

MONITORING EXPLOSIVE CYCLONES ON THE COAST OF THE ANTARCTIC CONTINENT

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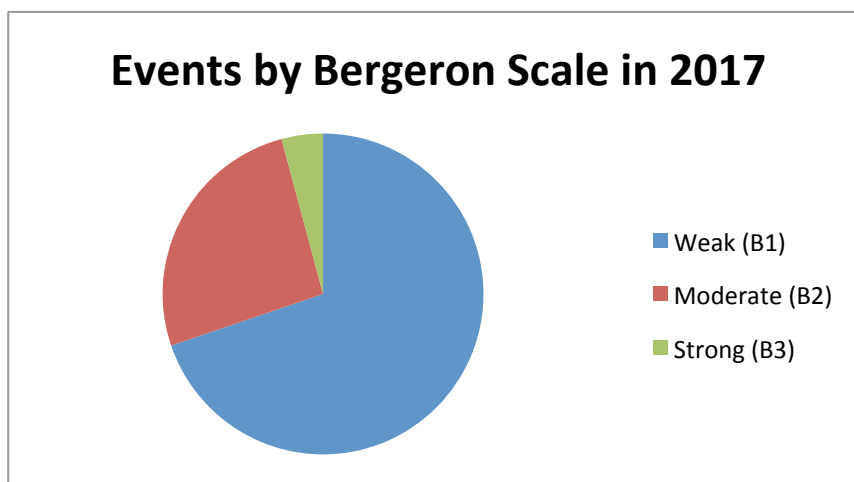
OCTOBER 2017

During this month, 05 events were registered among the 13 research stations located on the coast of the Antarctic utilized as references for the monitoring of explosive cyclones, at the stations of: Syowa, Dumont D'Urville, Mawson, Frei and Palmer, totaling 13 less cases than in the previous month. The most intense cyclone recorded was number 94/2017 at the Dumont D'Urville station on October 12th with sustained winds of up to 33.0 m/s (74 mph). The cyclone which registered the lowest atmospheric pressure at sea level was the number 95/2017 at the Palmer station, on October 13th, with values reaching 954.0 hPa. Throughout 2017 the station with the largest number of events has been the Australian Casey with 16 cases, followed by the Frei stations with 11 cases. Russkaya's Russian station was not operating this month, so it was not possible to monitor that region.

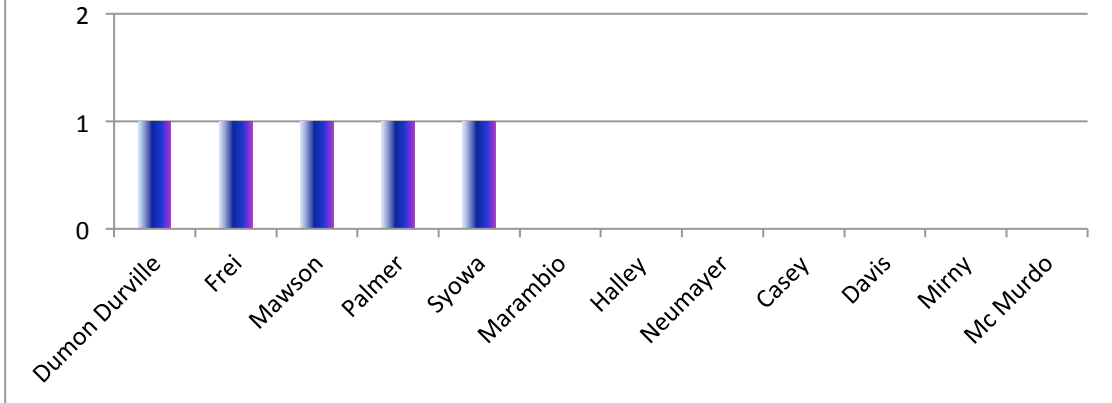
STATISTICS OF THE MONTH

Classification	Bergeron Scale	Intensity	Total of cases registered in the month
B1	1 a 1.2	Weak	03
B2	1.3 a 1.8	Moderate	02
B3	>1.8	Strong	00

