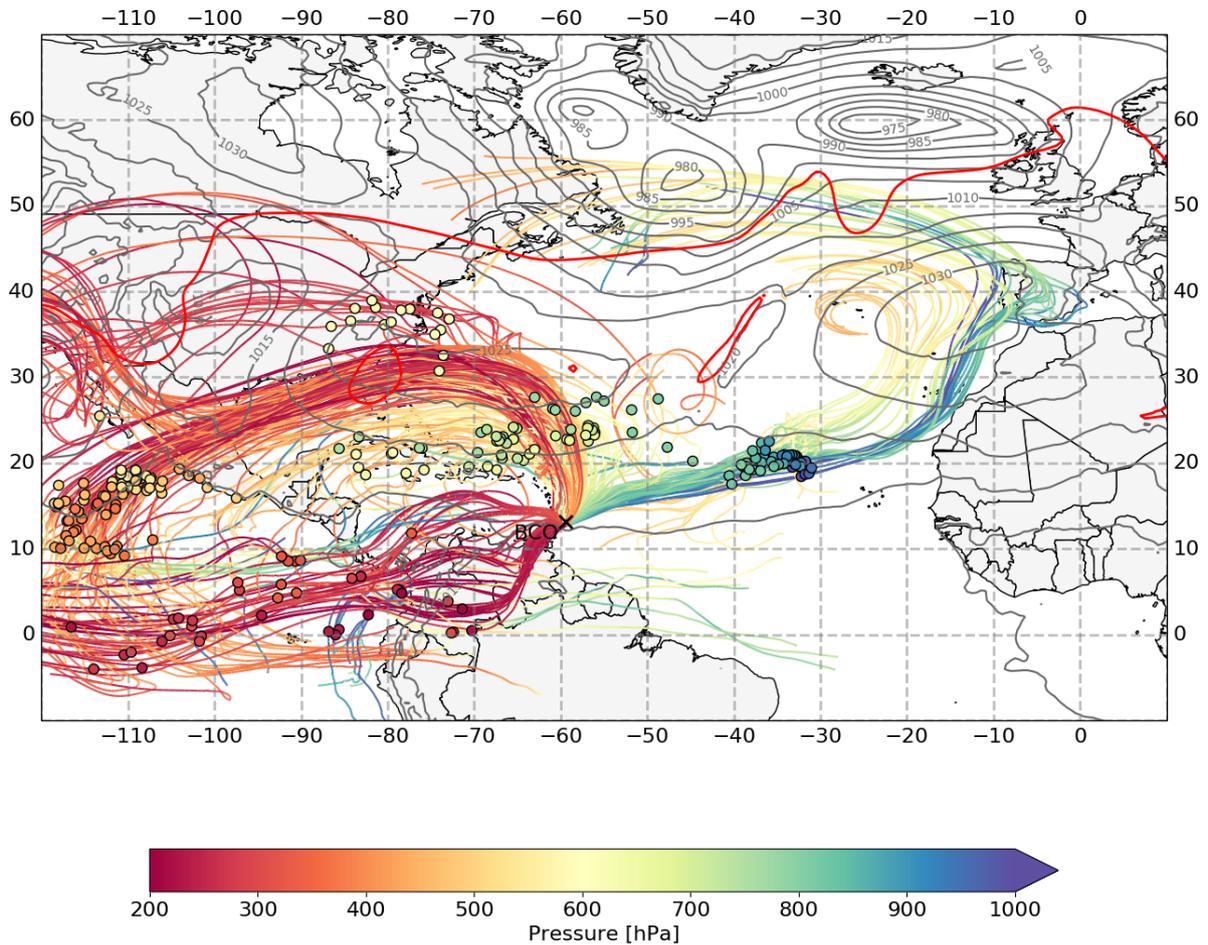


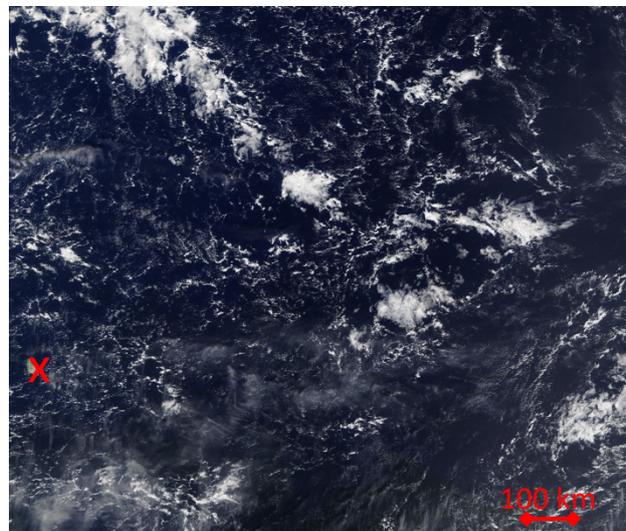
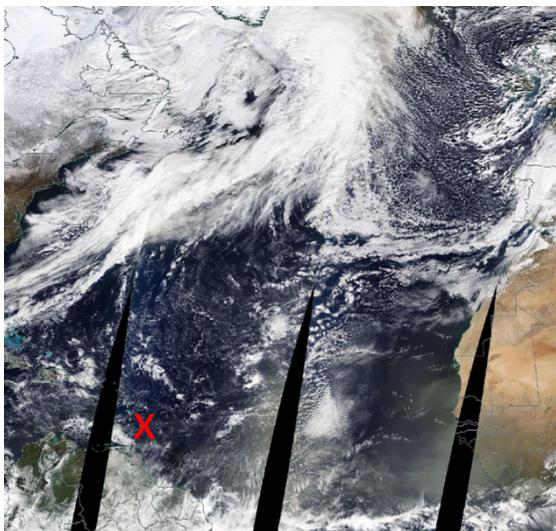
This supplementary document provides all trajectory plots during the isoTrades pre-EUREC<sup>4</sup>A 2018 campaign for 15 UTC corresponding to shortly after the time of the passage of the NASA TERRA satellite over Barbados (1030 local time, 1430 UTC) together with two MODIS images of the cloud cover over the North Atlantic.

Arrival on 20180125\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180121\_15

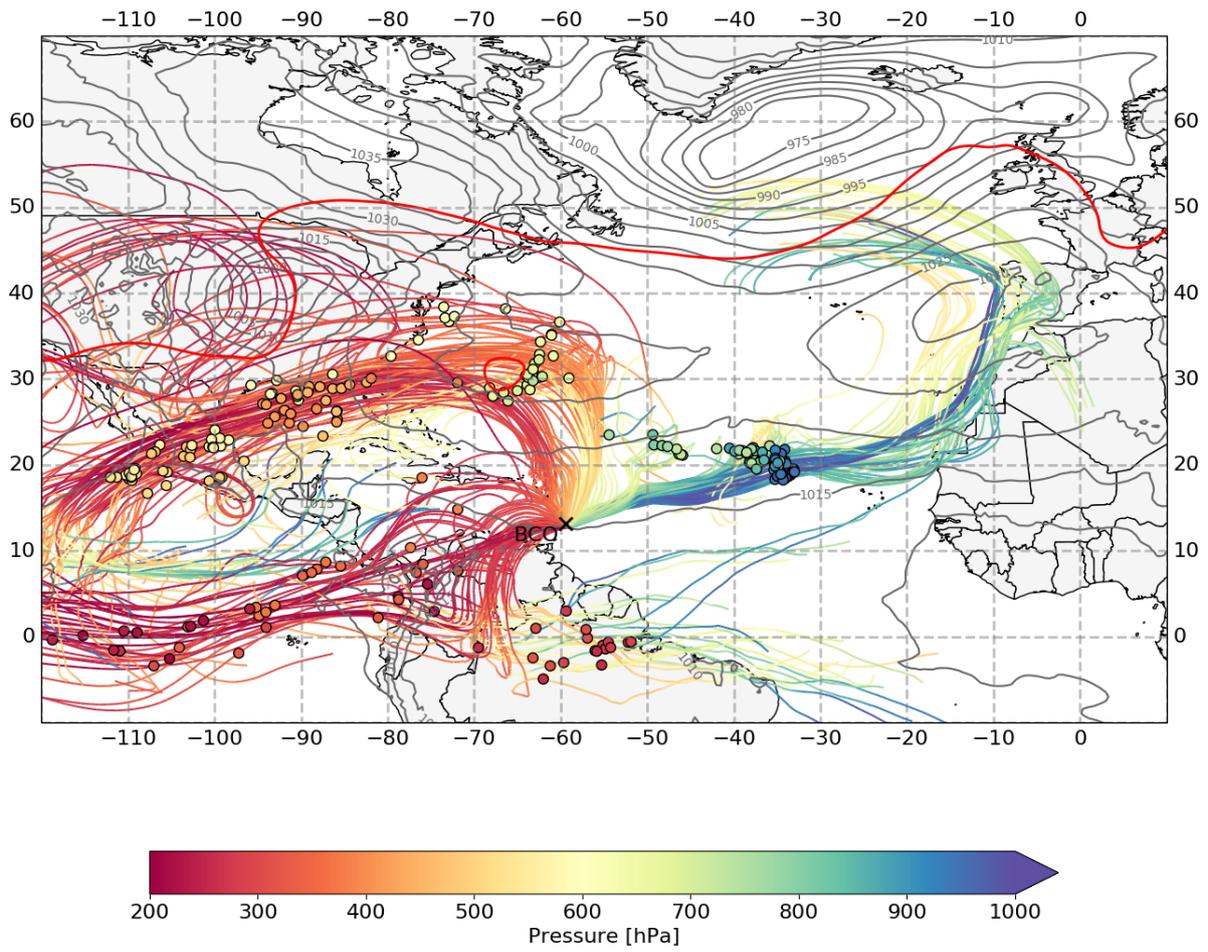


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $38 \text{ hPa} (4 \text{ days})^{-1}$*

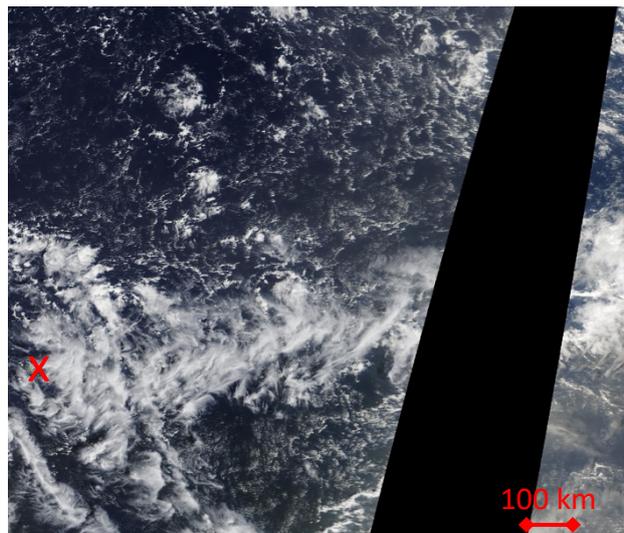
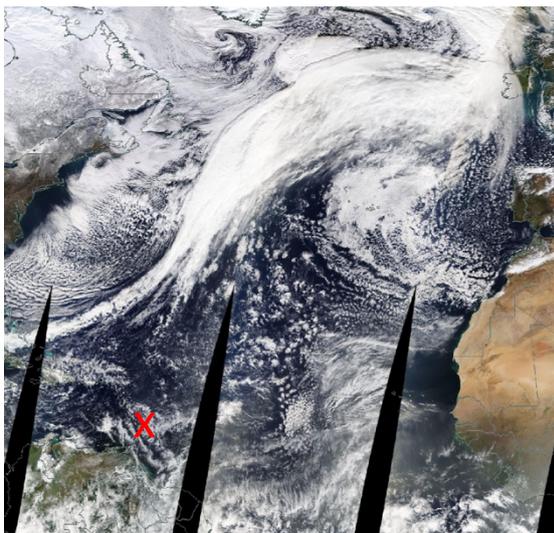


Arrival on 20180126\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180122\_15

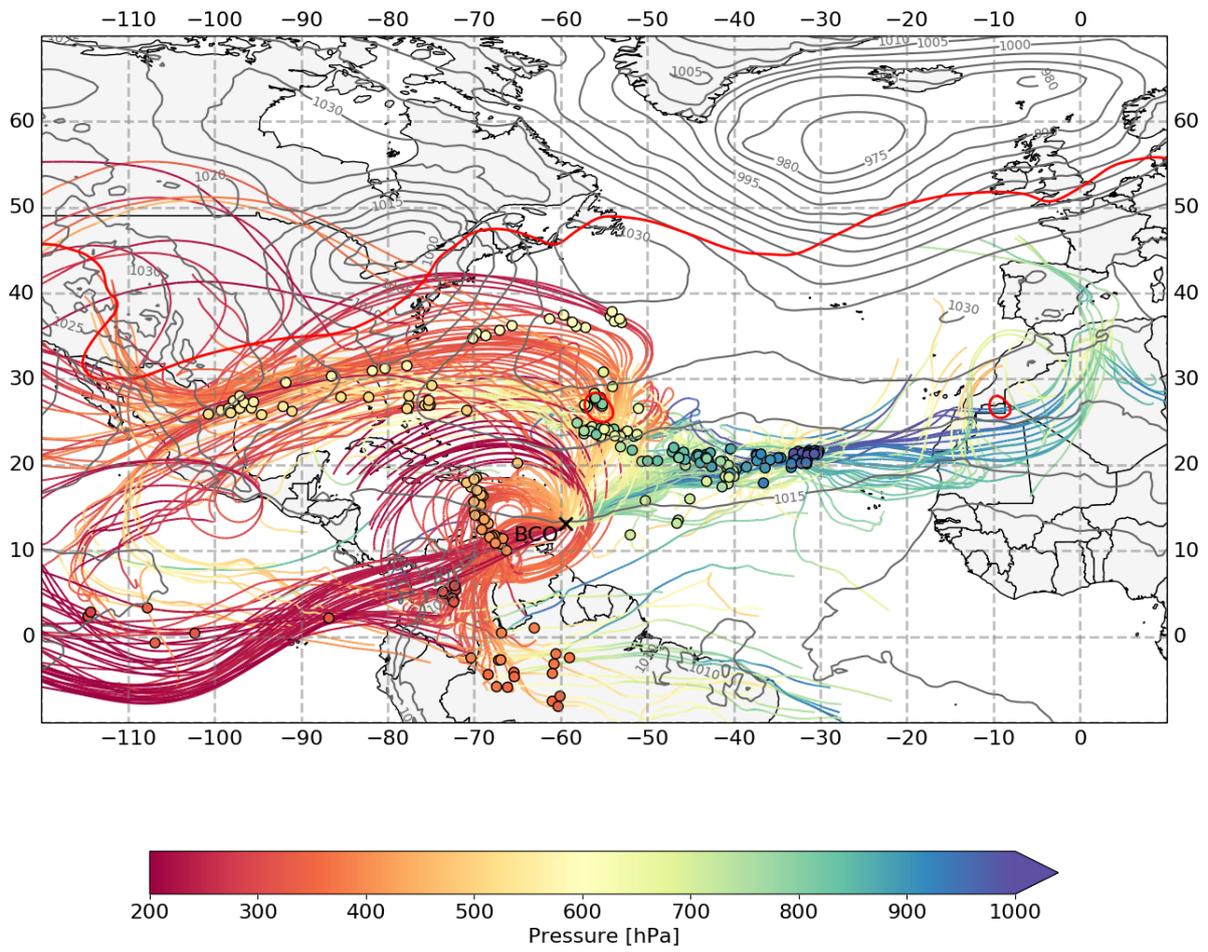


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $88 \text{ hPa} (4 \text{ days})^{-1}$*

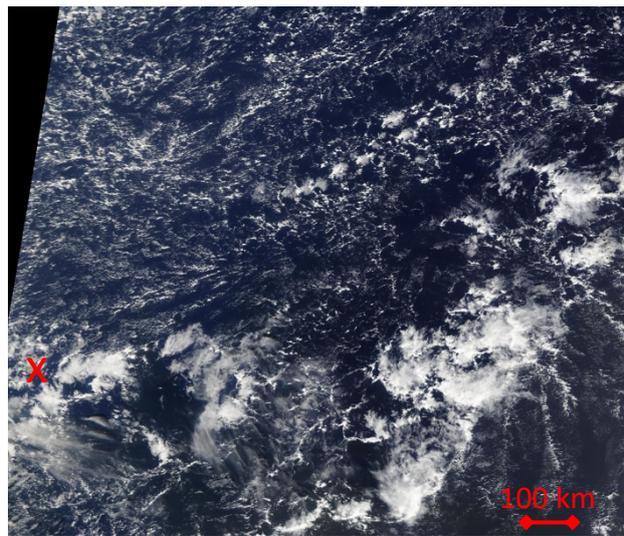
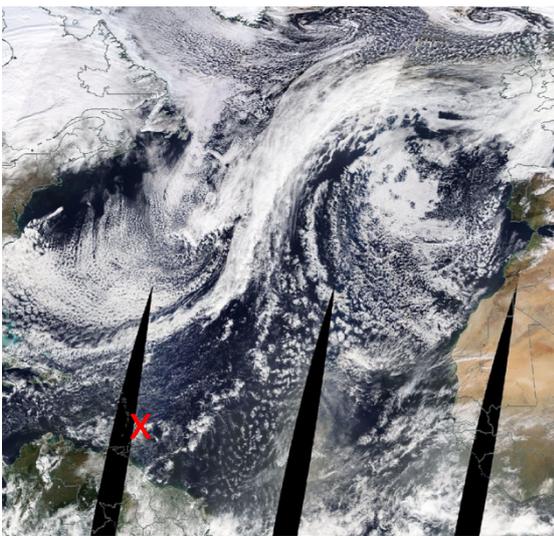


