

6 Radar wind profiler and radiosonde wind vectors during MILAGRO

This supplemental section shows vertical profiles of horizontal wind vectors from the radar wind profilers at T0, T1 and T2 along with radiosonde wind vectors at MEX and T1 (labelled as T1R). An arrow pointing up shows winds blowing towards the north (“southerly wind”), to the right shows winds towards the east and so on. Note that the launch location of the MEX radiosondes is at the SMN headquarters (GSMN), shown in Fig. 1 of the paper. Please see the paper for data description, station location and acknowledgements:

B. de Foy, N. A. Krotkov, N. Bei, S.C. Herndon, L.G. Huey, A.-P. Martinez, L.G. Ruiz-Suarez, E.C. Wood, M. Zavala and L.T. Molina: Hit from both sides: tracking industrial and volcanic plumes in Mexico City with surface measurements and OMI SO₂ retrievals during the MILAGRO field campaign. *Atmospheric Chemistry and Physics*, 2009.

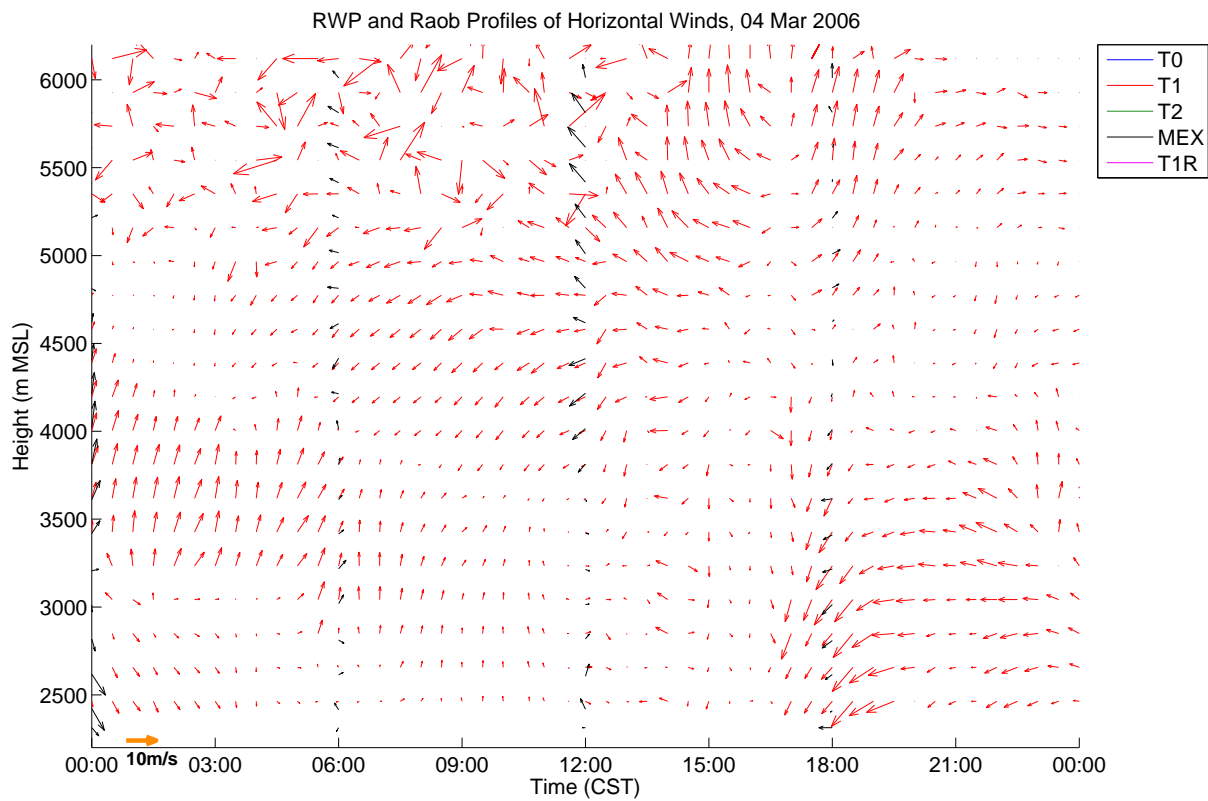
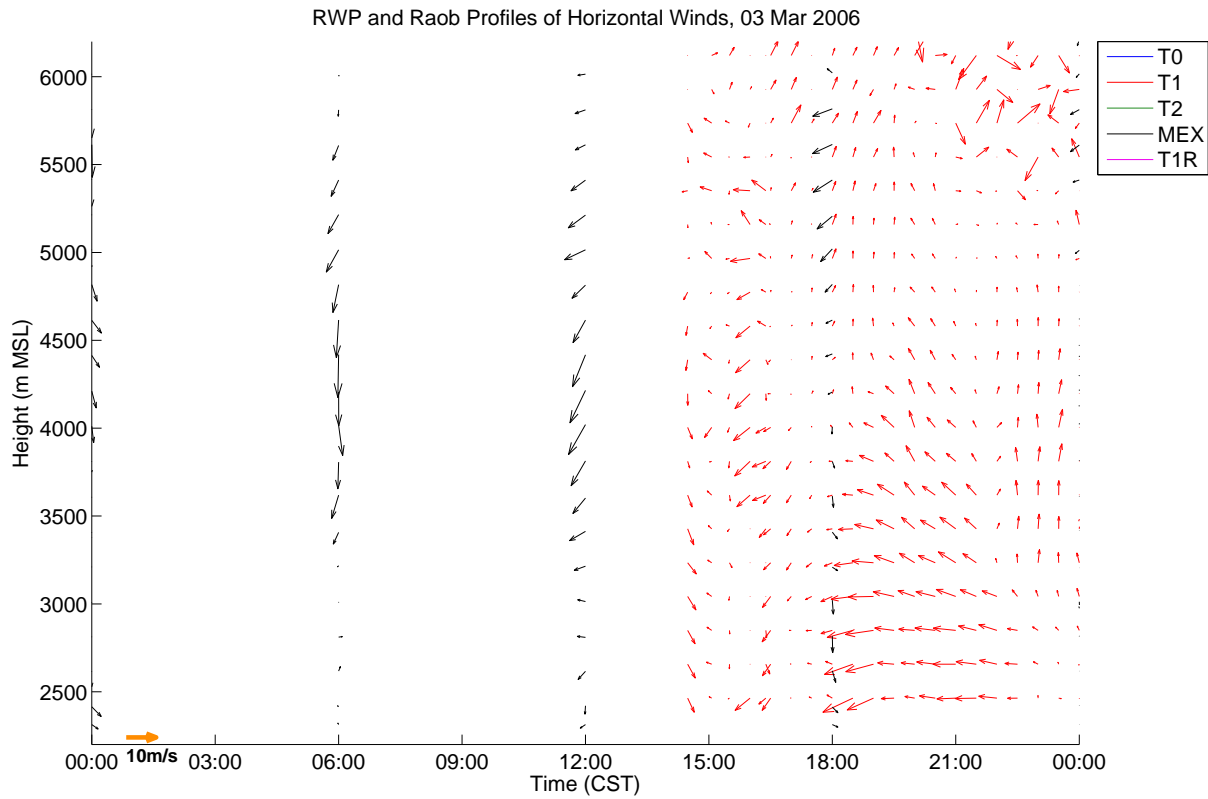


Figure 17: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

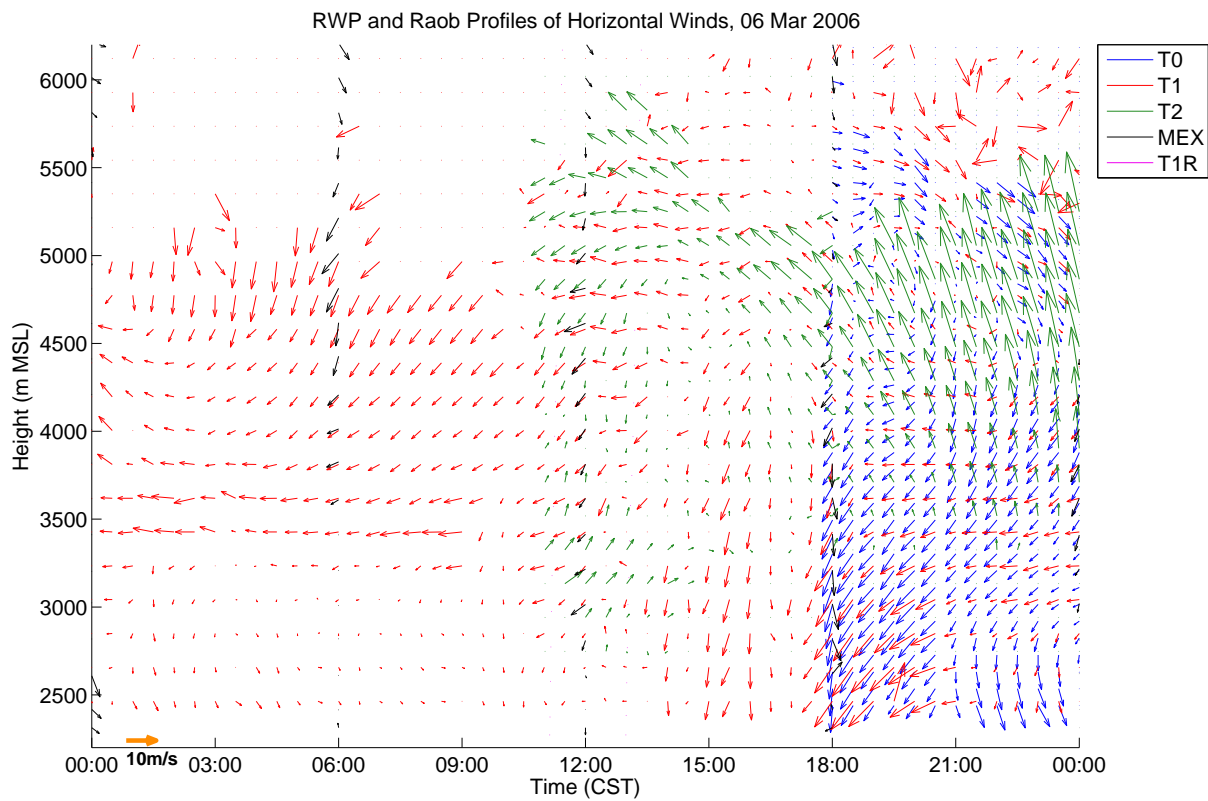
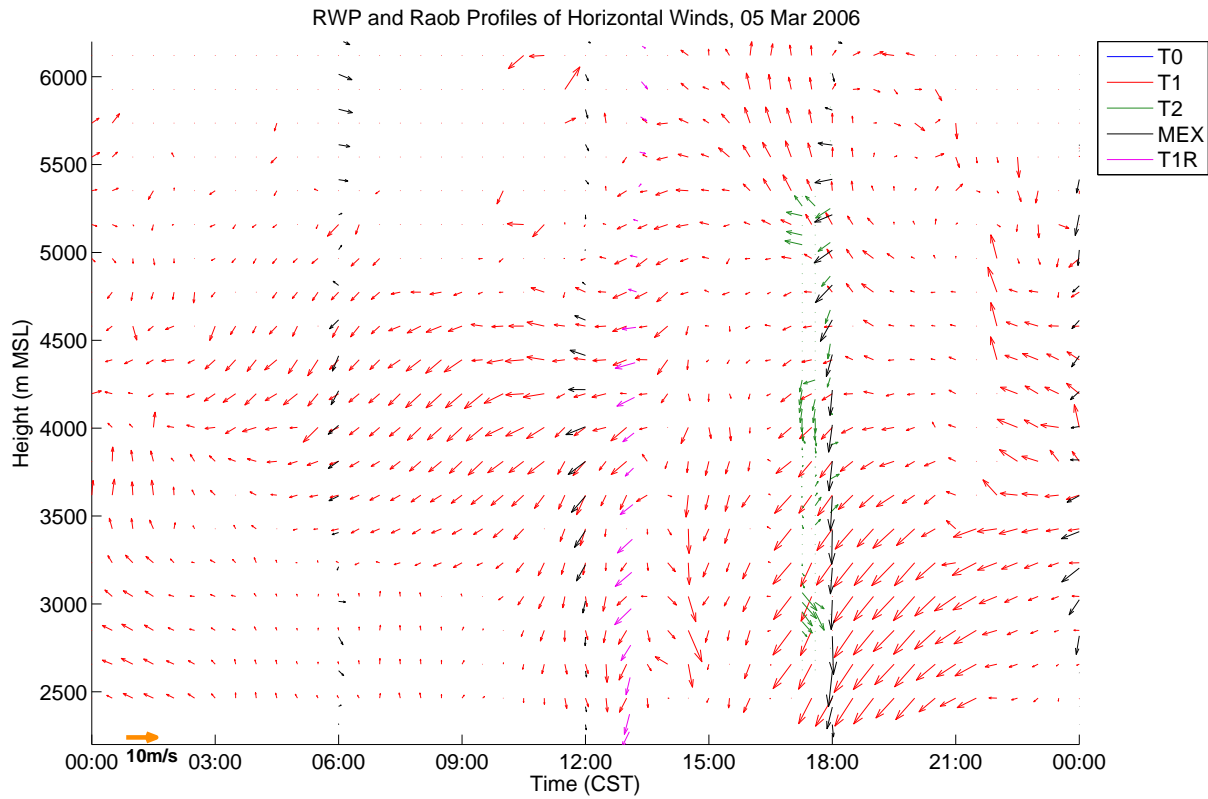


Figure 18: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

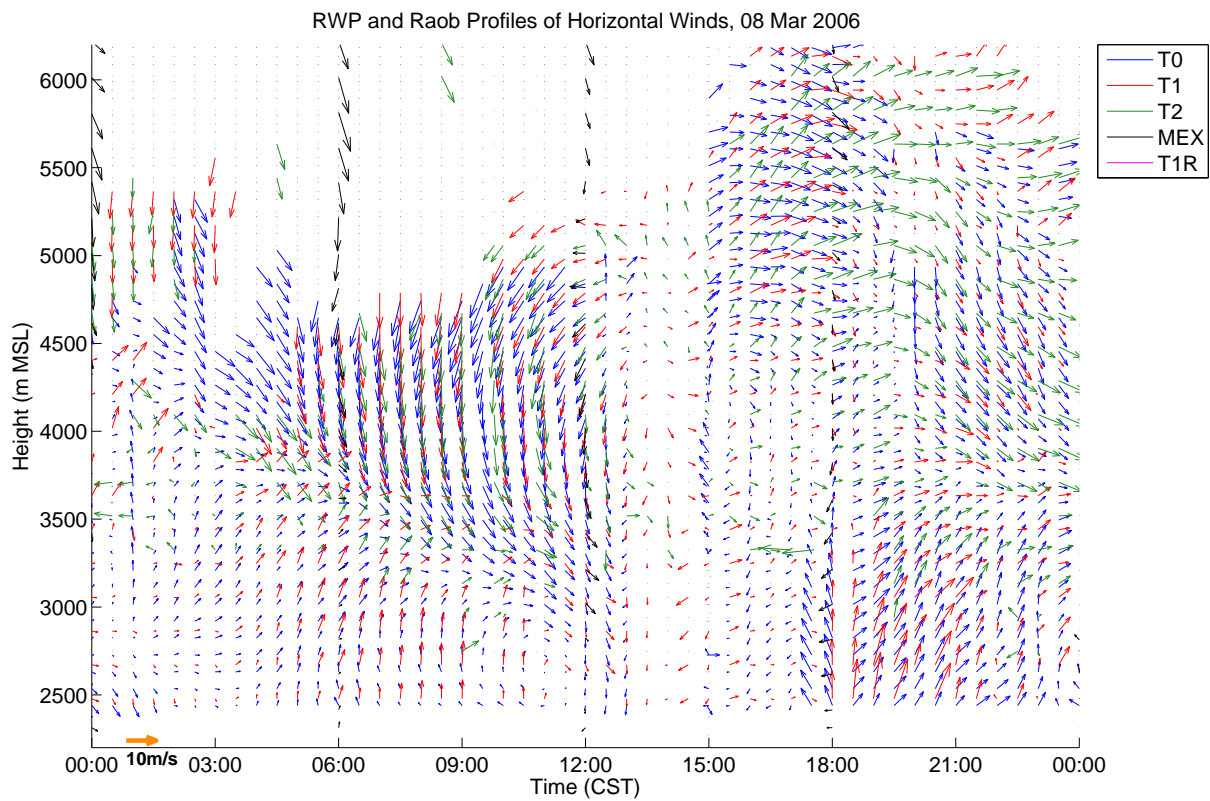
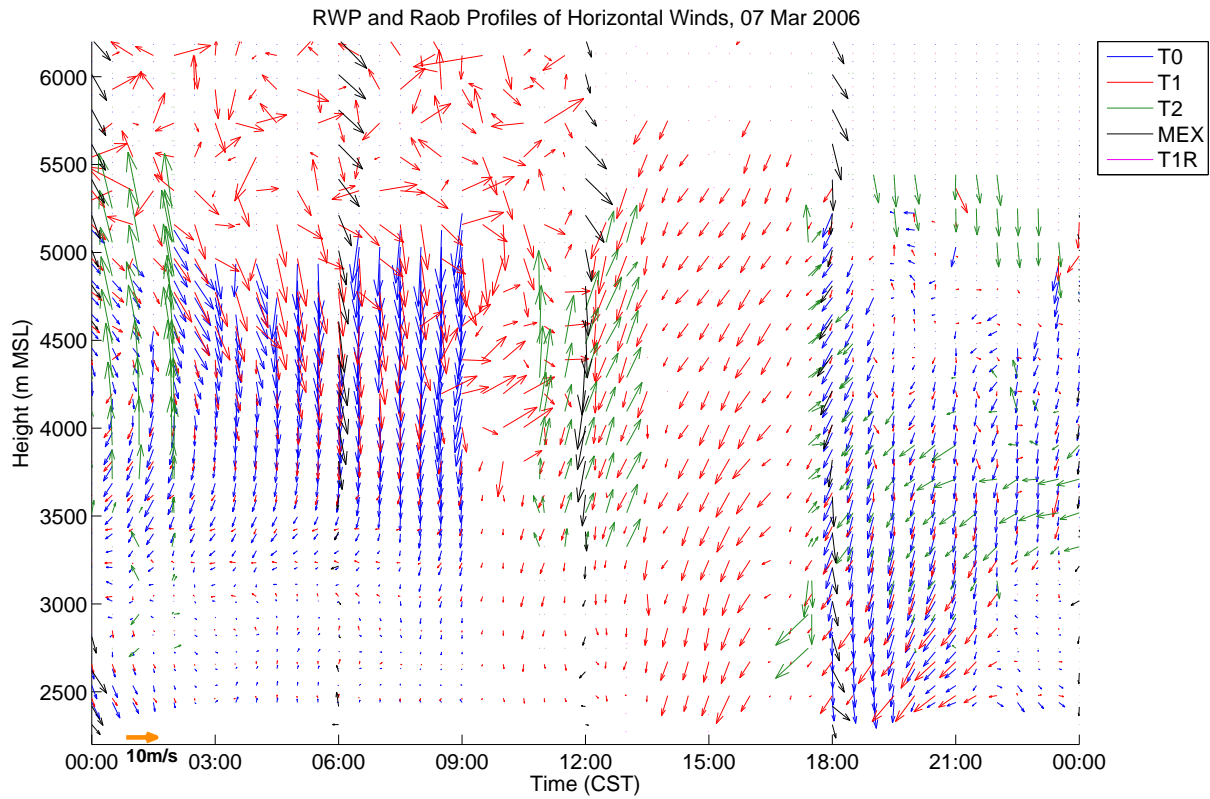


Figure 19: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

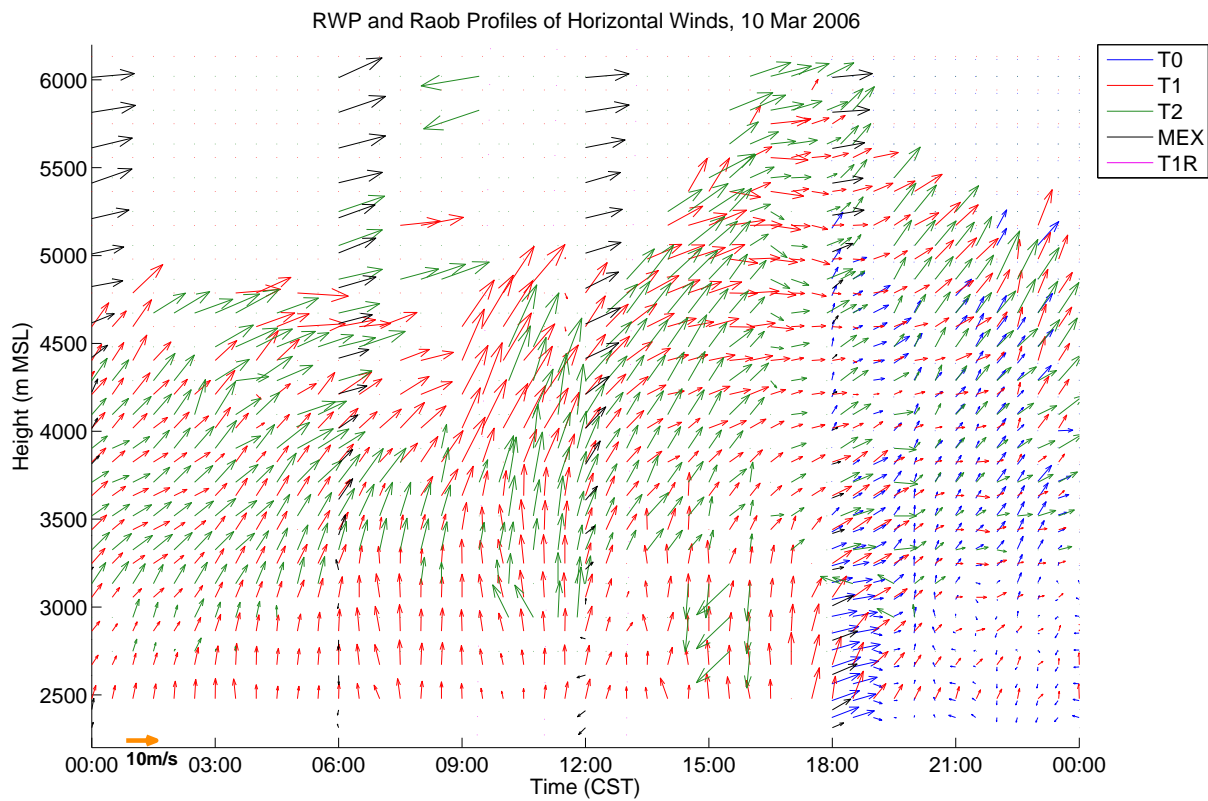
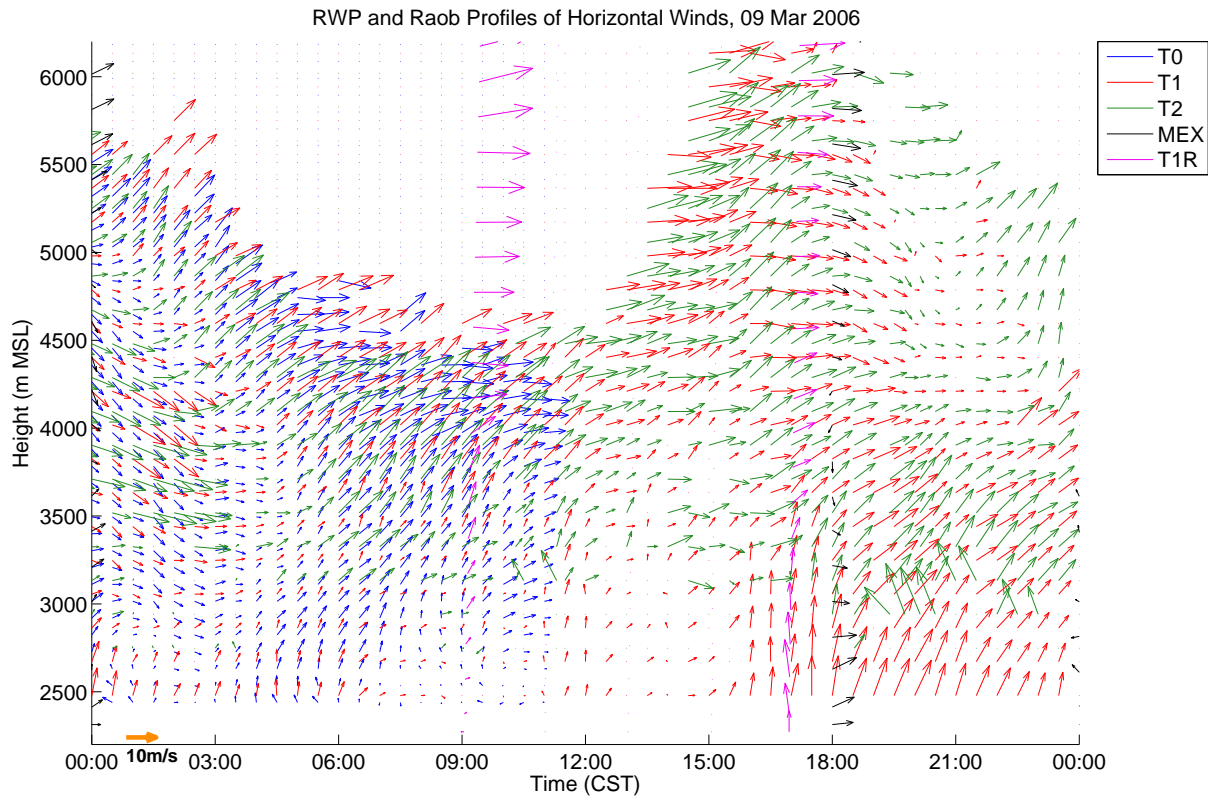