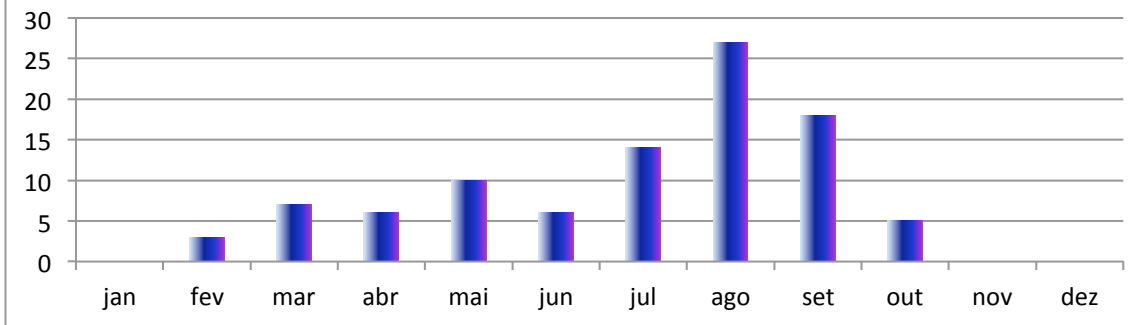
Highest pressure drop	Lowest recorded pressure	Highest sustained wind	Average minimum pressures	Mean of pressure drops
-32.1 hPa/24h	954.2 hPa	33.0 m/s	964.1 hPa	-28.3 hPa/24h
Syowa Station October 05	Palmer Station October 13	D. D'Urville Station October 12		



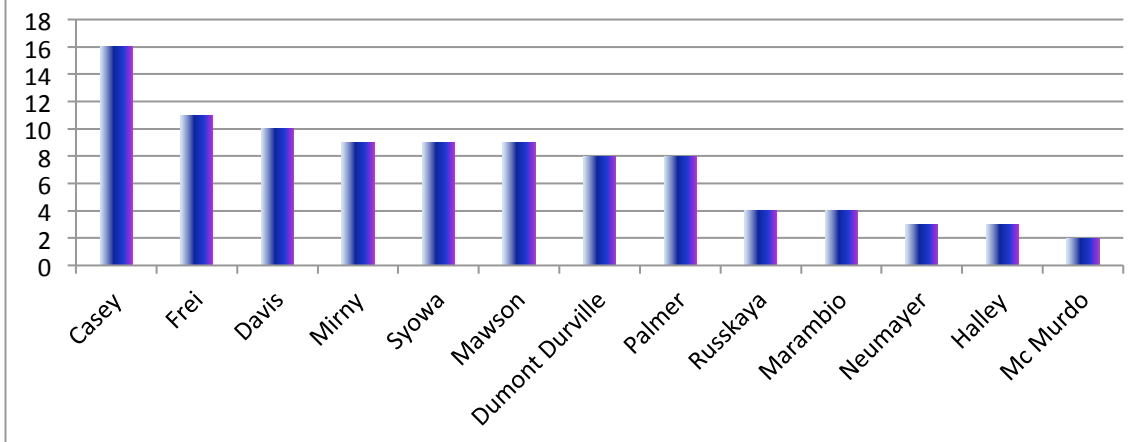
Total of events registered in each station in the month of October/2017



