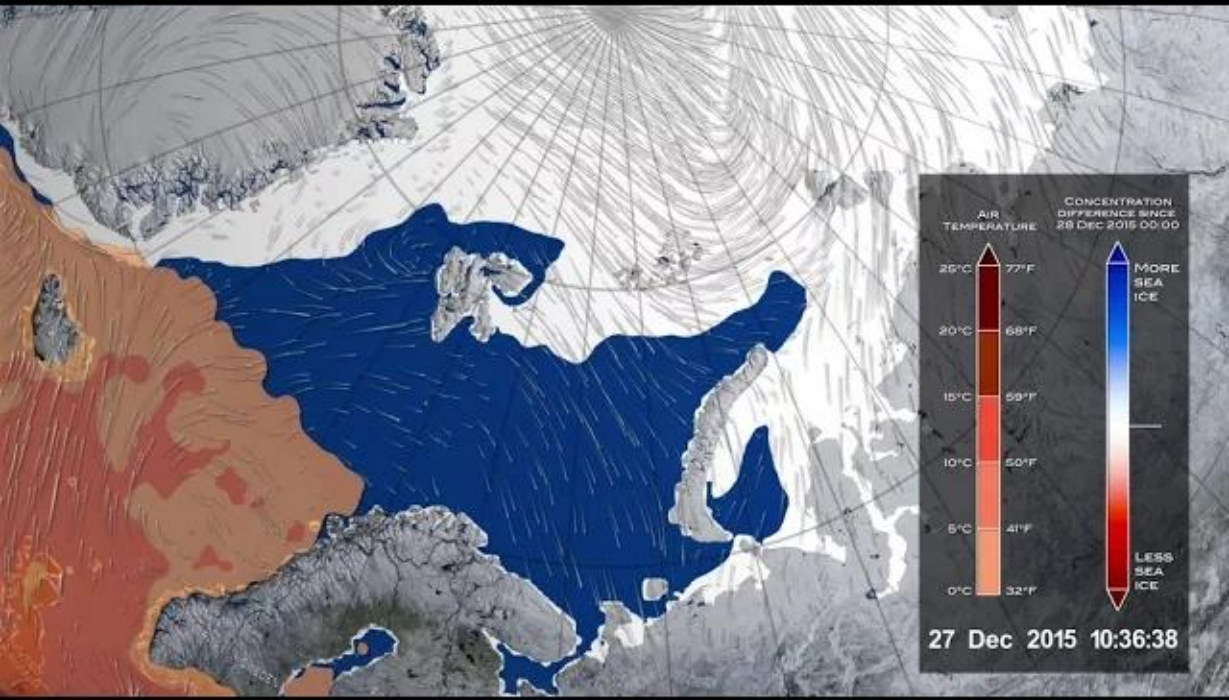
AIR TEMPERATURE
25°C 77°F
20°C 68°F
15°C 59°F
10°C 50°F
5°C 41°F
0°C 32°F
CONCENTRATION DIFFERENCE SINCE 28 DEC 2015 00:00
MORE SEA ICE
LESS SEA ICE
27 Dec 2015 10:36:38

1
00:00:00,020 --> 00:00:06,750
During the winter months, the Arctic region is cold and dark, with little to no sunlight or solar heat.

2
00:00:06,750 --> 00:00:11,140
Sea ice grows during this time, reaching its largest extent sometime in March.

3
00:00:11,140 --> 00:00:14,770
When something disrupts the cold, dry, winter Arctic atmosphere, sea ice can feel the effects,

4
00:00:14,770 --> 00:00:18,850
and these effects may linger through the season.

5
00:00:18,850 --> 00:00:23,030
At the end of December 2015, an extreme cyclone formed in the north Atlantic

6
00:00:23,030 --> 00:00:27,050
and swept into the central Arctic.

7
00:00:27,050 --> 00:00:31,230
North Atlantic cyclones, like this one, are low-pressure systems of strong, swirling winds

8
00:00:31,230 --> 00:00:35,260
transporting unseasonal heat and moisture into the Arctic from lower latitudes,

9
00:00:35,260 --> 00:00:39,300
disrupting sea ice growth.

10
00:00:39,300 --> 00:00:43,760
Scientists used the Atmospheric Infrared Sounder (AIRS) instrument onboard NASA’s Aqua satellite

11
00:00:43,760 --> 00:00:47,990
to study the atmospheric effects of this cyclone on the sea ice surface

12
00:00:47,990 --> 00:00:52,060
in the Barents and Kara seas. They observed above freezing temperatures

13
00:00:52,060 --> 00:00:56,250

that were up to 20 degrees warmer than normal in some places.

14
00:00:56,250 --> 00:01:00,400
As a result of this cyclone, the concentration of sea ice in the Barents and Kara seas decreased by around 10 p

15
00:01:00,400 --> 00:01:04,580
and the sea ice edge moved northward.

16
00:01:04,580 --> 00:01:08,910
The loss in sea ice area during this time was equivalent to the size of Florida.

17
00:01:08,910 --> 00:01:13,080
Scientists think excess energy input into the surface

18
00:01:13,080 --> 00:01:17,190
might have caused the sea ice to thin significantly,

19
00:01:17,190 --> 00:01:21,330
although not enough to cause a complete melt out yet. After the storm, weather conditions returned to normal

20
00:01:21,330 --> 00:01:25,380
but the sea ice extent stayed low throughout the month of January

21
00:01:25,380 --> 00:01:29,480
with large parts of the Barents and Kara seas unseasonably ice-free.

22
00:01:29,480 --> 00:01:33,510
NASA scientists say the effects of this storm on the sea ice could have been a tipping point,

23
00:01:33,510 --> 00:01:37,590
leading to the record low Arctic sea ice maximum observed this past winter.

24
00:01:37,590 --> 00:01:41,770
As we approach this winter season,