Figure 20: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

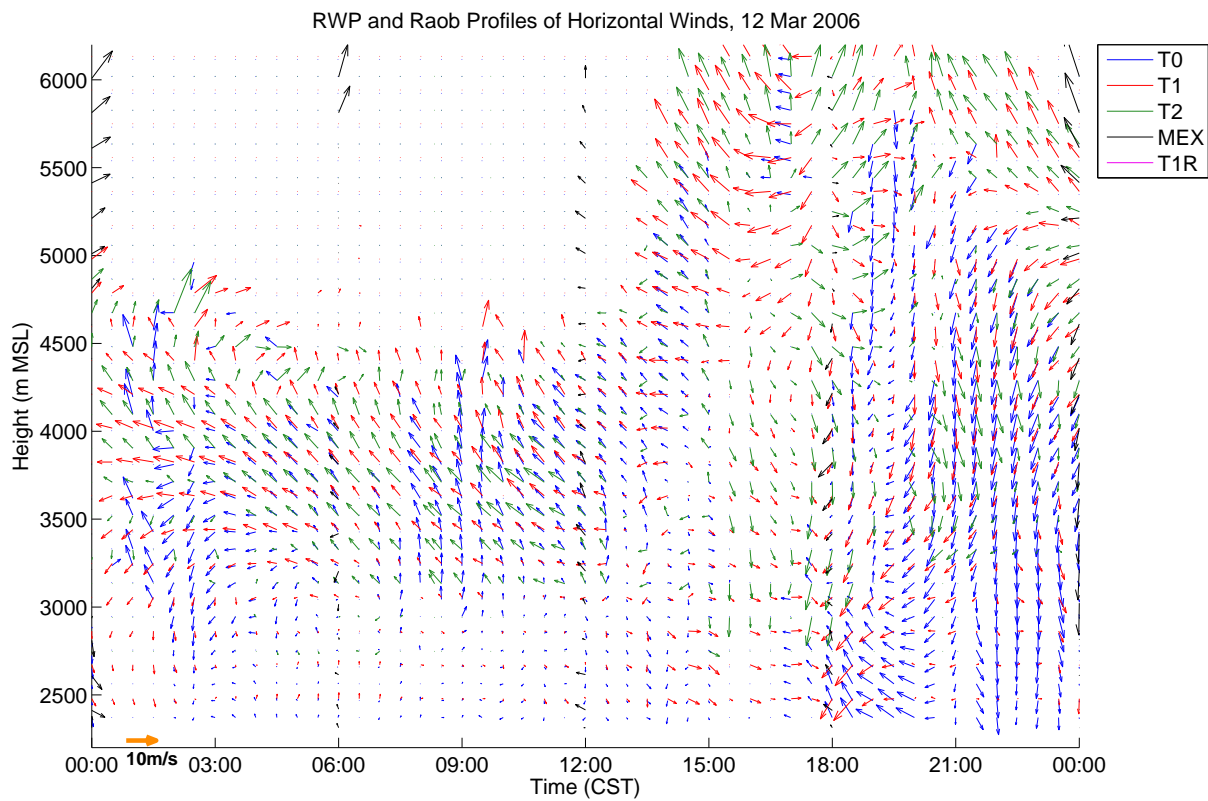
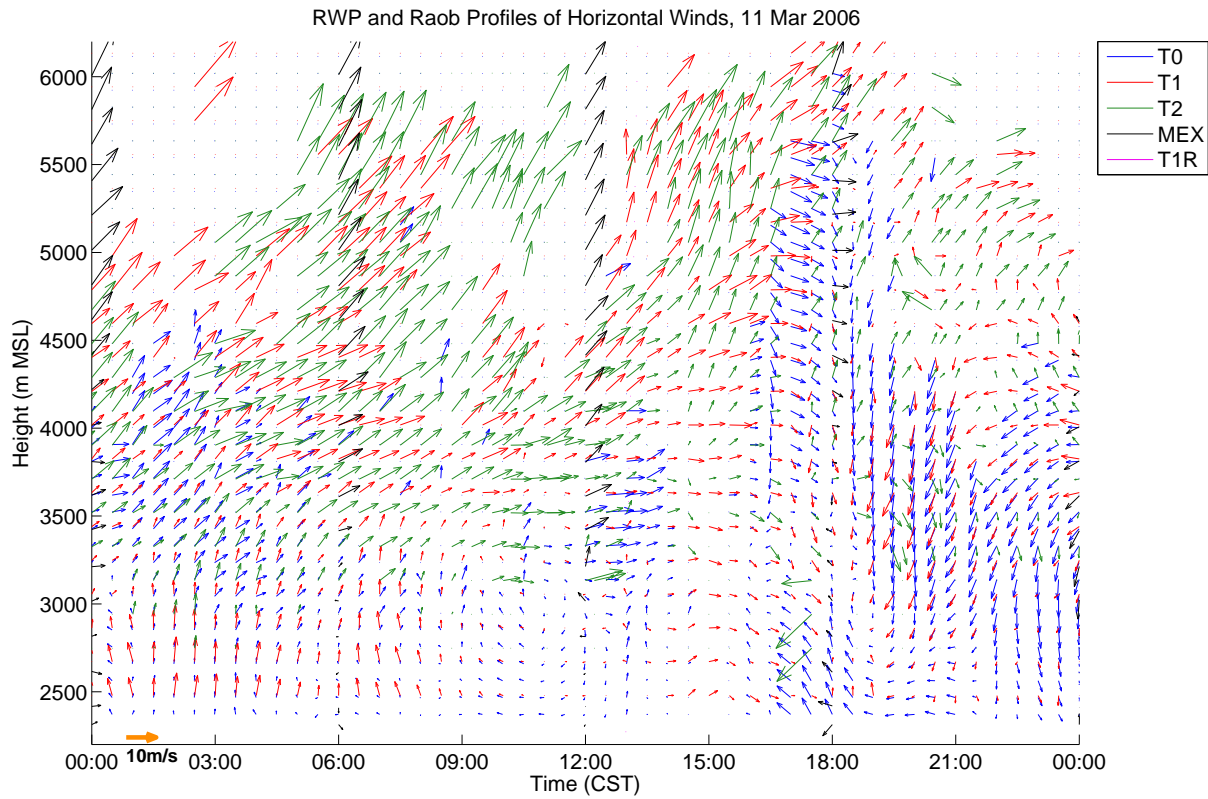


Figure 21: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

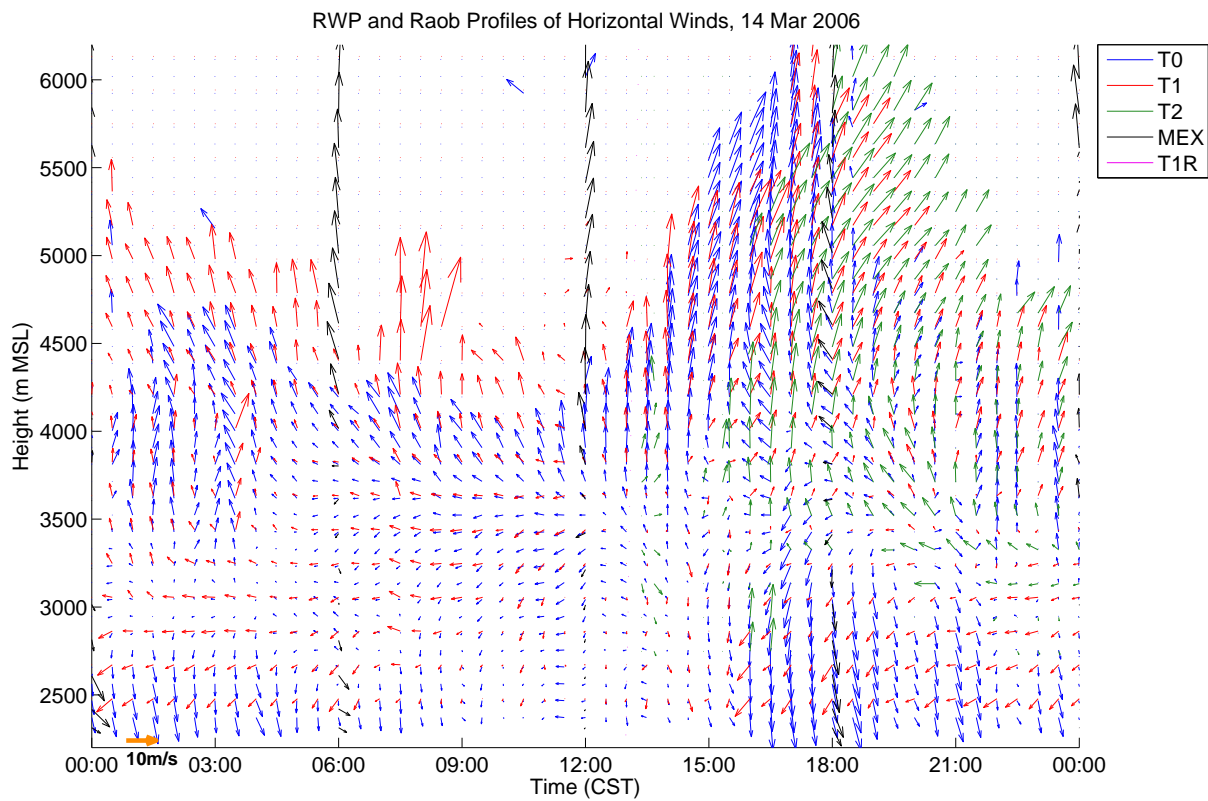
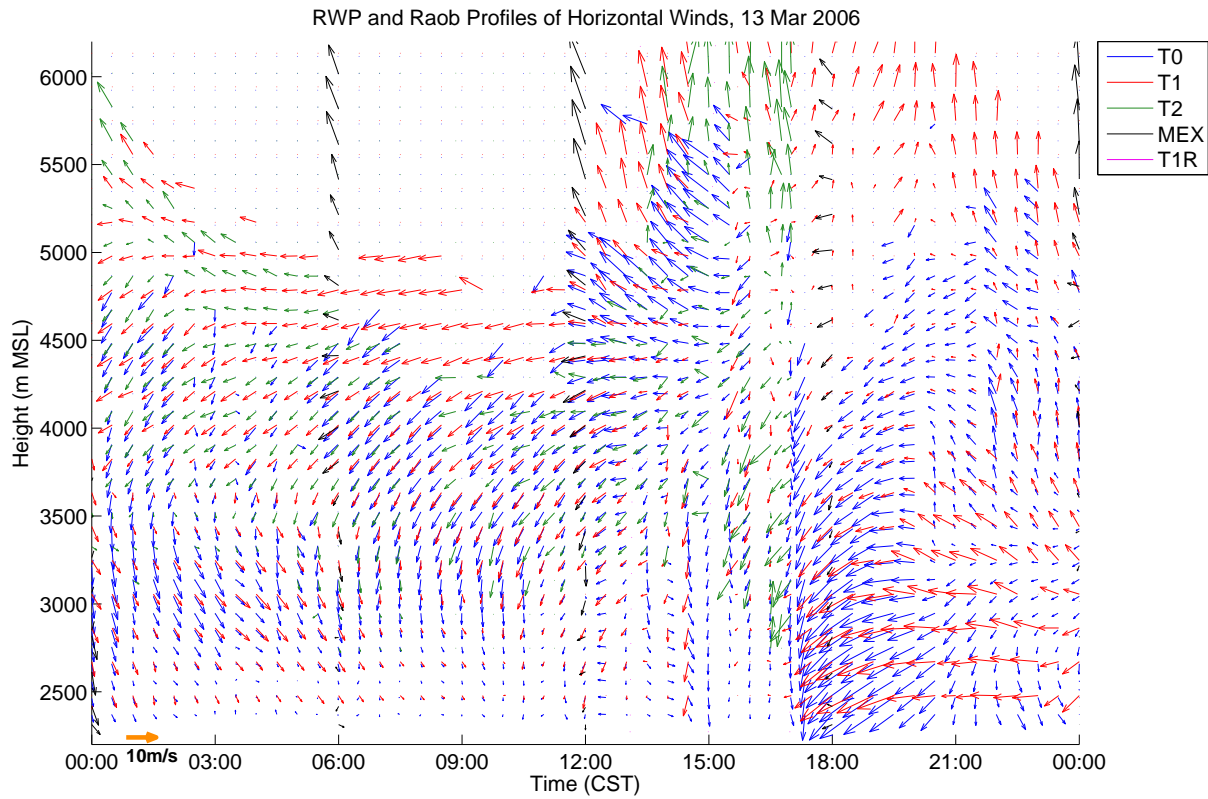


Figure 22: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

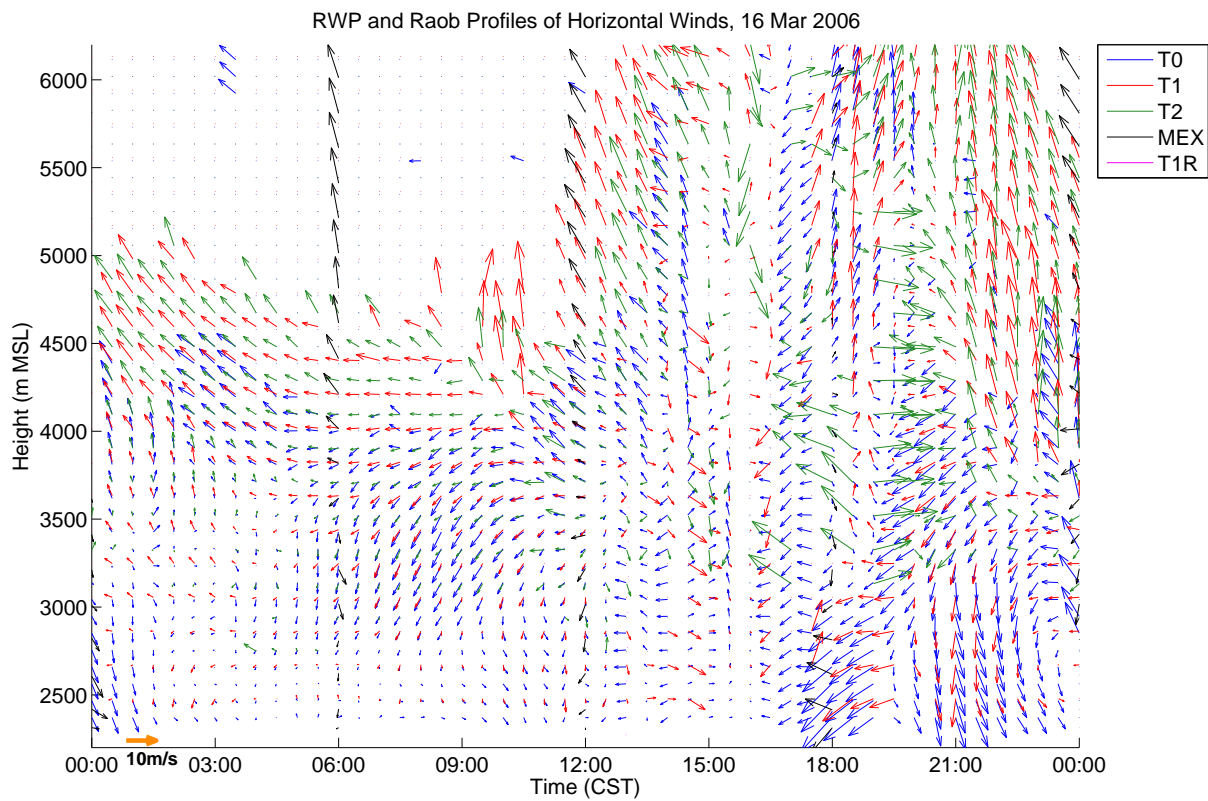
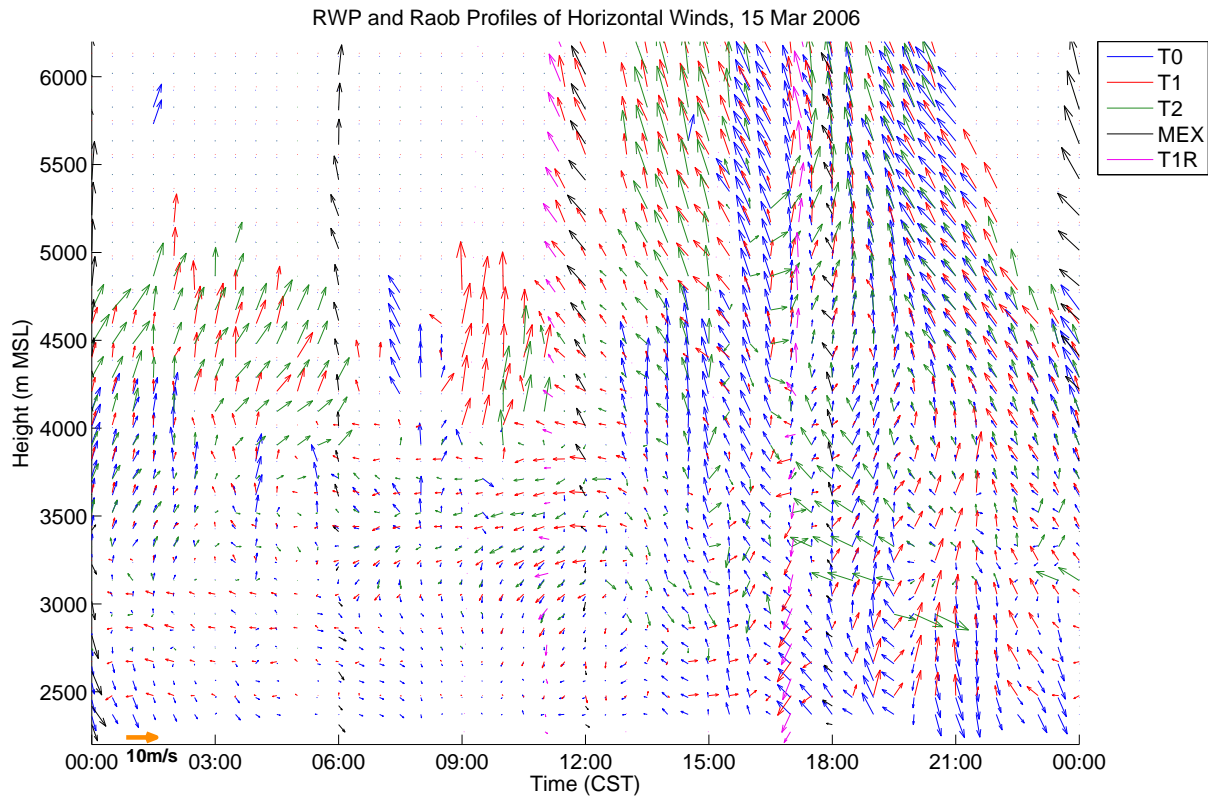


Figure 23: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

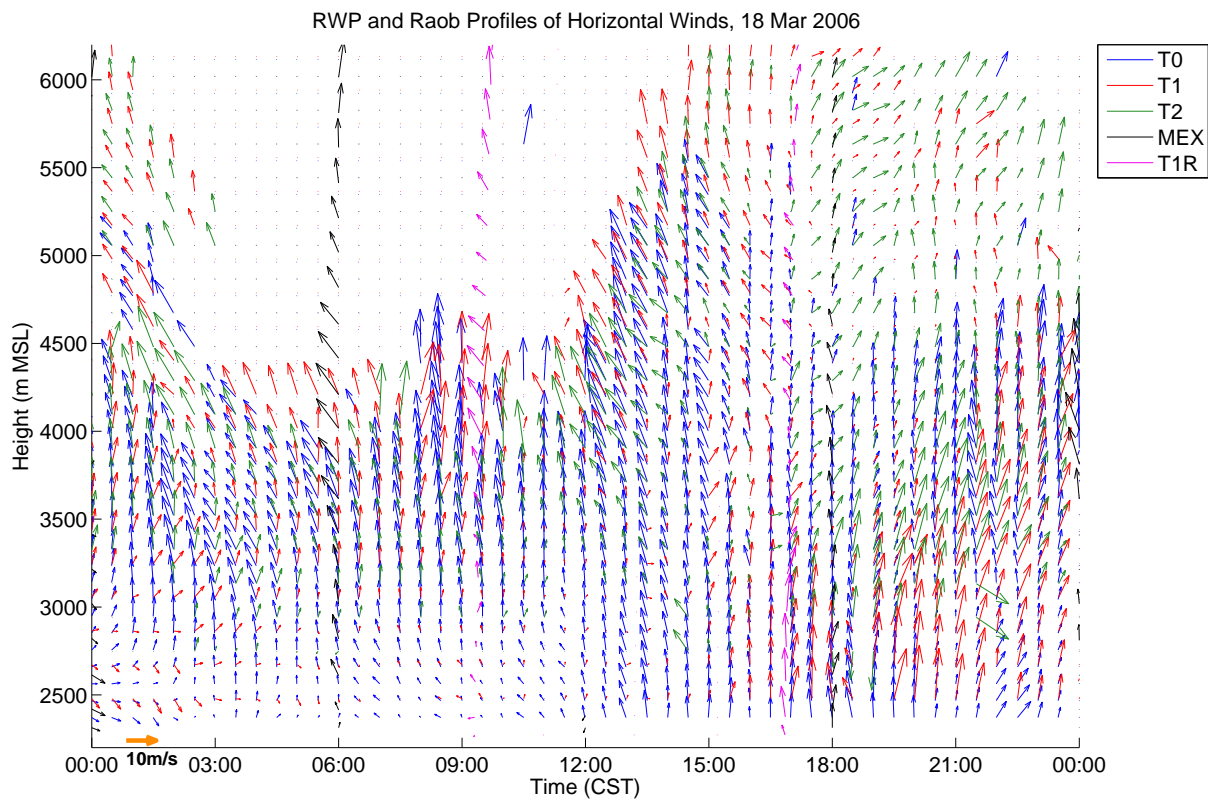
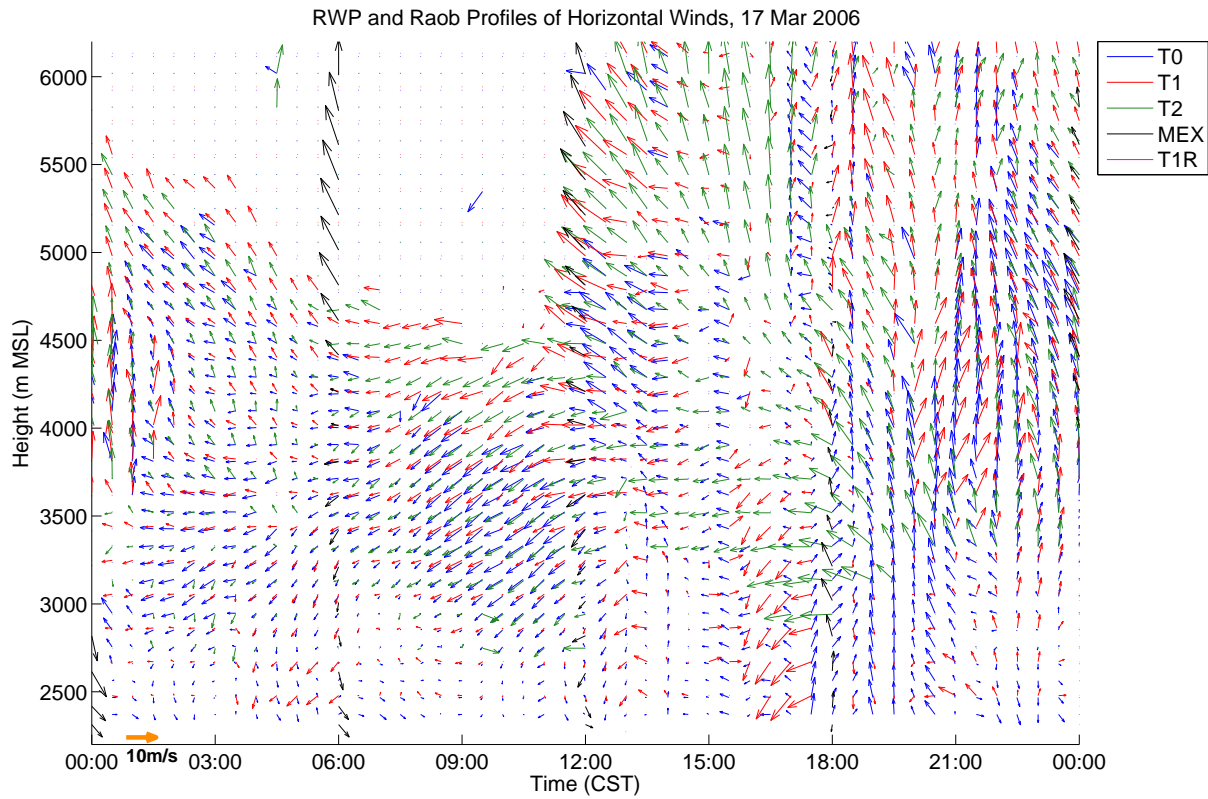