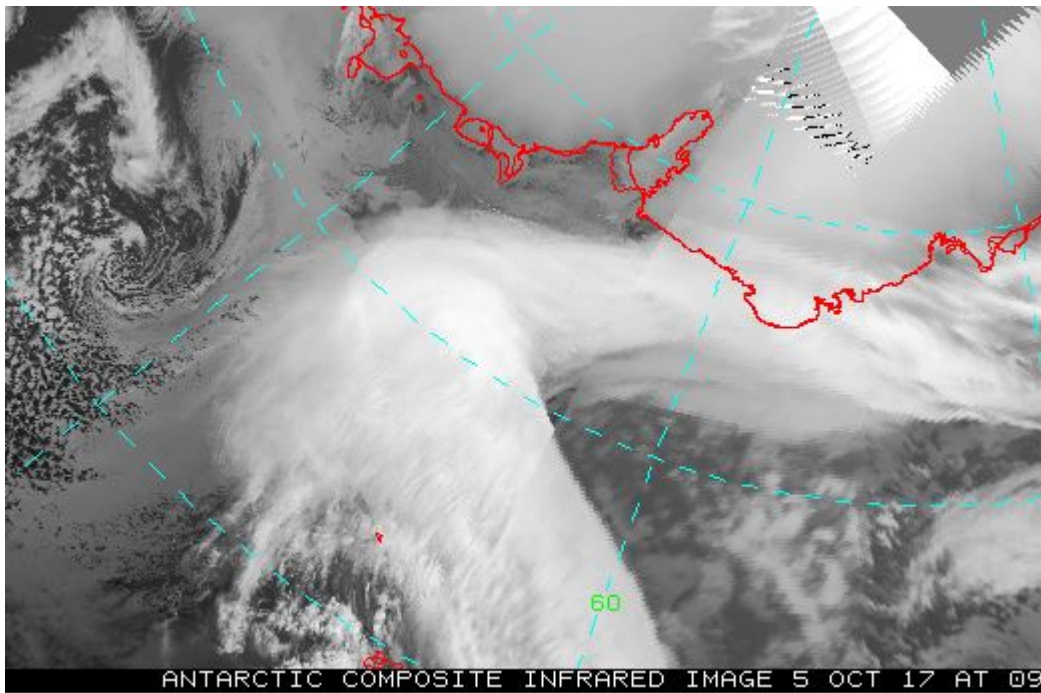
Explosive Cyclones in the Antarctic Total of monthly events



Total of events registered by station in 2017



EXPLOSIVE CYCLONE N°92/2017- DATA: 05/OCT/2017
LOCAL: MAWSON STATION – WMO 89564 (OPERATED BY AUSTRALIA)



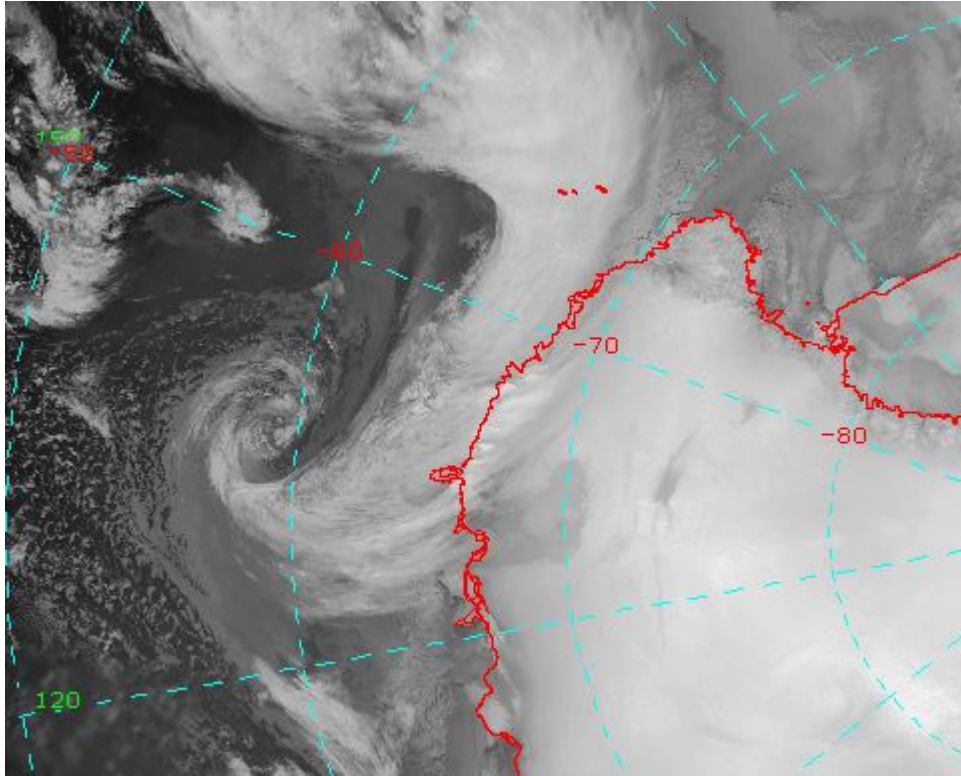
DROP OF PRESSURE IN 24H: -24.8 hPa
MINIMUM PRESSURE REGISTERED ON STATION: 977.7 hPa
MINIMUM PRESSURE ESTIMATED IN THE CYCLONE CORE: 957.0 hPa
SUSTAINED MAXIMUM WIND: 24.5 m/s (55 mph)
MAXIMUM WIND GUST: 28.5 m/s (64 mph)
BERGERON: 1.0 (WEAK)

