Supplement to: Comparison of tropospheric BrO column densities retrieved from satellite to ground-based measurements in the Arctic

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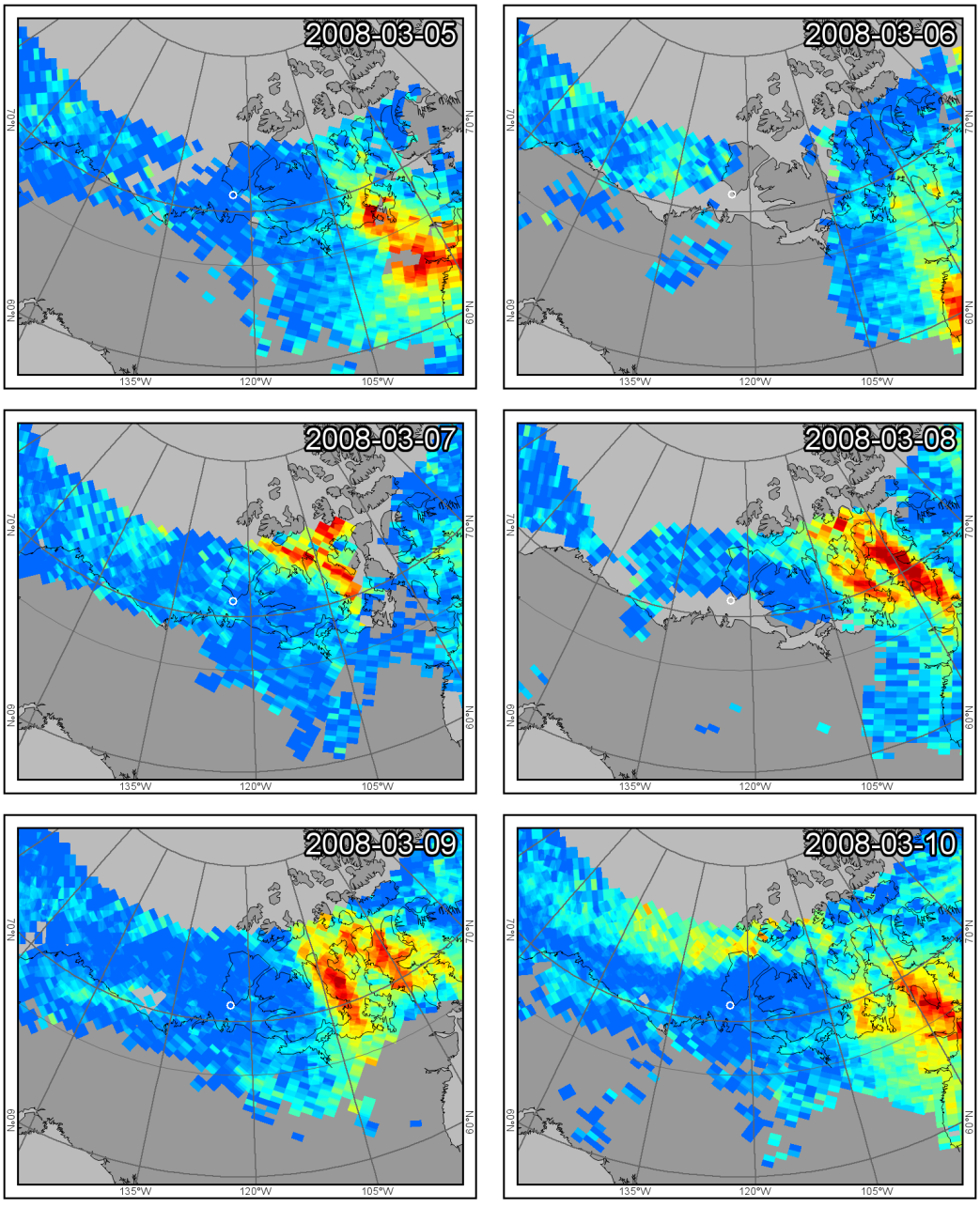
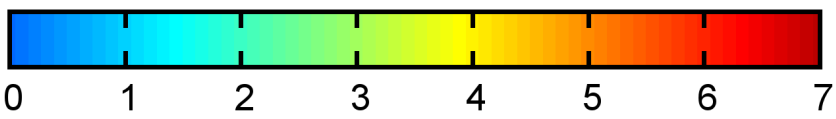
This document contains two sets of maps corresponding to two field campaigns conducted in the course of the International Polar Year 2007–2008. The maps show gridded tropospheric column densities of bromine monoxide (BrO) measured by the GOME-2 instrument in the vicinity of two different locations where ground-based measurements of BrO and many other trace-gas species were performed. In spring 2008, ship-based measurements were performed aboard the research icebreaker Amundsen south of Banks Island in the Amundsen Gulf. In spring 2009, ground-based measurements were performed at Barrow, Alaska. Both field initiatives were conducted in the scope of the Ocean – Atmosphere – Sea Ice – Snowpack (OASIS) project.

The BrO maps are averaged tropospheric column densities retrieved from measurements within the denoted day. On some days, however, there is no valid data present. These days are not displayed in the map series. Furthermore, only those measurements are averaged, which feature a solar zenith angle (SZA) smaller than 80°, and a tropospheric air-mass factor (AMF) larger than 1. The location of the ground-based measurements – the Amundsen research vessel, or Barrow, respectively – are marked with a white circle in the center of the map.