Figure 24: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

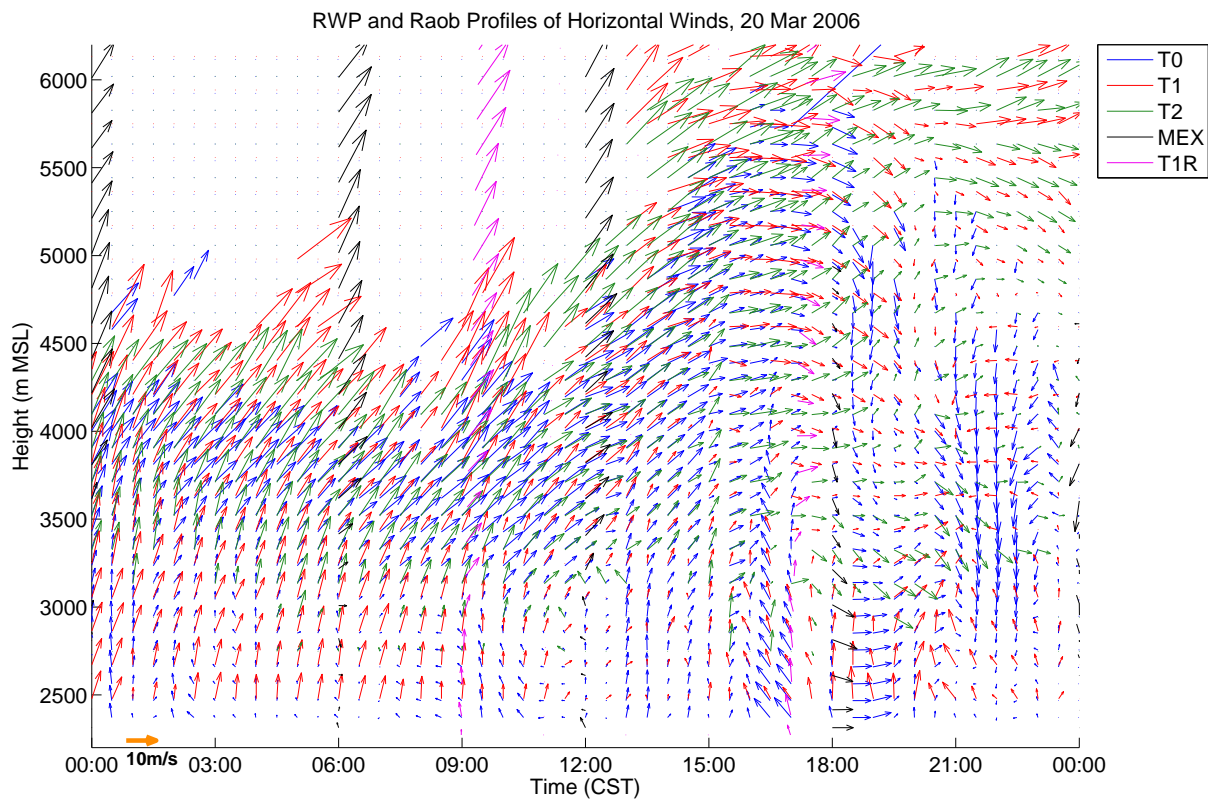
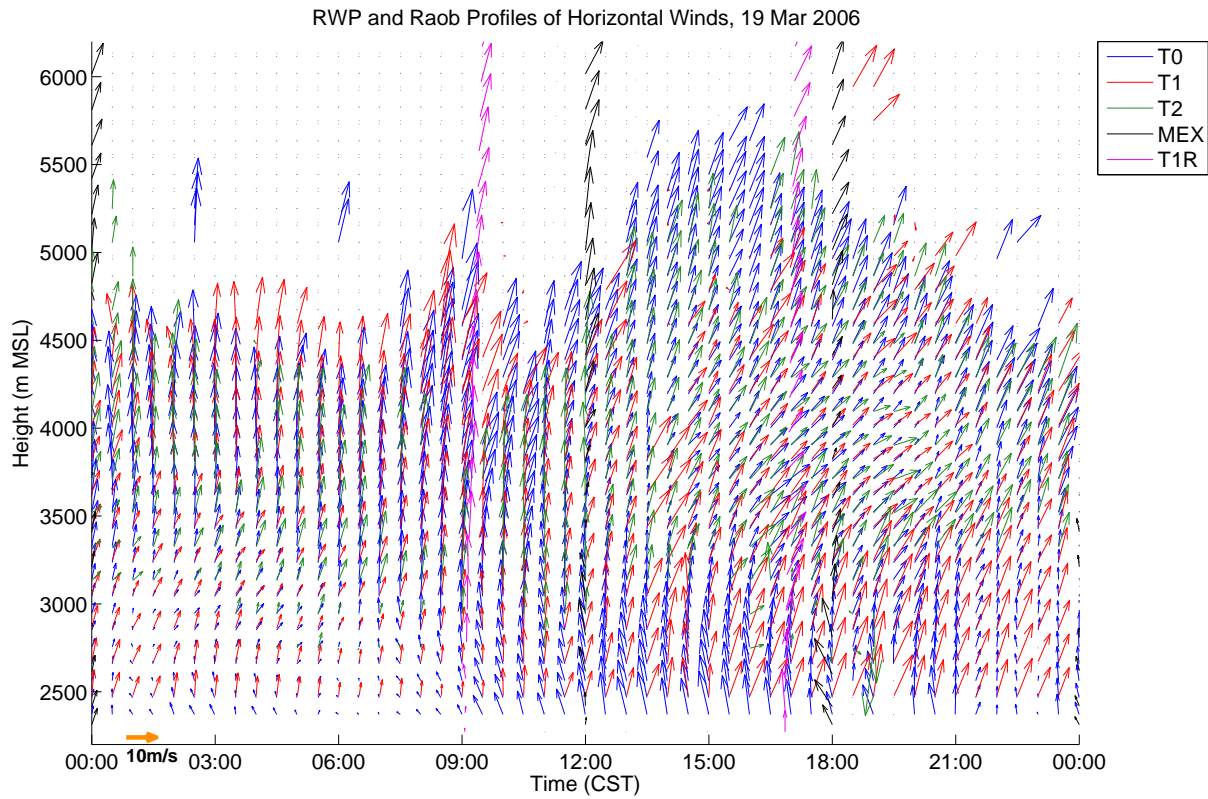


Figure 25: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

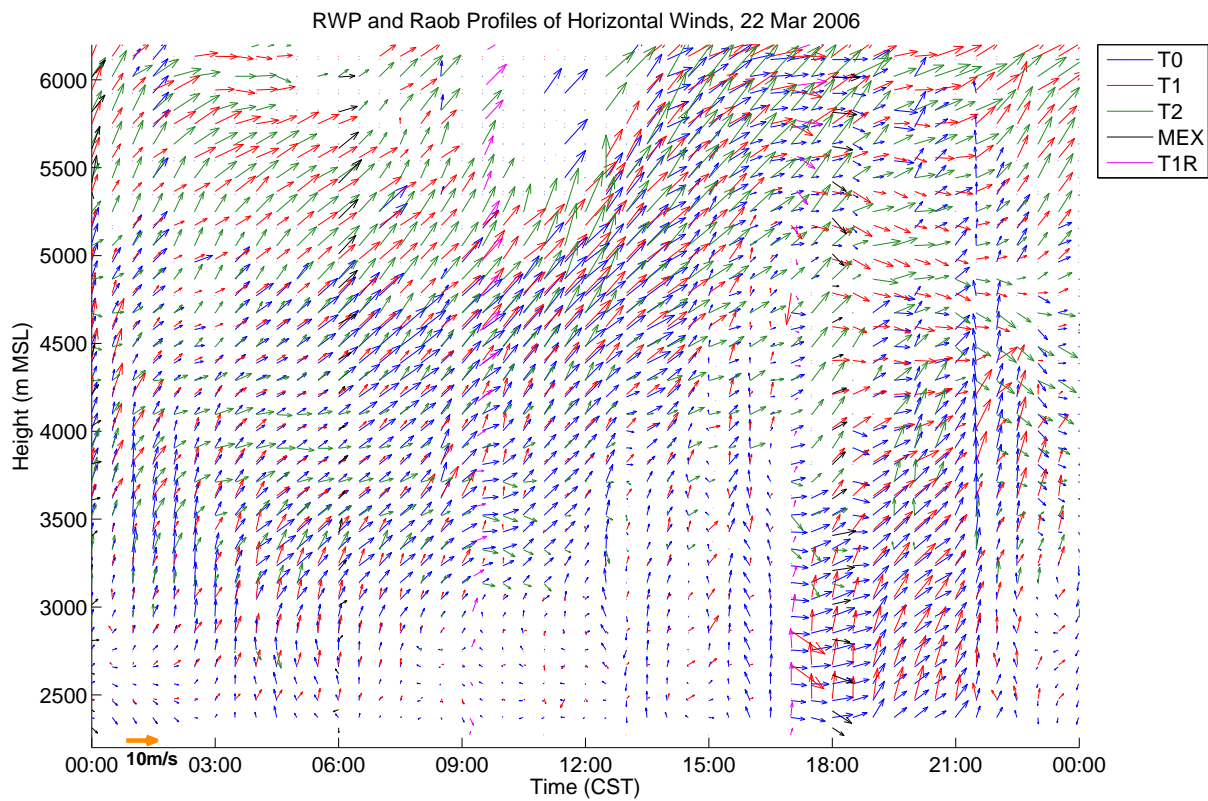
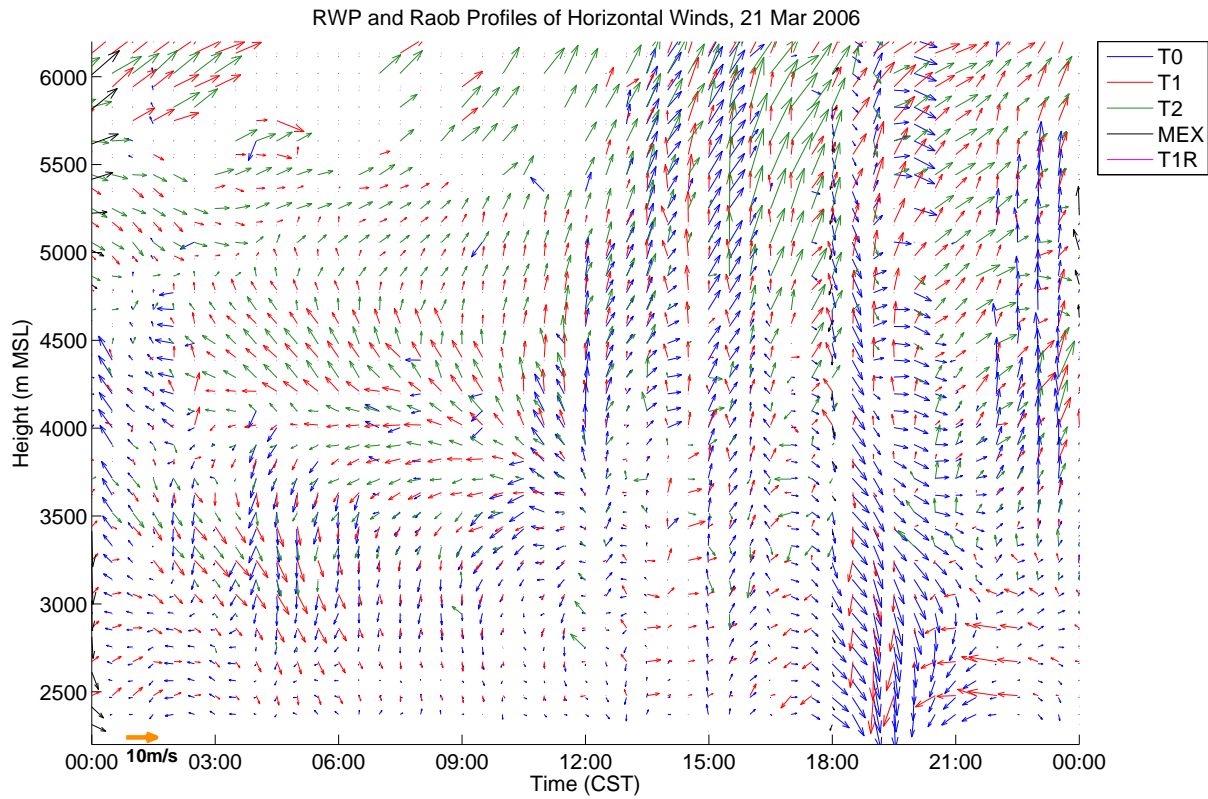


Figure 26: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

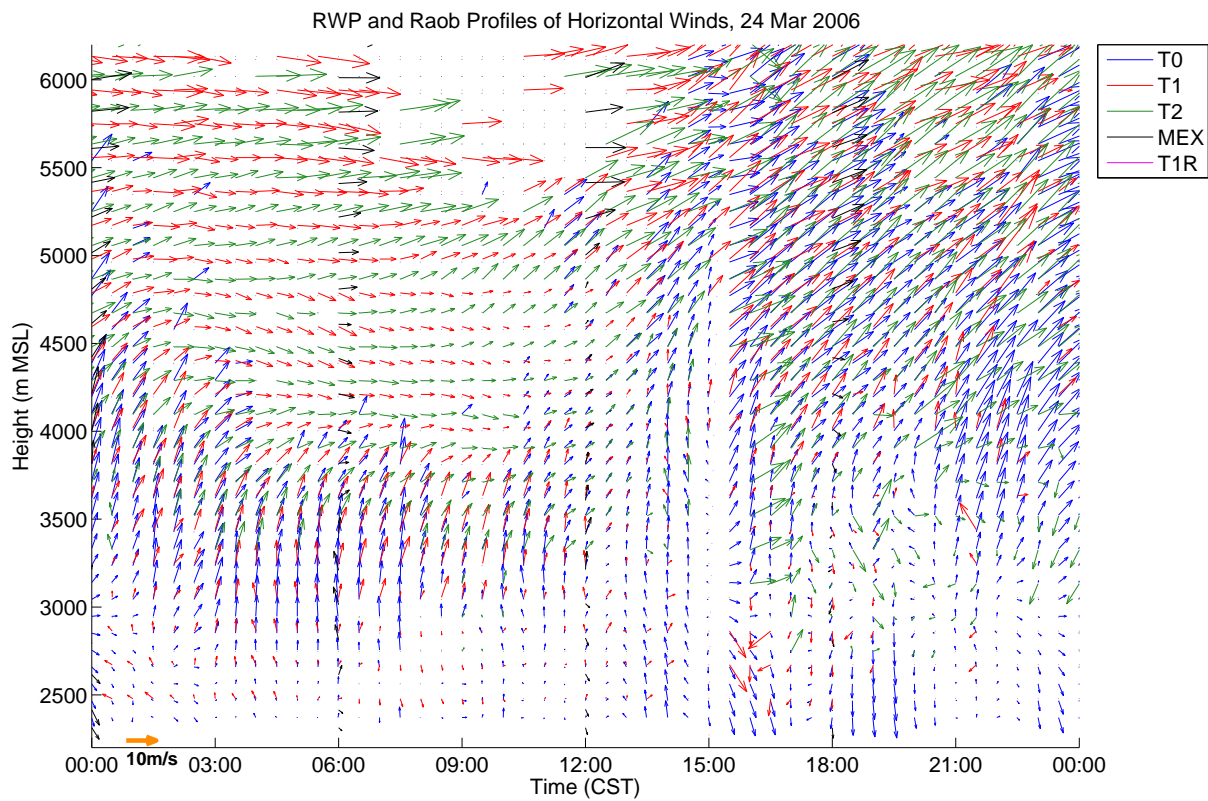
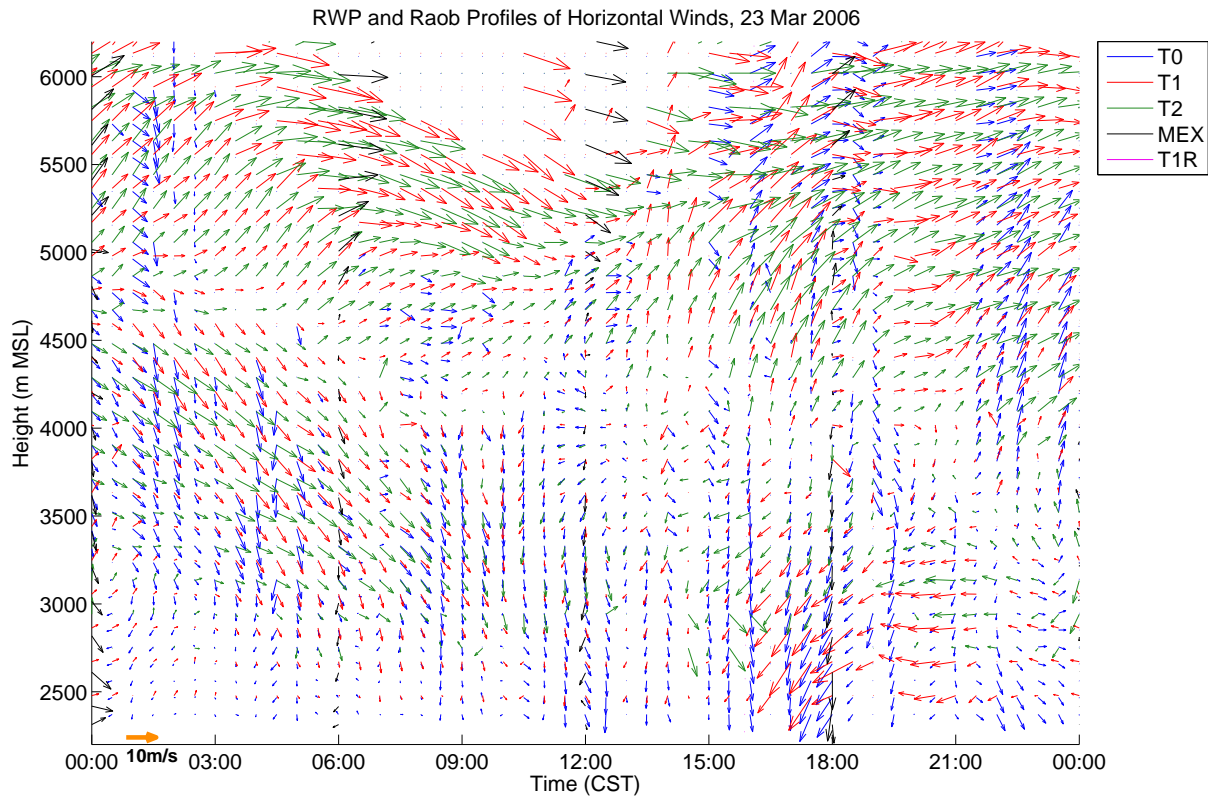