Arrival on 20180127\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180123\_15

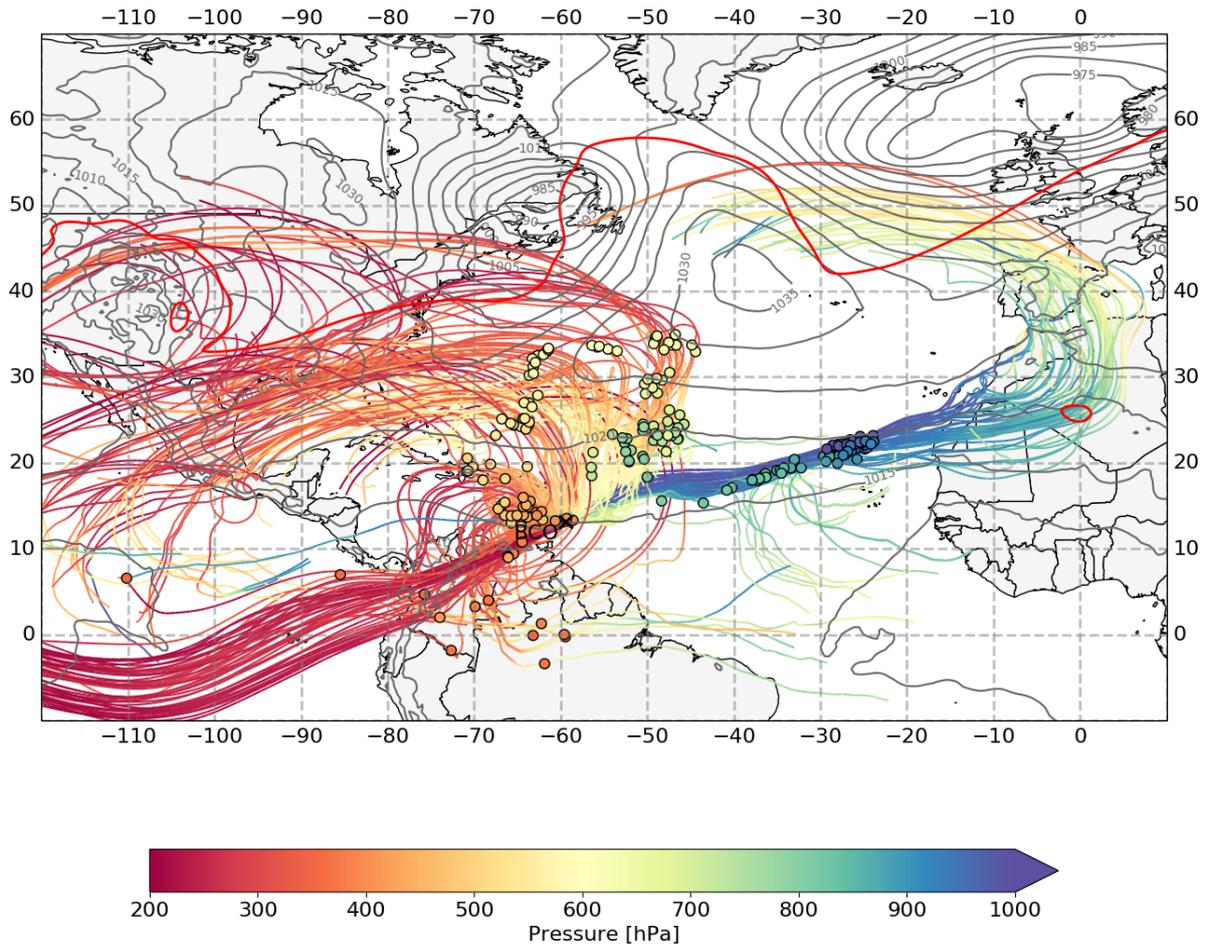


*Tropical flow regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $52 \text{ hPa} (4 \text{ days})^{-1}$*

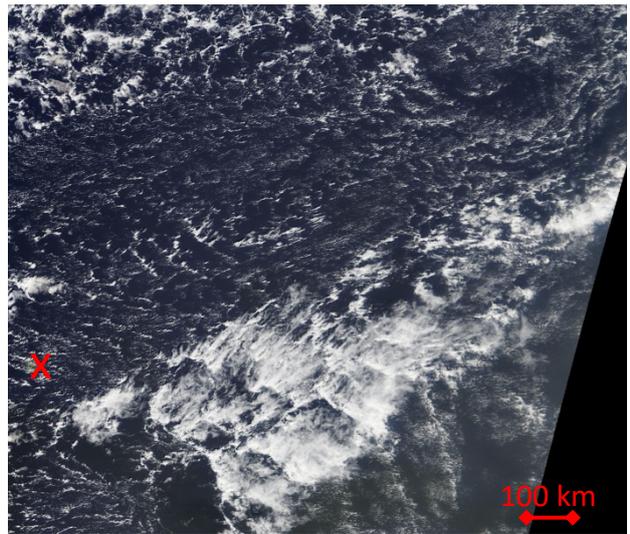
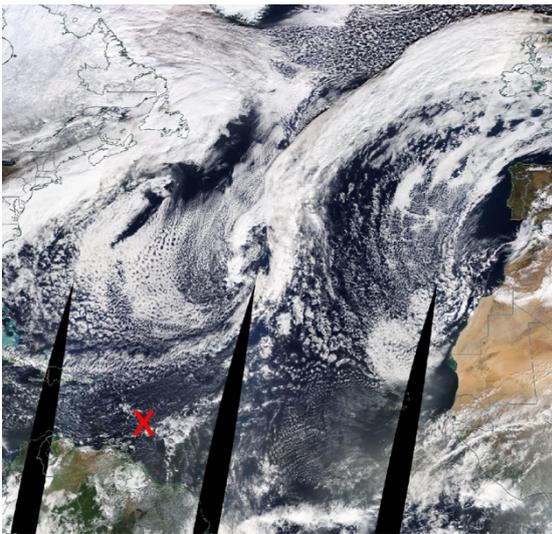


Arrival on 20180128\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180124\_15

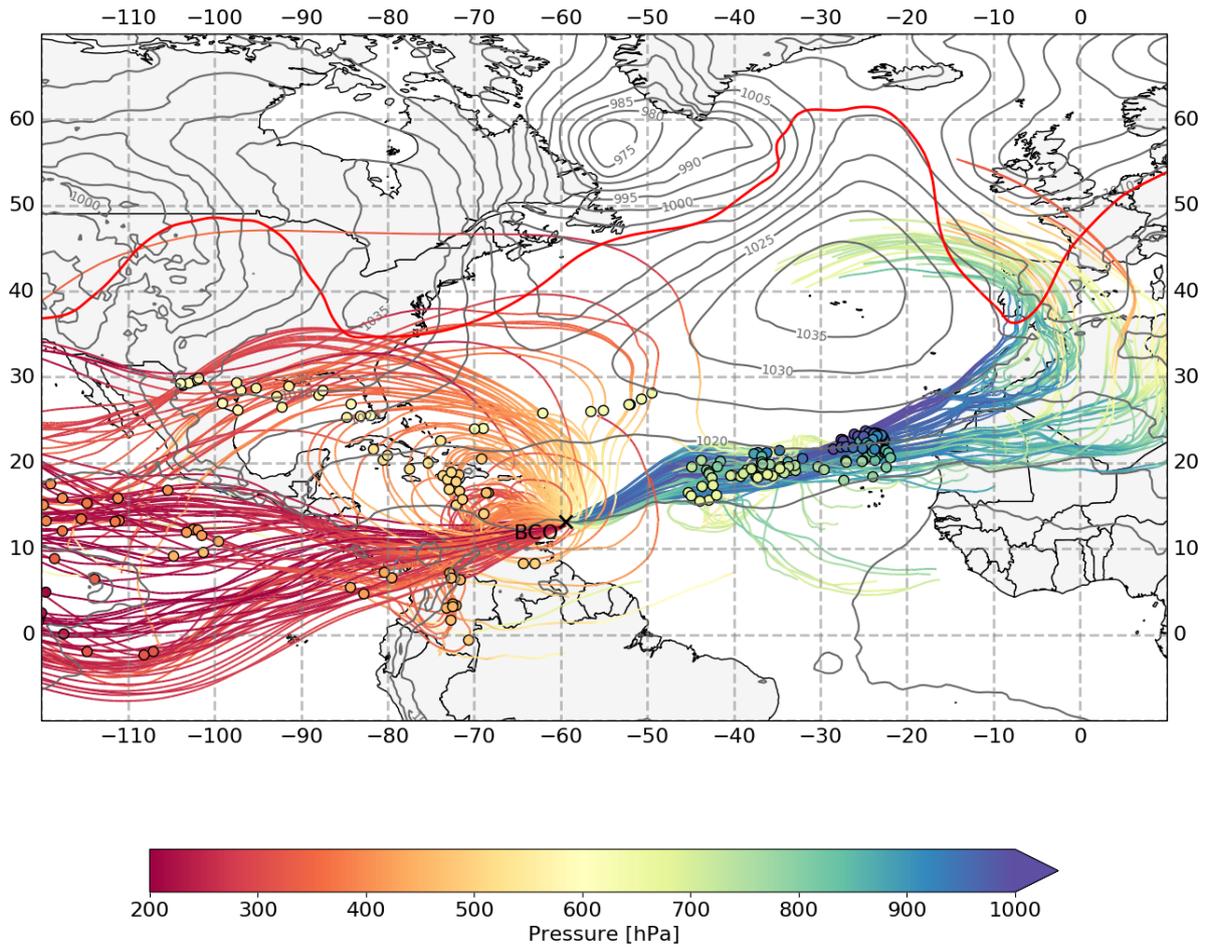


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $24 \text{ hPa (4 days)}^{-1}$*

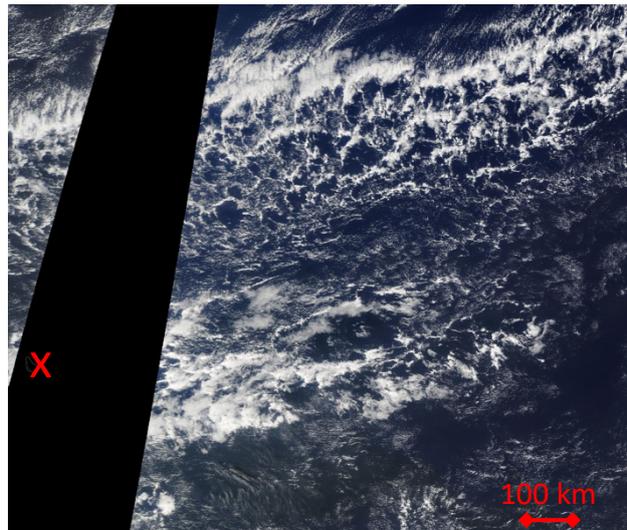
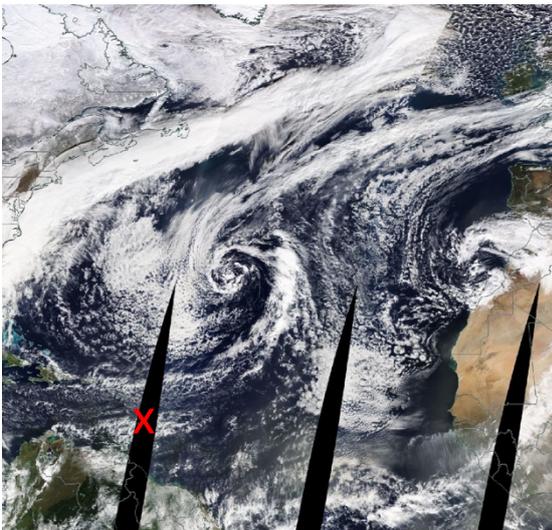


Arrival on 20180129\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180125\_15

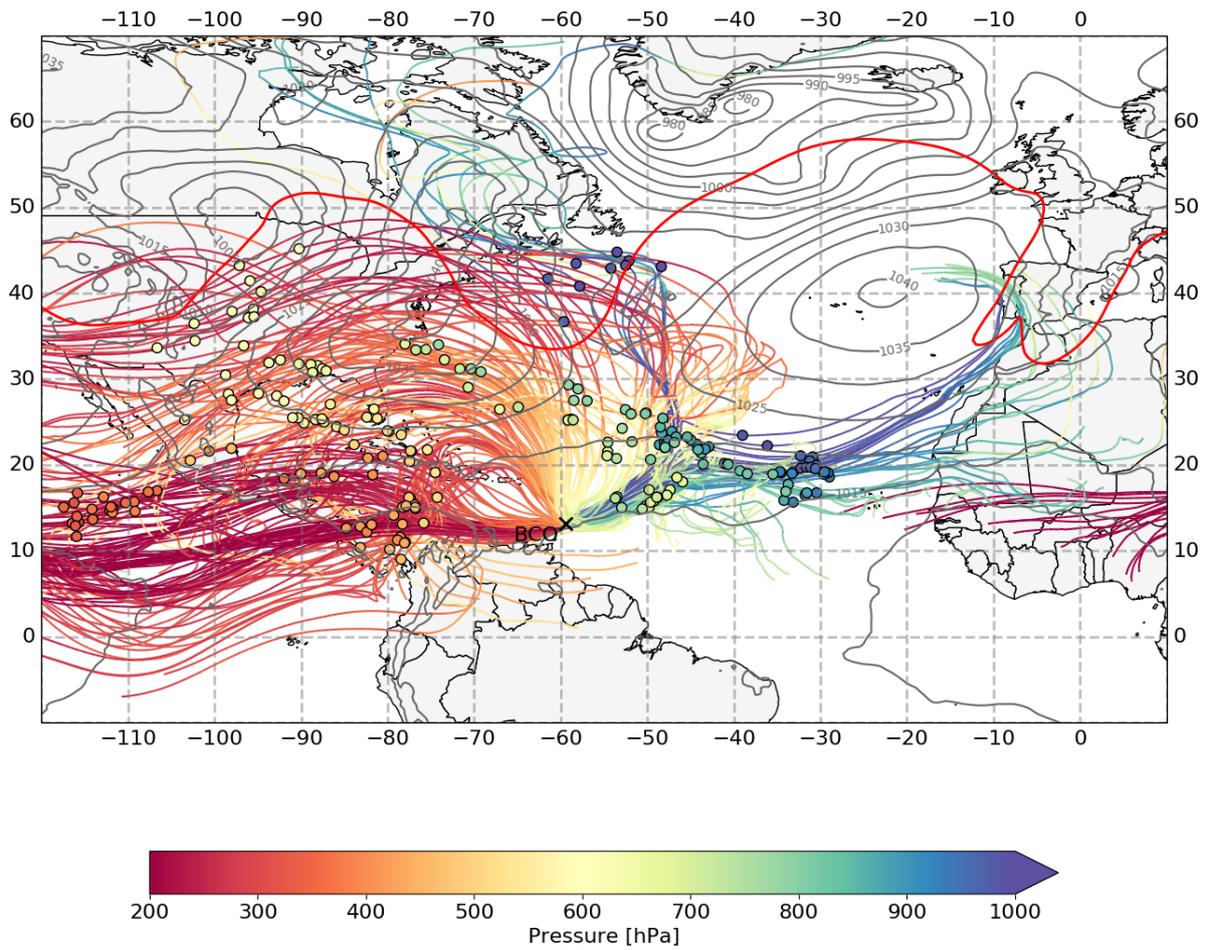


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $7 \text{ hPa} (4 \text{ days})^{-1}$*

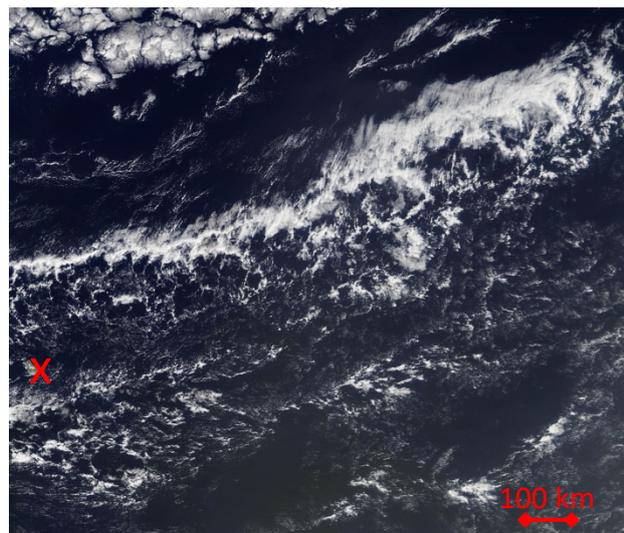
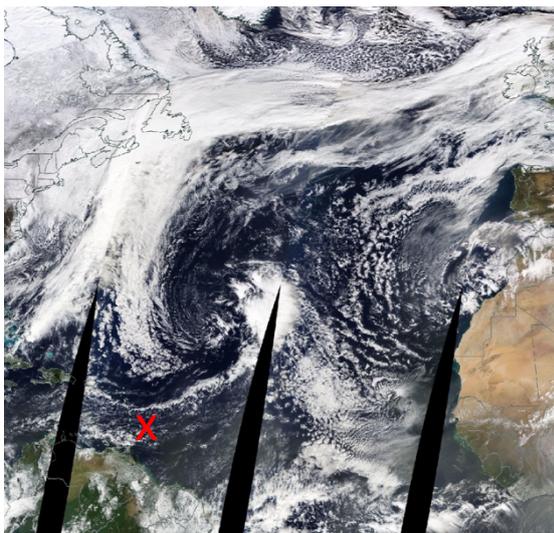