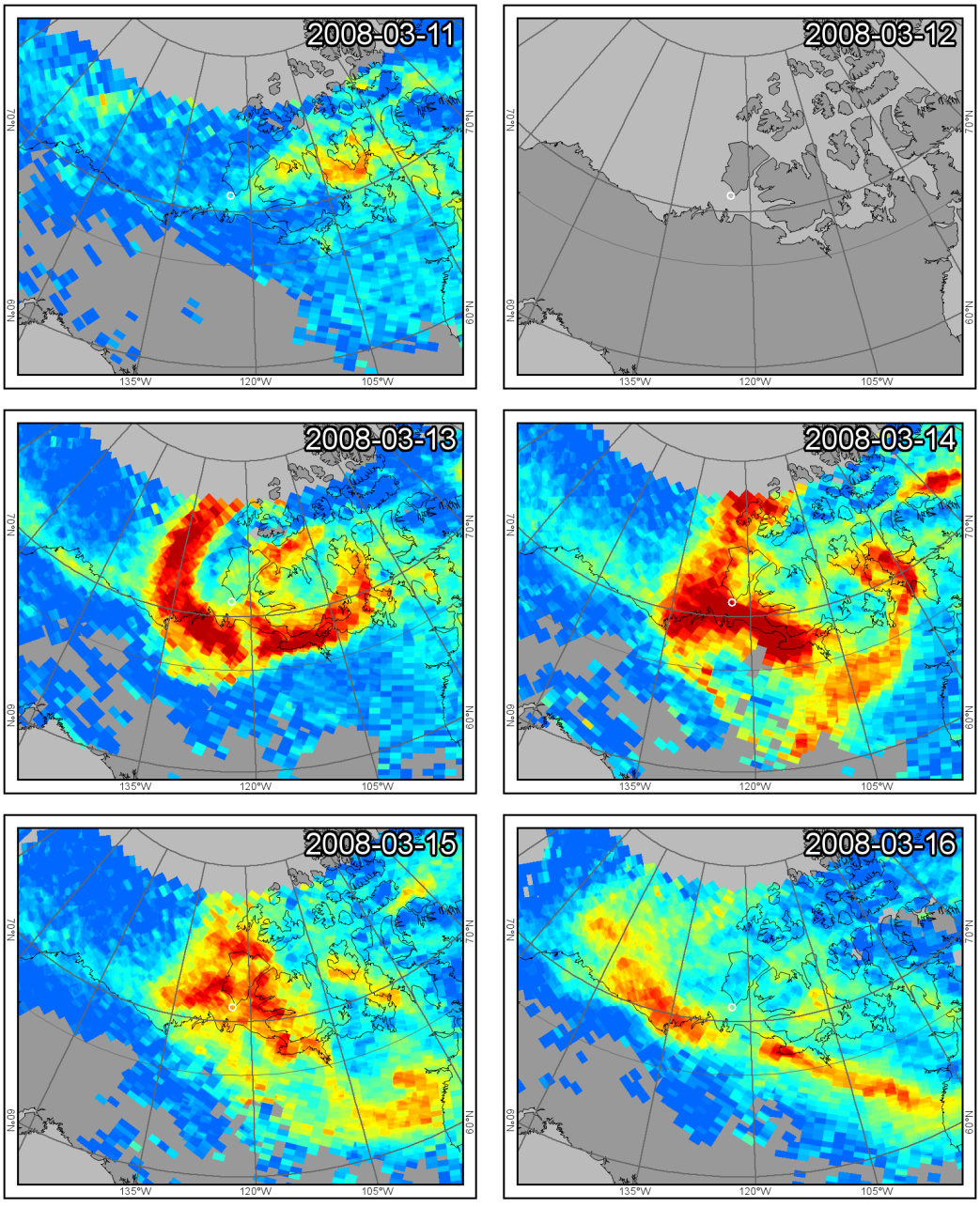
Amundsen 2008



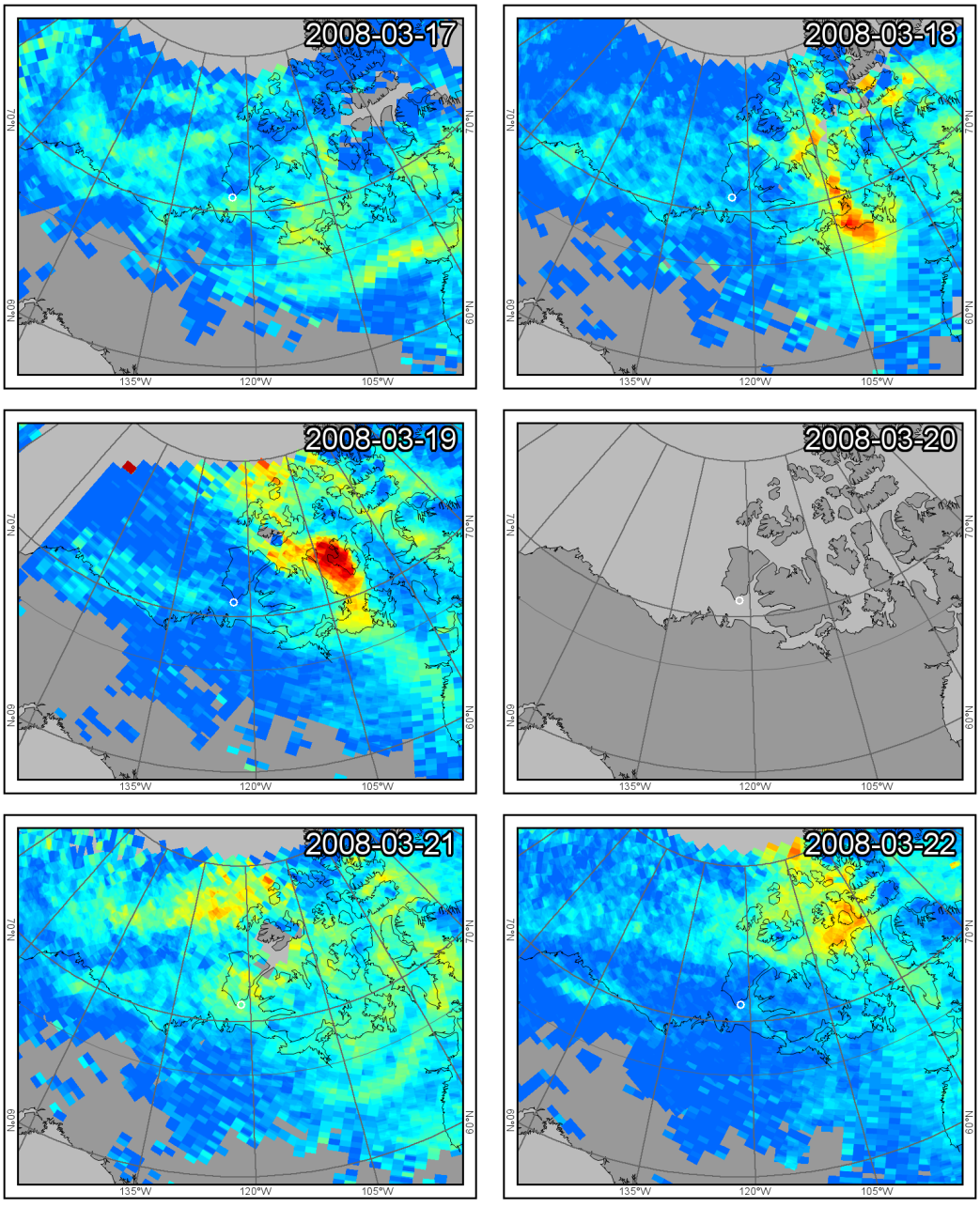
[10^{13} molec cm^{-2}]