Figure 27: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

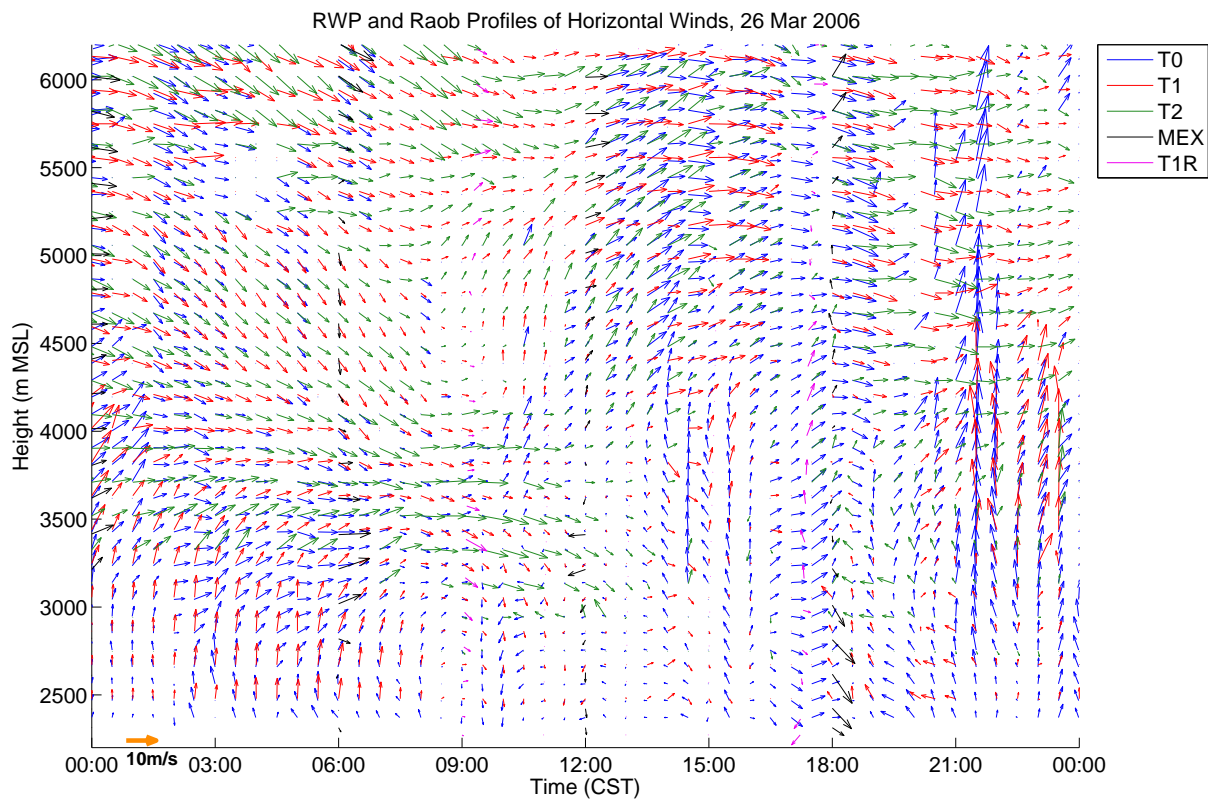
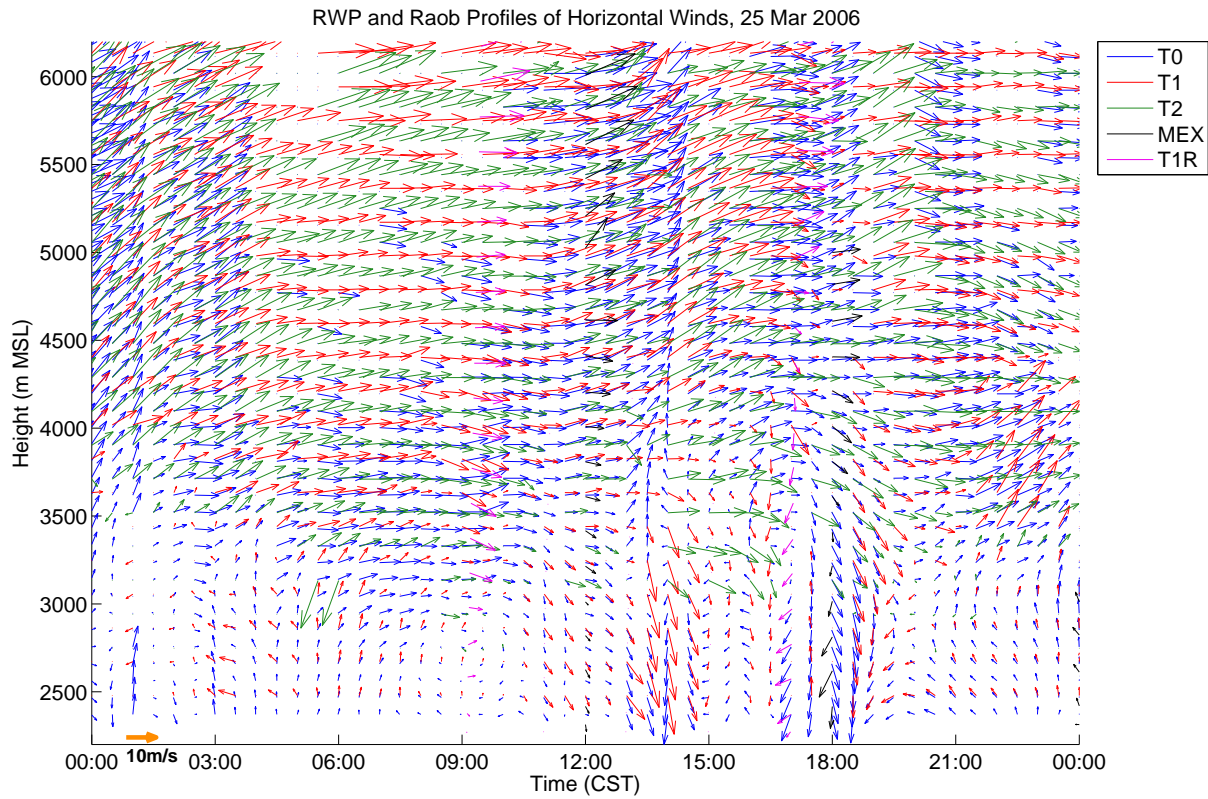


Figure 28: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

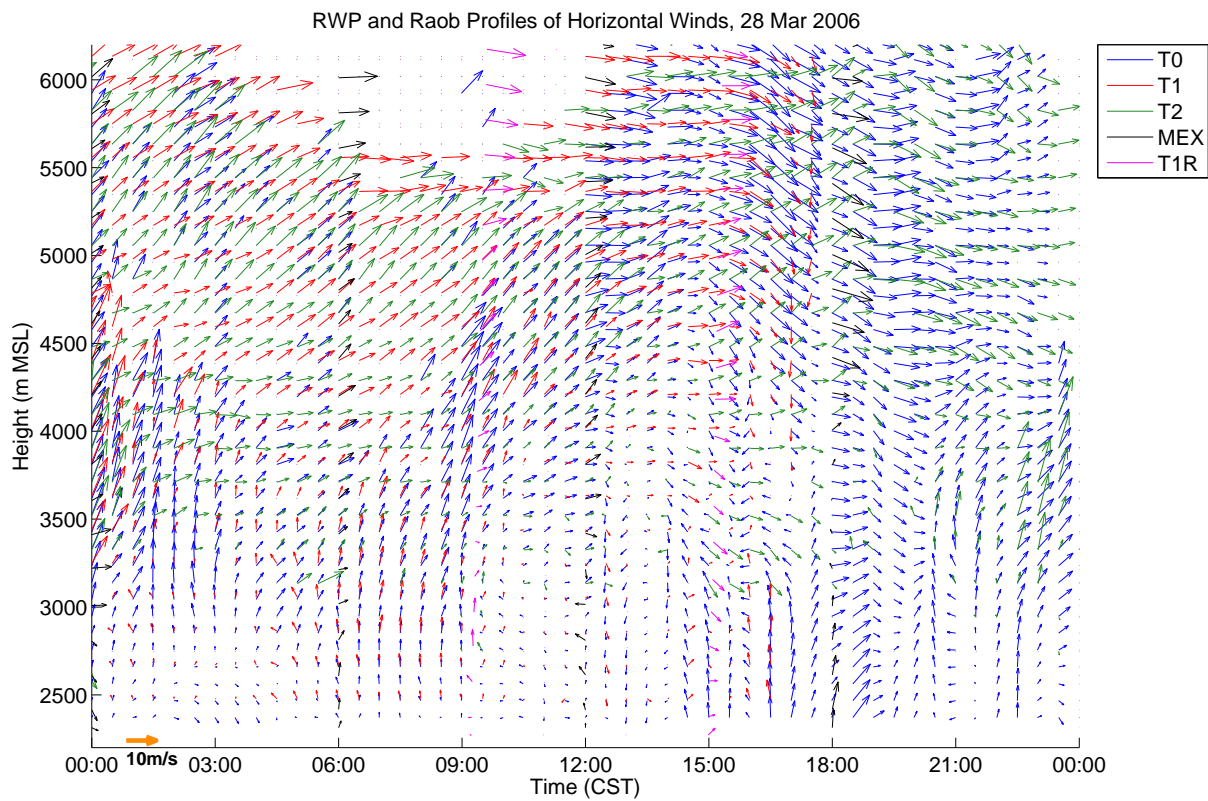
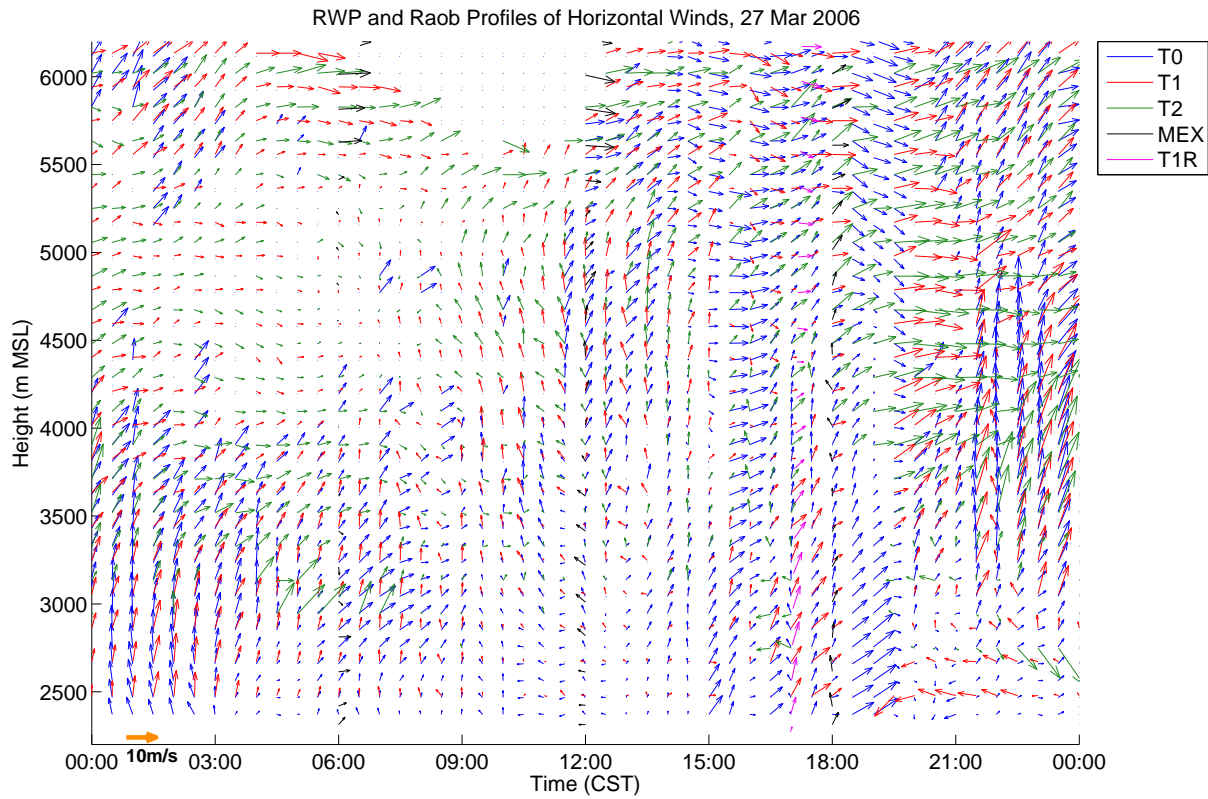


Figure 29: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

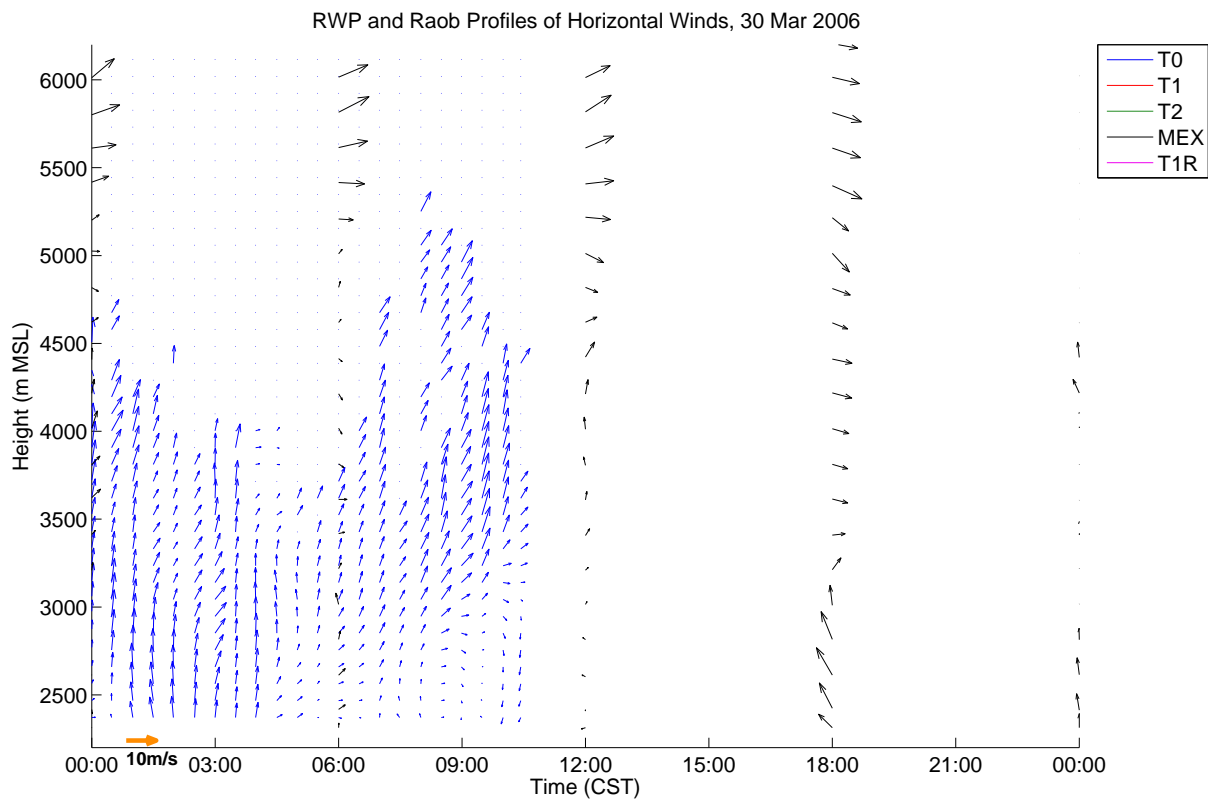
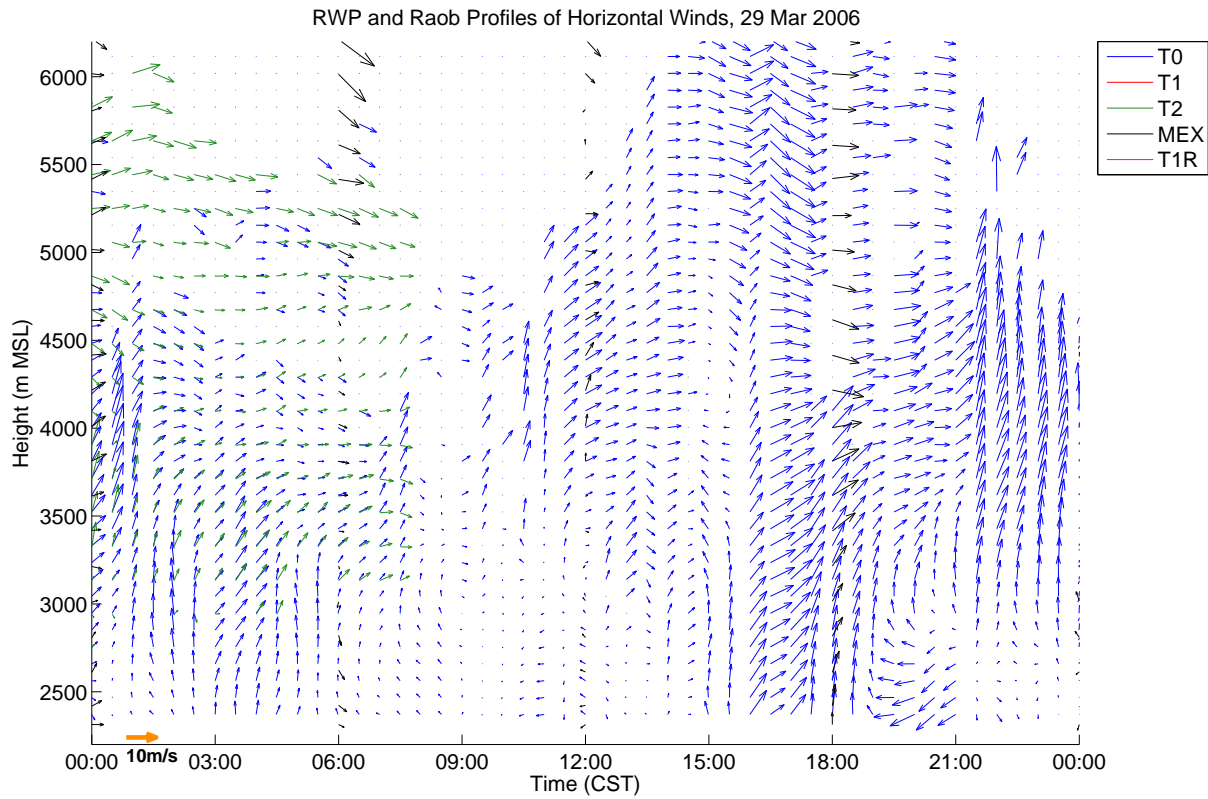


Figure 30: Vertical profiles of horizontal wind vectors at T0, T1, T2 and GSMN.

7 Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations

This supplemental section shows surface winds and SO₂ concentrations from measurements and simulations. Measured surface winds are from the Ambient Air Monitoring Network (Red Automatica de Monitoreo Atmosferico, RAMA) (in green), the Mexican National Weather Service (SMN) (in blue), the mobile stations at Santa Ana Tlacotenco (tan) and Tenango del Aire (orange) and the T0 supersite (pink). Measured surface SO₂ concentrations are from the RAMA network. Simulated winds are from the WRF 10 m winds. Simulated surface SO₂ concentrations are from CAMx simulations with urban, Tula and Popocatepetl sources. Extent of plotting domain used for measurements shown as a box in model domain. Please see the paper for data description, station location and acknowledgements:

B. de Foy, N. Bei, S.C. Herndon, L.G. Huey, N.A. Krotkov, A.-P. Martinez, L.G. Ruiz-Suarez, E.C. Wood, M. Zavala and L.T. Molina: Hit from both sides: tracking industrial and volcanic plumes in Mexico City with surface measurements and OMI SO₂ retrievals during the MILAGRO field campaign. *Atmospheric Chemistry and Physics*, 2009.

