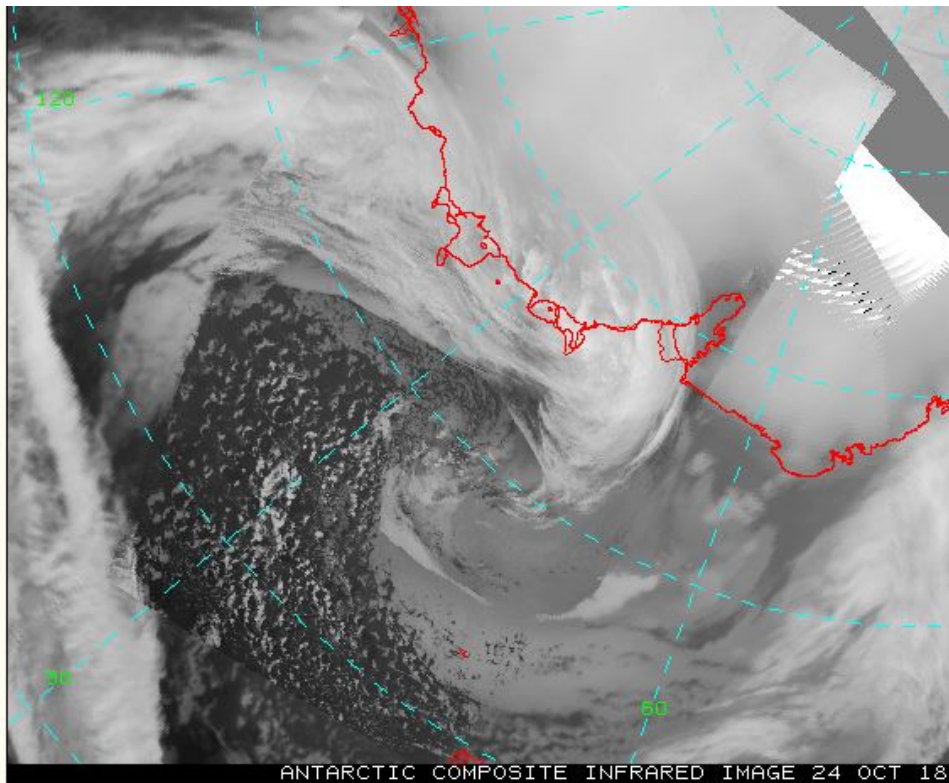
Drop of pressure in 24h	25.2 hPa
Minimum pressure registred on station	962.4 hPa
Min. pressure estimation in the cyclone core	934 hPa
Sustined maximum wind	28.8 m/s (64 mph)
Maximum wind gust	43.0 m/s (96 mph)
Bergeron	1.1 (weak)

BOMB CYCLONE N°88/2018- DATA: OCT./20/2018
LOCAL: MARAMBIO STATION – WMO 89055 (OPERATED BY ARGENTINA)

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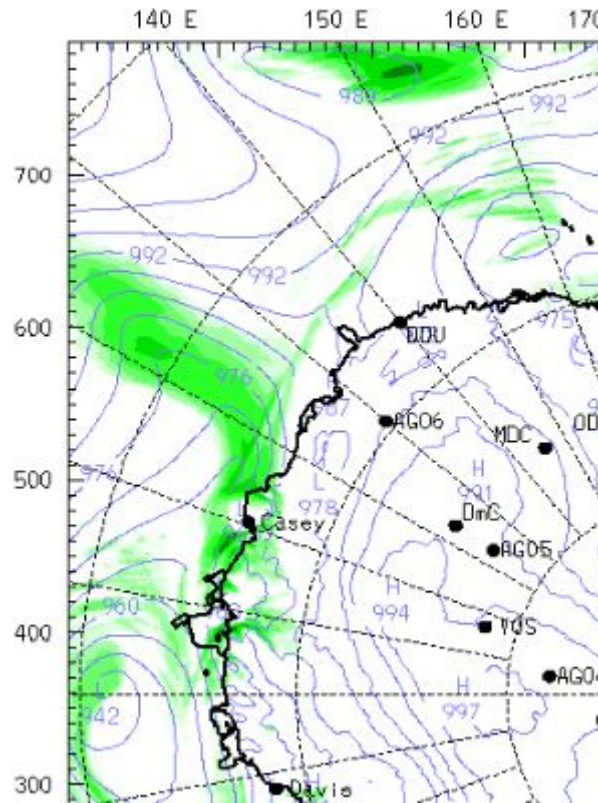
Drop of pressure in 24h	27.2 hPa
Minimum pressure registred on station	974.4 hPa
Min. pressure estimation in the cyclone core	950 hPa
Sustined maximum wind	17.5 m/s (39 mph)
Maximum wind gust	None m/s (mph)
Bergeron	1.1 (weak)

BOMB CYCLONE N°89/2018- DATA: OCT./24/2018
LOCAL: MIRNY STATION – WMO 89592 (OPERATED BY RUSSIA)



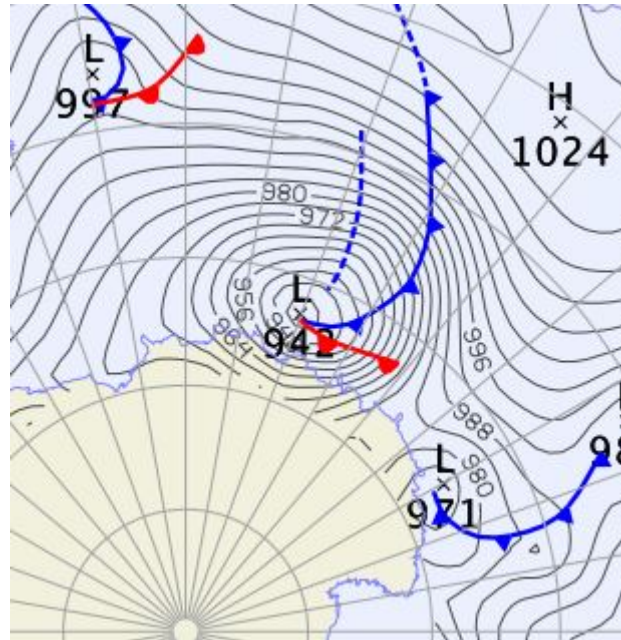
Drop of pressure in 24h	30.1 hPa
Minimum pressure registred on station	957.7 hPa
Min. pressure estimation in the cyclone core	940 hPa
Sustined maximum wind	13.5 m/s (30 mph)
Maximum wind gust	14.5 m/s (32 mph)
Bergeron	1.3 (moderate)

BOMB CYCLONE N°90/2018- DATA: OCT./25/2018
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY
AUSTRALIA)



Drop of pressure in 24h	28.5 hPa
Minimum pressure registred on station	961.7 hPa
Min. pressure estimation in the cyclone core	961 hPa
Sustined maximum wind	33.5 m/s (75 mph)
Maximum wind gust	38.0 m/s (85 mph)
Bergeron	1.2 (weak)

BOMB CYCLONE N°91/2018- DATA: OCT./27/2018
LOCAL: CASEY STATION – WMO 89611 (OPERATED BY AUSTRALIA)



Drop of pressure in 24h	25.3 hPa
Minimum pressure registered on station	948.2 hPa
Min. pressure estimation in the cyclone core	948 hPa
Sustained maximum wind	36.0 m/s (mph)
Maximum wind gust	45.5 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>