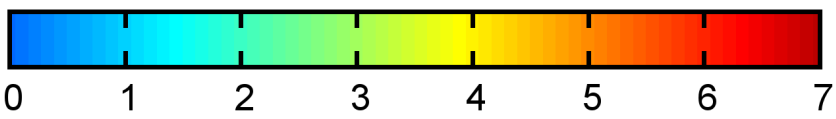
Amundsen 2008



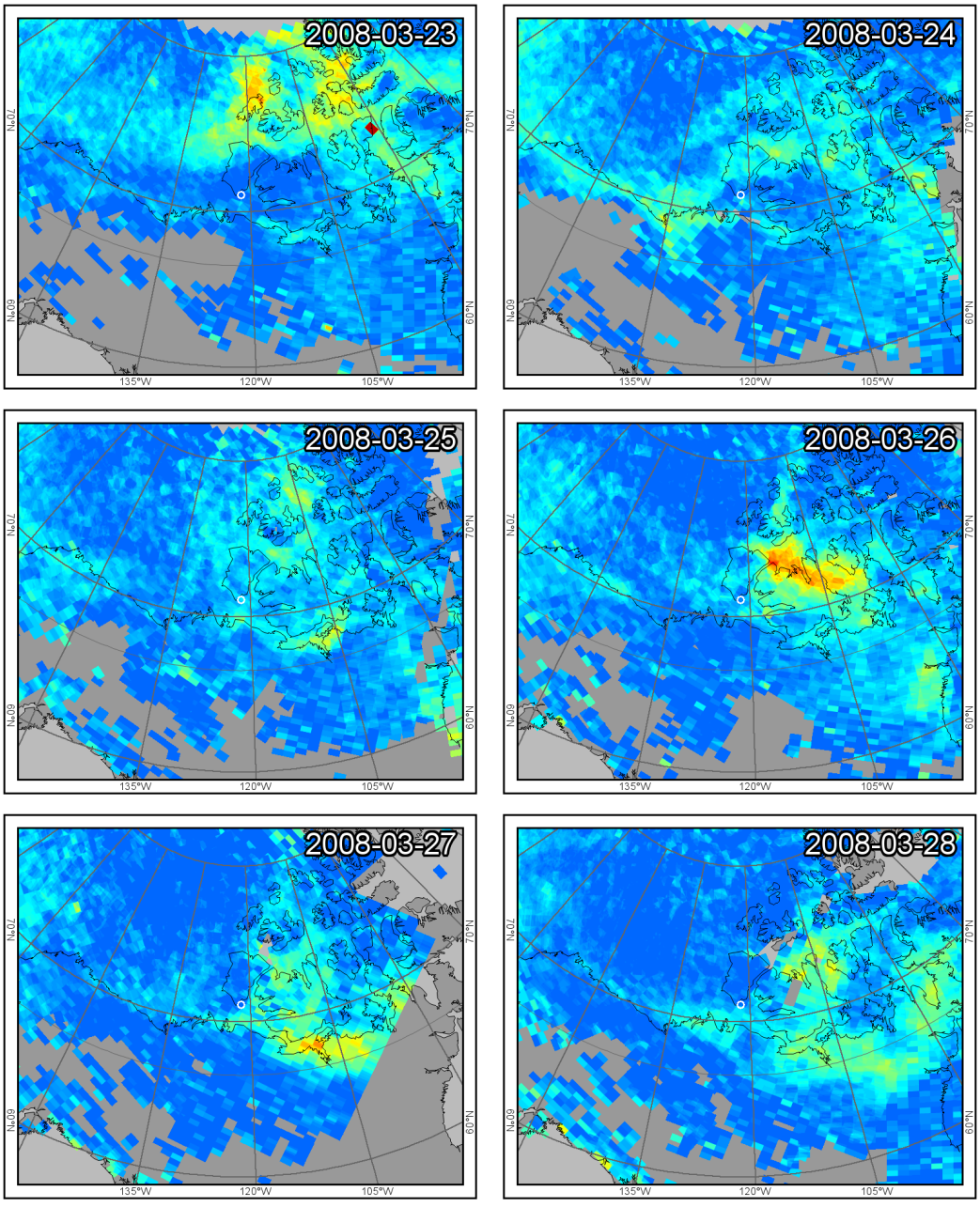
Amundsen 2008



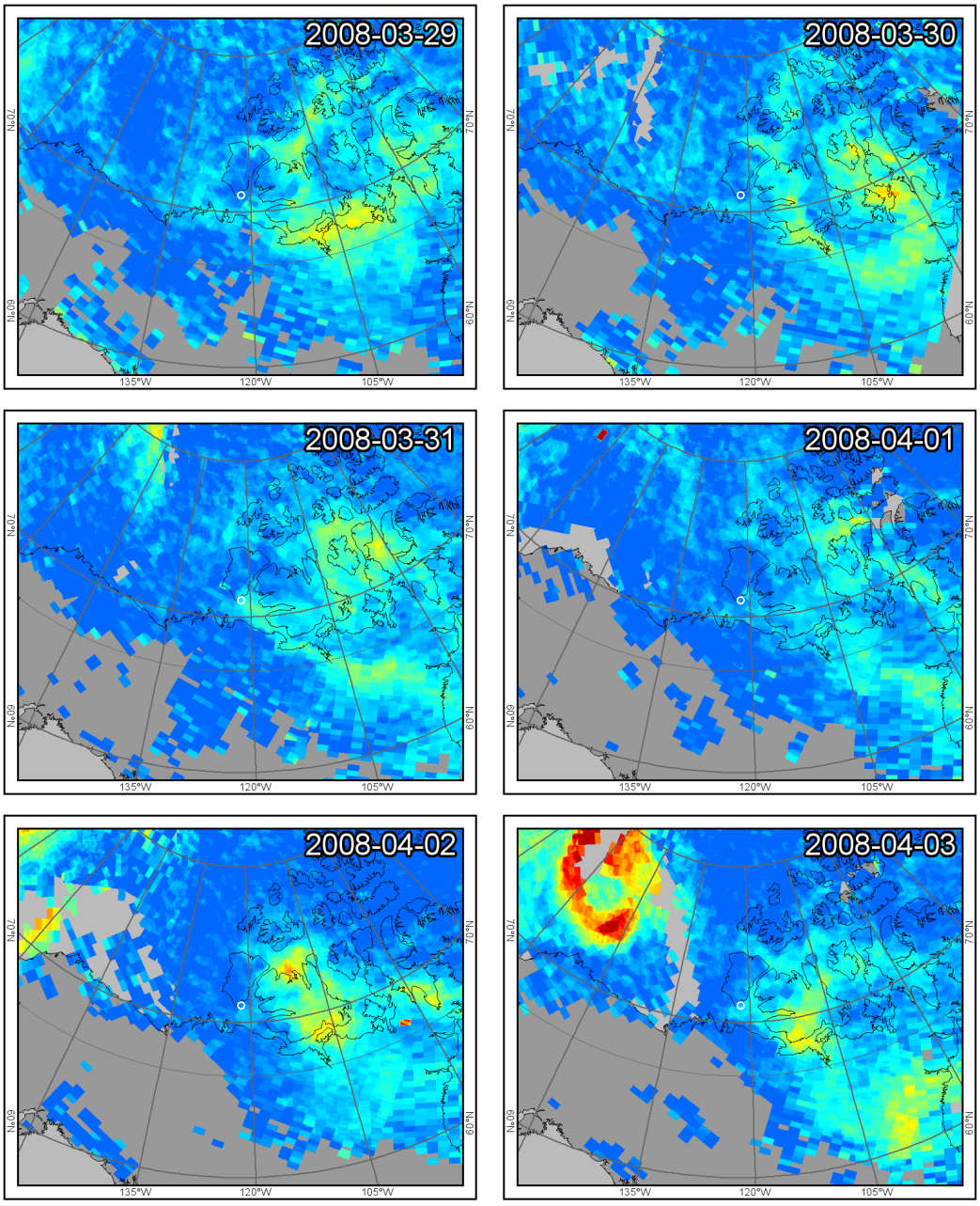
[10^{13} molec cm^{-2}]