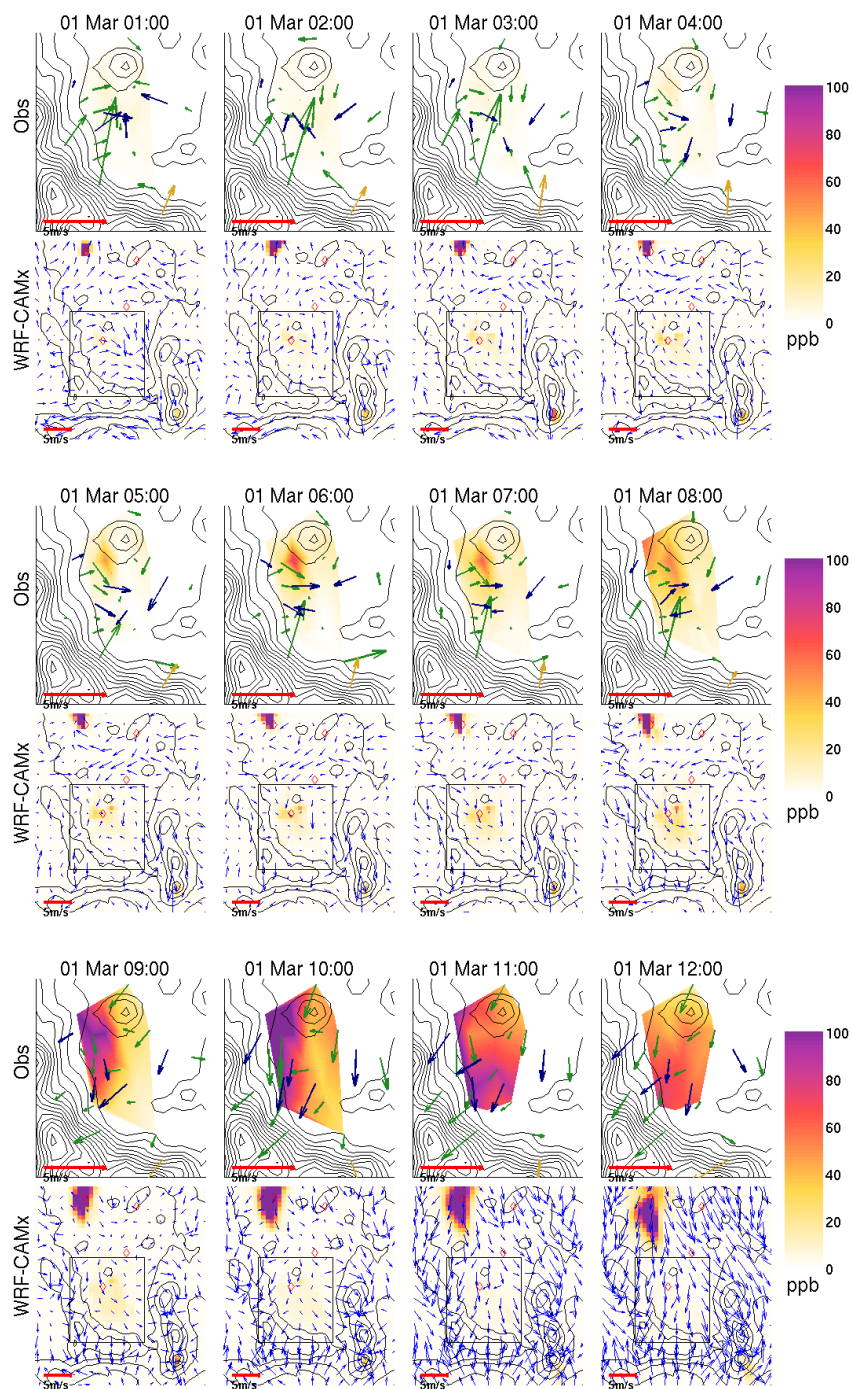


Figure 31: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

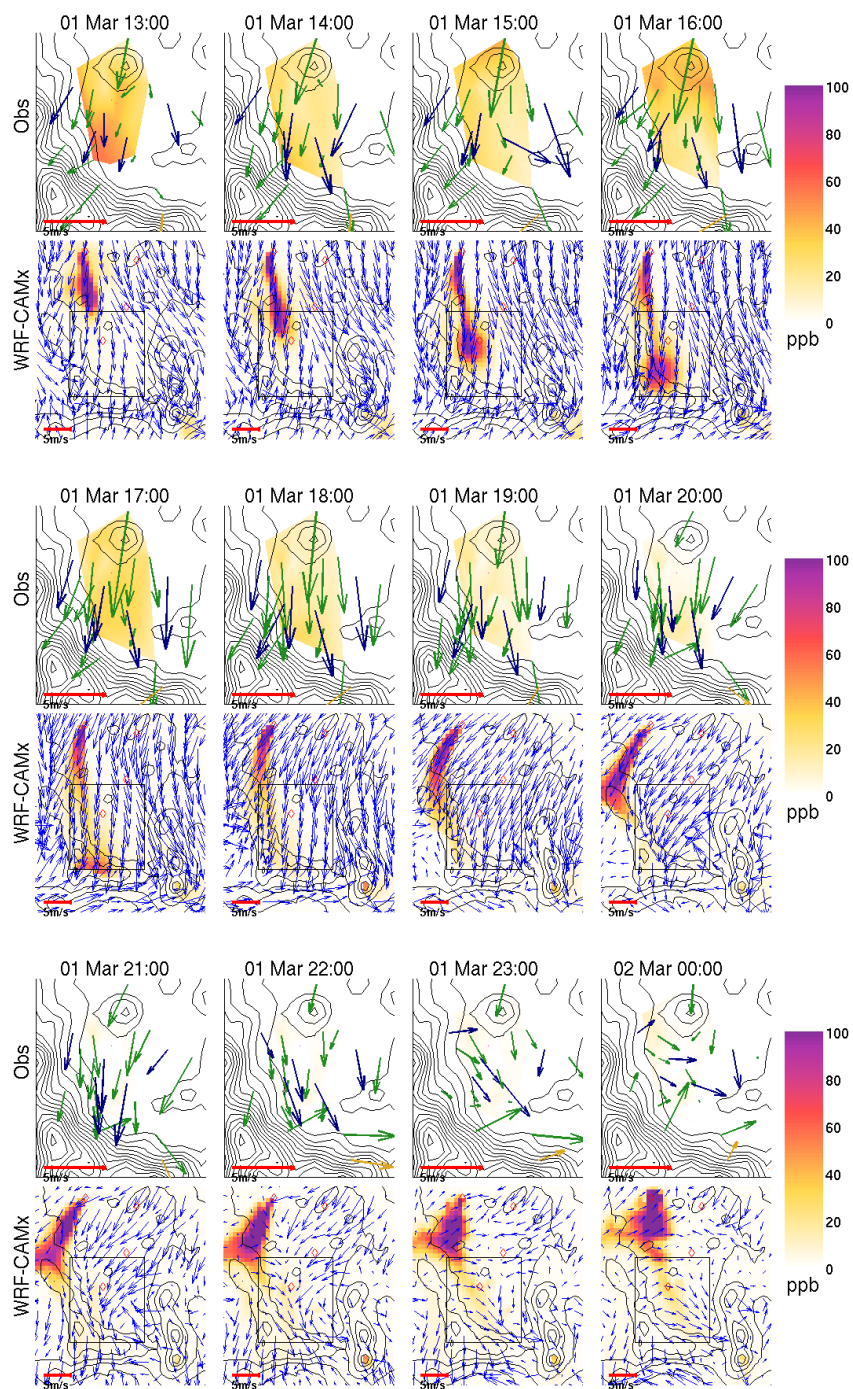


Figure 32: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

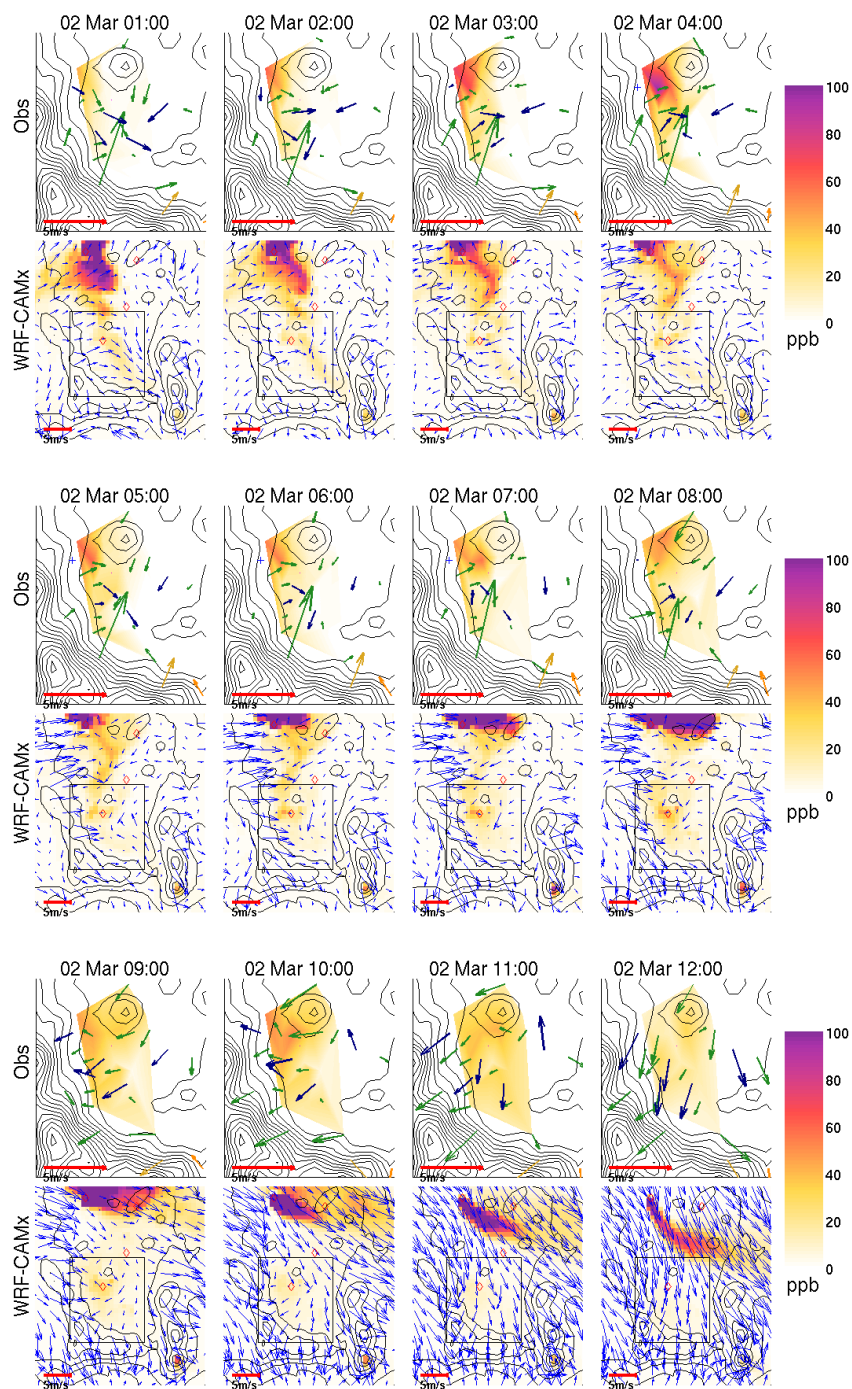


Figure 33: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

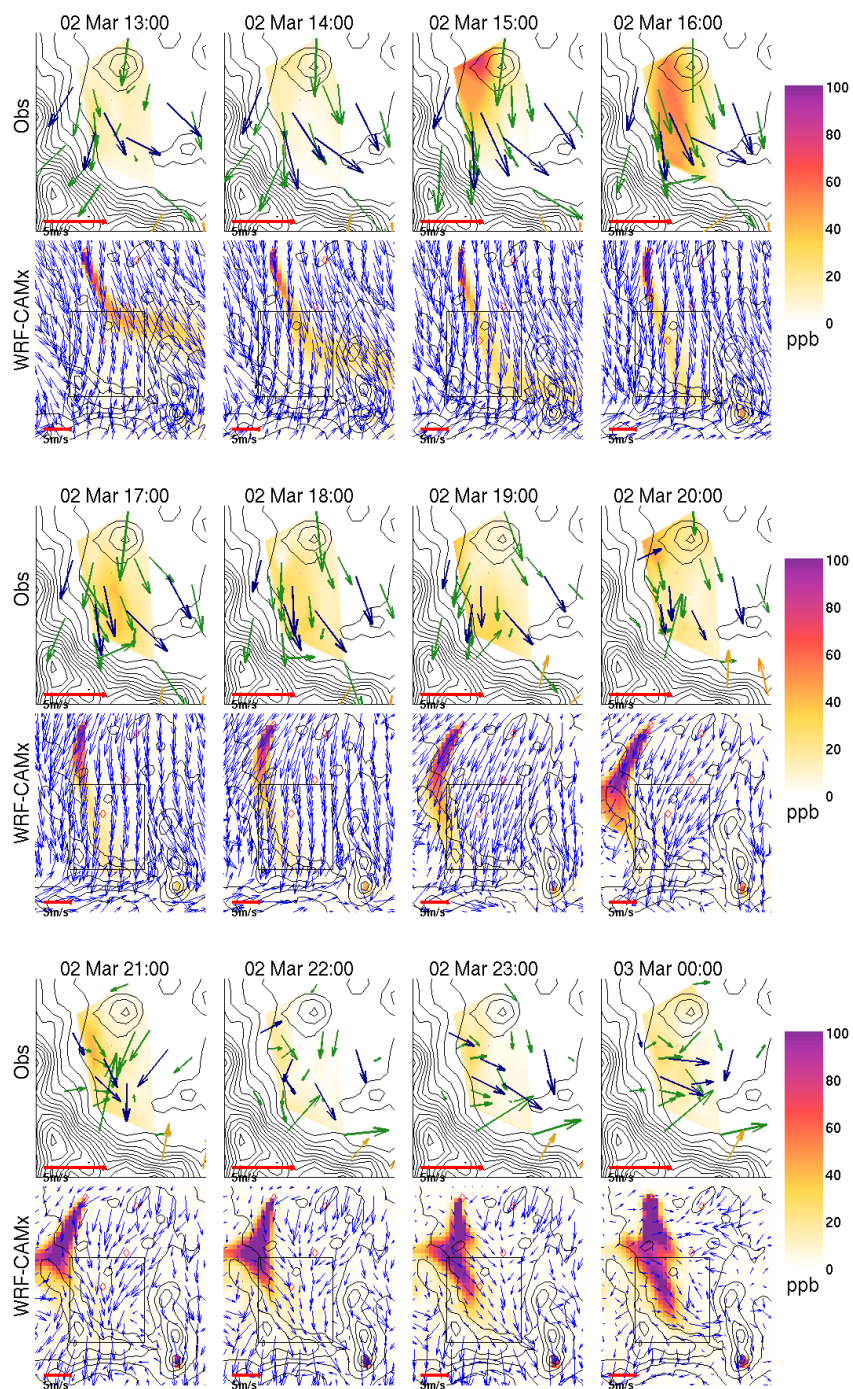


Figure 34: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

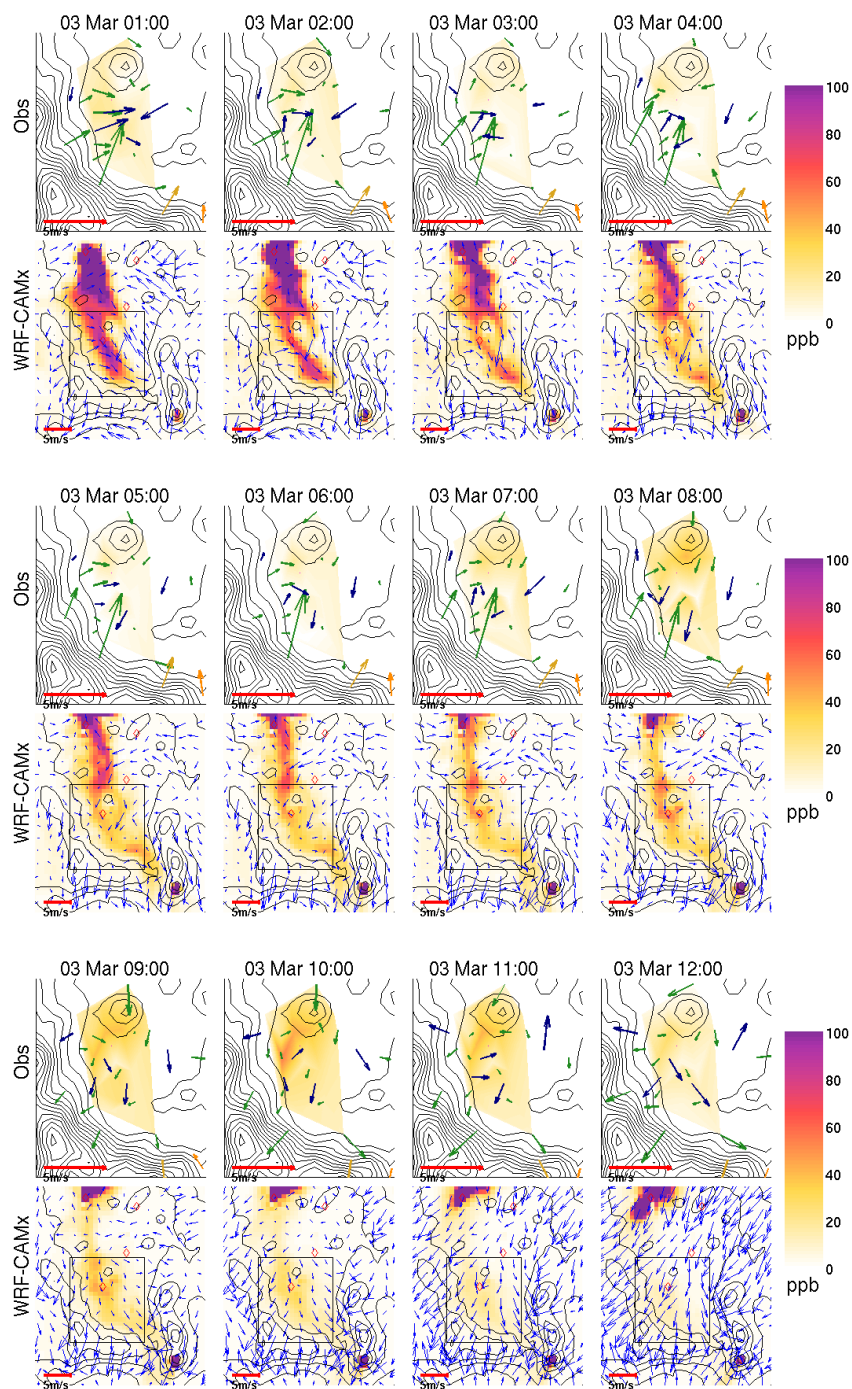


Figure 35: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

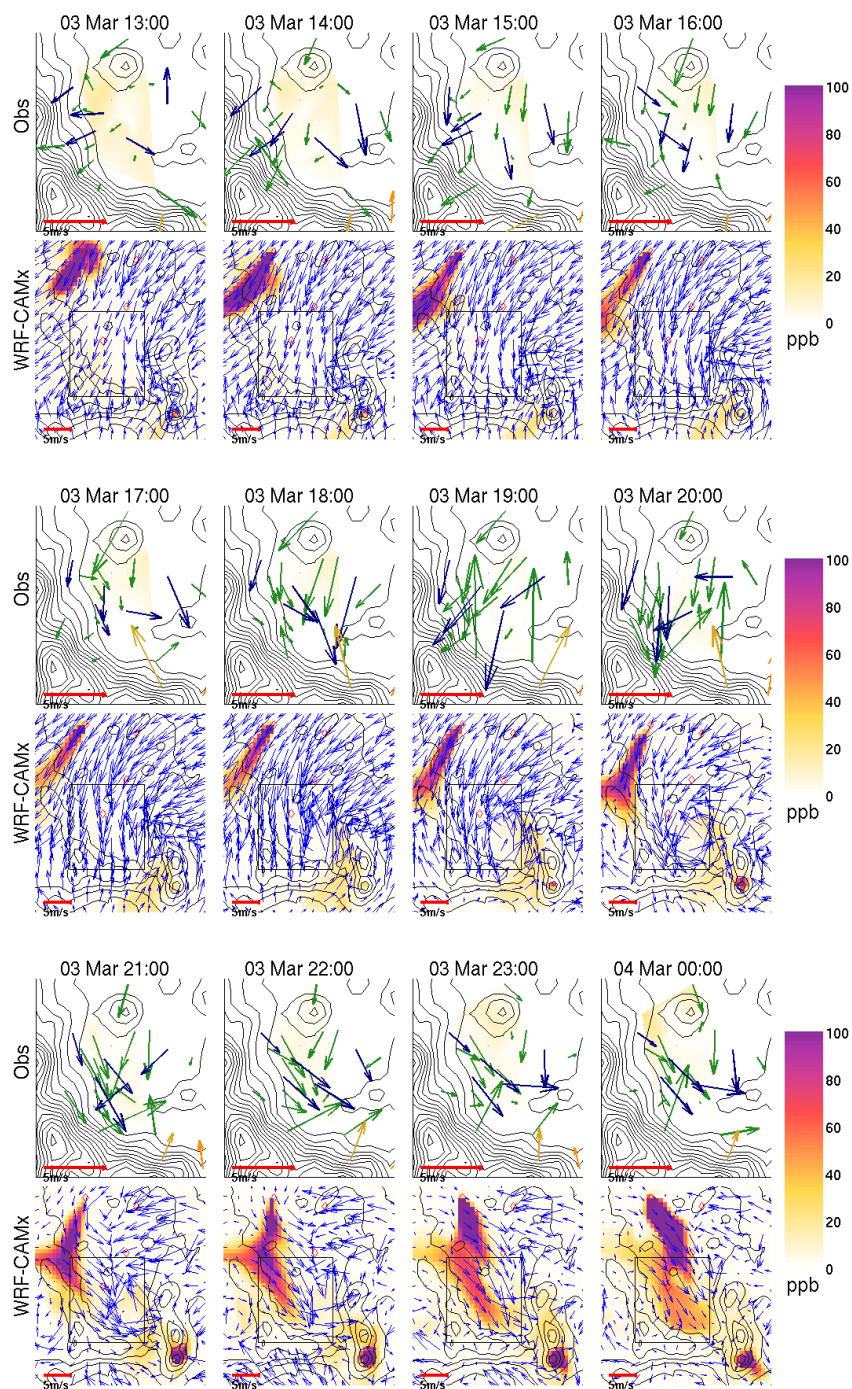