Arrival on 20180130\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180126\_15

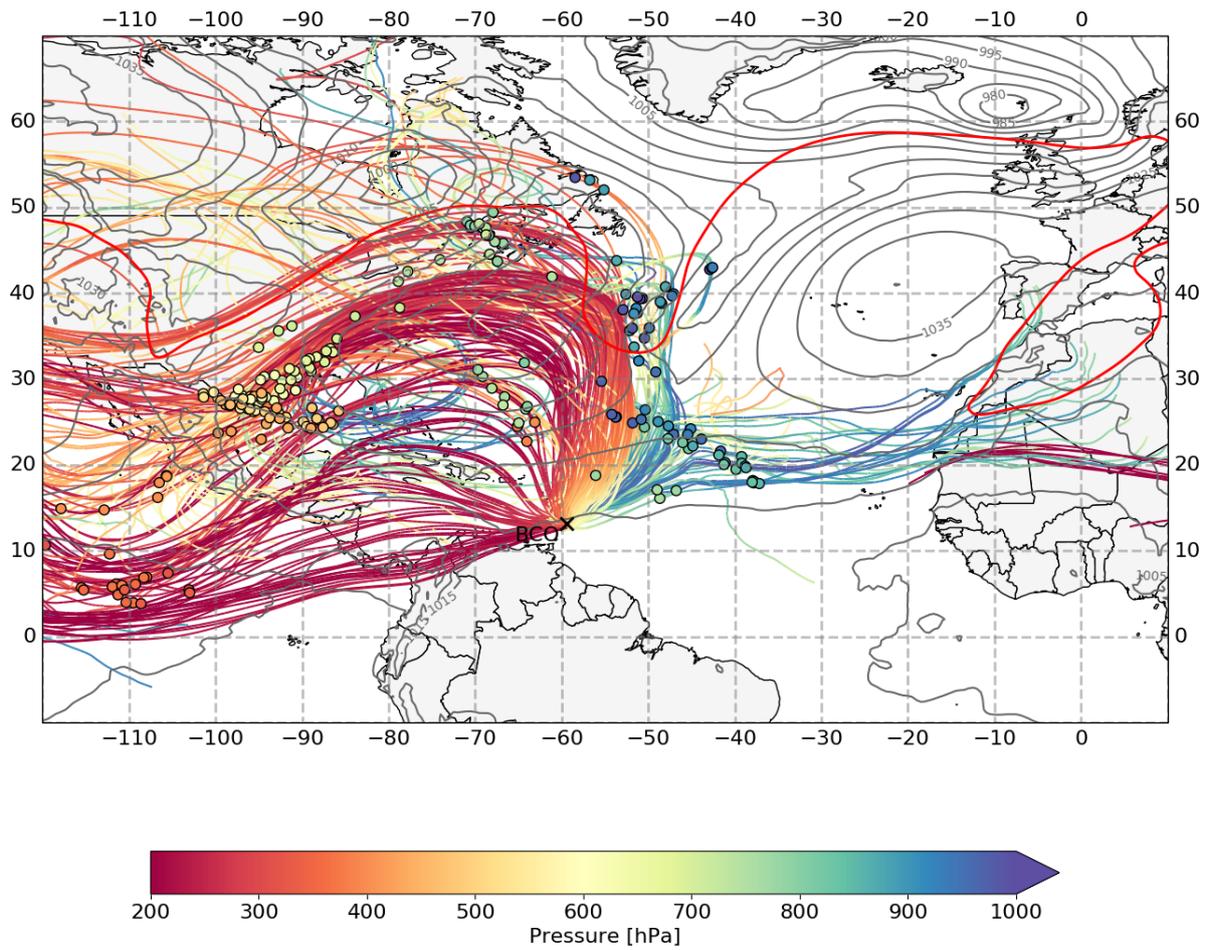


*Extratropical trade wind regime*

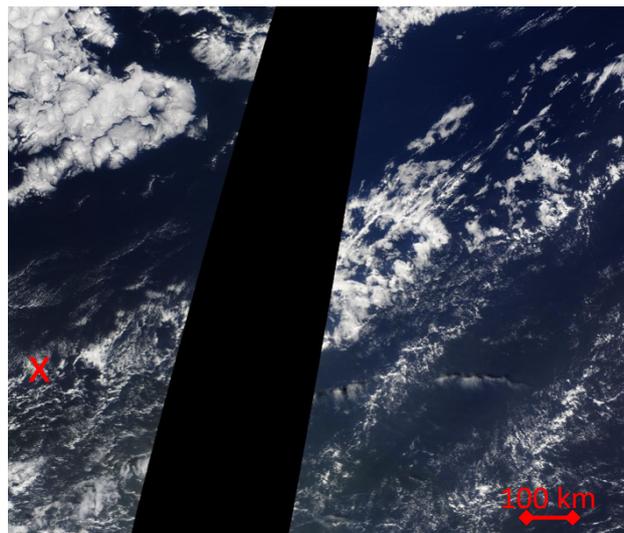
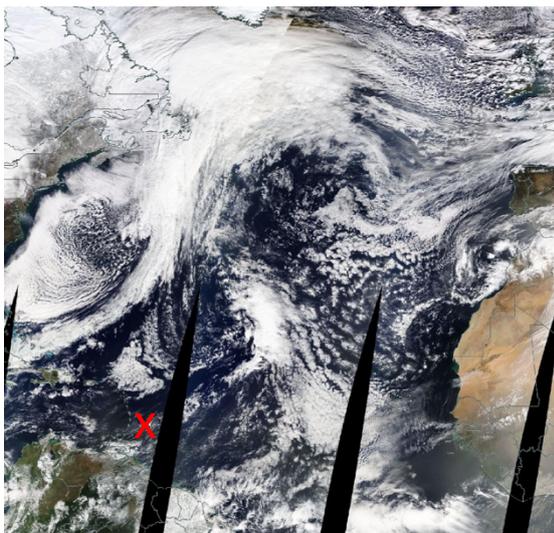
*Slantwise subsidence of sub-cloud layer air masses:  $21 \text{ hPa} (4 \text{ days})^{-1}$*



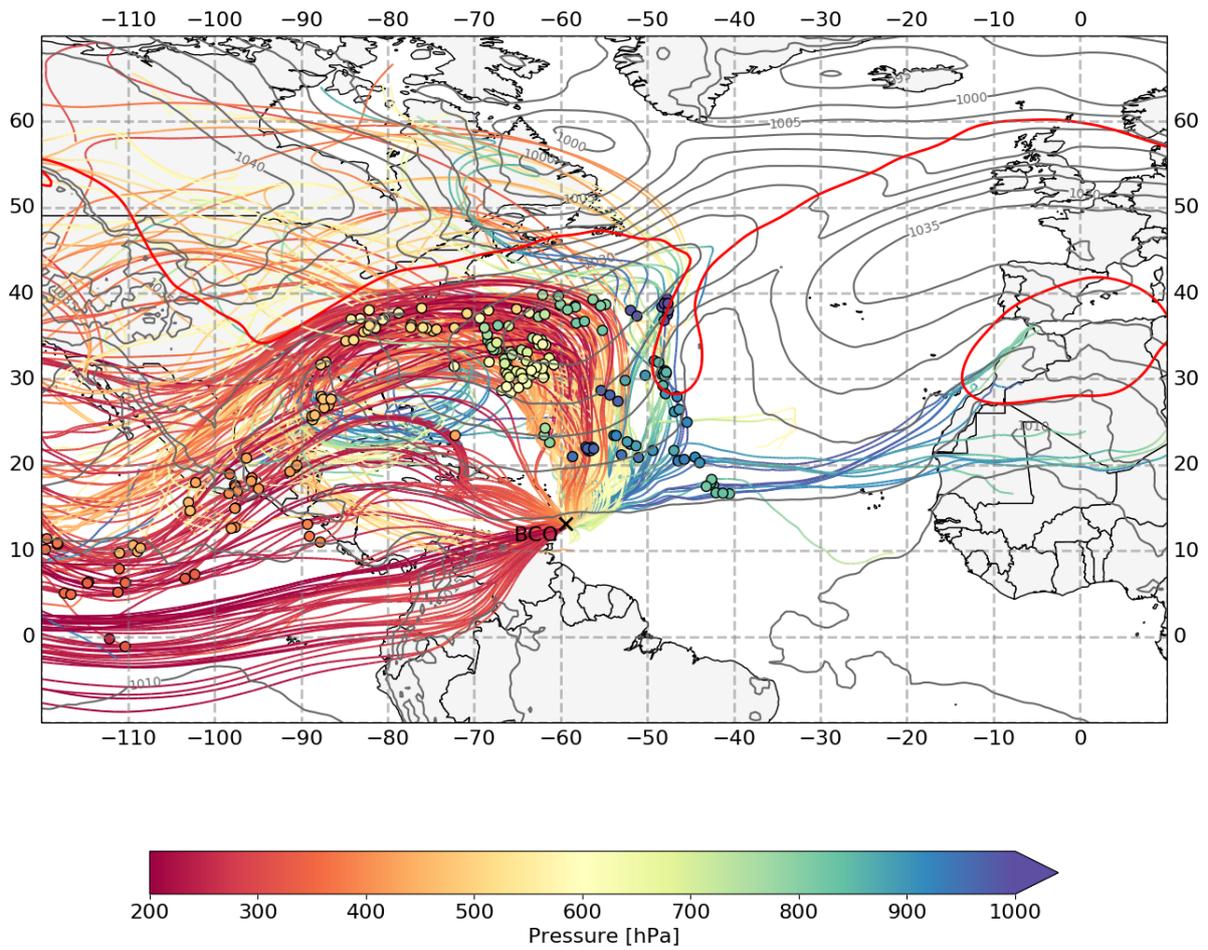
Arrival on 20180131\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180127\_15



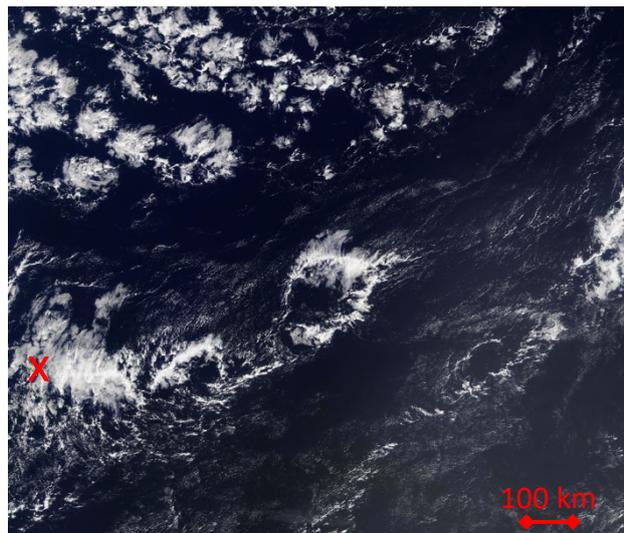
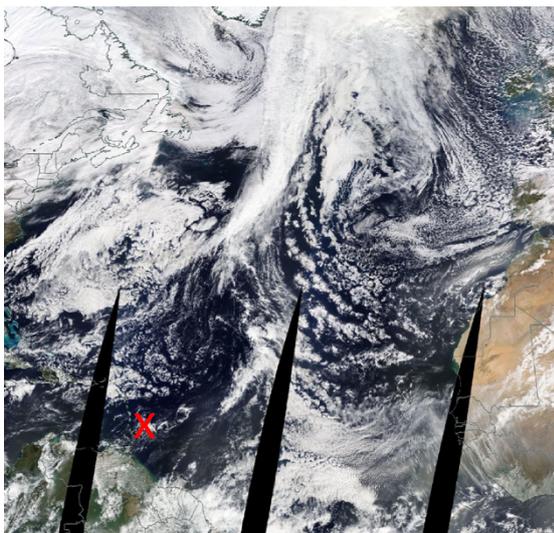
*Extratropical dry intrusion regime*  
*Slantwise subsidence of sub-cloud layer airmasses:  $314 \text{ hPa} (4 \text{ days})^{-1}$*



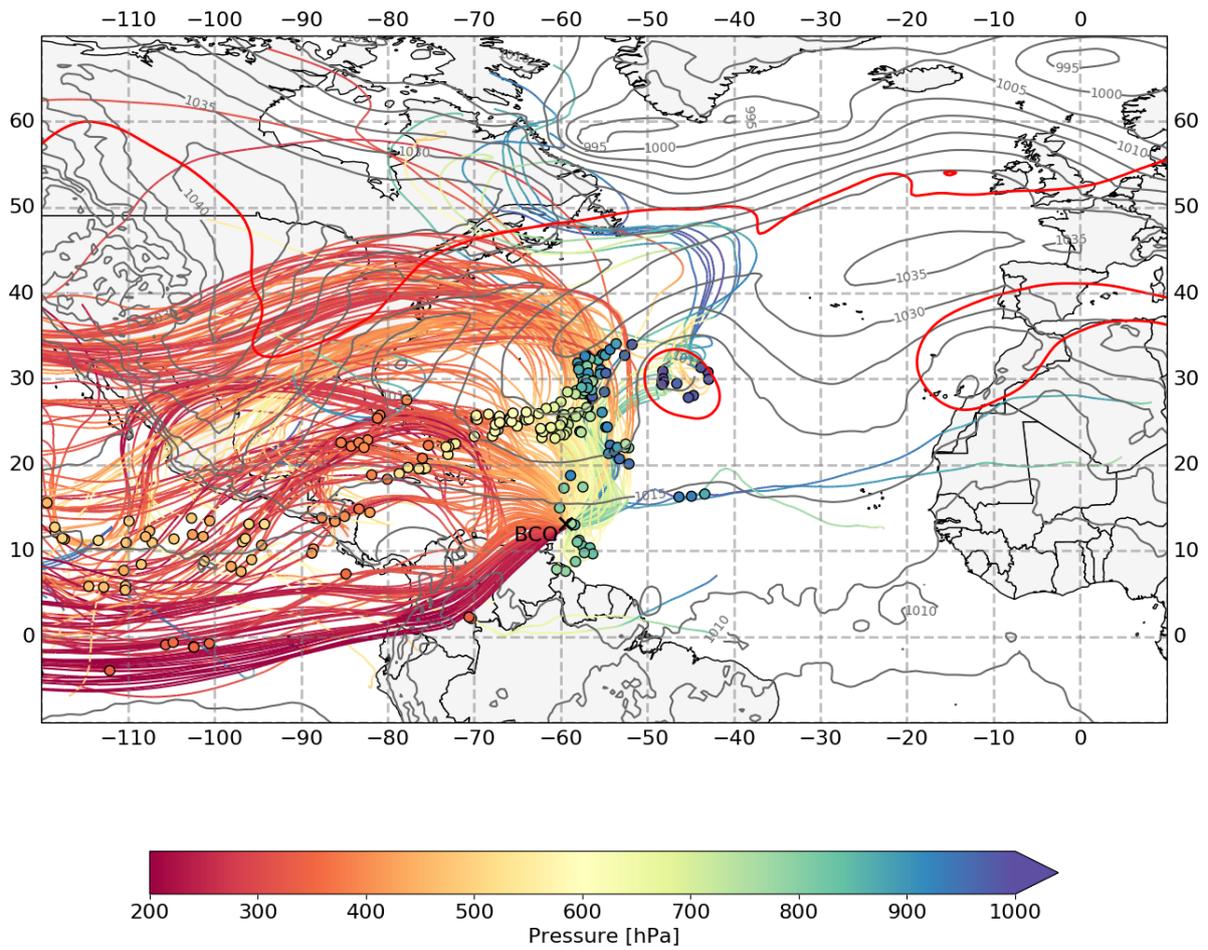
Arrival on 20180201\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180128\_15



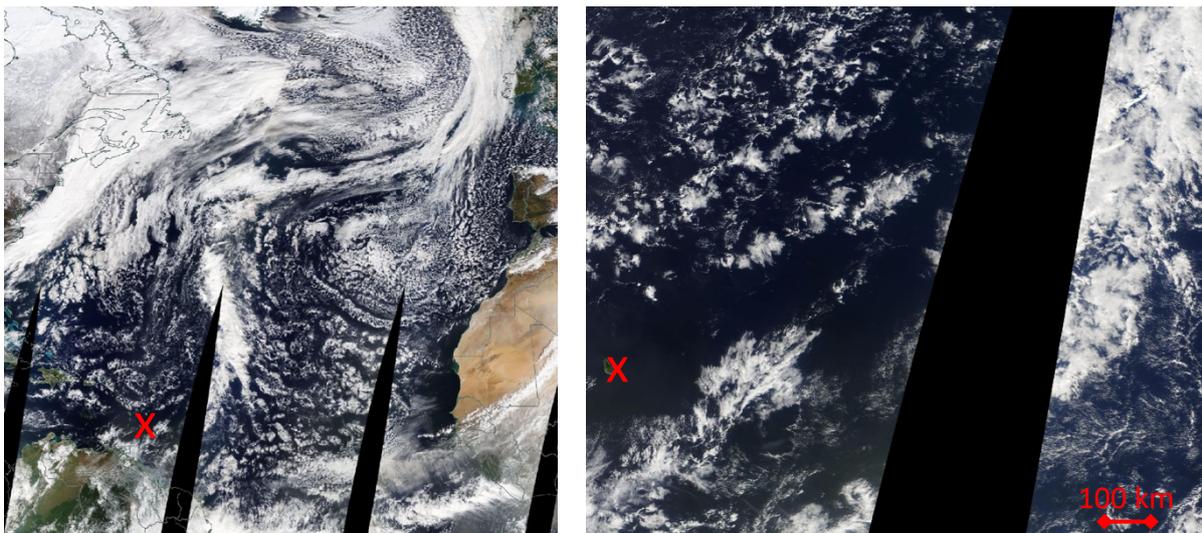
*Extratropical dry intrusion regime*  
*Slantwise subsidence of sub-cloud layer airmasses:  $283 \text{ hPa} (4 \text{ days})^{-1}$*