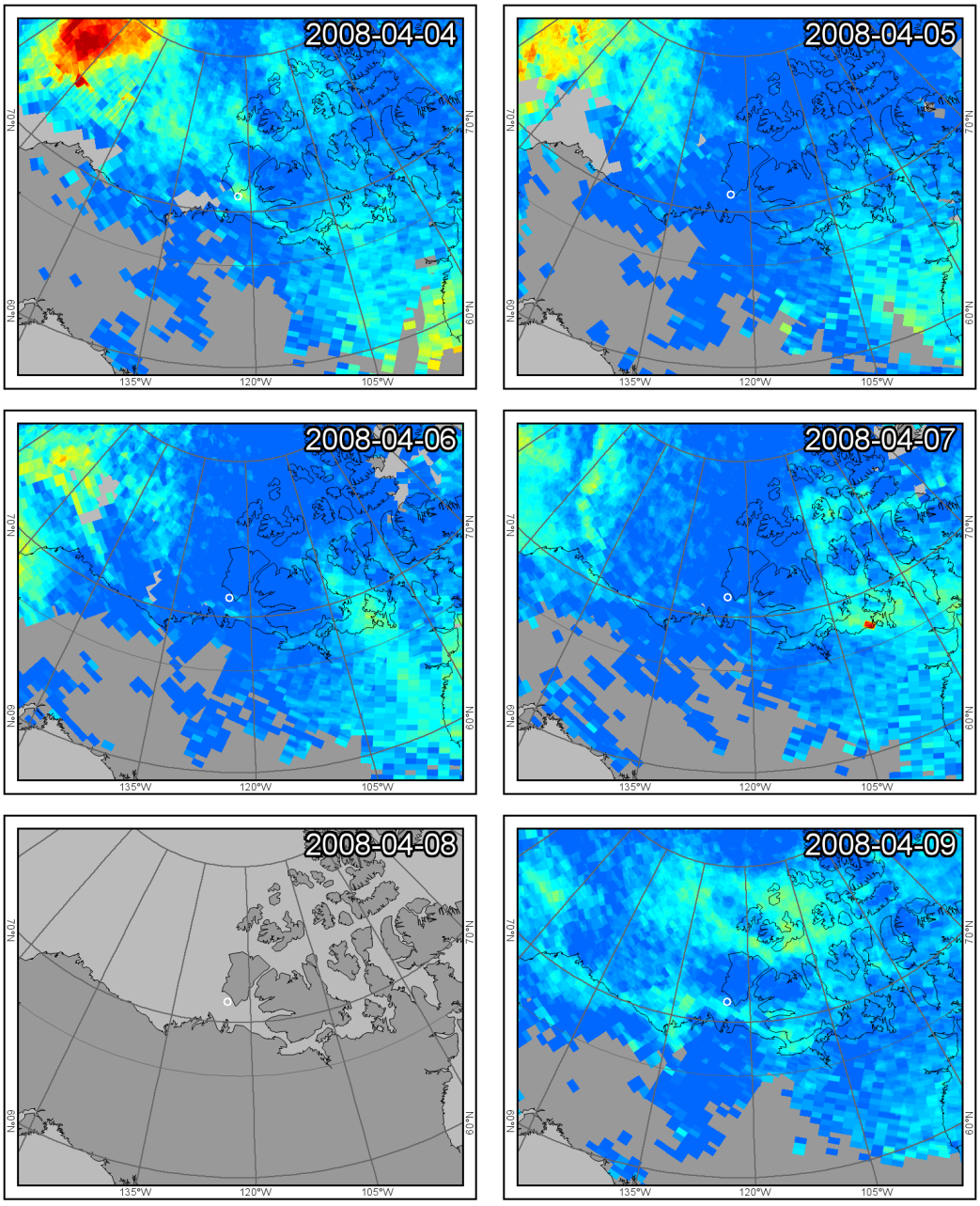
Amundsen 2008



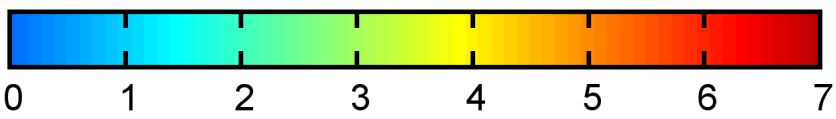
Amundsen 2008



Amundsen 2008



[10^{13} molec cm^{-2}]



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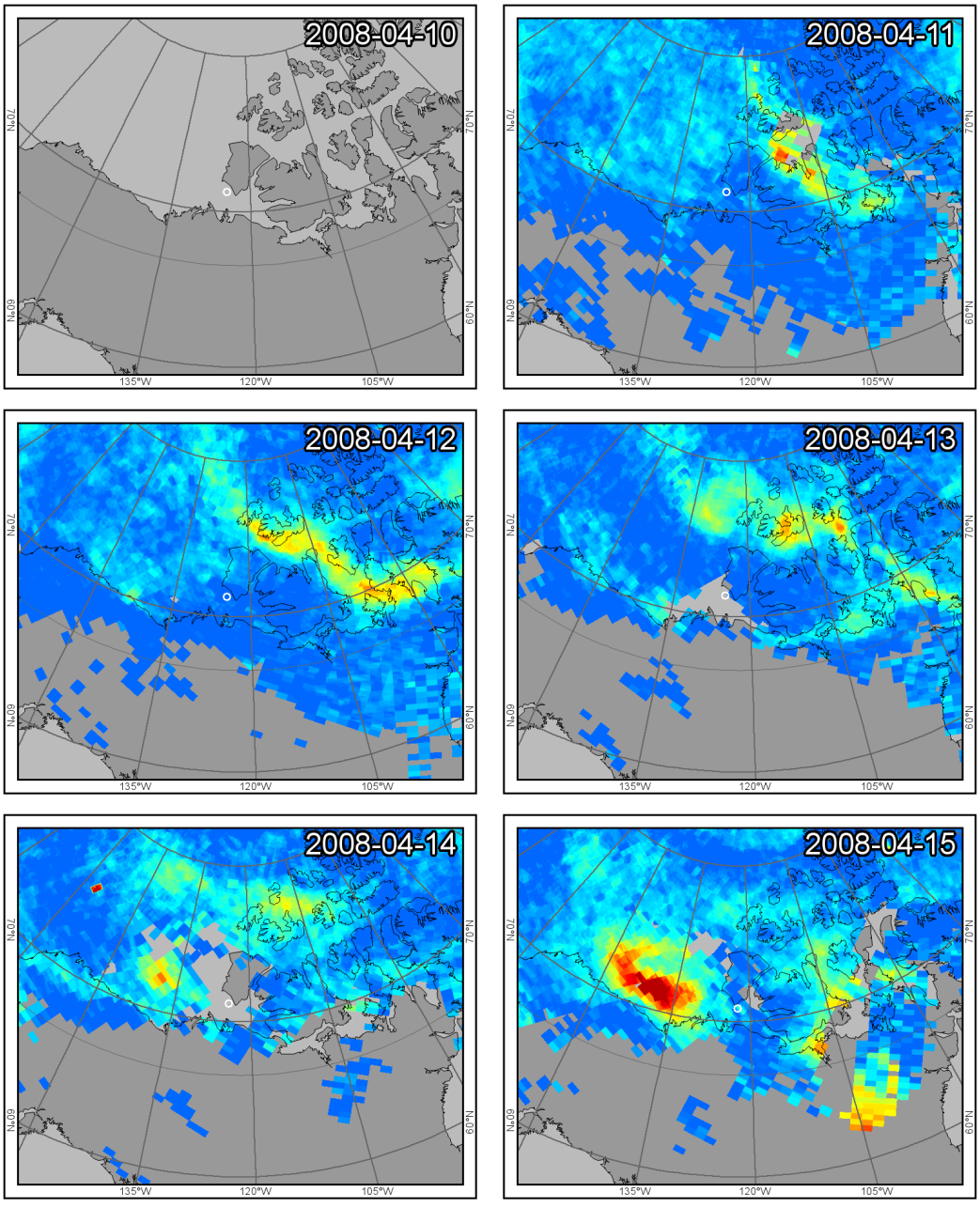
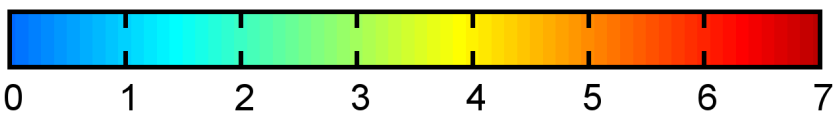
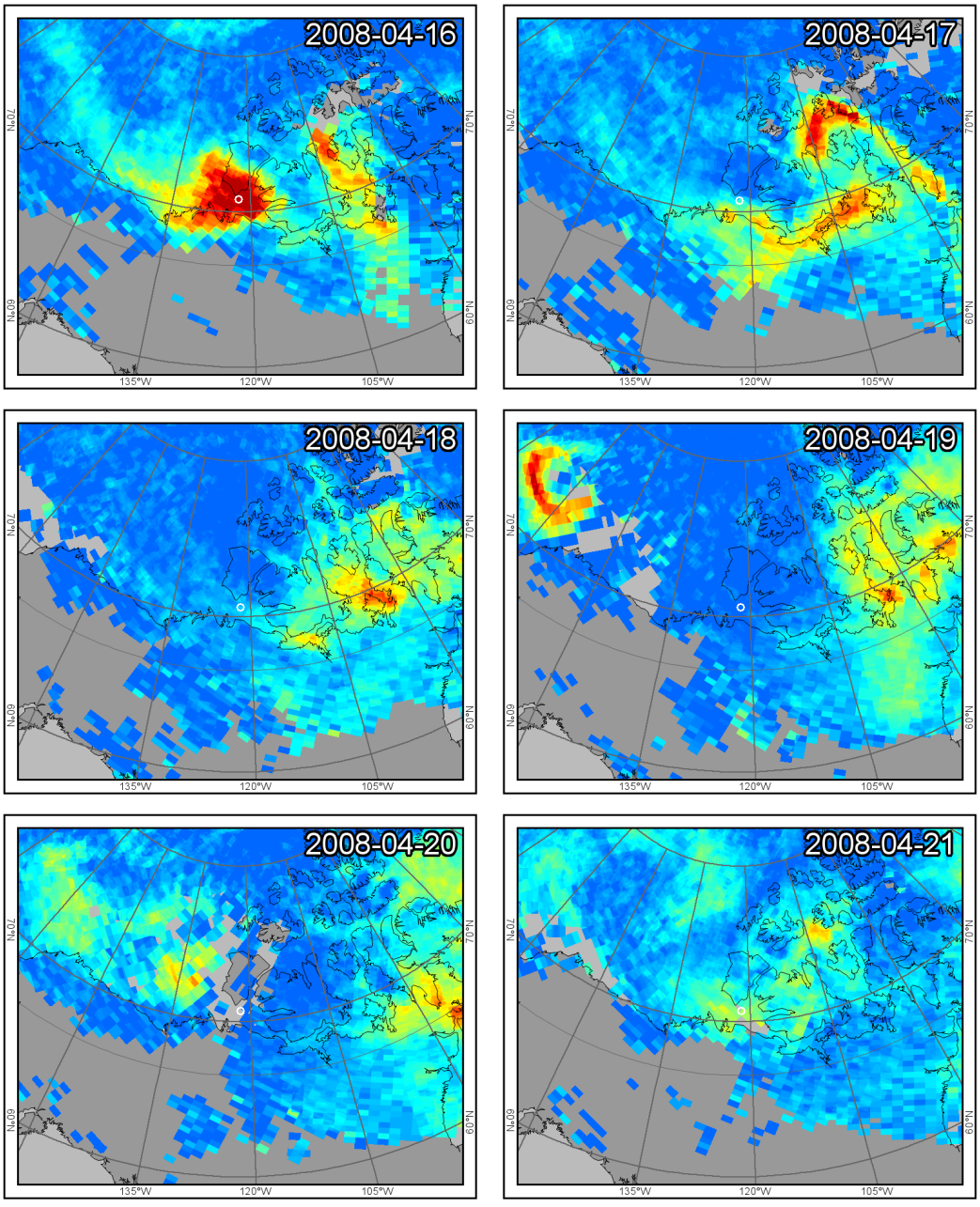


