



WORLD
ENVIRONMENTAL
CONSERVANCY

ENVIRONMENTAL MONITORING OF EMPEROR PENGUIN COLONIES

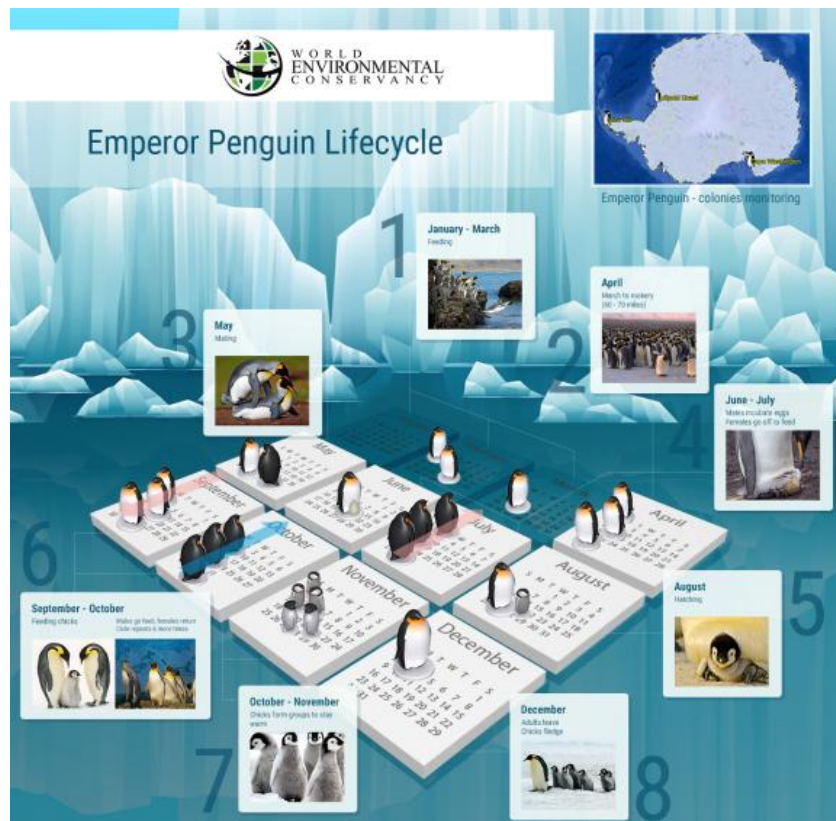


April 2020

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ENVIRONMENTAL MONITORING OF EMPEROR PENGUIN COLONIES

This newsletter monitors the climatic conditions of the Snow Hill emperor penguin colonies, located north of the Antarctic Peninsula and Cape Washington located in the Ross Sea. Emperor penguins are very susceptible to sudden variations in the climate, especially their young that cannot be exposed to rain and the sea before their feathers are fully formed on their entire body. The early breaking or breaking of the fast ice, where the eggs of these birds are hatched, can endanger the litter for an entire year, as well as the storms that can isolate the young from the group, especially during the winter. Monitoring the meteorological conditions of these colonies can show us how vulnerable these birds are to the climatic changes of this extremely sensitive and fragile environment.



The Emperor penguin endures one of the harshest breeding cycles of any animal. It breeds during winter (beginning in early April) in one of the coldest places on Earth. Once it leaves the frigid water, it hikes on the Antarctic fast ice for up to three days, traveling up to seventy miles (110 km) before it reaches its colony. Unlike other penguins, the Emperor does not nest and is not territorial. It will breed at the foot of an iceberg or a hill. The female chooses its mate, usually not the same one as the year before. The mates breed and the female lays one egg in early May. The egg is put in the care of the male, so the female can forage, breaking her 45 day fast. The male incubates the egg for about seventy days while enduring extremely harsh weather, huddling with the other males for survival. The male is present when the chick hatches, but as soon as the female returns, he leaves to forage, after enduring an unimaginable 110 day fast. The chick is brooded for up to fifty-days, sitting atop its parents' feet for protection and warmth. When brooding is over, the chick joins and remains in a crèche until it fledges in December at about one-hundred fifty days of age.

APRIL 2020

The breeding cycle begins in autumn (around April) when the sea ice reforms and gets thick enough to support the thousands of penguins. The birds return year after year to the same location. The first thing they have to do is relocate their mates or, if they haven't bred before, find one! At this time there is a lot of activity in the colony with many penguins wandering around, singing their songs and performing courtship behaviours. These include a wide range of displays ranging from head bowing to head swinging and walking around in a most impressive manner.

Colony: SNOW HILL ISLAND

In April 2020, the sea around the Snow Hill Island colony was largely frozen and with an amount of drifting ice that ranged from 6/10 to 8/10, and this represented an obstacle to the penguins access to the mating areas , making them have to walk great distances. Temperatures were above average and penguins were exposed to only 13 days of storms.