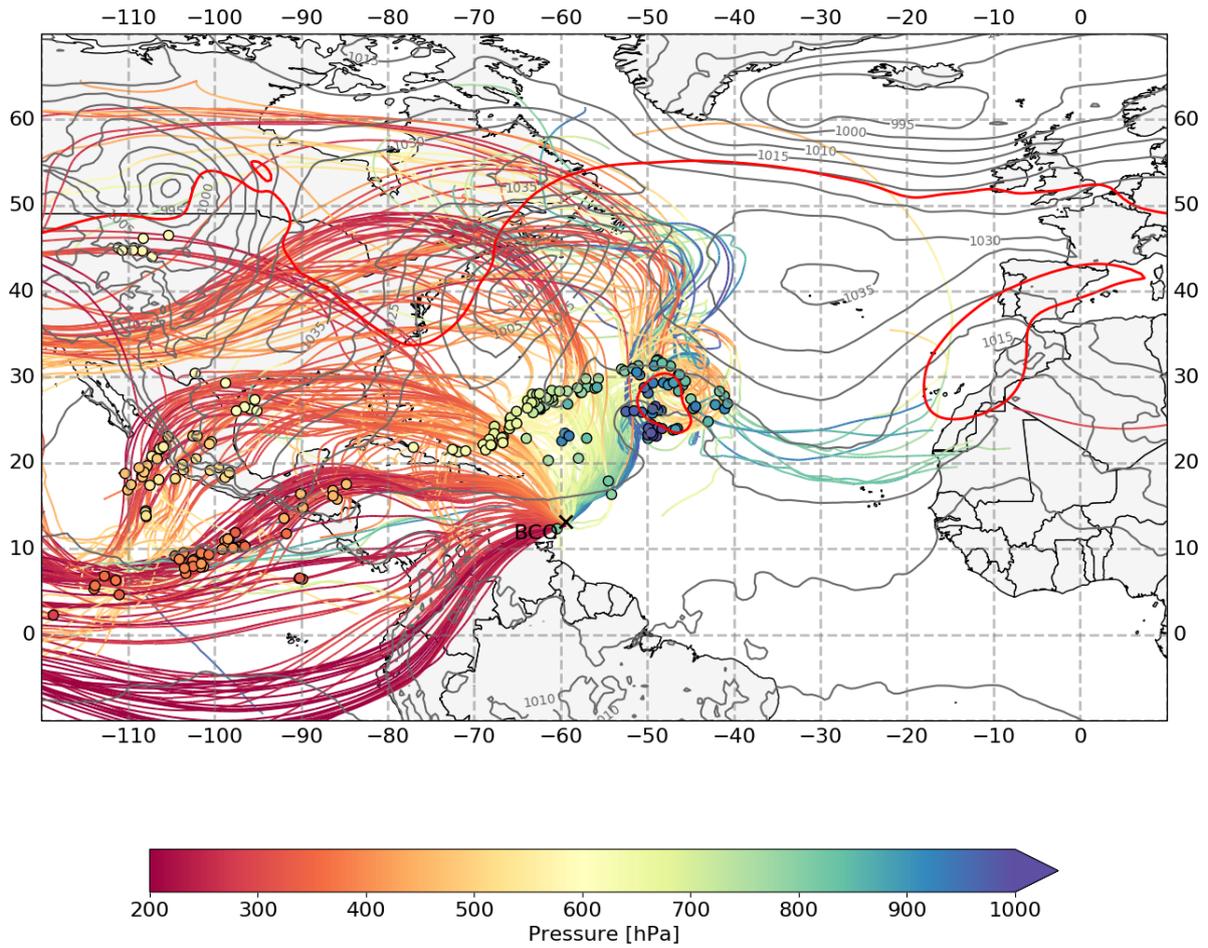
Arrival on 20180202\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180129\_15



*Extratropical dry intrusion regime*  
*Slantwise subsidence of sub-cloud layer airmasses:  $299 \text{ hPa} (4 \text{ days})^{-1}$*

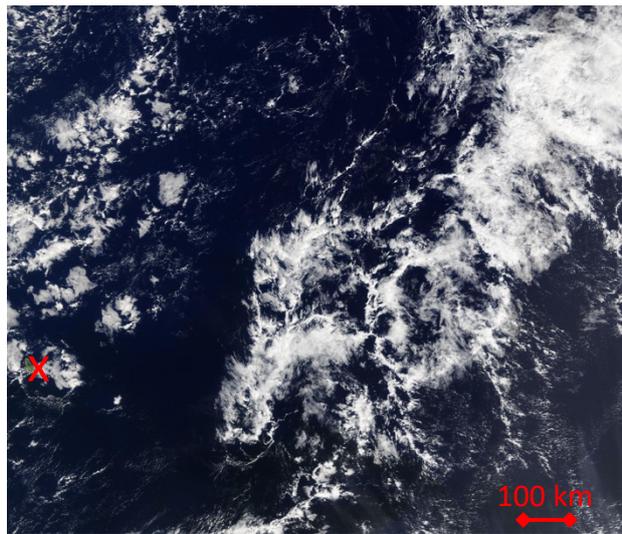
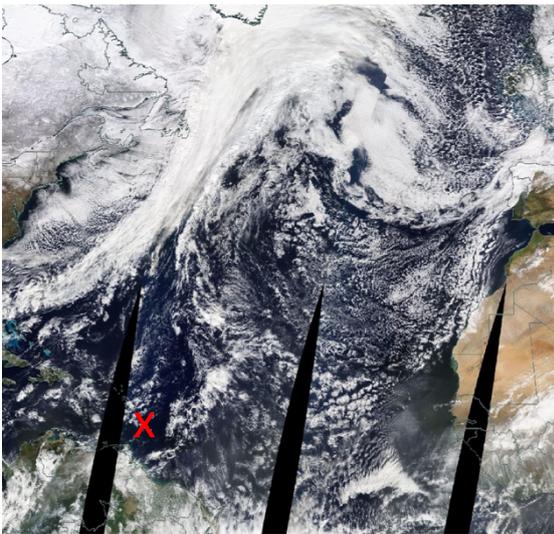


Arrival on 20180203\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180130\_15

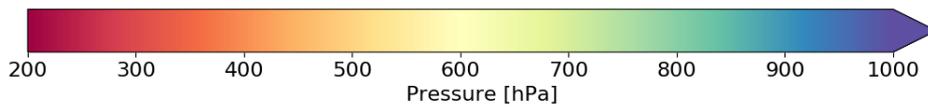
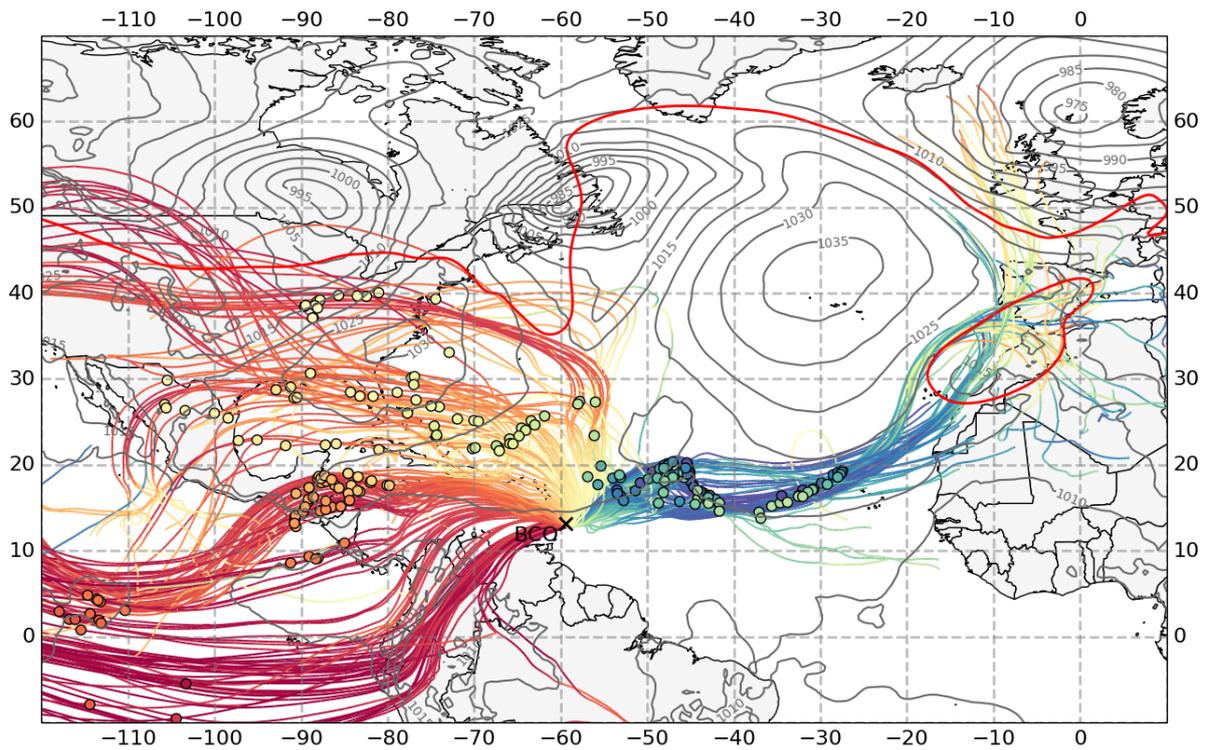


*Extratropical dry intrusion regime*

*Slantwise subsidence of sub-cloud layer air masses:  $141 \text{ hPa} (4 \text{ days})^{-1}$*

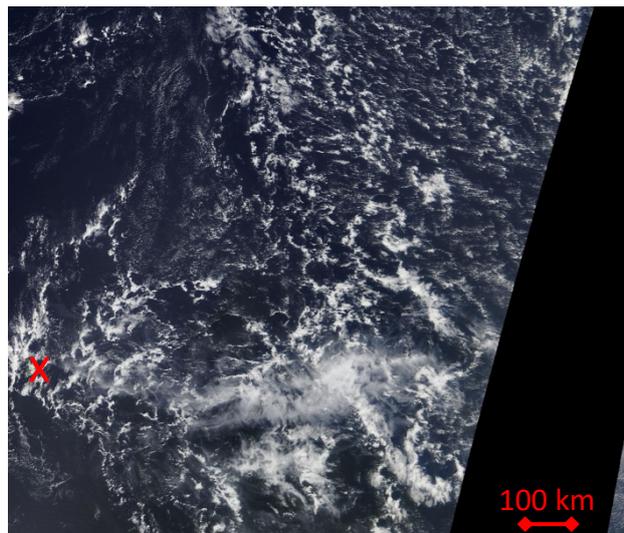
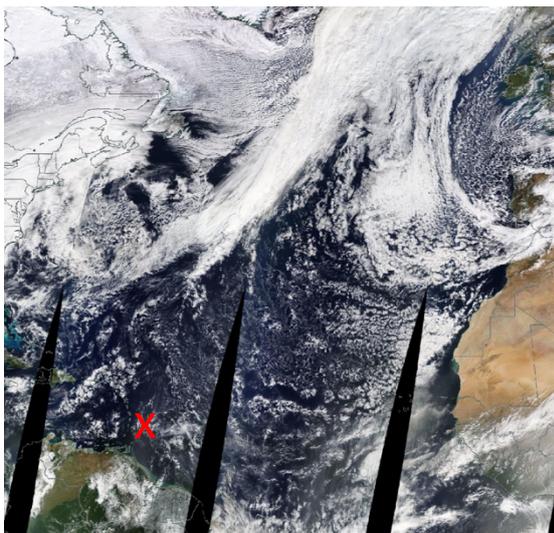


Arrival on 20180204\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180131\_15

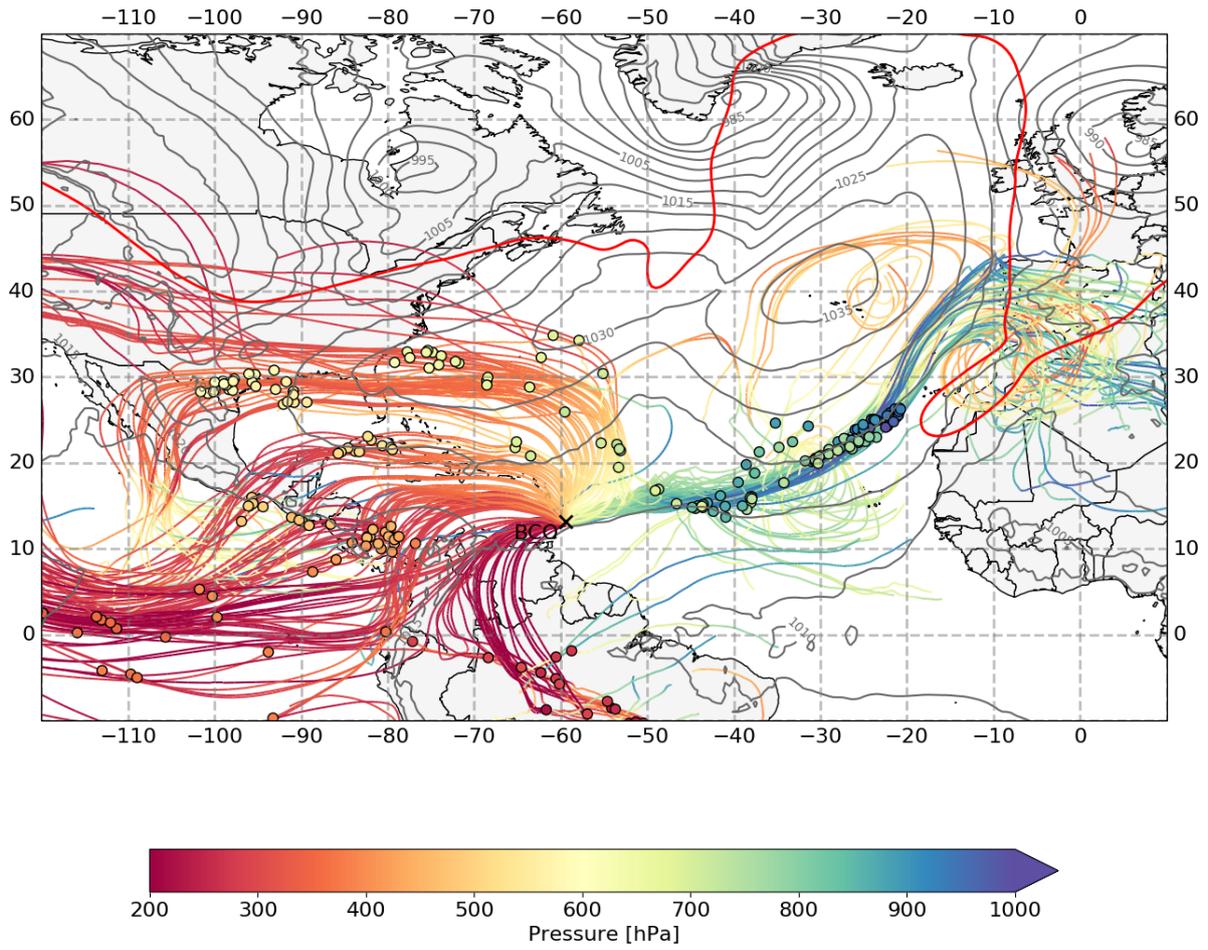


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $18 \text{ hPa} (4 \text{ days})^{-1}$*