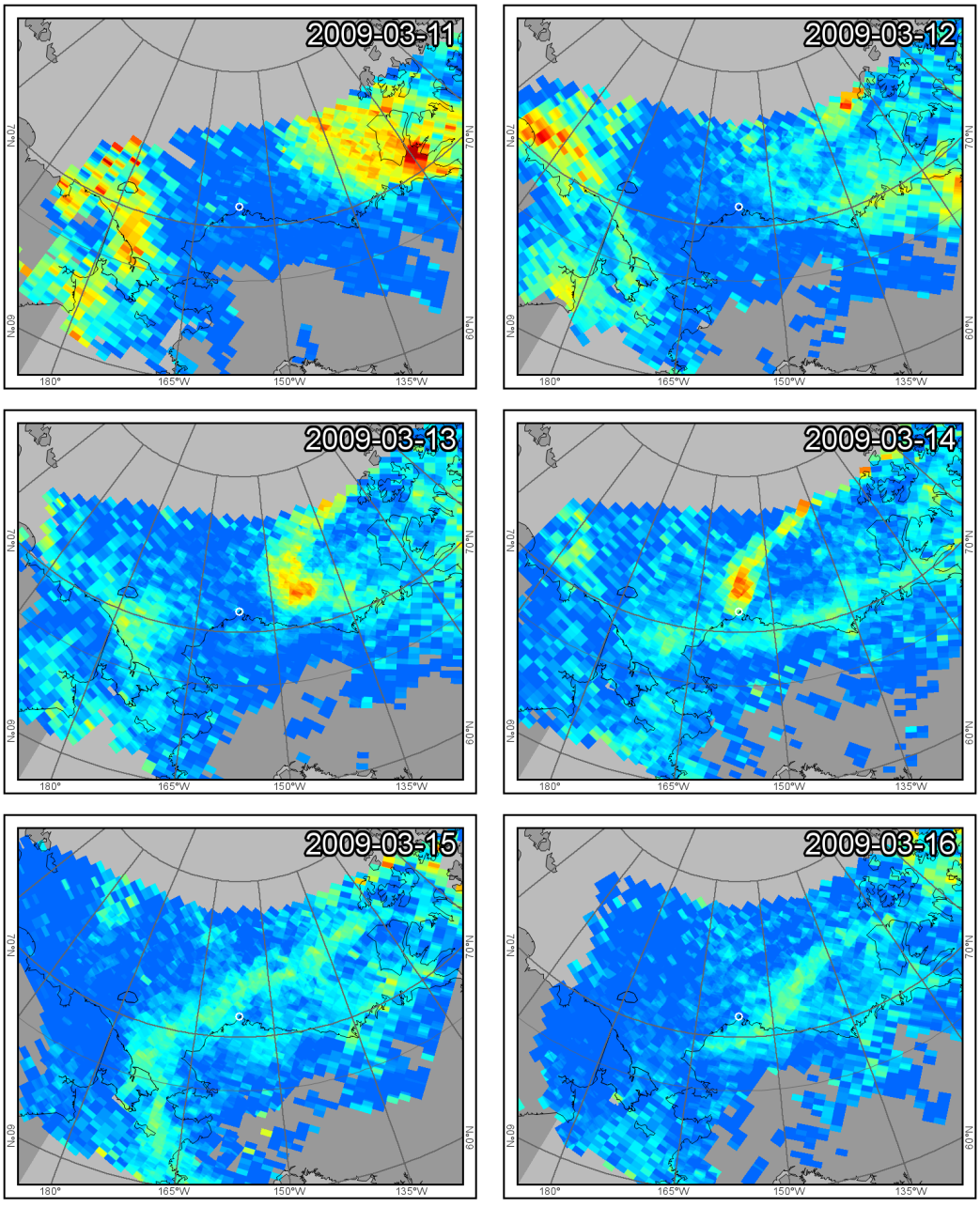
[10^{13} molec cm^{-2}]