Latitude: [64.52 S](#) Longitude: [57.44 W](#) Antarctic region: [Antarctic Peninsula](#)

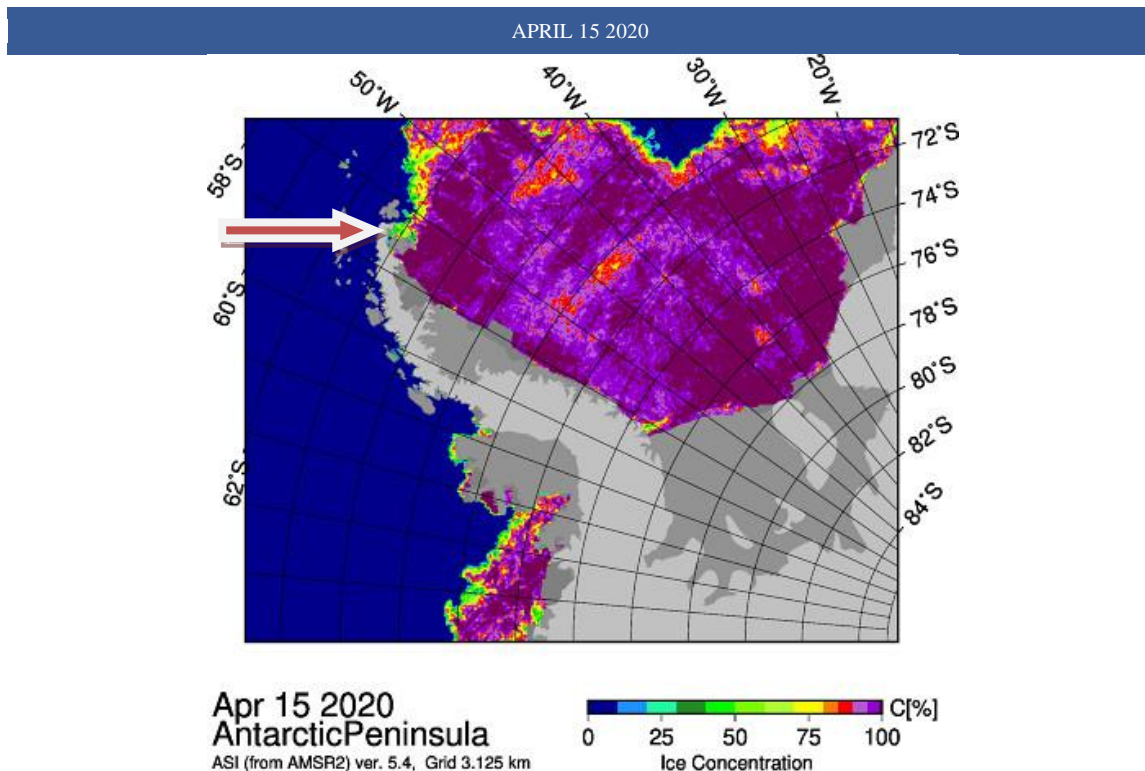
DAYLENGTH

APRIL01	APRIL 15	APRIL30
10h 57m	09h 26m	07h 51m

METEOROLOGICAL DATA

DATE	AVG. TEMP.	MAX. TEMP.	MIN. TEMP.	AVG. WIND	MAX. WIND	PREAV. WIND	DAYS GALE*	DAYS SNOW
2020 APR	-7.5C (18.5F)	+8.3C (46.9F)	-22.7C (8.9F)	9.5 m/s (21 mph)	25.7 m/s (57 mph)	S & N	07	20
Climatology 2000-2020	-10.2C (13.8F)	+10.0C (50.0F)	-29.6C (-21.3F)	...	...	...	...	19

ICE CONCENTRATION



Colony: CAPE WASHINGTON

In April 2020, the sea around the colony of Cape Washington, for the most part was frozen and with an amount of drifting ice that ranged from 7/10 to 8/10. Fast ice has already formed and this has made it easier for penguins to access mating areas. Temperatures were slightly below average and penguins were exposed to 16 days of storms.

Latitude: [74.64 S](#) Longitude: [165.38 E](#) Antarctic region: [Ross Sea](#)

DAYLENGTH

APRIL 01	APRIL 15	APRIL 30
10h 31m	07h 23m	03h 23m

METEOROLOGICAL DATA

DATE	AVG. TEMP.	MAX. TEMP.	MIN. TEMP.	AVG. WIND	MAX. WIND	PREAV. WIND	DAYS GALE*	DAYS SNOW
2020 APR	-19.6C (-3.3F)	-4.0C (24.8F)	-28.0C (18.4F)	9.0 m/s (20 mph)	40.2 m/s (90 mph)	S & N	16	14
Climatology 2000-2020	-18.7C (-1.7F)	-0.1C (31.8F)	-33.6C (-28.5F)	...	...	...	...	09

ICE CONCENTRATION

APRIL 02 2020



SOURCES

* Winds > 15.5 m/s (35 mph or 56 km/h)

<https://seaice.uni-bremen.de>

<https://worldview.earthdata.nasa.gov/>

<https://apps.sentinel-hub.com/>