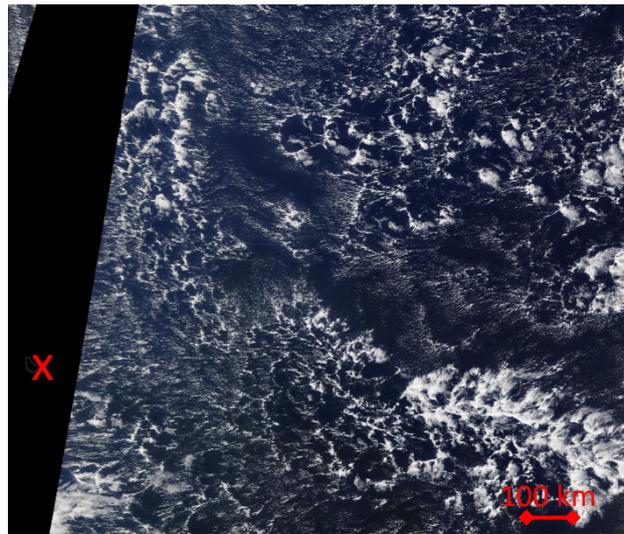
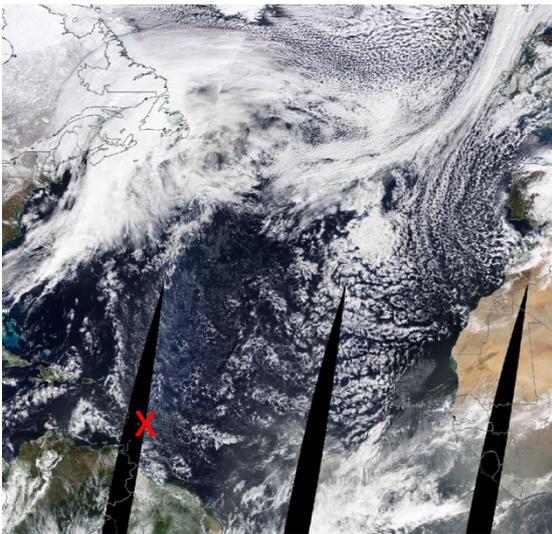


Arrival on 20180205\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180201\_15

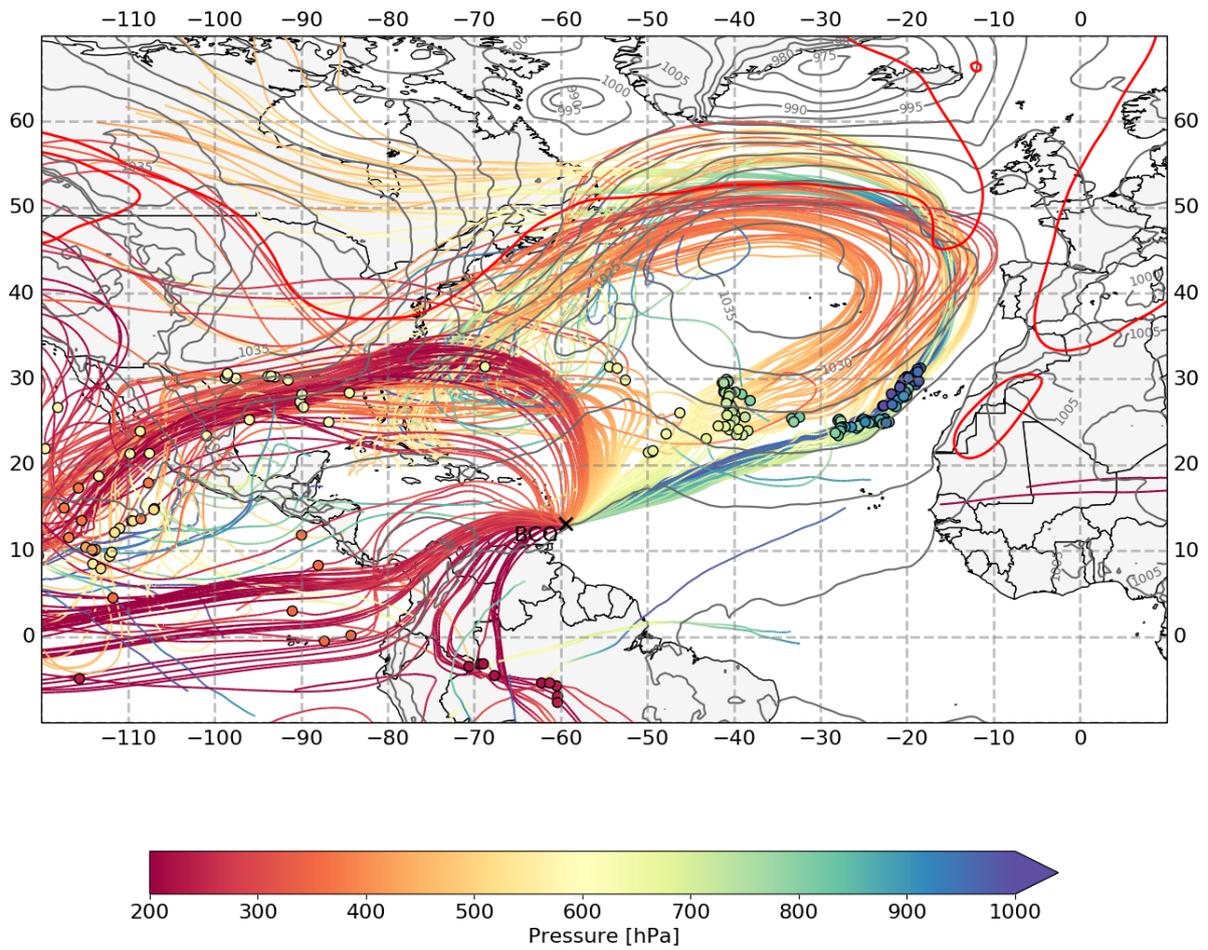


*Extratropical dry intrusion regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $104 \text{ hPa} (4 \text{ days})^{-1}$*

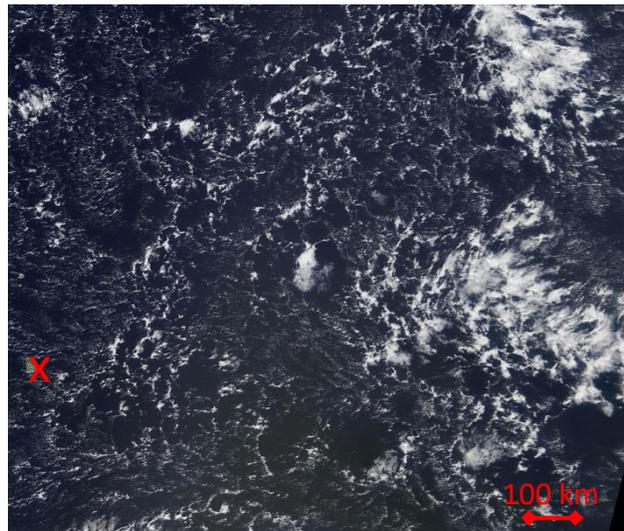
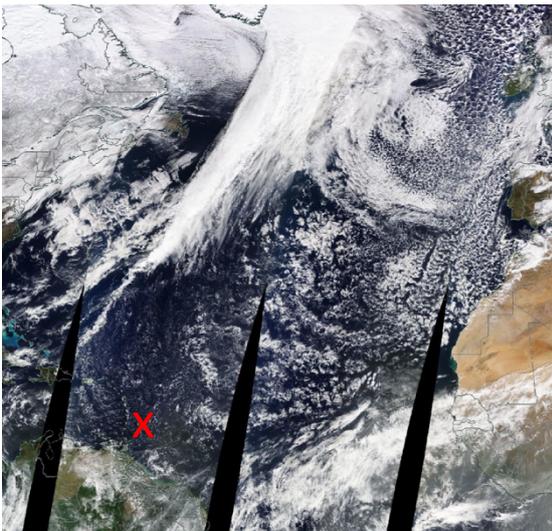


Arrival on 20180206\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180202\_15

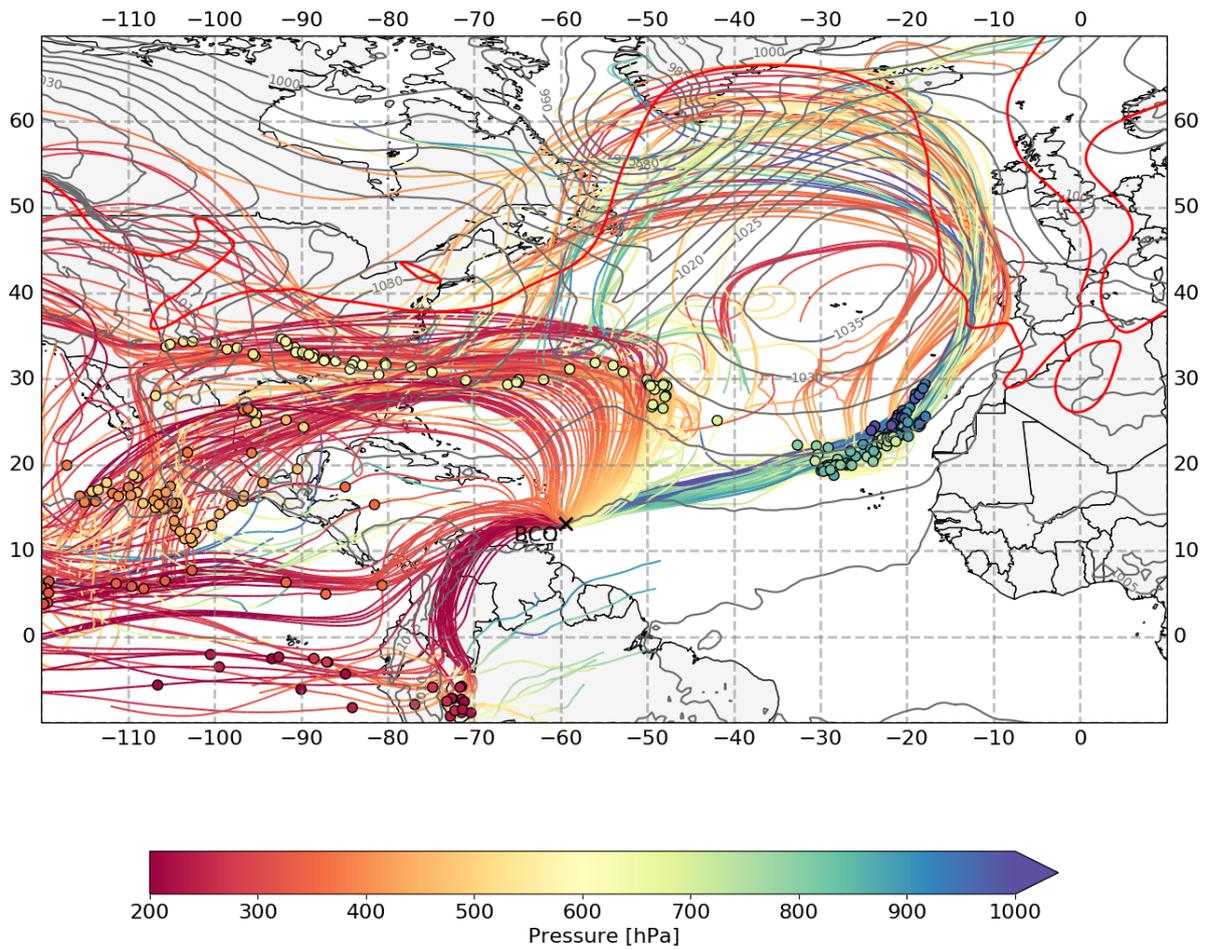


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $87 \text{ hPa} (4 \text{ days})^{-1}$*

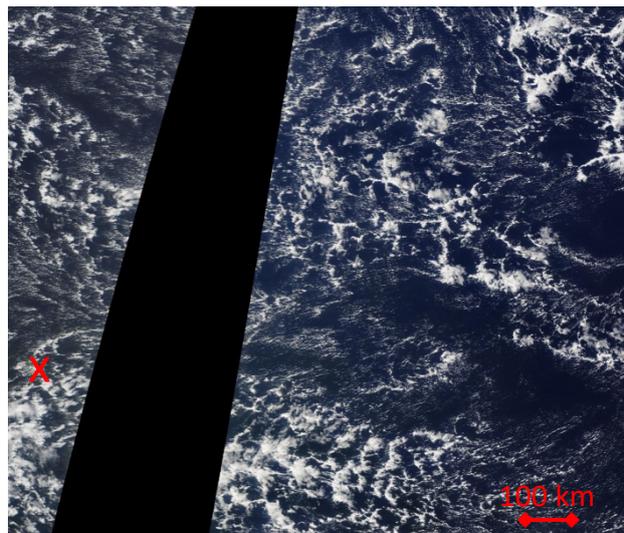
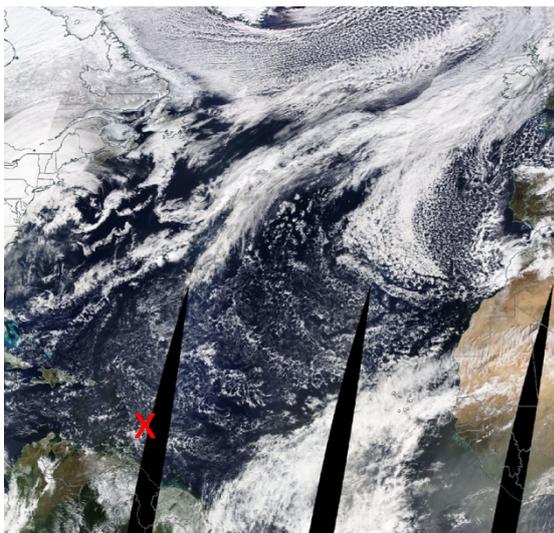


Arrival on 20180207\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180203\_15

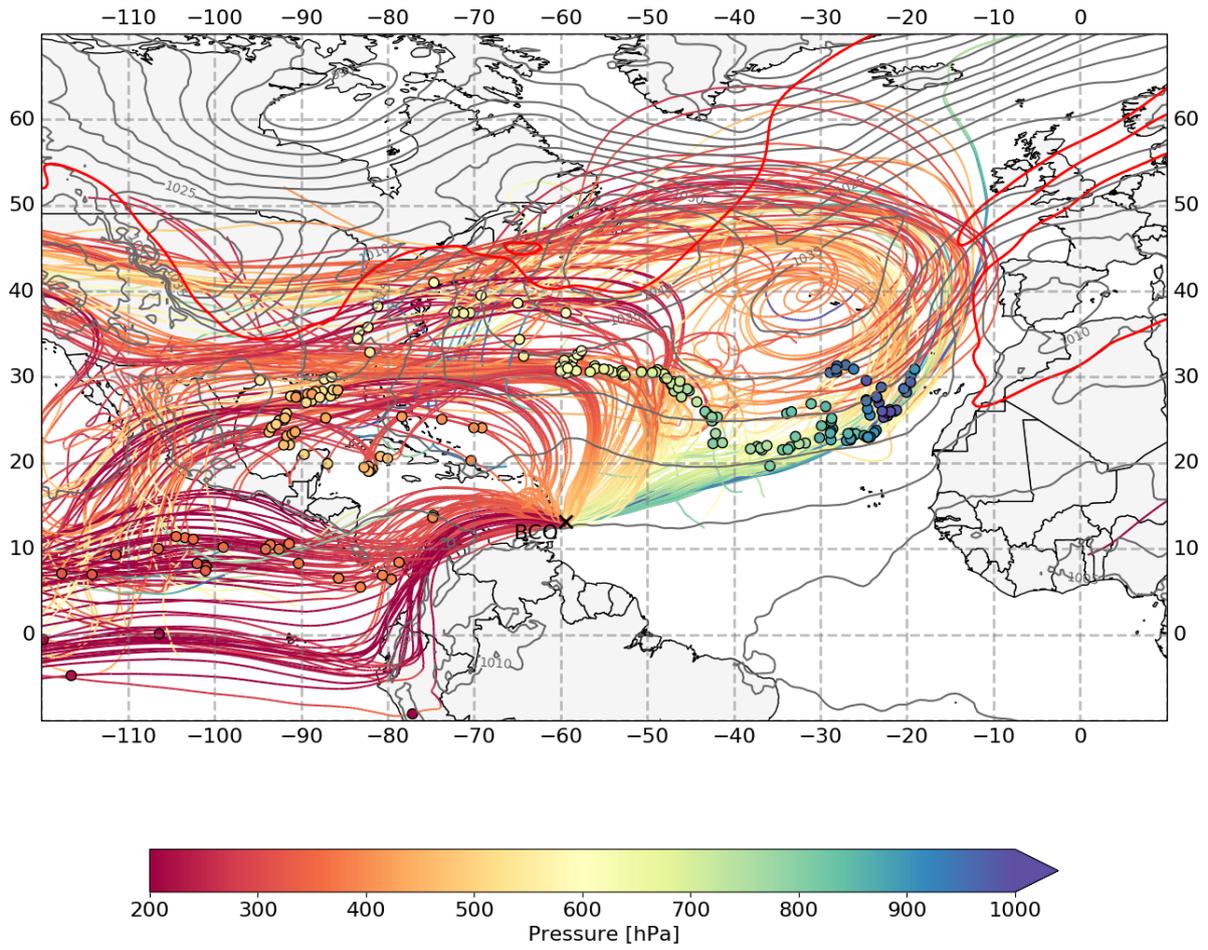


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $43 \text{ hPa} (4 \text{ days})^{-1}$*