Amundsen 2008



Barrow 2009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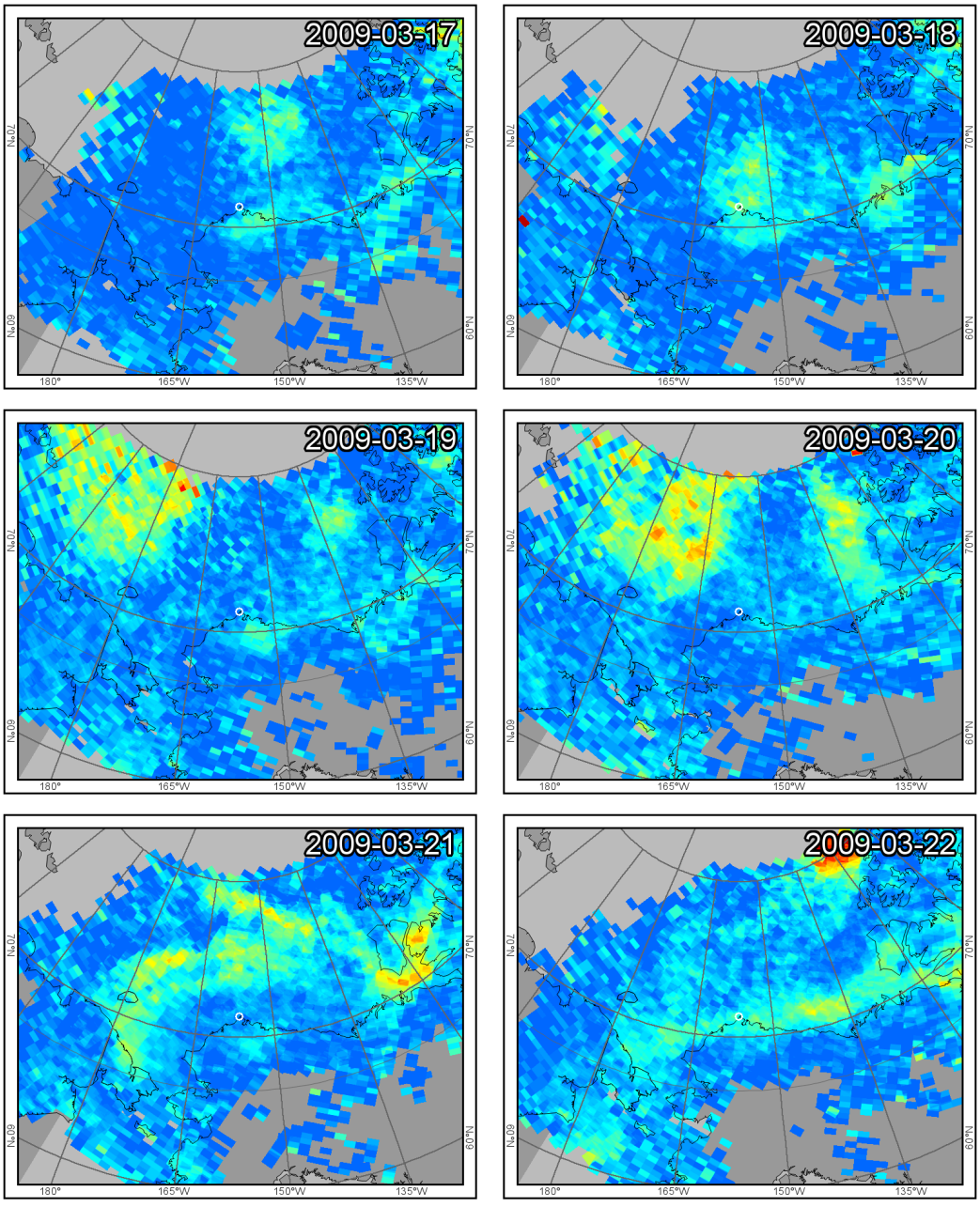
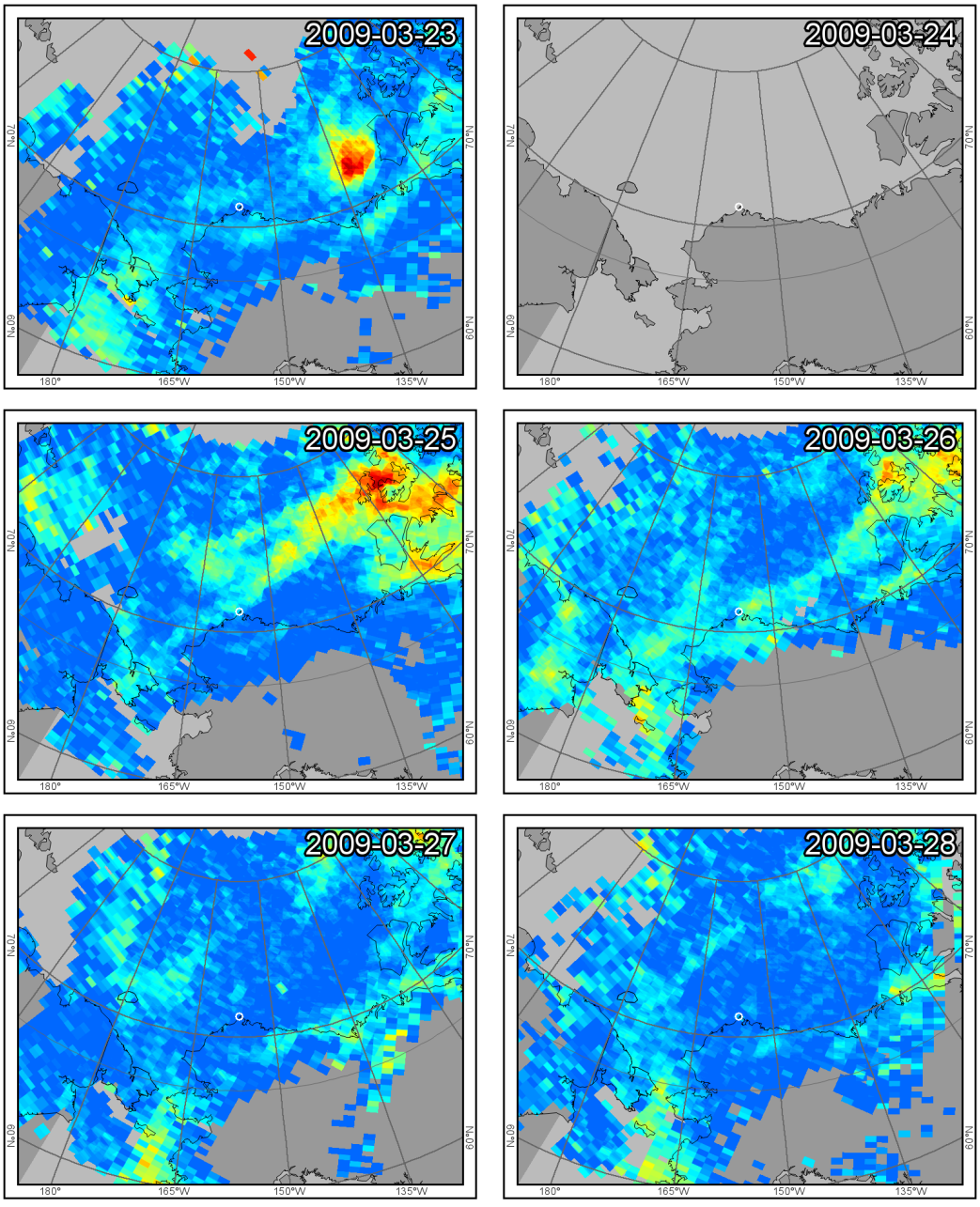
2009-03-12
2009-03-13
2009-03-14
2009-03-15
2009-03-16
180°
165°W
150°W
135°W
70°N
60°N
[10^13 molec cm^-2]
0
1
2
3
4
5
6
7