Figure 36: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

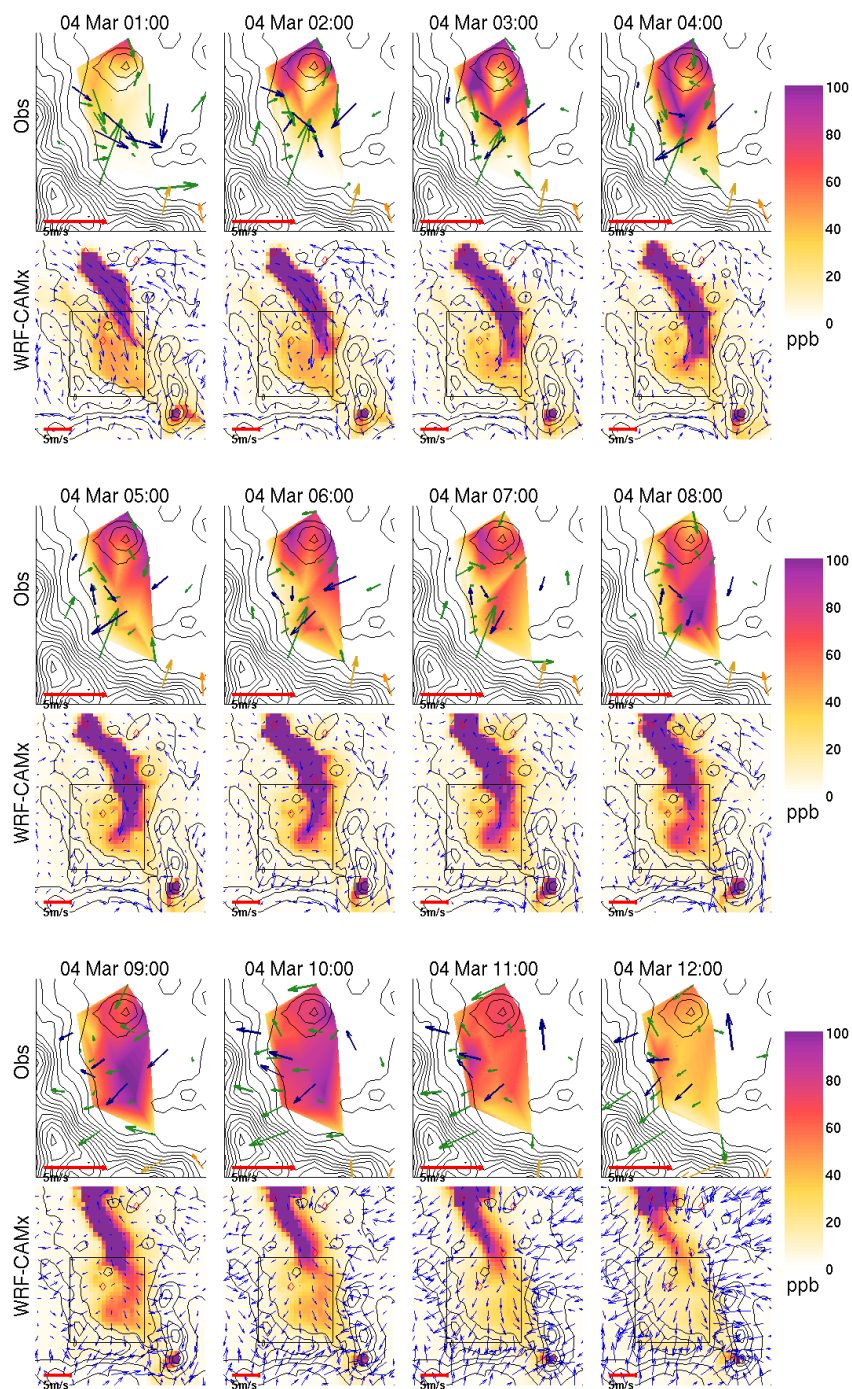


Figure 37: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

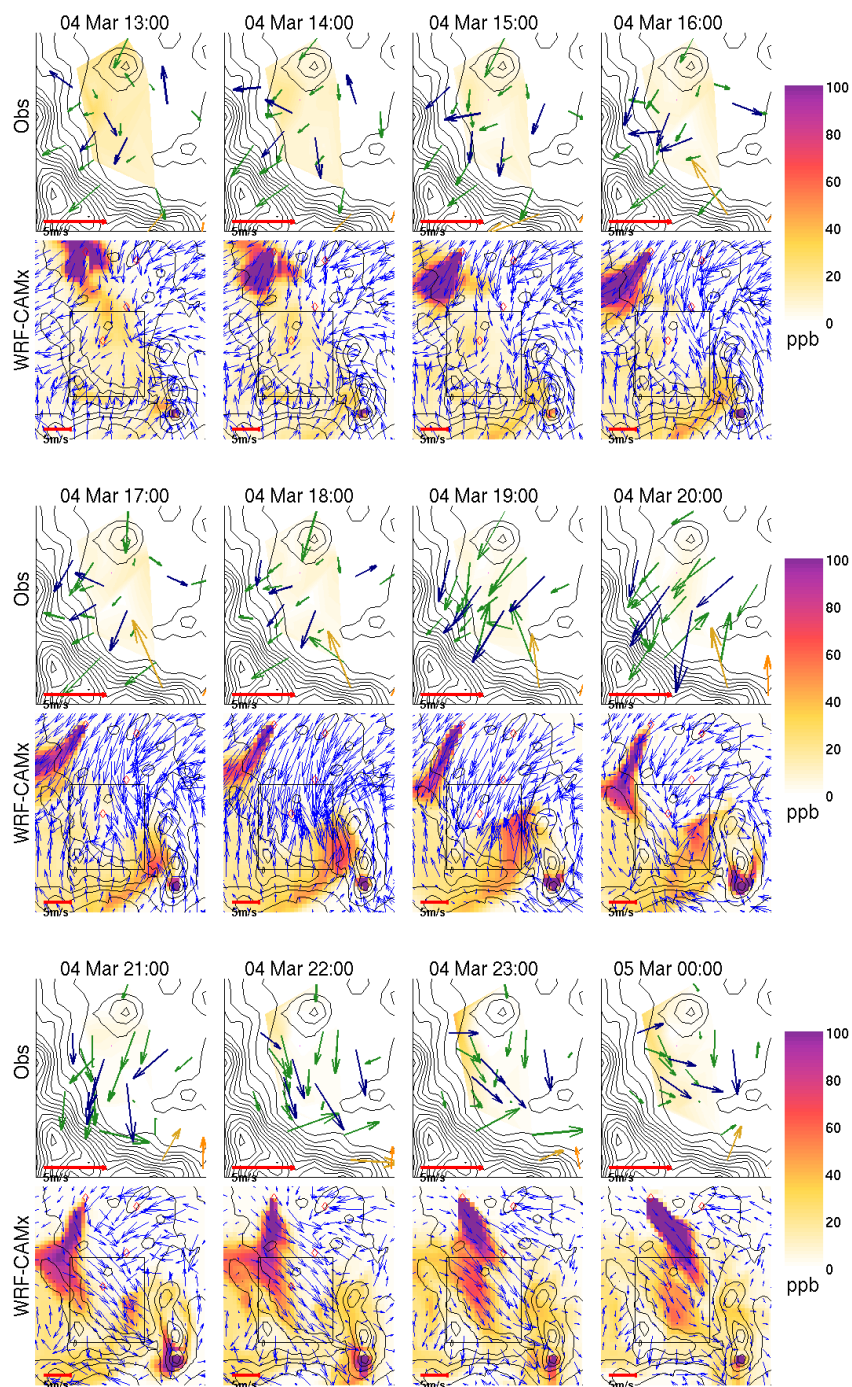


Figure 38: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

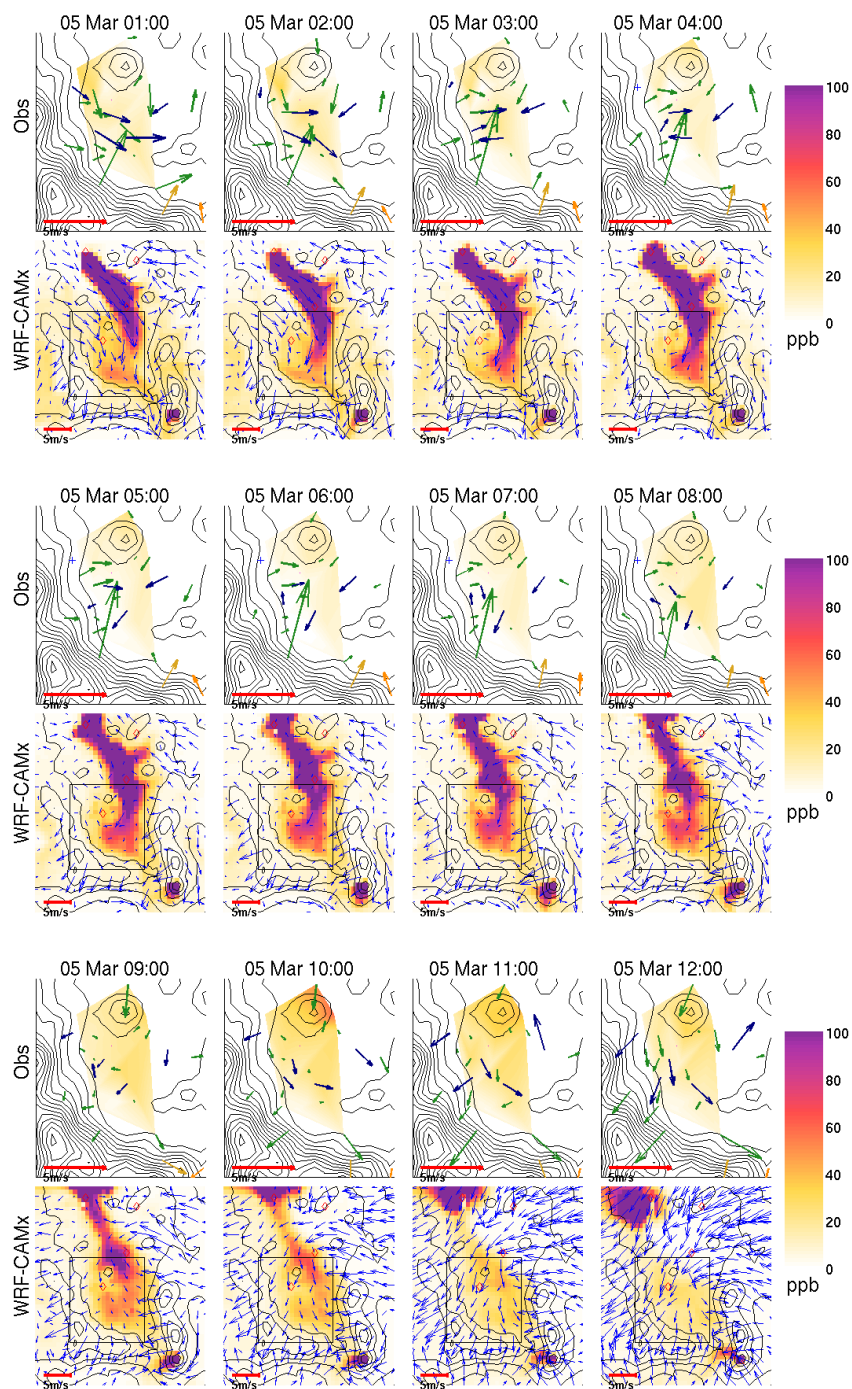


Figure 39: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

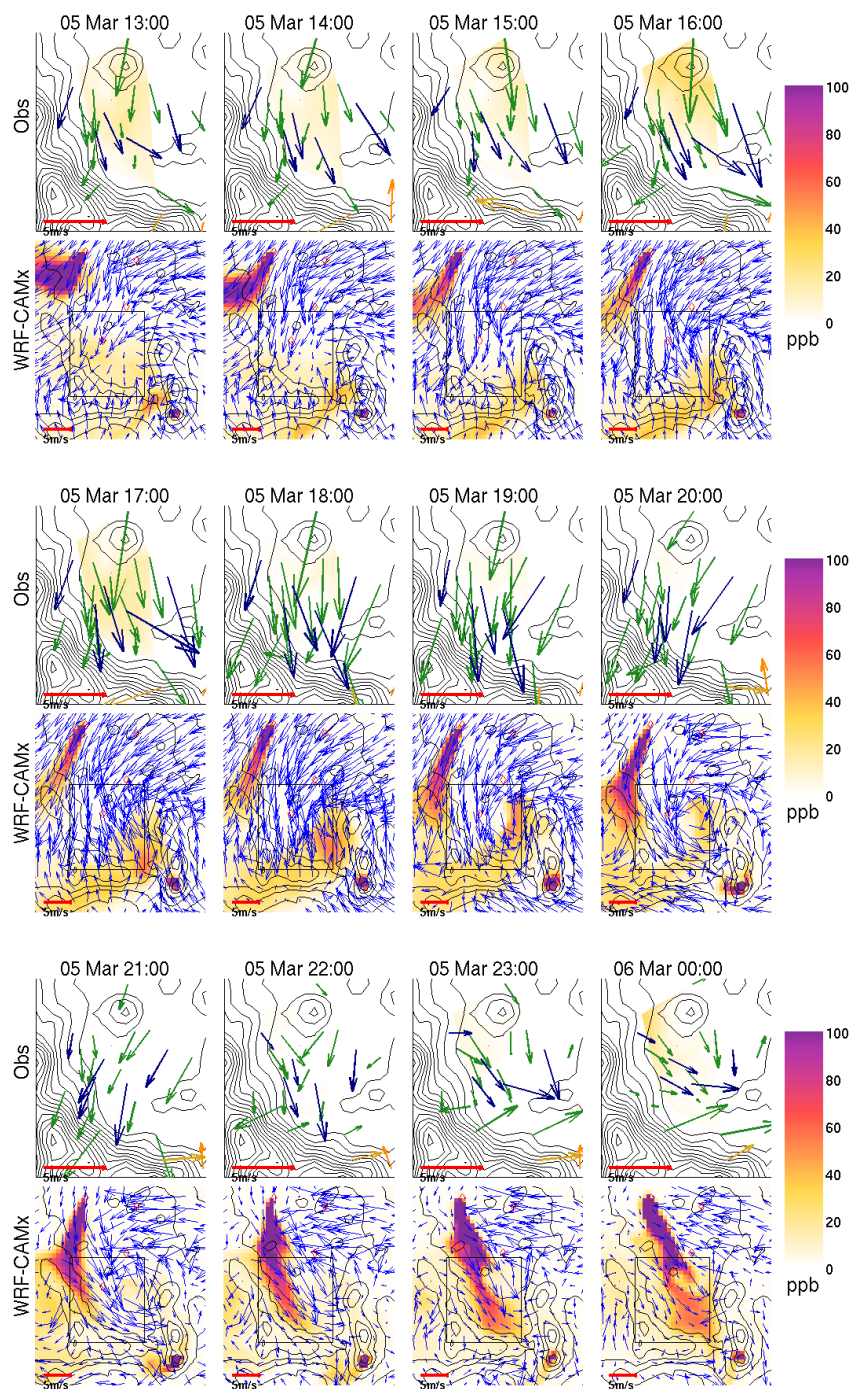


Figure 40: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

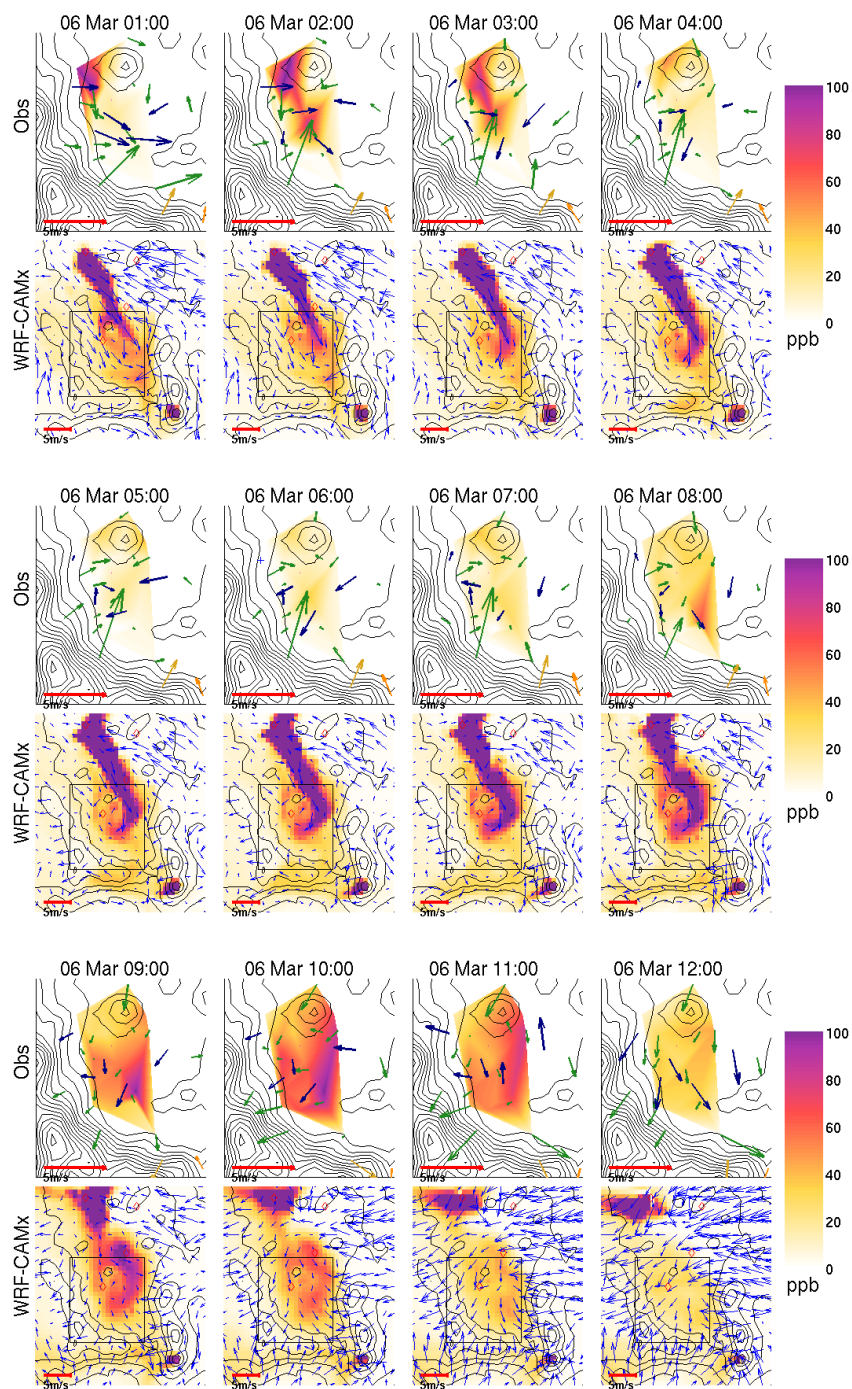


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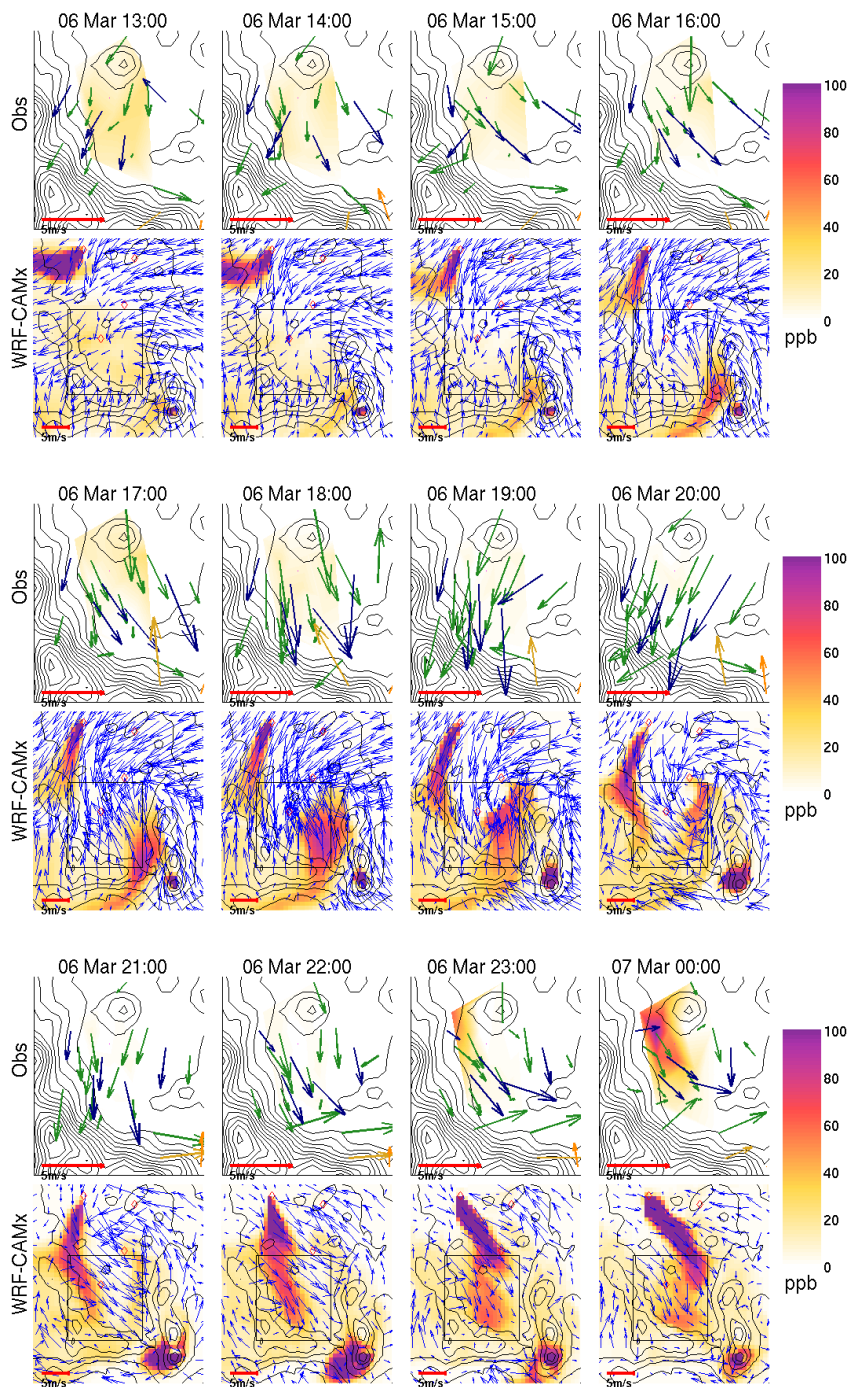