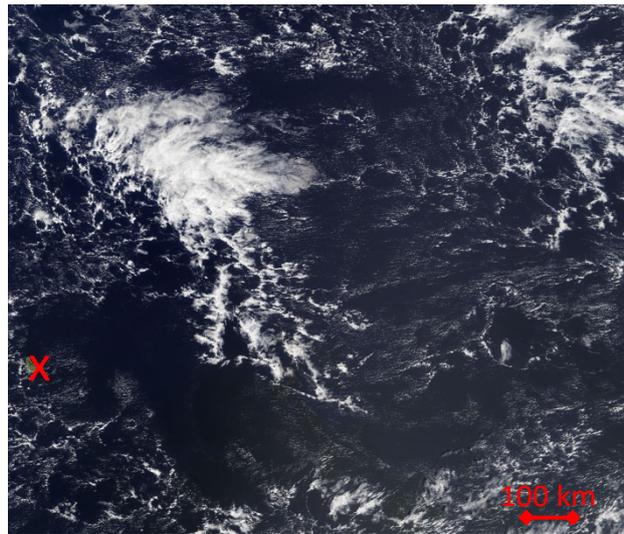
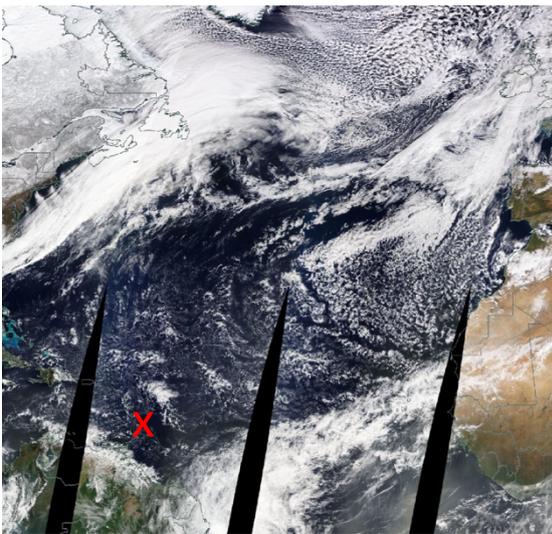


Arrival on 20180208\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180204\_15

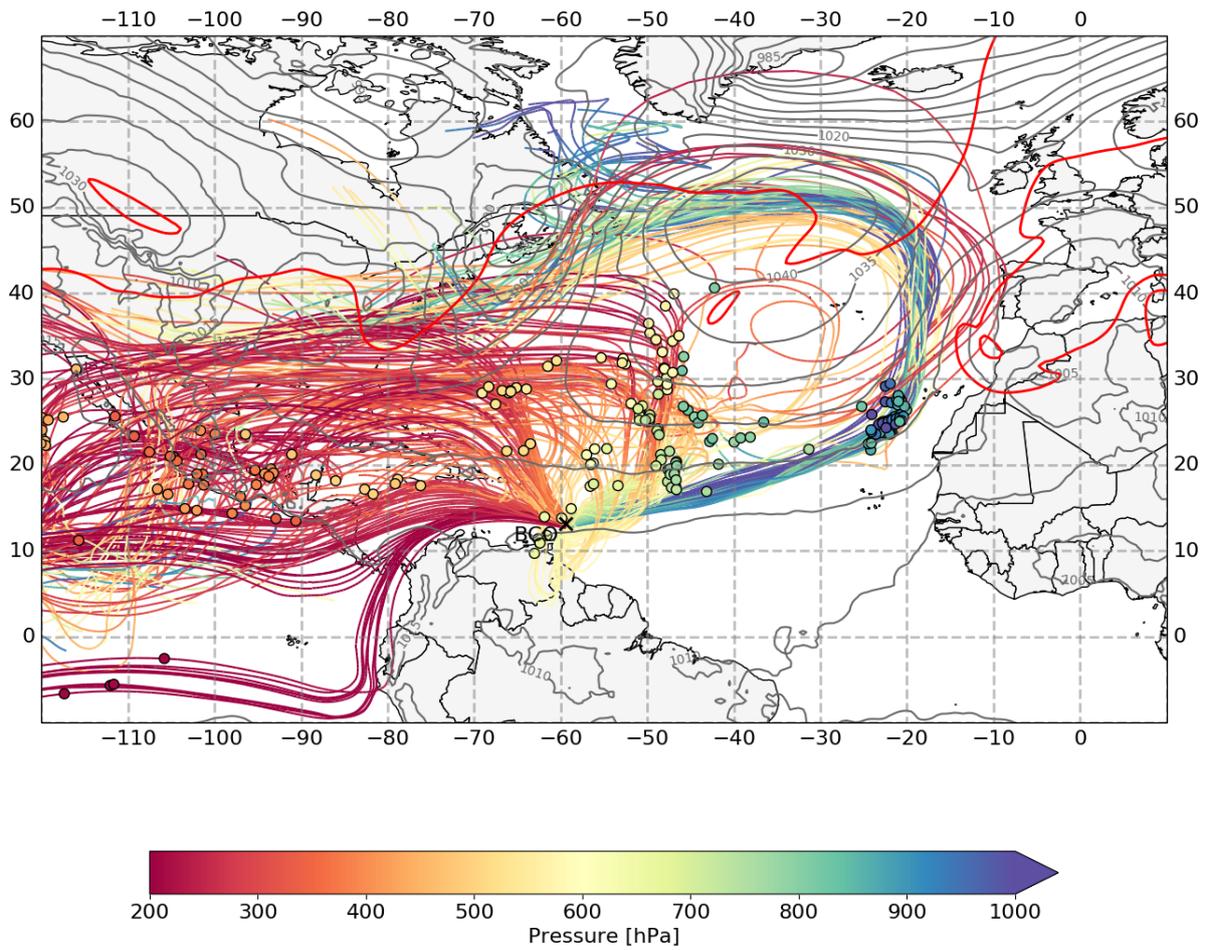


*Extratropical dry intrusion regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $217 \text{ hPa} (4 \text{ days})^{-1}$*

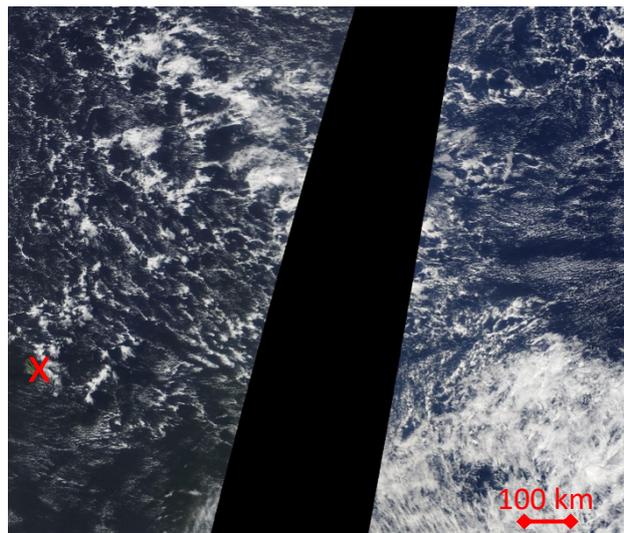
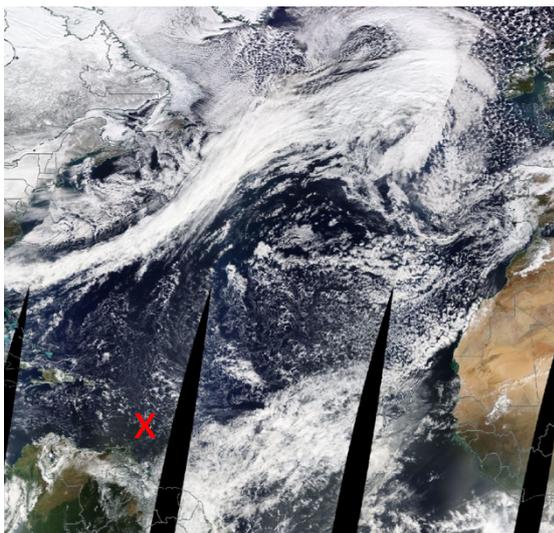


Arrival on 20180209\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180205\_15

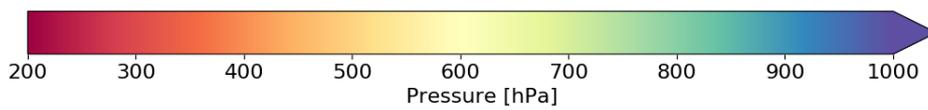
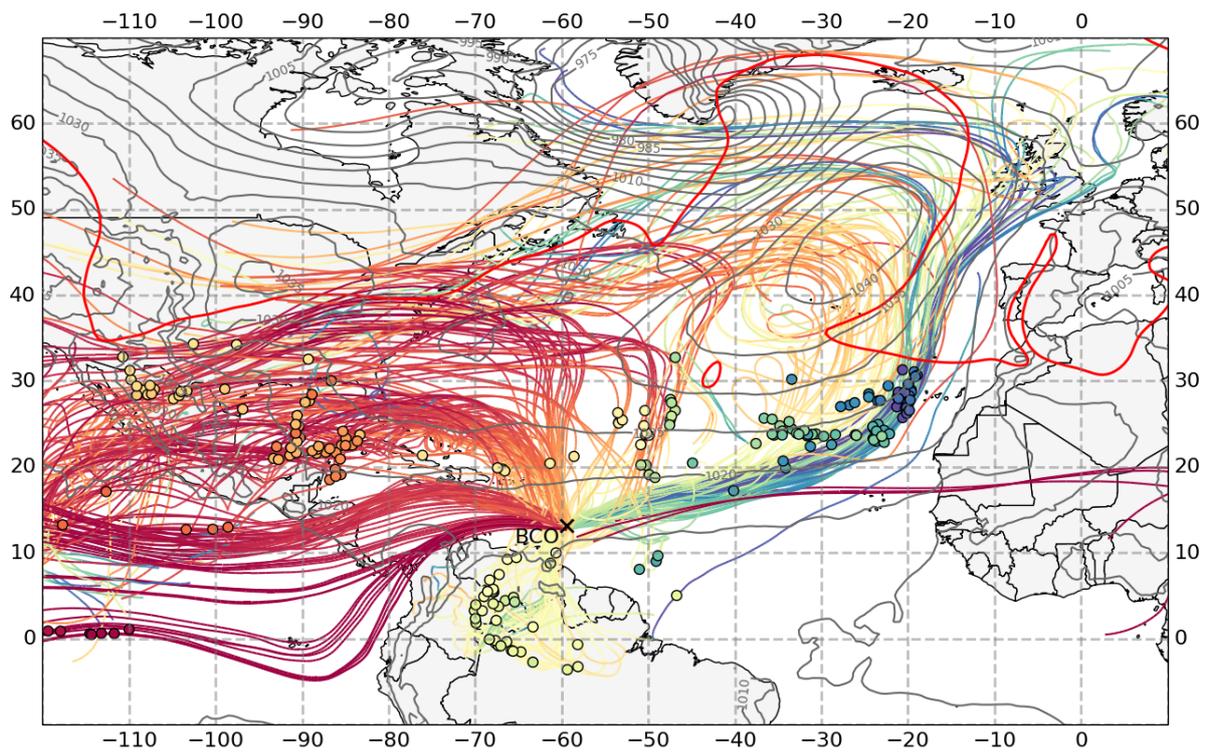


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $-21 \text{ hPa} (4 \text{ days})^{-1}$*

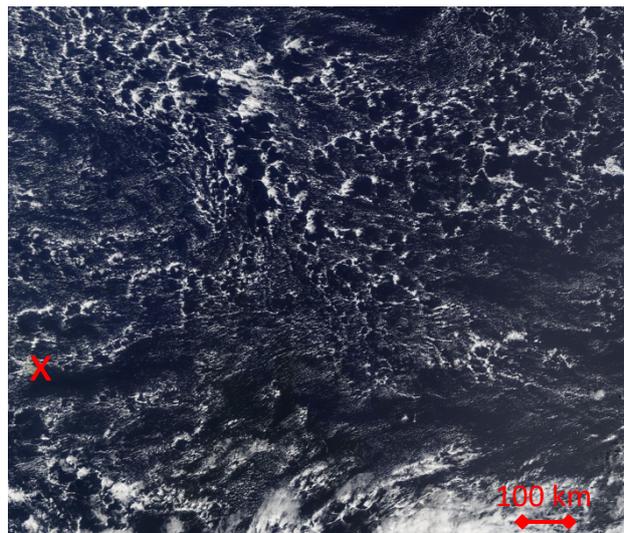
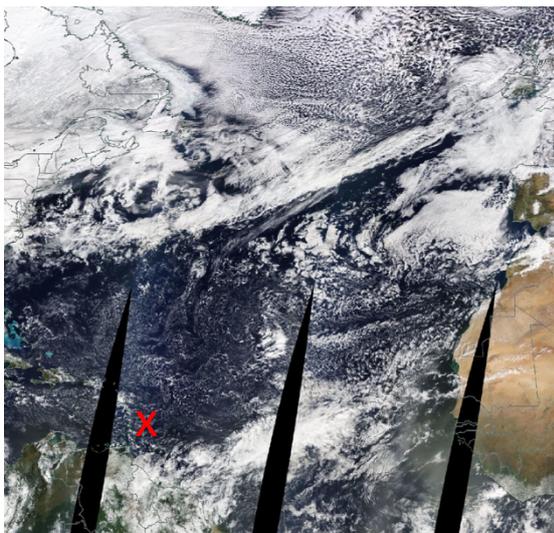


Arrival on 20180210\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180206\_15

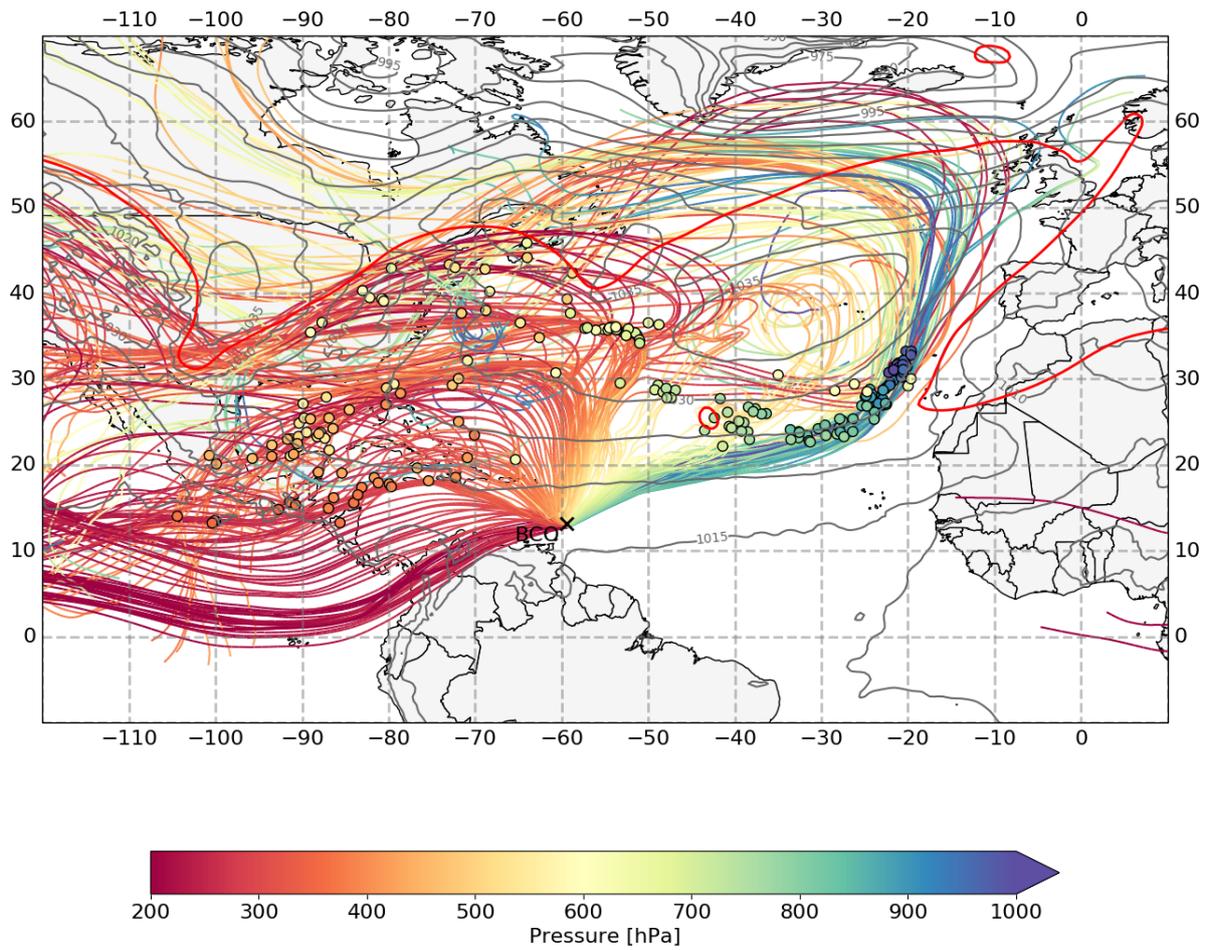


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $60 \text{ hPa} (4 \text{ days})^{-1}$*