EXPLOSIVE CYCLONE N°93/2017- DATA: 05/OCT/2017
LOCAL: SYOWA STATION – WMO 89532 (OPERATED BY JAPAN)

NO IMAGE

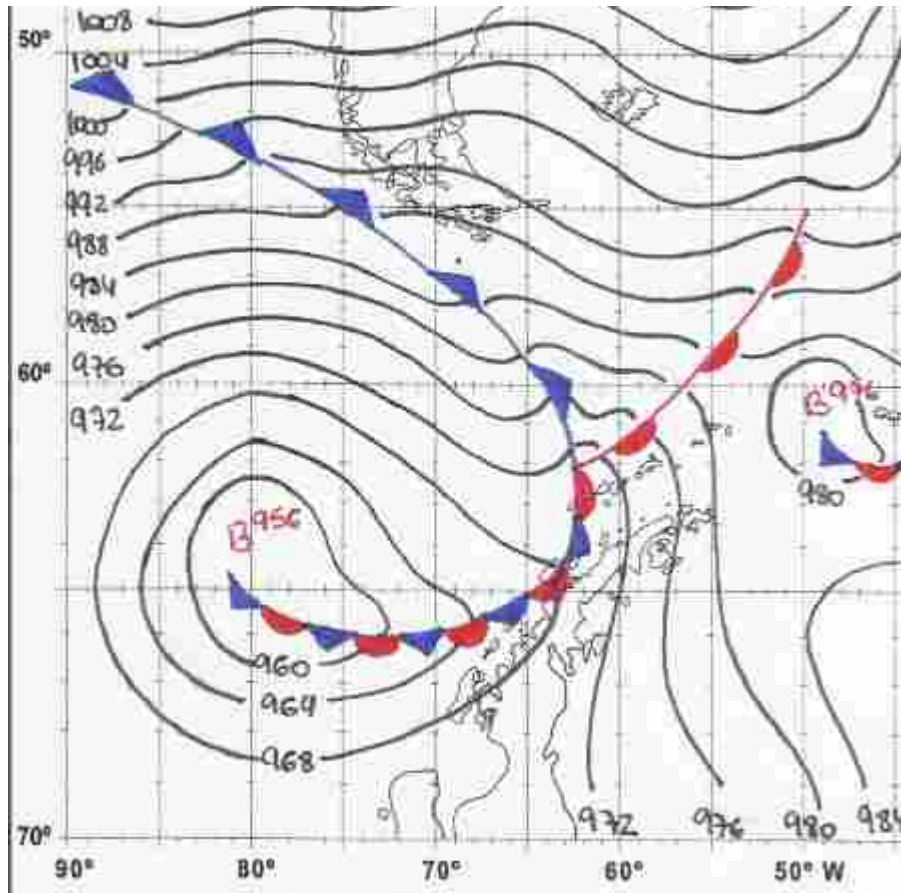
DROP OF PRESSURE IN 24H: -32.1 hPa
MINIMUM PRESSURE REGISTERED ON STATION: 968.0 hPa
MINIMUM PRESSURE ESTIMATED IN THE CYCLONE CORE: 946.0 hPa
SUSTAINED MAXIMUM WIND: 16.0 m/s (36 mph)
MAXIMUM WIND GUST: none m/s (mph)
BERGERON: 1.3 (MODERATE)

EXPLOSIVE CYCLONE N°94/2017- DATA: 12/OCT/2017
LOCAL: DUMONT D'URVILLE STATION –WMO 89642 (OPERATED BY FRANCE)