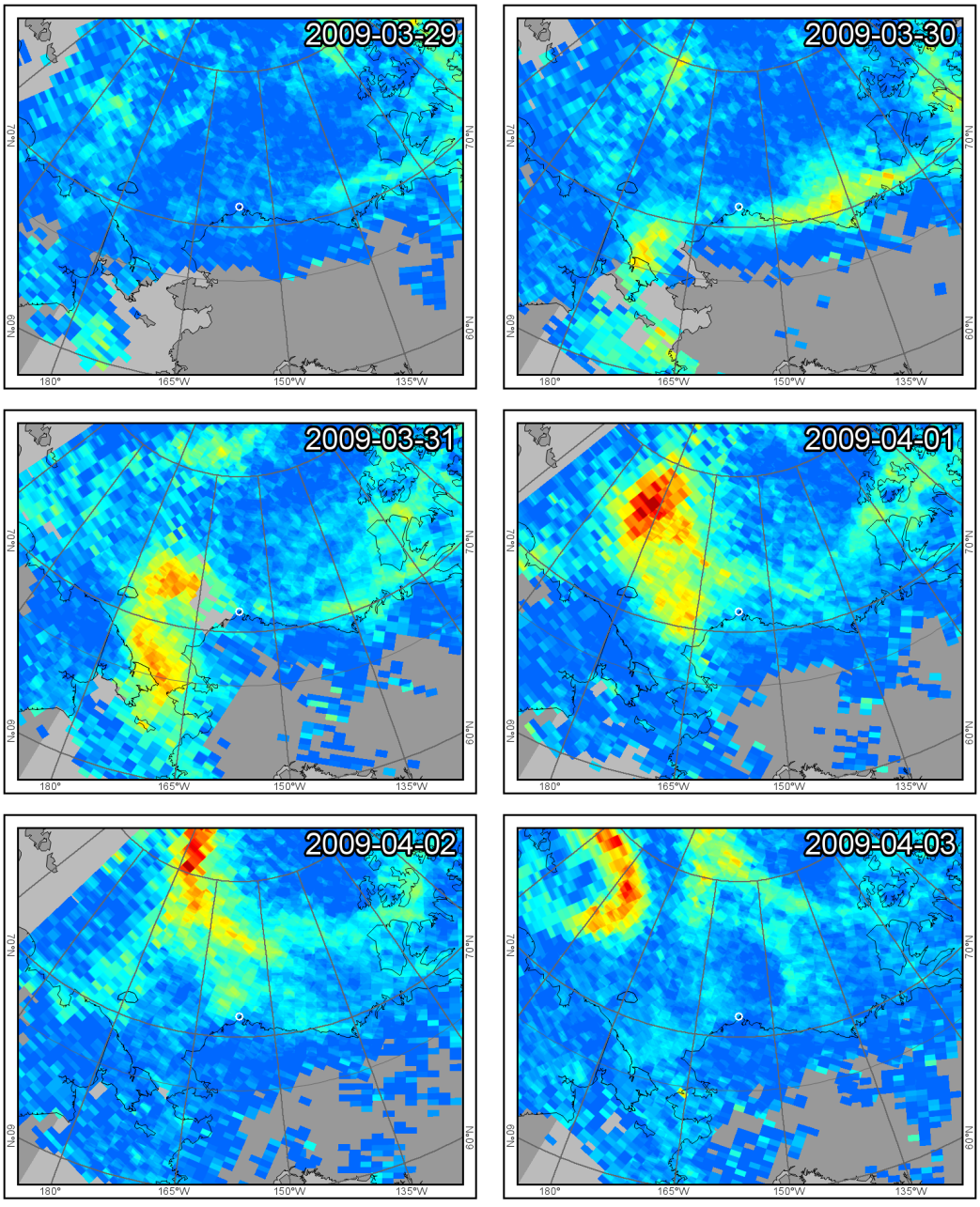
Barrow 2009


2009-03-17
2009-03-18
2009-03-19
2009-03-20
2009-03-21
2009-03-22
180°
165°W
150°W
135°W
70°N
60°N
[10^13 molec cm^-2]
0
1
2
3
4
5
6
7

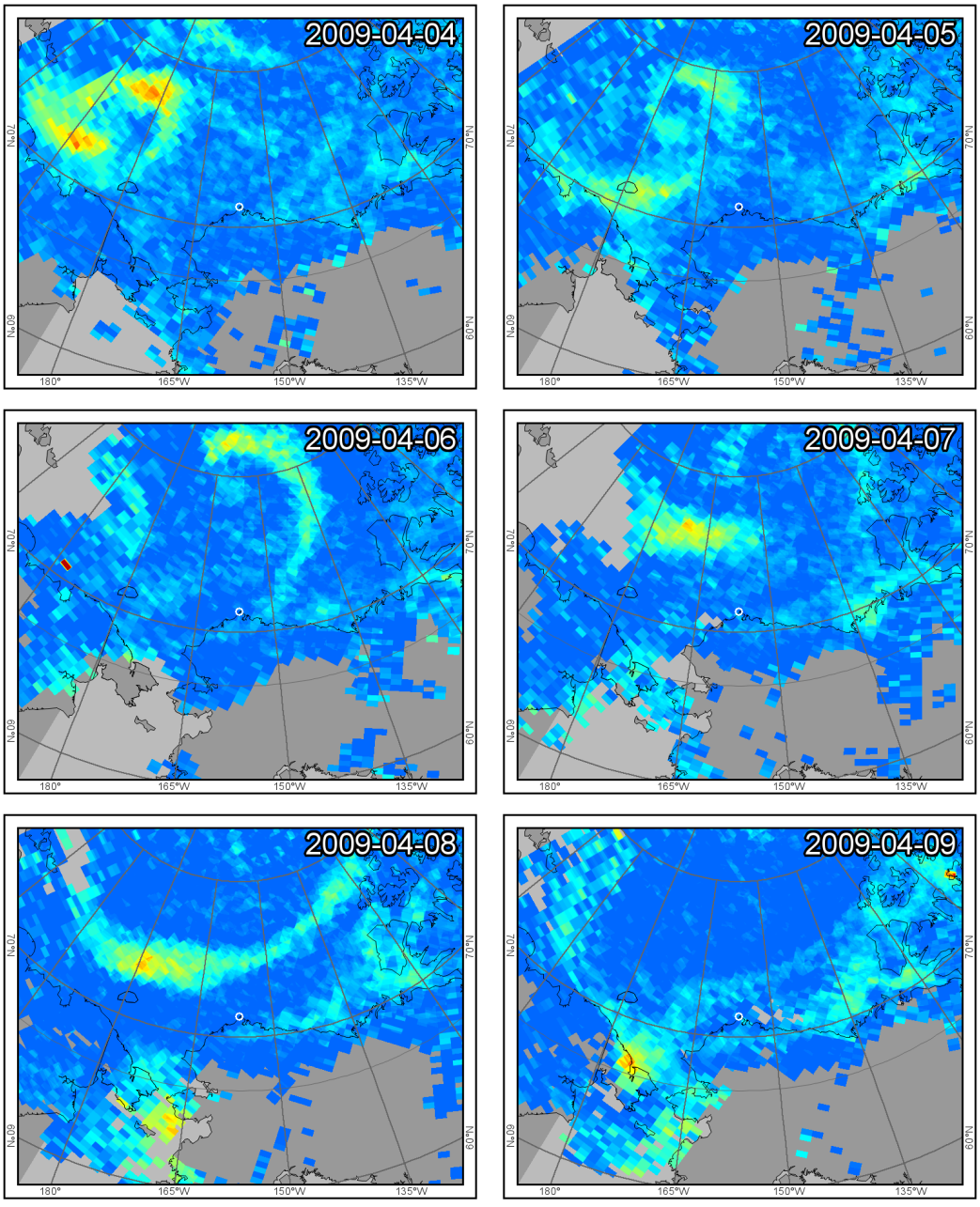
Barrow 2009


2009-03-23
2009-03-24
2009-03-25
2009-03-26
2009-03-27
2009-03-28
180°
165°W
150°W
135°W
70°N
60°N
[10^13 molec cm^-2]
0
1
2
3
4
5
6
7