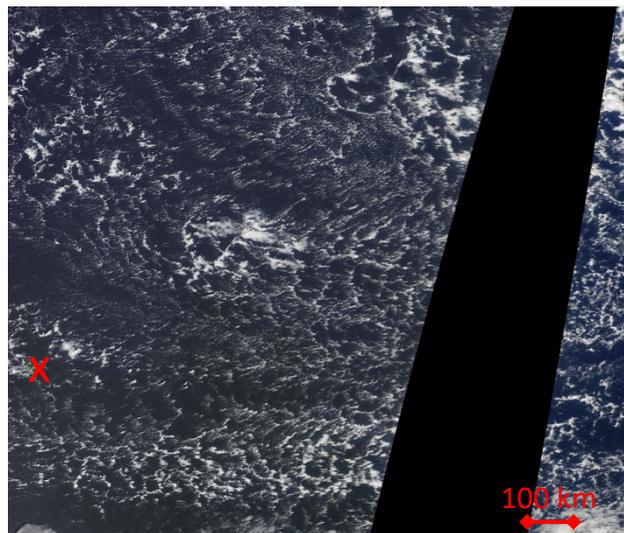
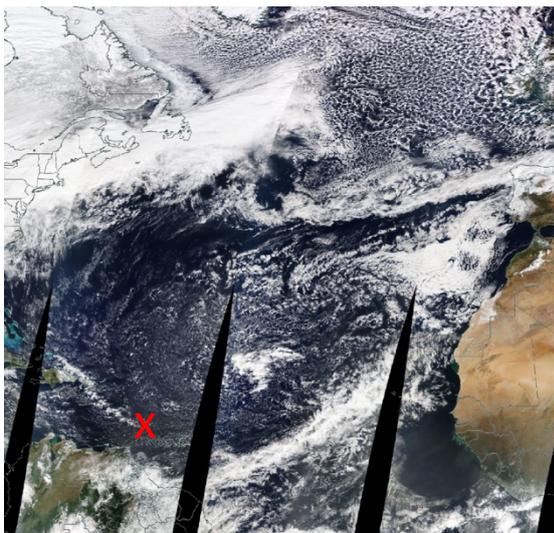


Arrival on 20180211\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180207\_15

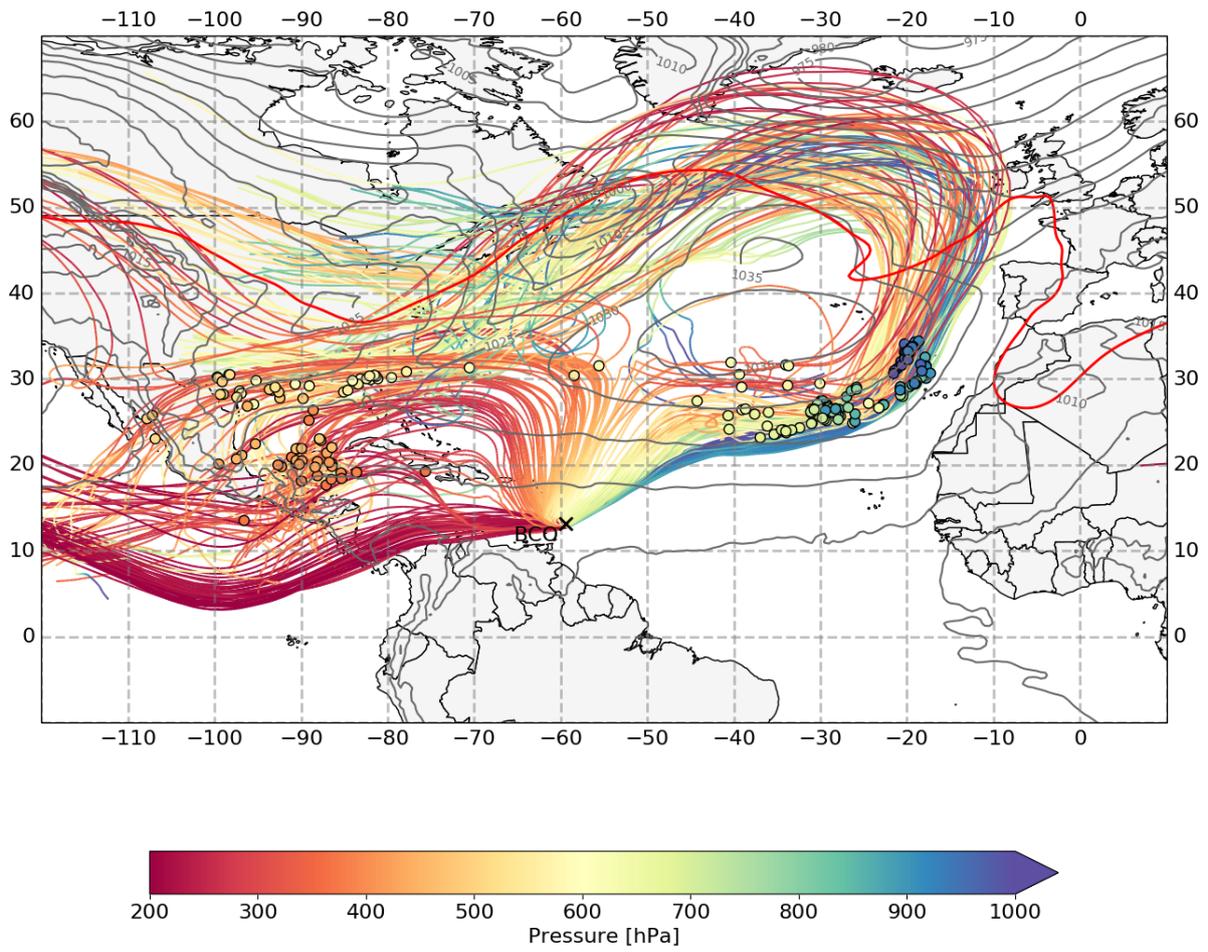


*Extratropical dry intrusion regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $102 \text{ hPa} (4 \text{ days})^{-1}$*

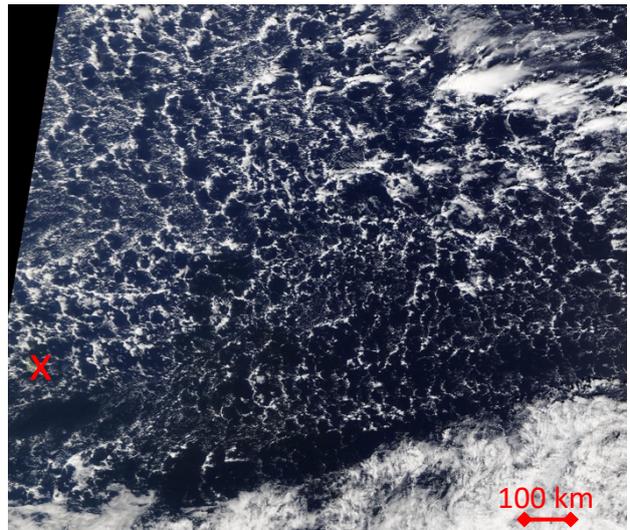
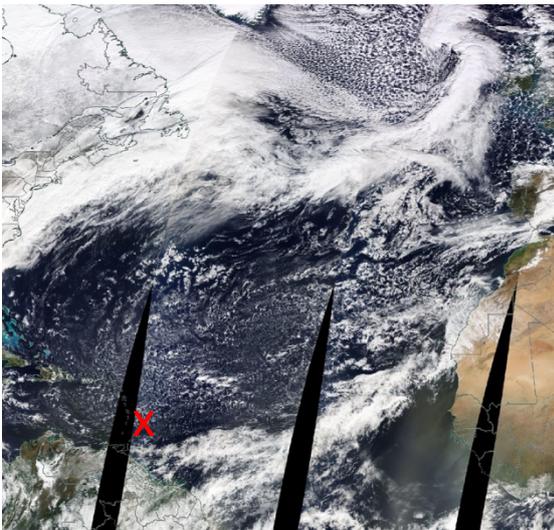


Arrival on 20180212\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180208\_15

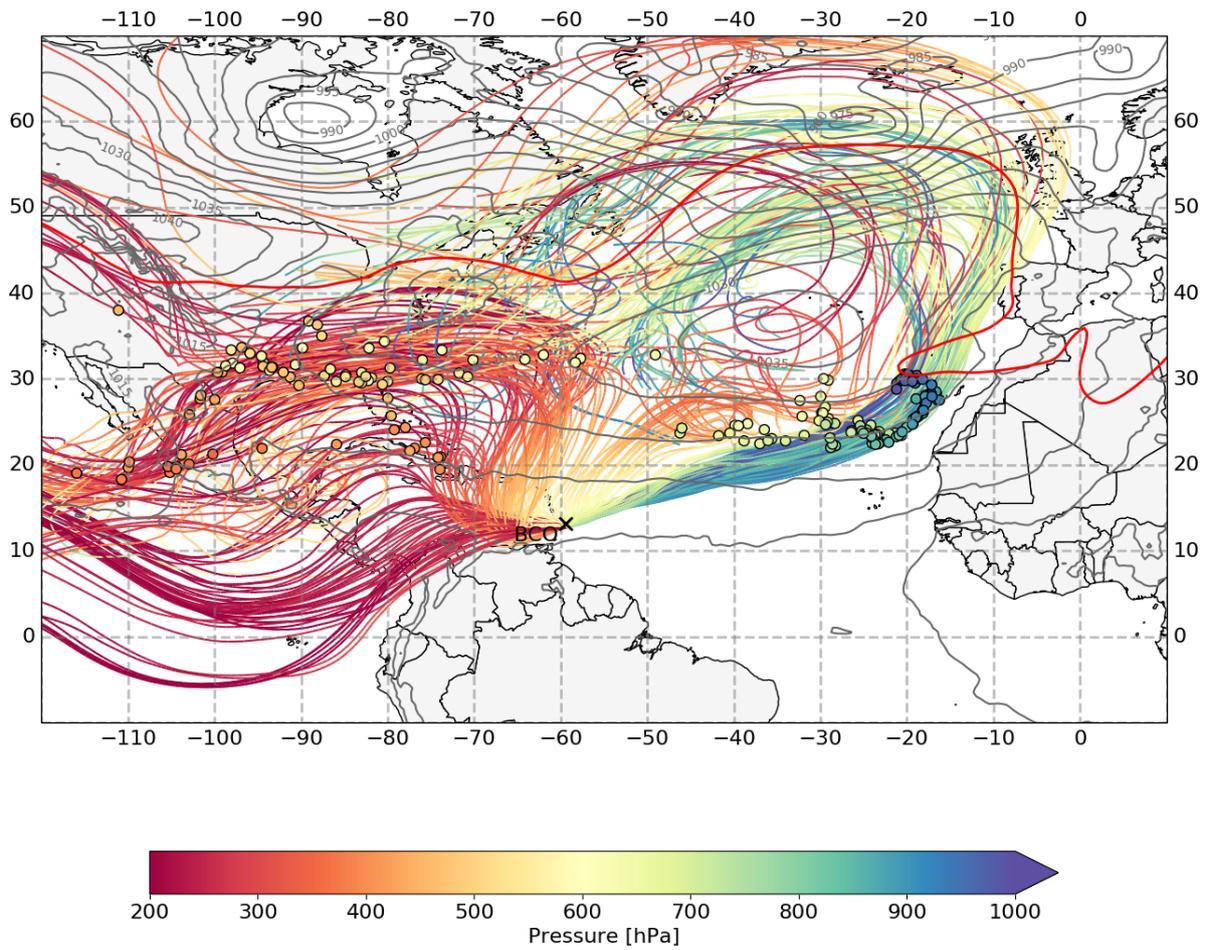


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $81 \text{ hPa} (4 \text{ days})^{-1}$*

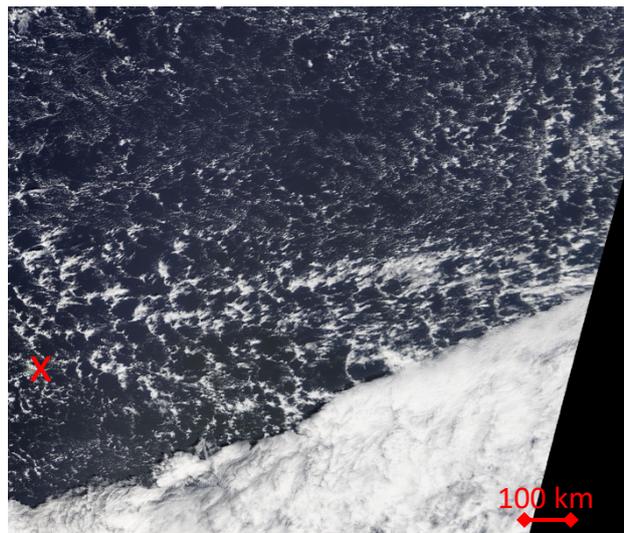
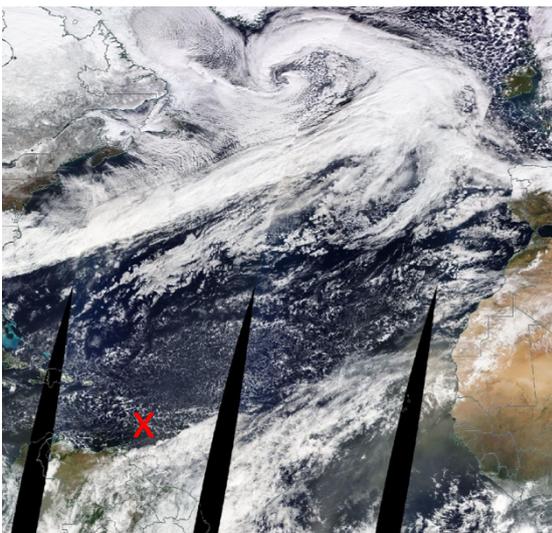


Arrival on 20180213\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180209\_15

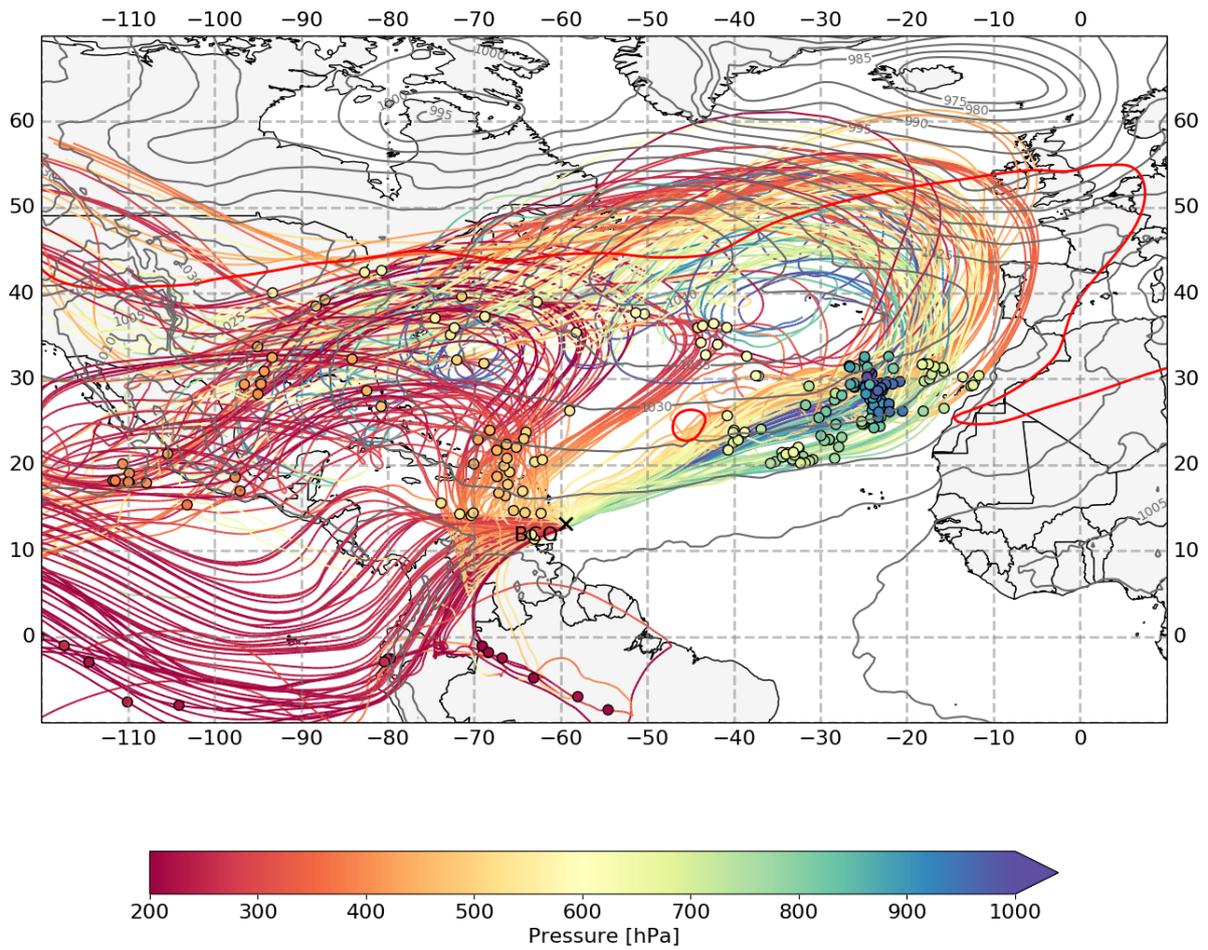


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $85 \text{ hPa} (4 \text{ days})^{-1}$*