Figure 42: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

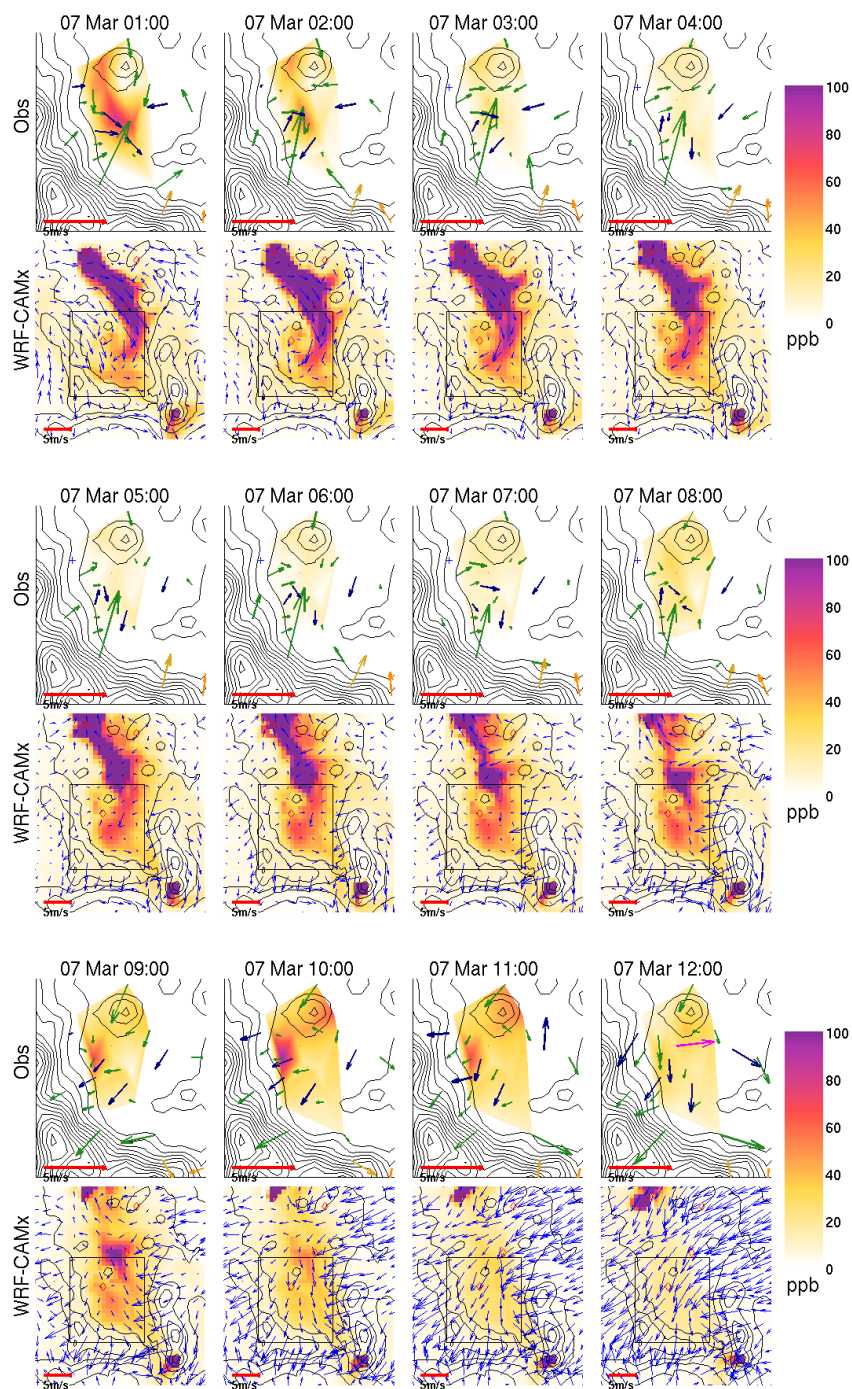


Figure 43: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

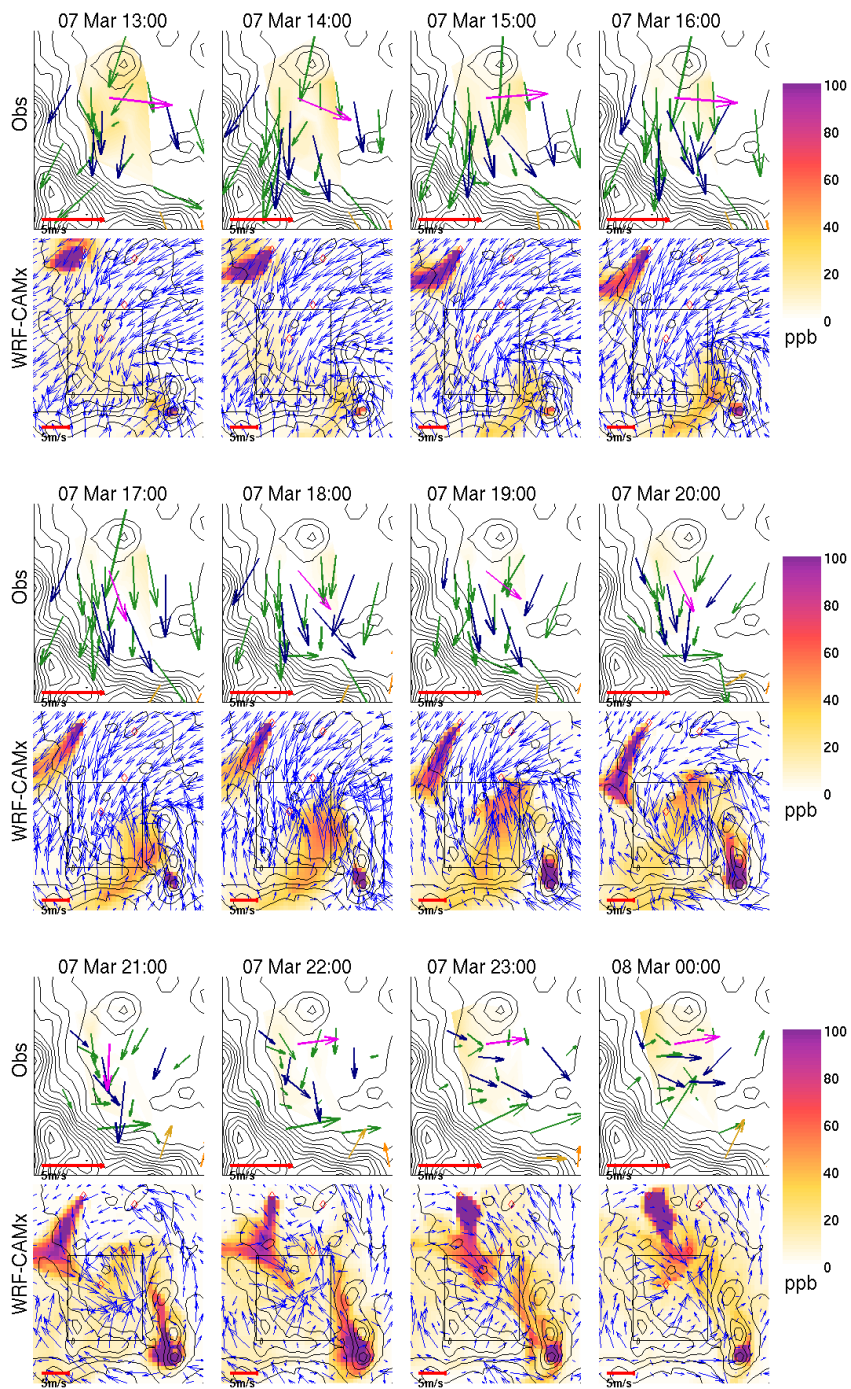


Figure 44: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

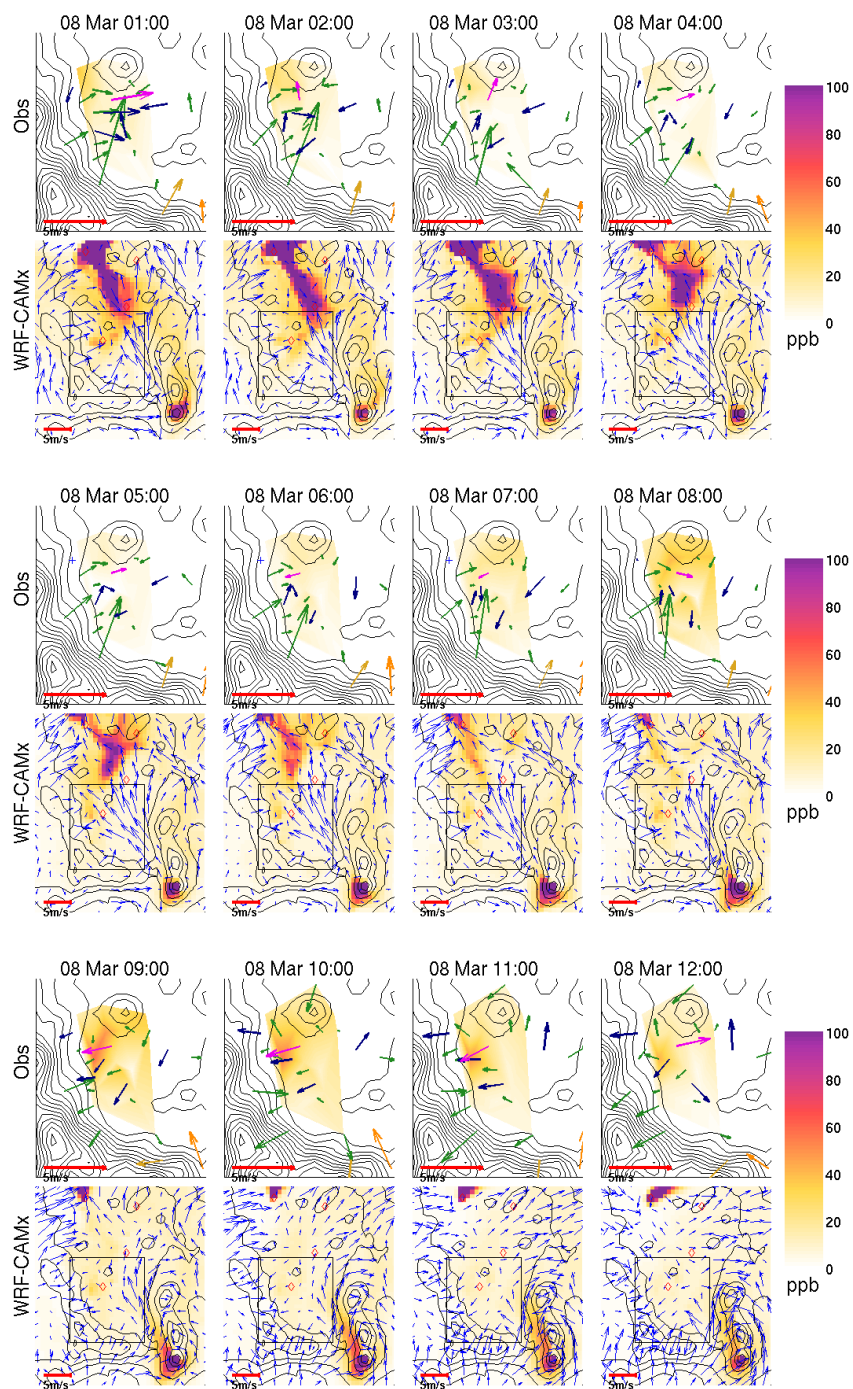


Figure 45: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

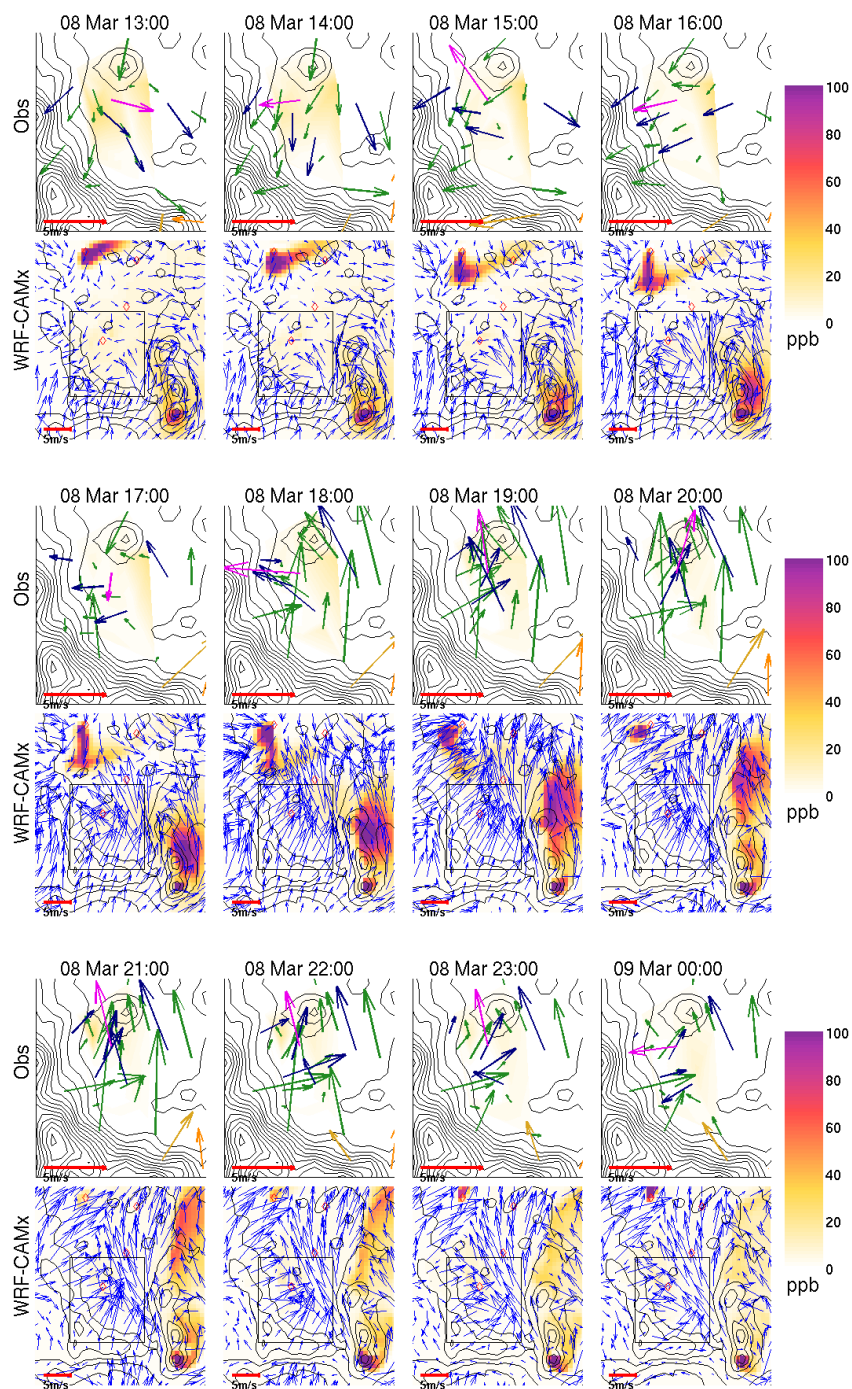


Figure 46: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

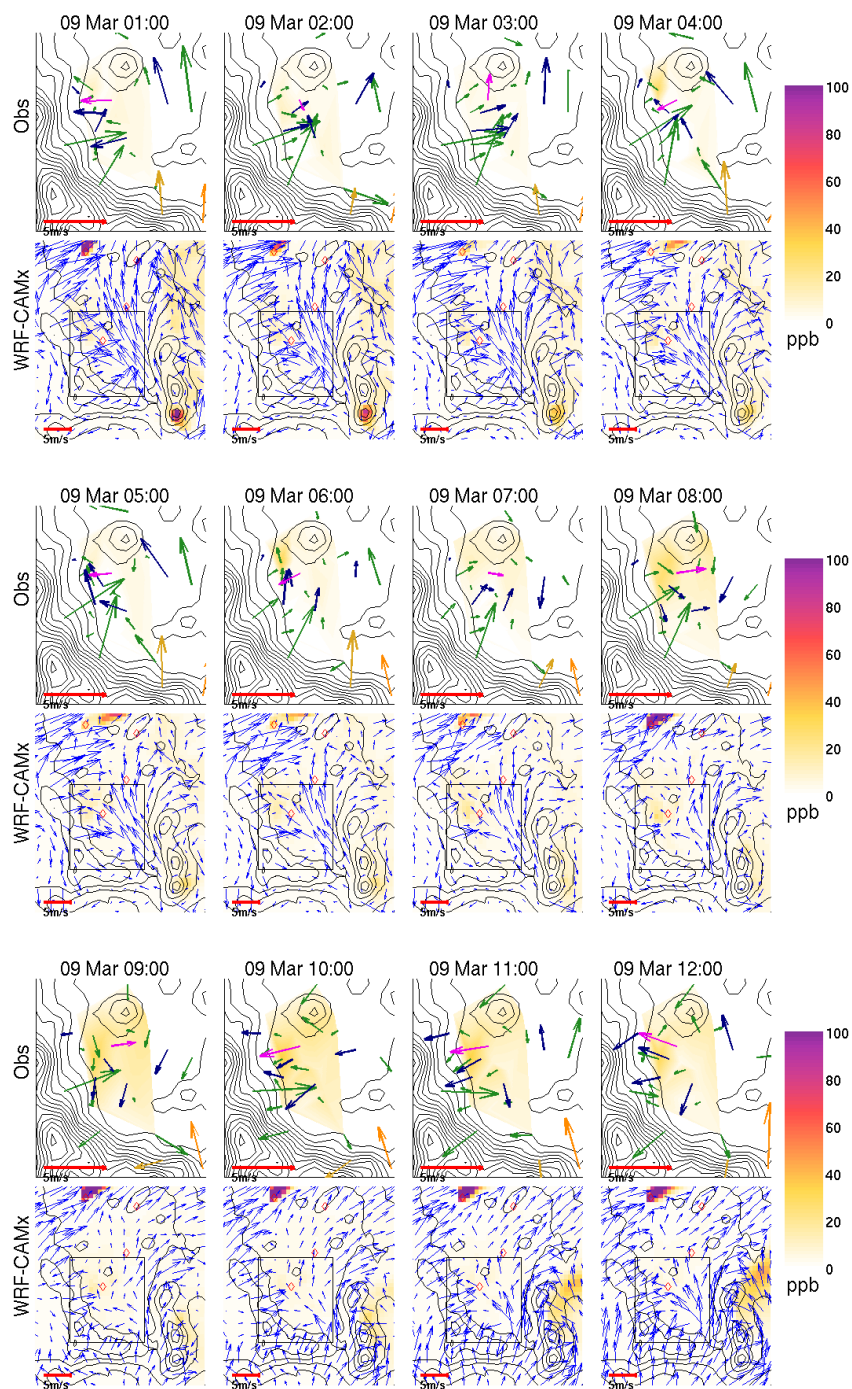


Figure 47: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

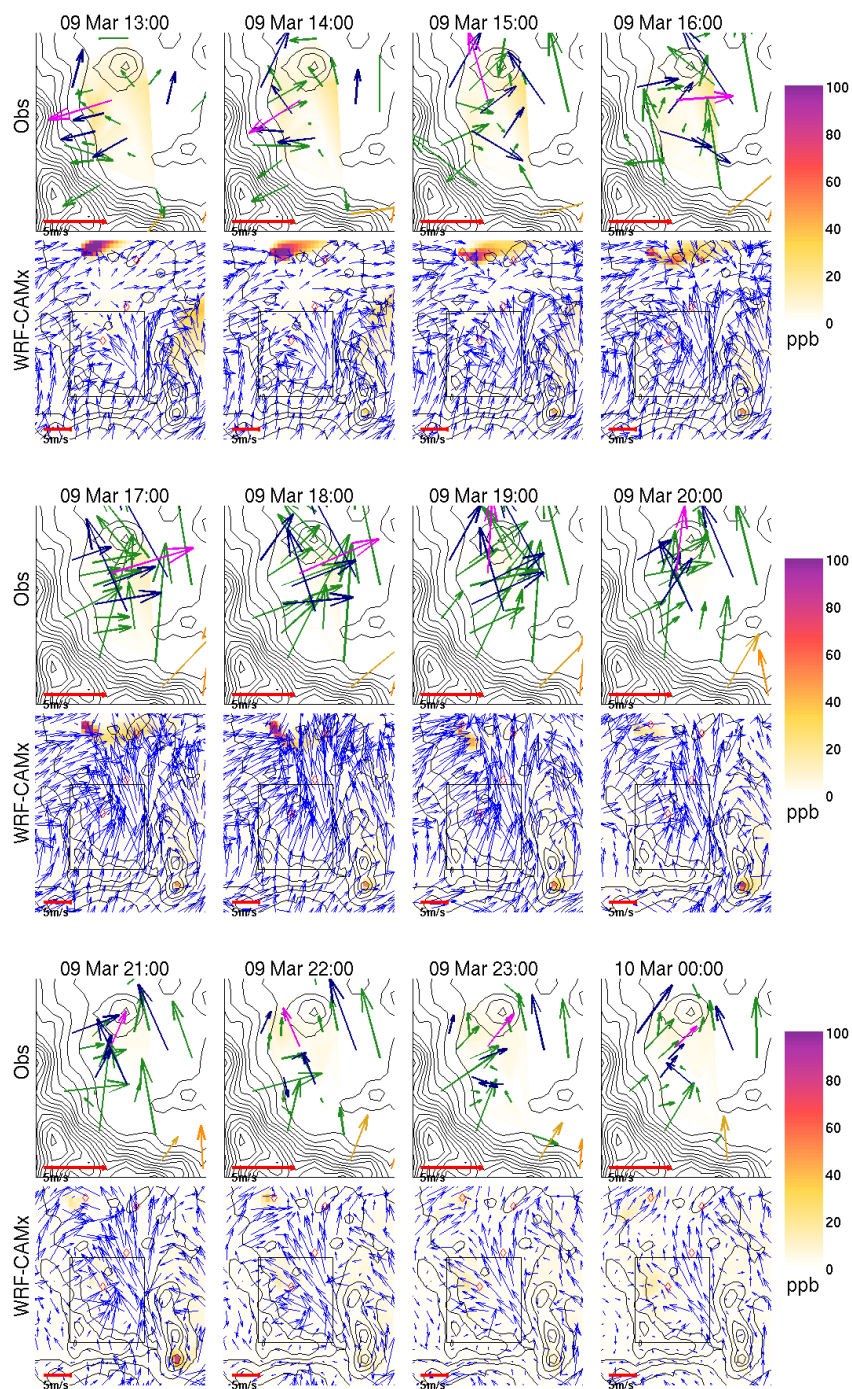


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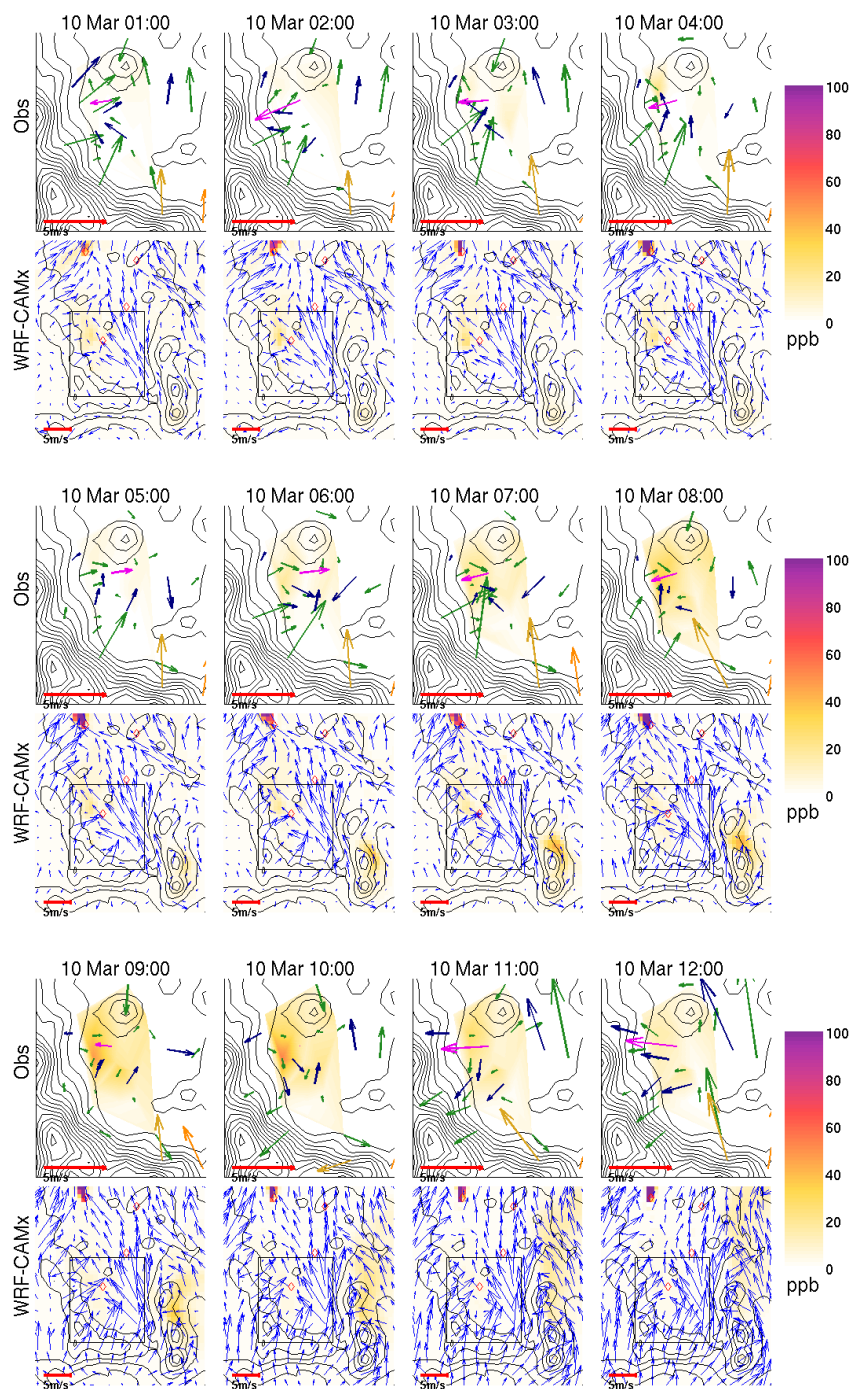


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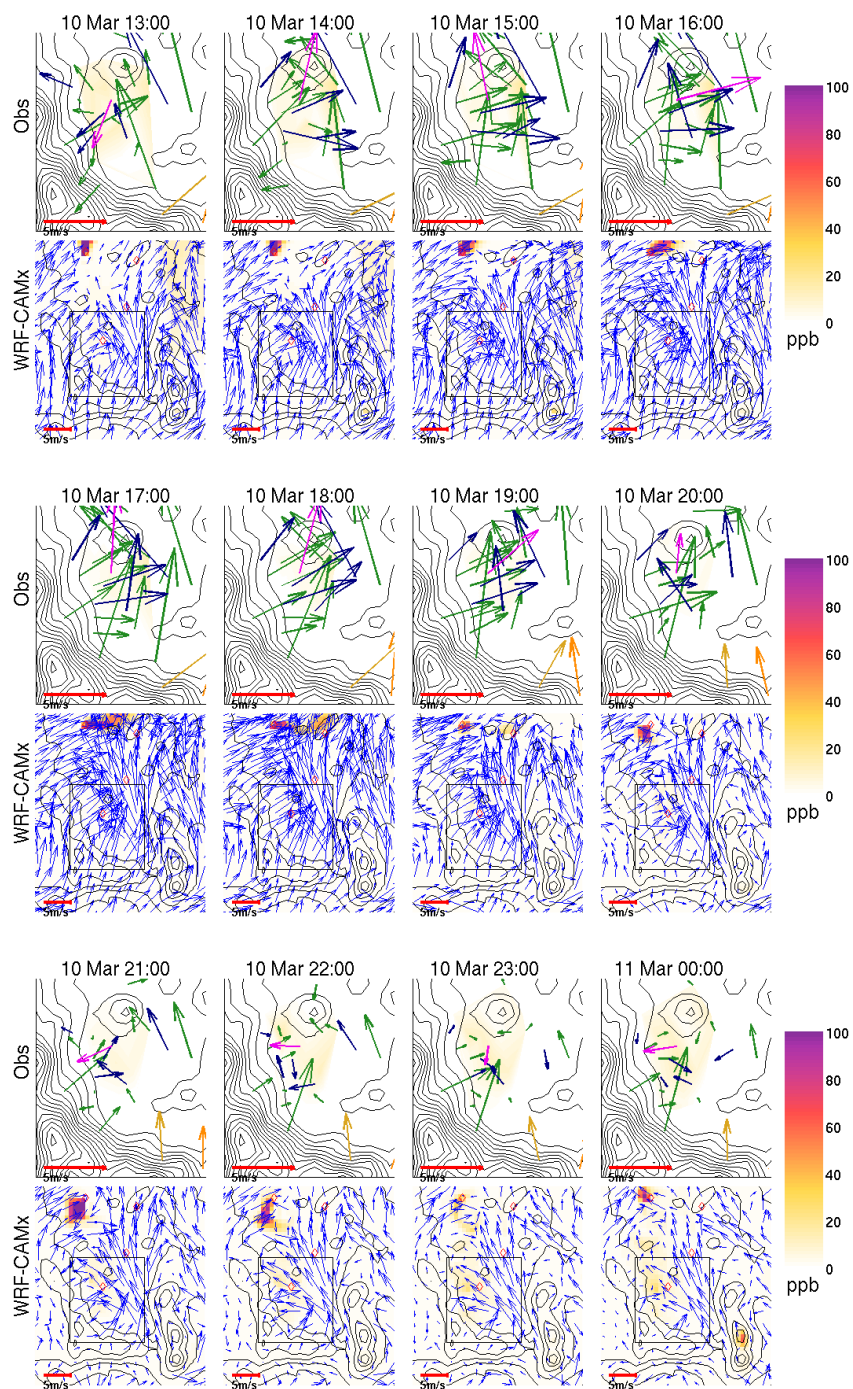


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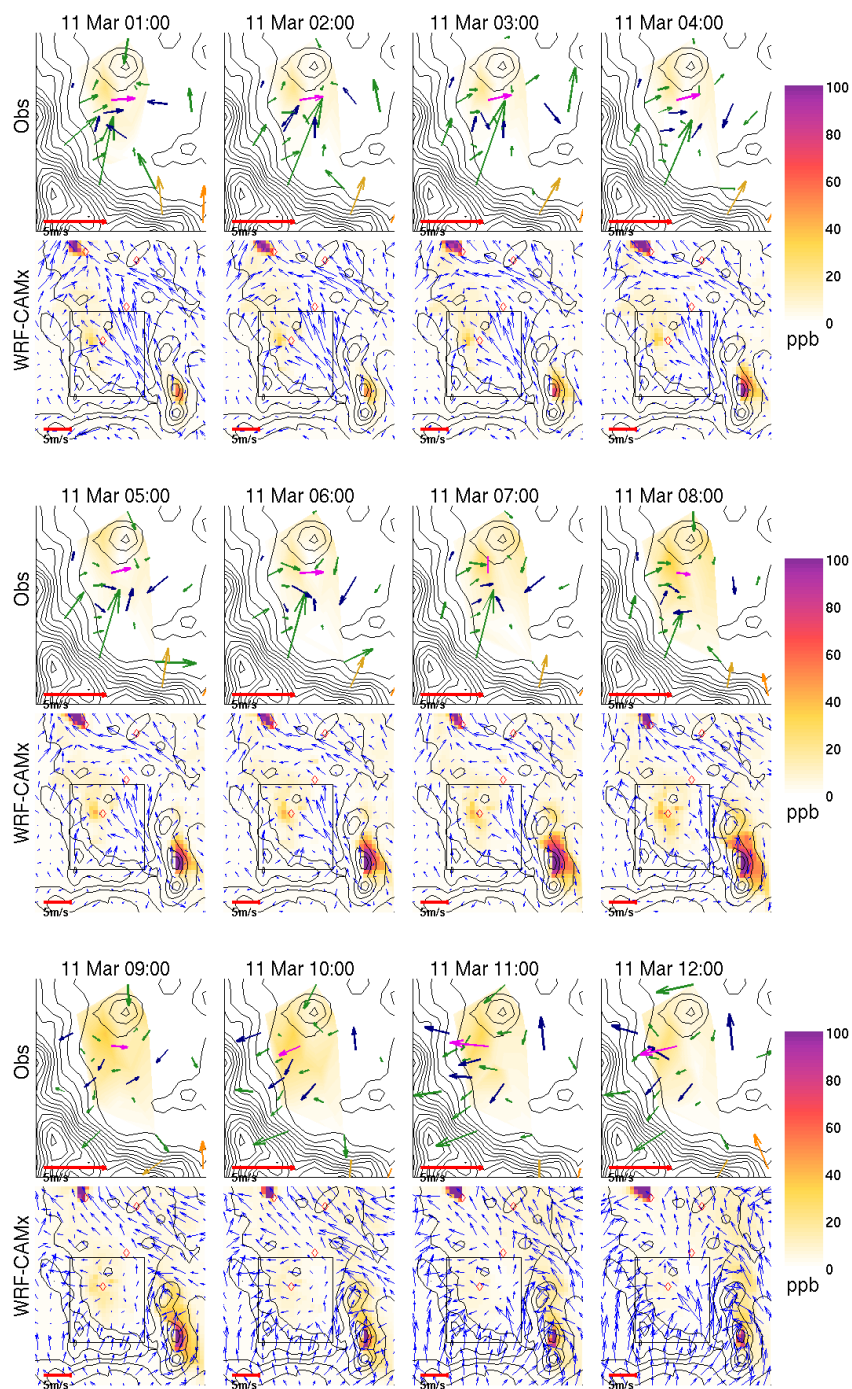