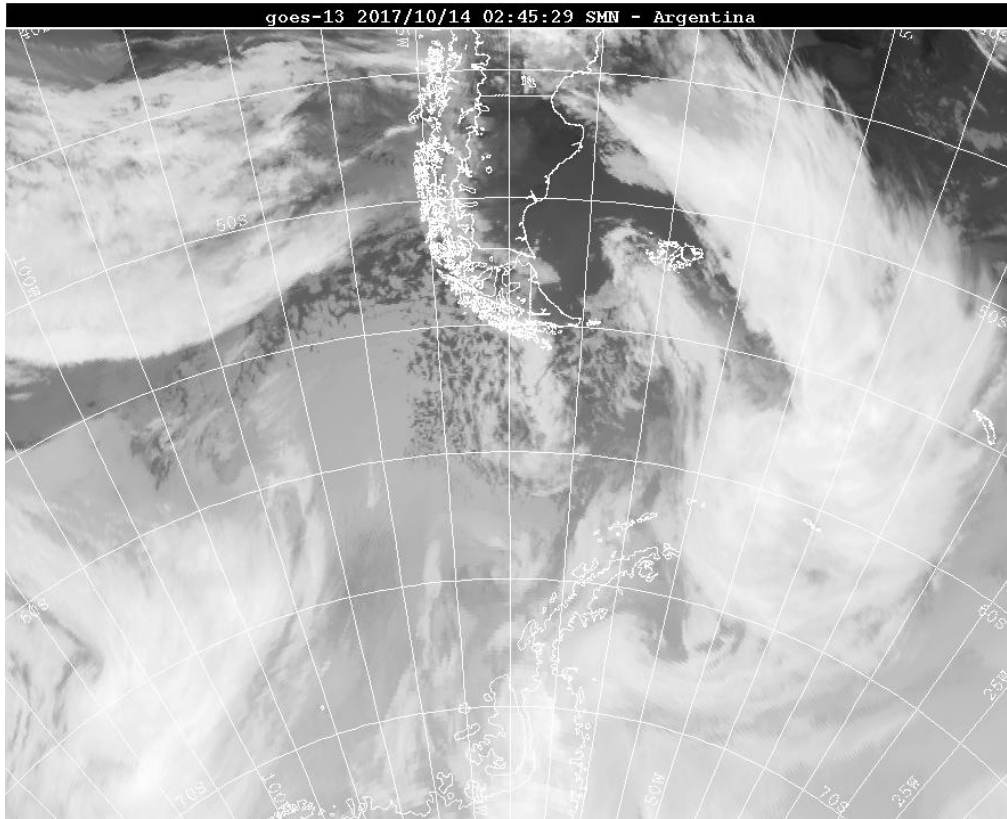
DROP OF PRESSURE IN 24H: -30.4 hPa
MINIMUM PRESSURE REGISTERED ON STATION: 963.6 hPa
MINIMUM PRESSURE ESTIMATED IN THE CYCLONE CORE: 946 hPa
SUSTAINED MAXIMUM WIND: 33.0 m/s (74 mph)
MAXIMUM WIND GUST: 49.5 m/s (111 mph)
BERGERON: 1.3 (MODERATE)

EXPLOSIVE CYCLONE N°95/2017- DATA: 13/OCT/2017
LOCAL: PALMER STATION – WMO 89061 (OPERATED BY USA)



DROP OF PRESSURE IN 24H: -26.4 hPa
MINIMUM PRESSURE REGISTERED ON STATION: 954.2 hPa
MINIMUM PRESSURE ESTIMATED IN THE CYCLONE CORE: 950.0 hPa
SUSTAINED MAXIMUM WIND: 15.0 m/s (34 mph)
MAXIMUM WIND GUST: none m/s (mph)
BERGERON: 1.1 (WEAK)

EXPLOSIVE CYCLONE N°96/2017- DATA: 14/OCT/2017
LOCAL: FREI STATION – WMO 89056 (OPERATED BY CHILE)



DROP OF PRESSURE IN 24H: -27.7 hPa
MINIMUM PRESSURE REGISTERED ON STATION: 956.8 hPa
MINIMUM PRESSURE ESTIMATED IN THE CYCLONE CORE: 950.0 hPa
SUSTAINED MAXIMUM WIND: 14.0 m/s (31.0 mph)
MAXIMUM WIND GUST: none m/s (mph)
BERGERON: 1.2 (WEAK)

Sources:

- AMRC – UW Madison
- <https://worldview.earthdata.nasa.gov>
- <http://www.weathersa.co.za>
- <http://www.bom.gov.au>
- <https://data.aad.gov.au>
- <http://www.smn.gov.ar>
- <http://meteoarmada.directemar.cl>