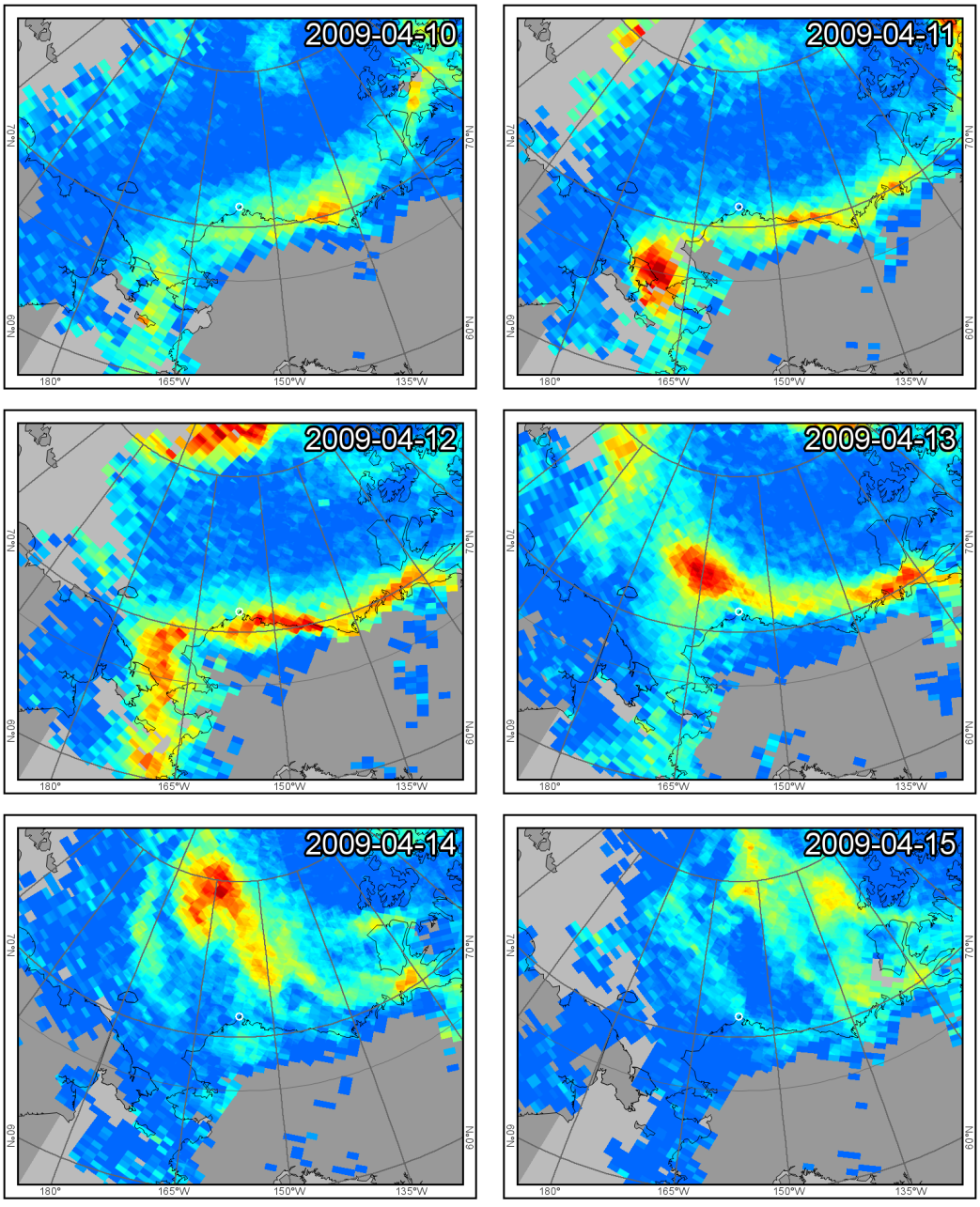
Barrow 2009


2009-03-29
2009-03-30
2009-03-31
2009-04-01
2009-04-02
2009-04-03
180°
165°W
150°W
135°W
70°N
60°N
[10^13 molec cm^-2]
0
1
2
3
4
5
6
7

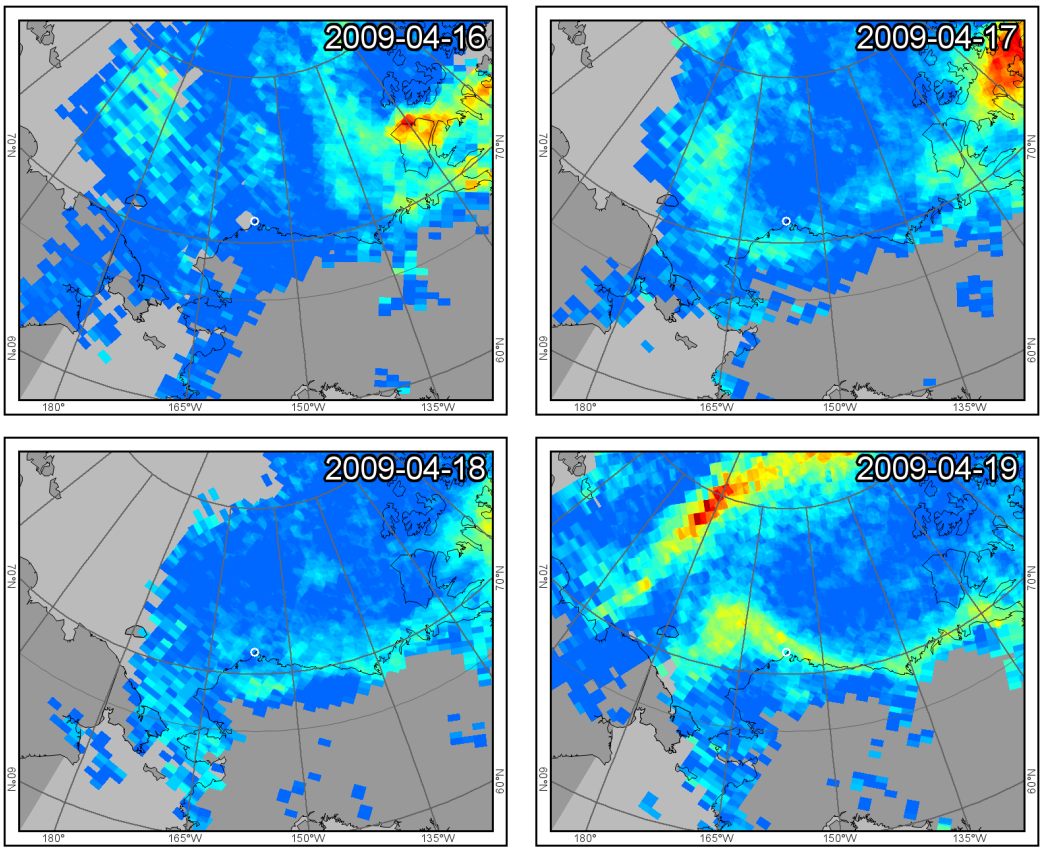
Barrow 2009

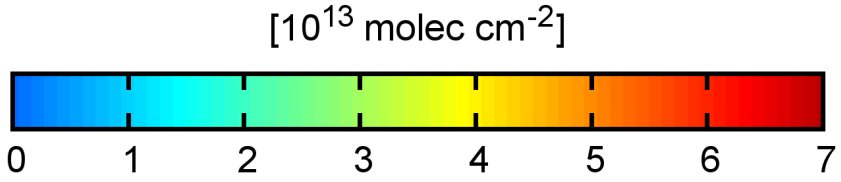

2009-04-04
2009-04-05
2009-04-06
2009-04-07
2009-04-08
2009-04-09
180°
165°W
150°W
135°W
70°N
60°N
[10^13 molec cm^-2]
0
1
2
3
4
5
6
7

Barrow 2009


2009-04-10
2009-04-11
2009-04-12
2009-04-13
2009-04-14
2009-04-15
180°
165°W
150°W
135°W
70°N
60°N
[10^13 molec cm^-2]
0
1
2
3
4
5
6
7

Barrow 2009


2009-04-16
2009-04-17
2009-04-18
2009-04-19
180°
165°W
150°W
135°W
70°N
60°N


[10^13 molec cm^-2]
0
1
2
3
4
5
6
7