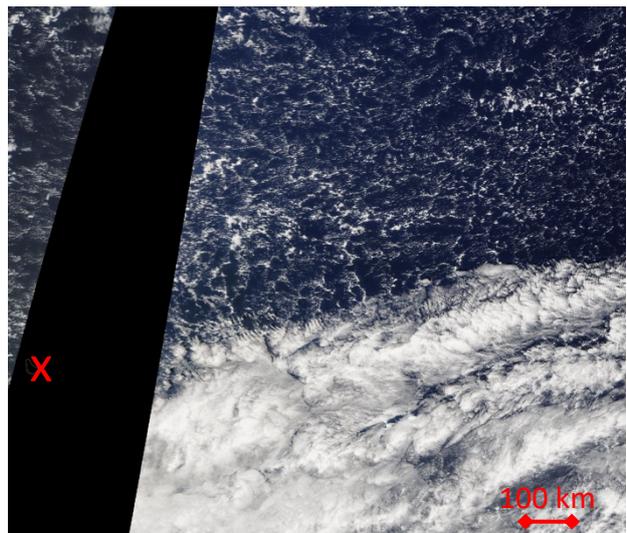
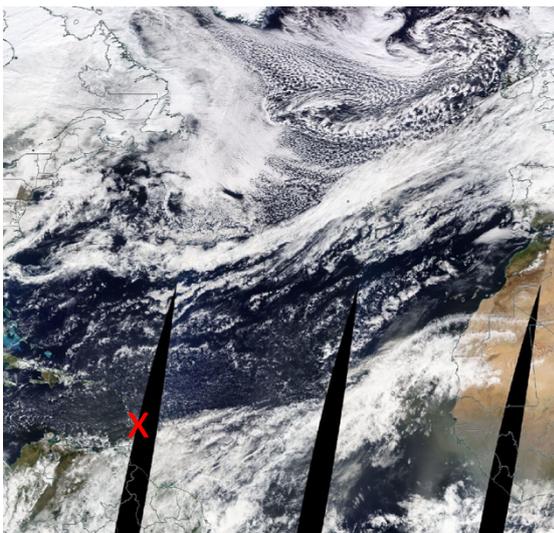


Arrival on 20180214\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180210\_15

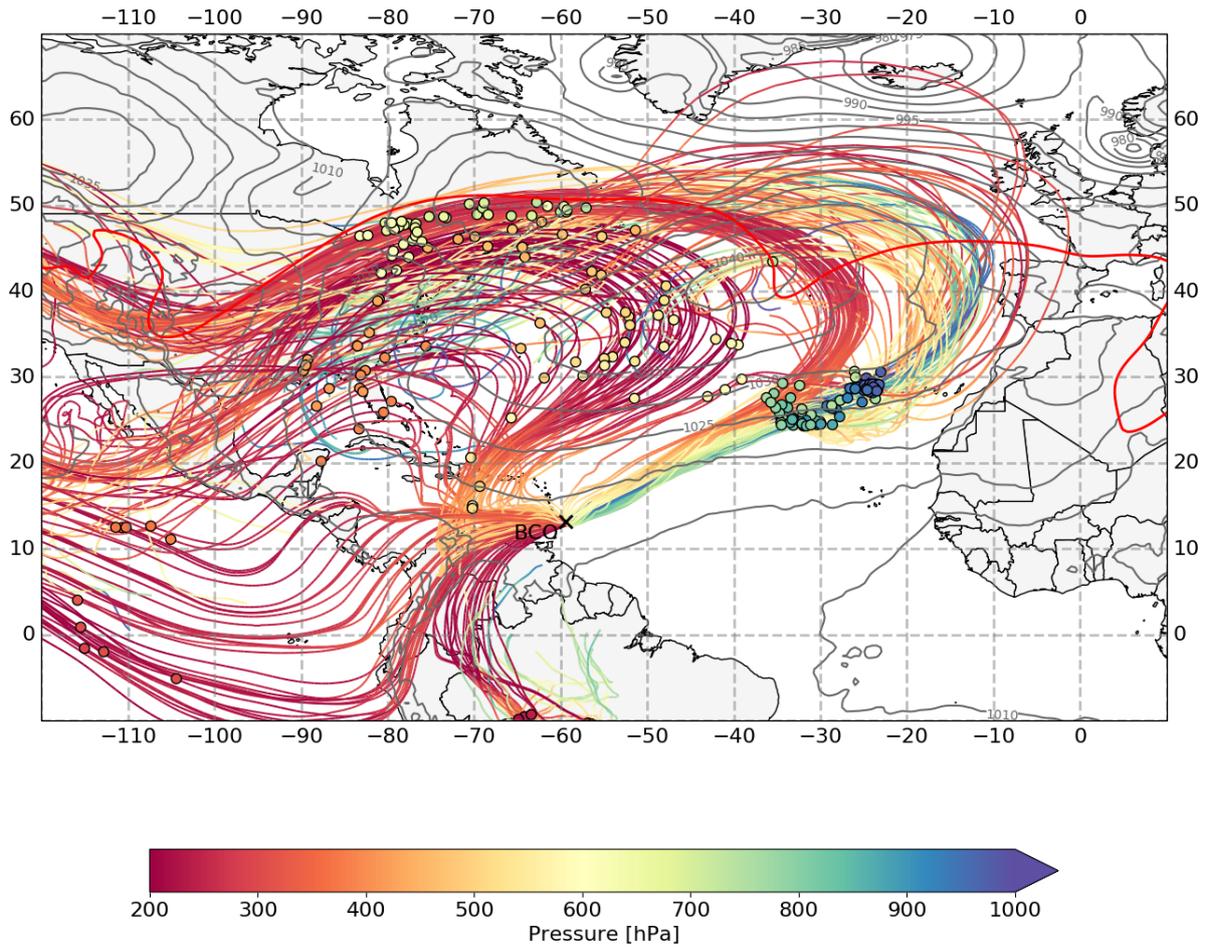


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $32 \text{ hPa (4 days)}^{-1}$*

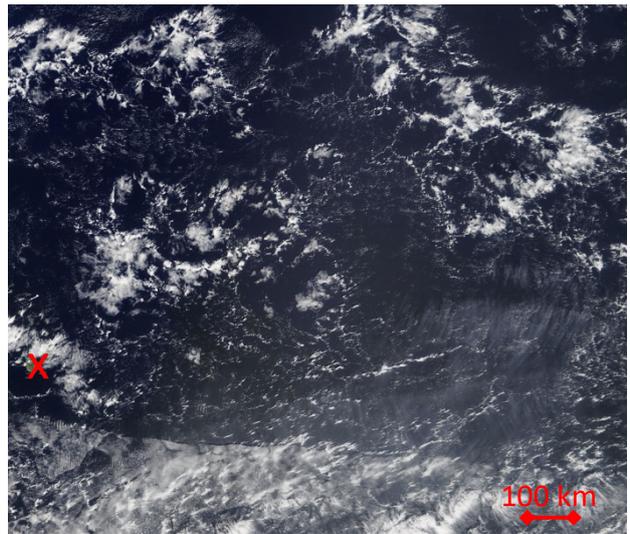
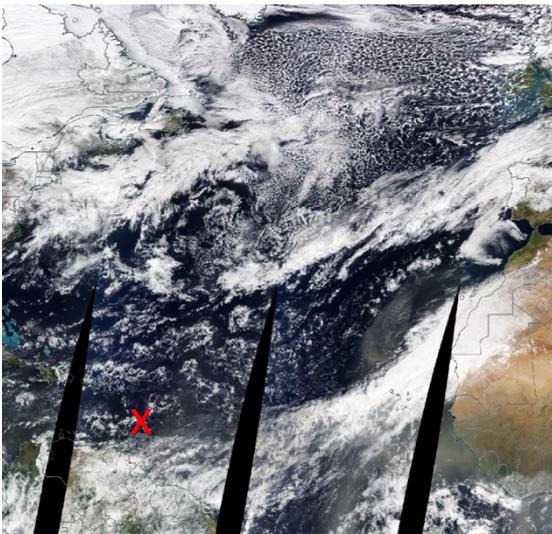


Arrival on 20180215\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180211\_15

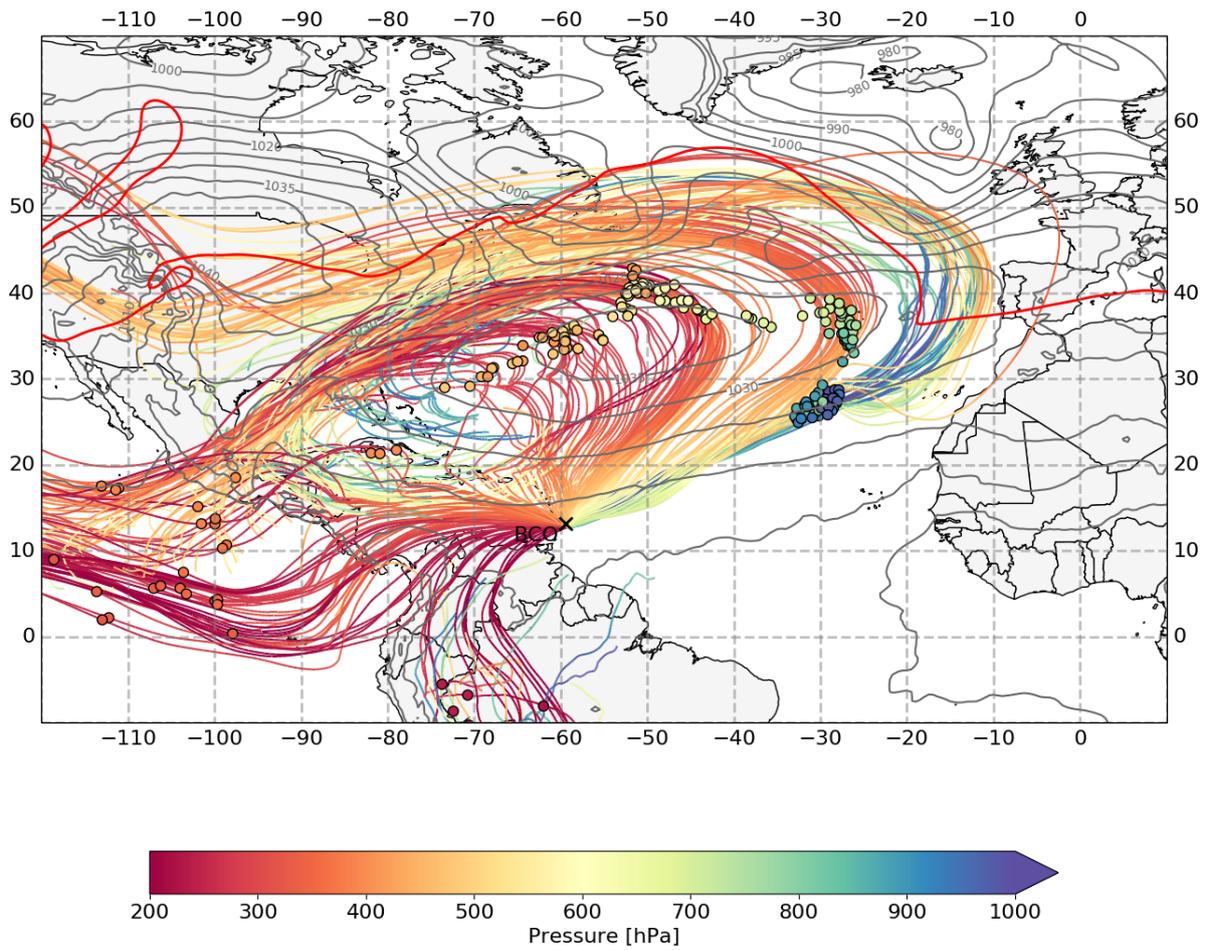


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $57 \text{ hPa} (4 \text{ days})^{-1}$*

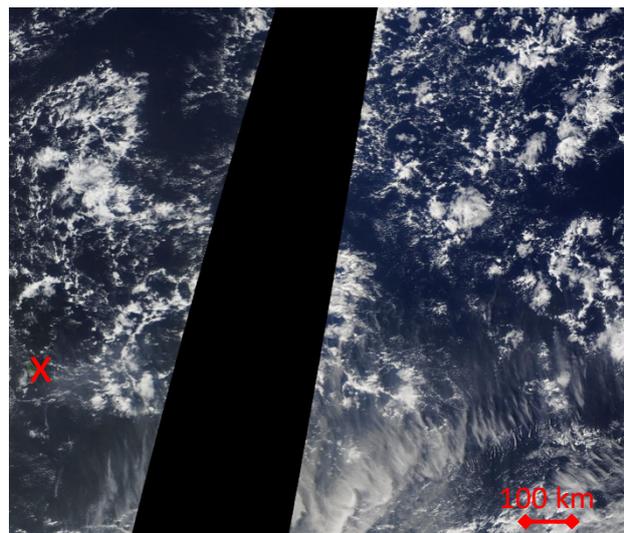
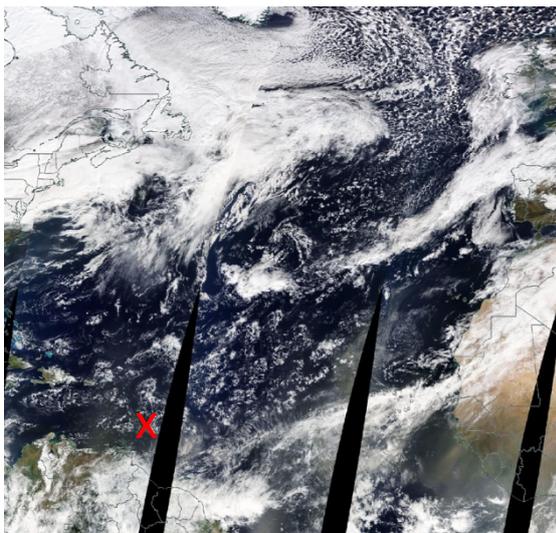


Arrival on 20180216\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180212\_15

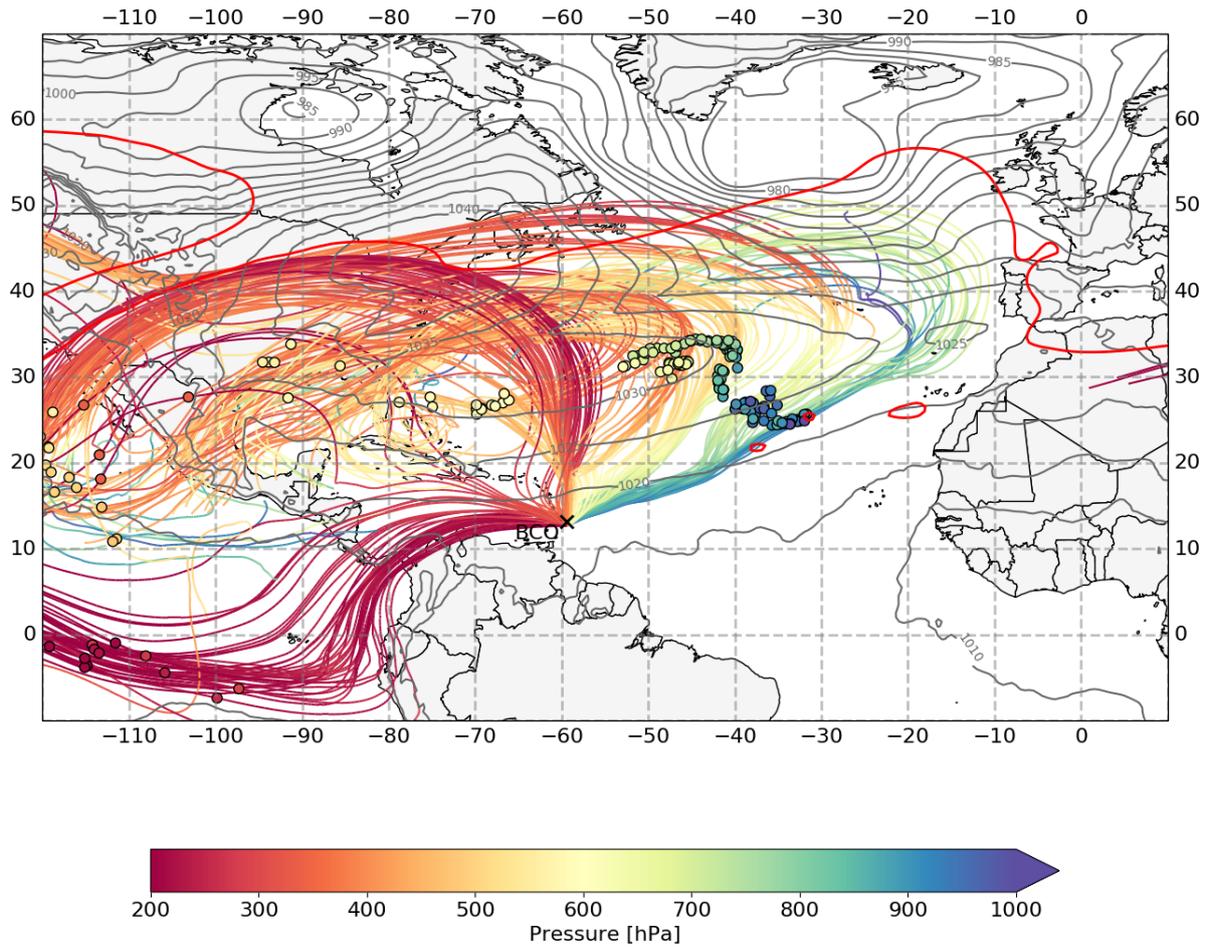


*Extratropical trade wind regime*

*Slantwise subsidence of sub-cloud layer air masses:  $21 \text{ hPa} (4 \text{ days})^{-1}$*



Arrival on 20180217\_15 with colored dots, SLP (grey) and PV at 320K (red) from 20180213\_15



*Extratropical dry intrusion regime*

*Slantwise subsidence of sub-cloud layer airmasses:  $102 \text{ hPa} (4 \text{ days})^{-1}$*