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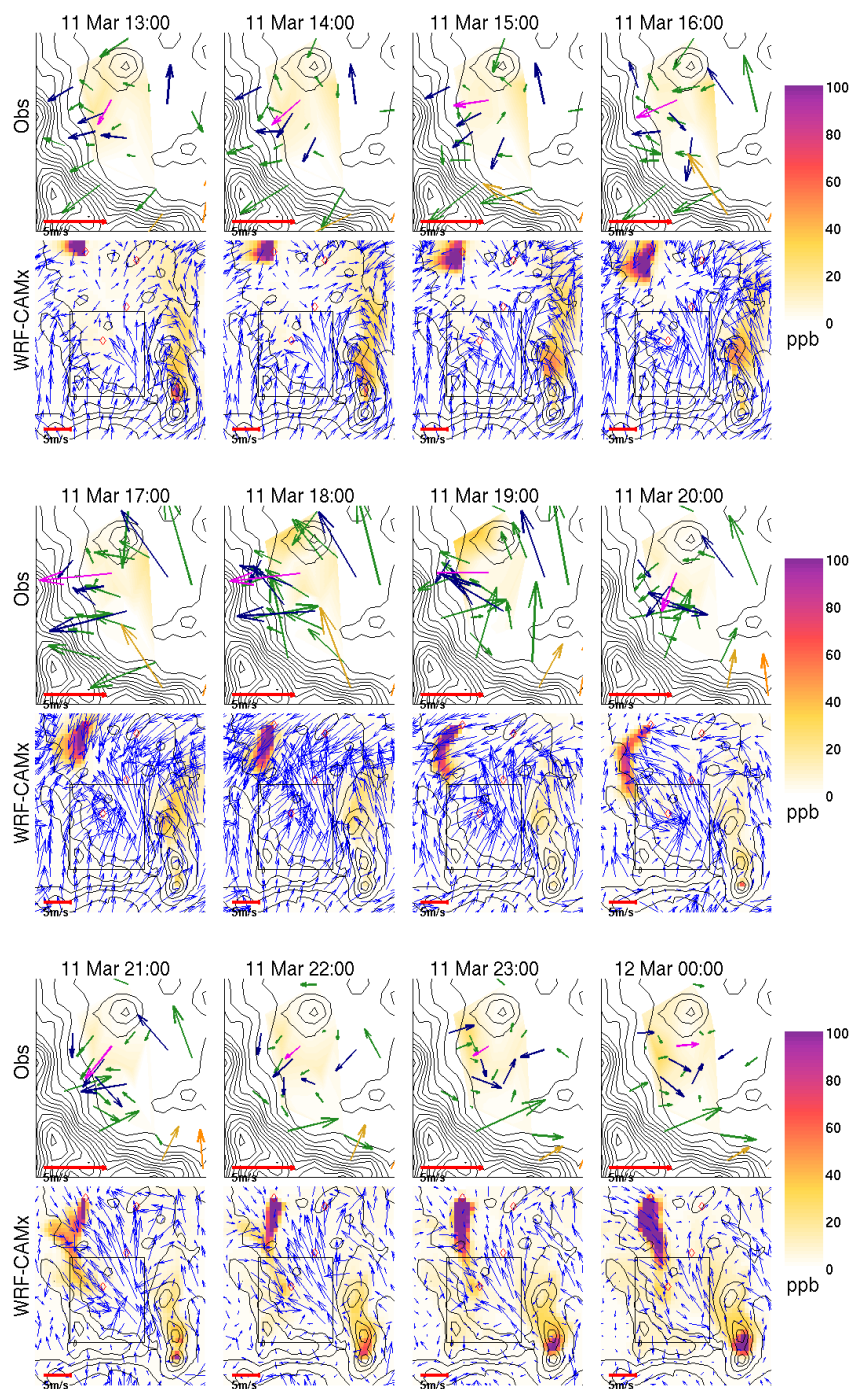


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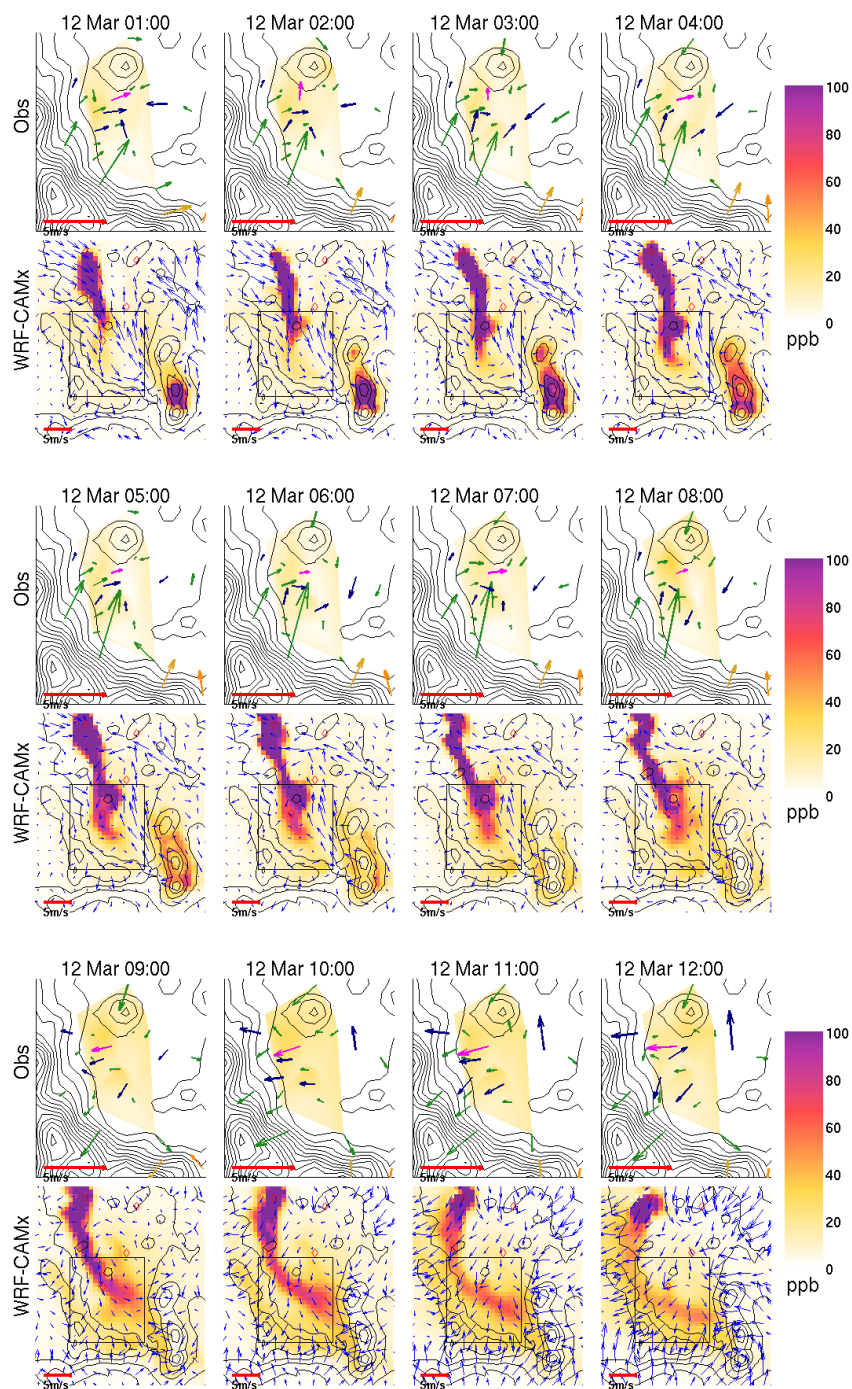


Figure 53: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

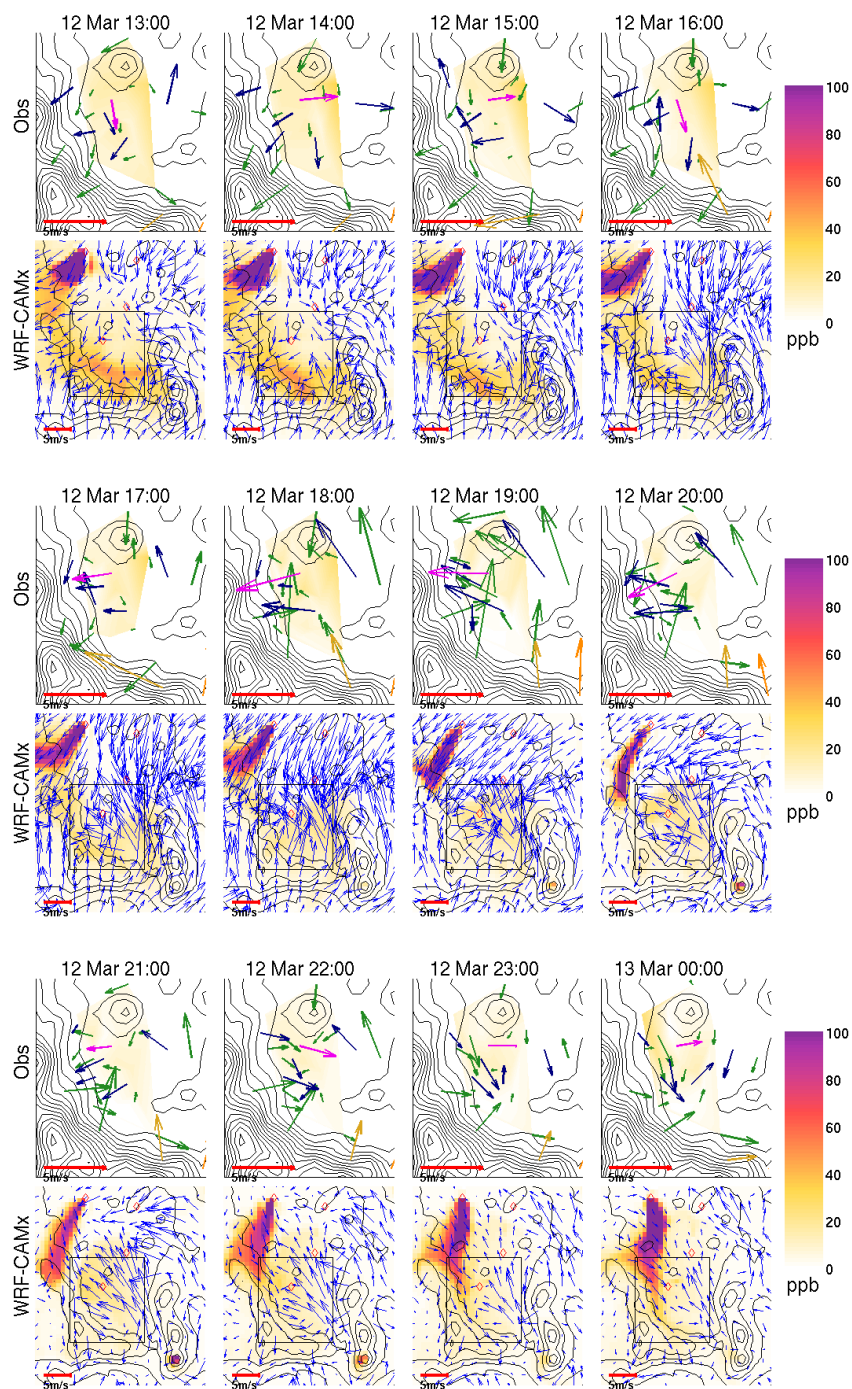


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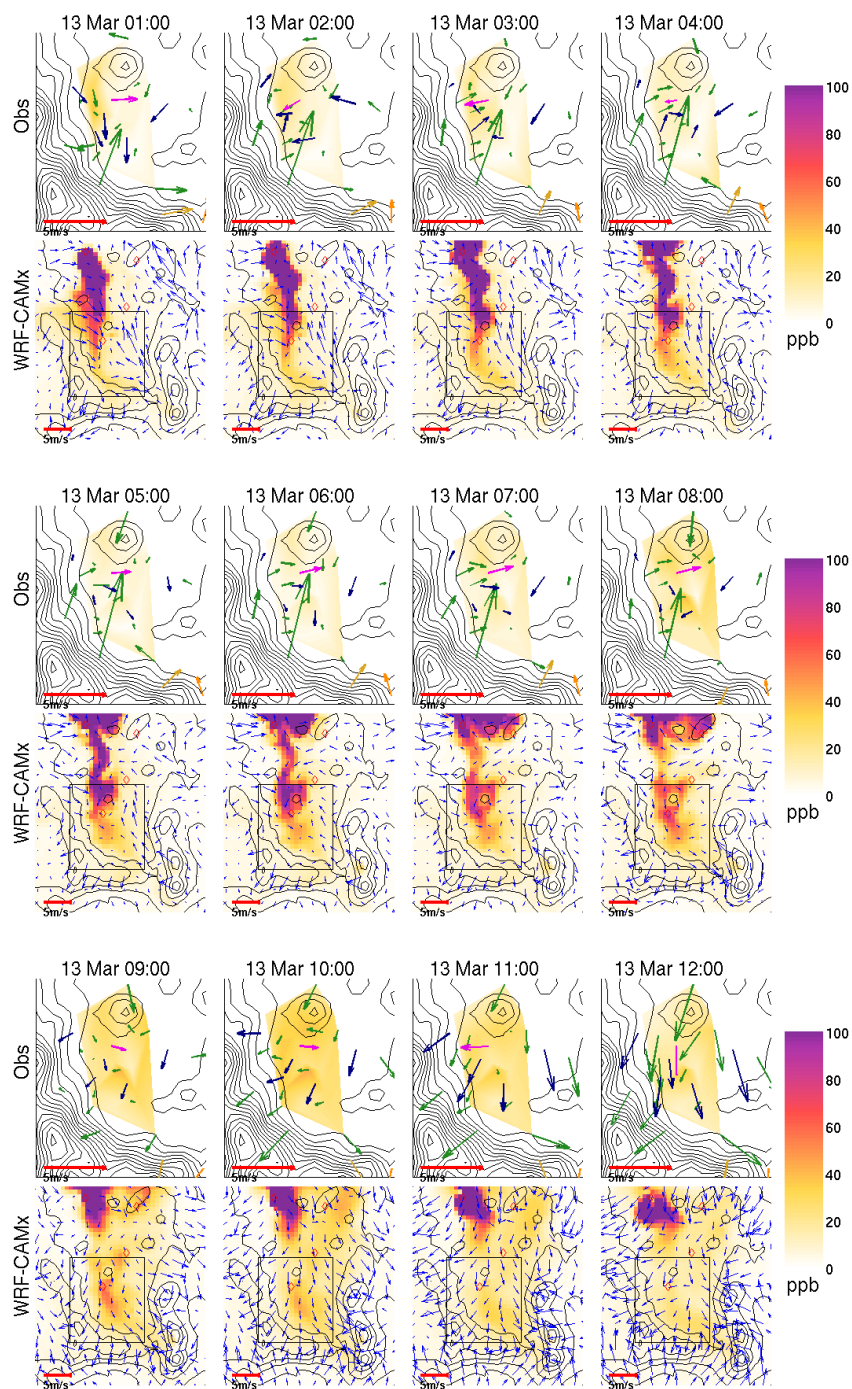


Figure 55: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

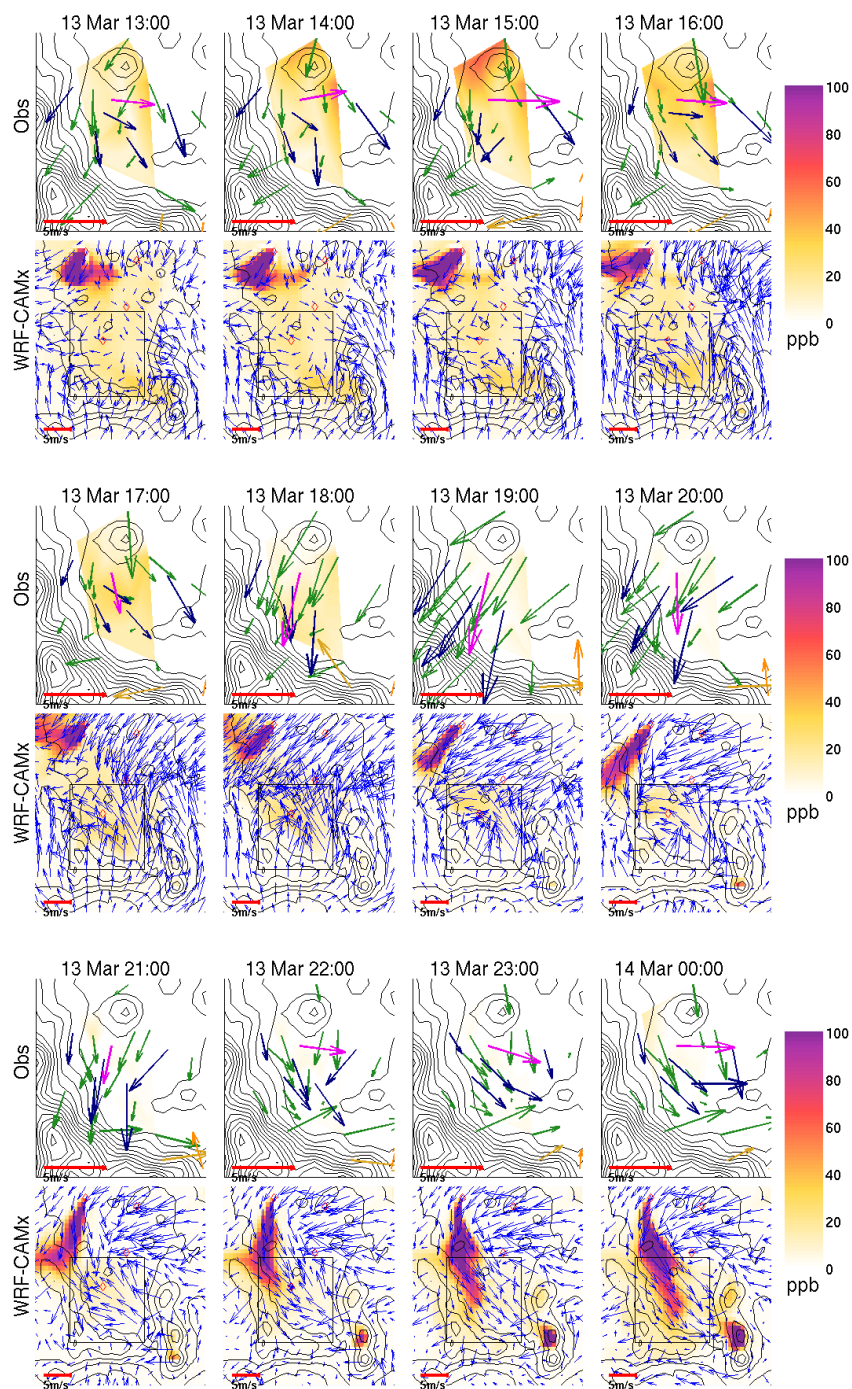


Figure 56: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

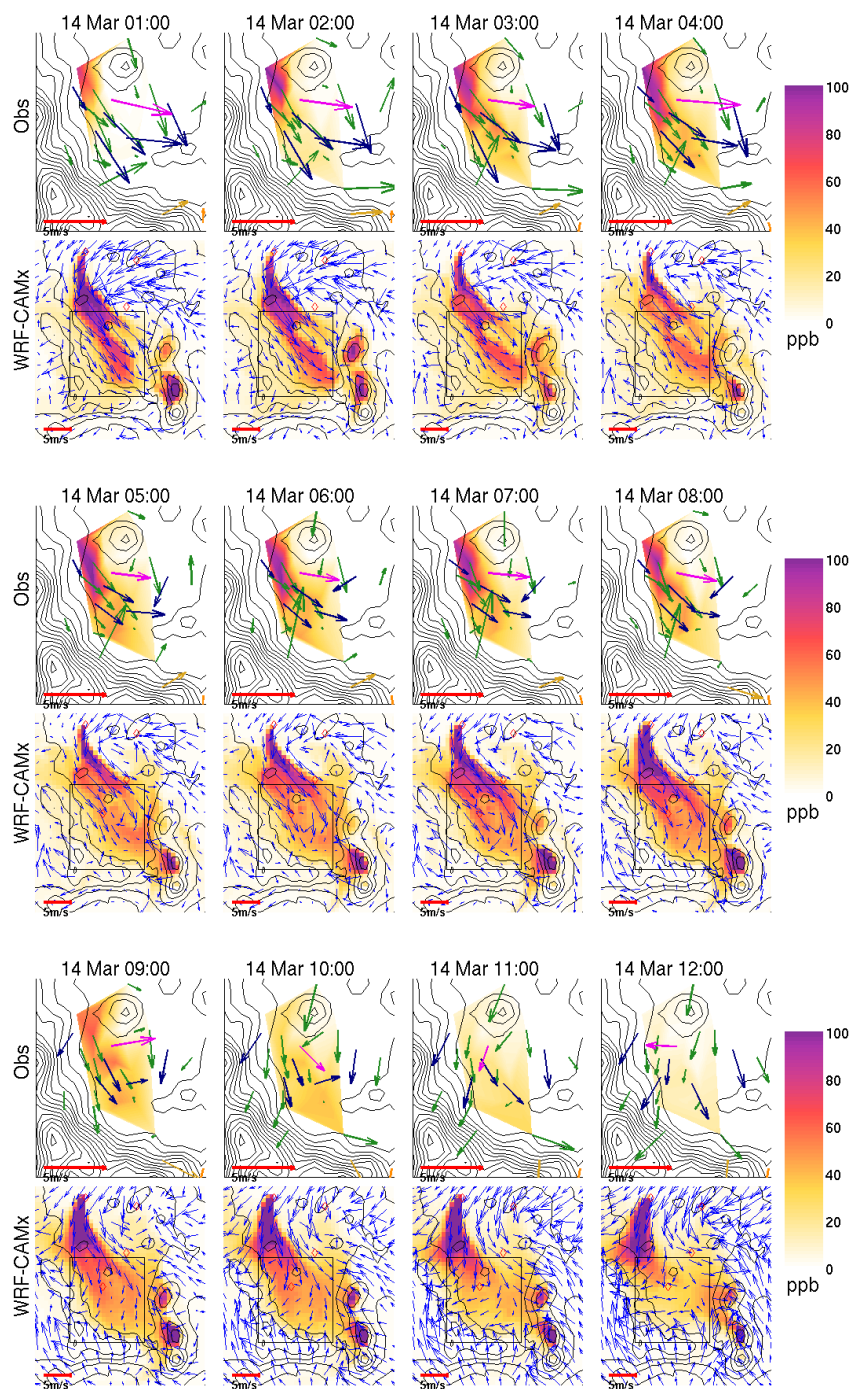


Figure 57: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

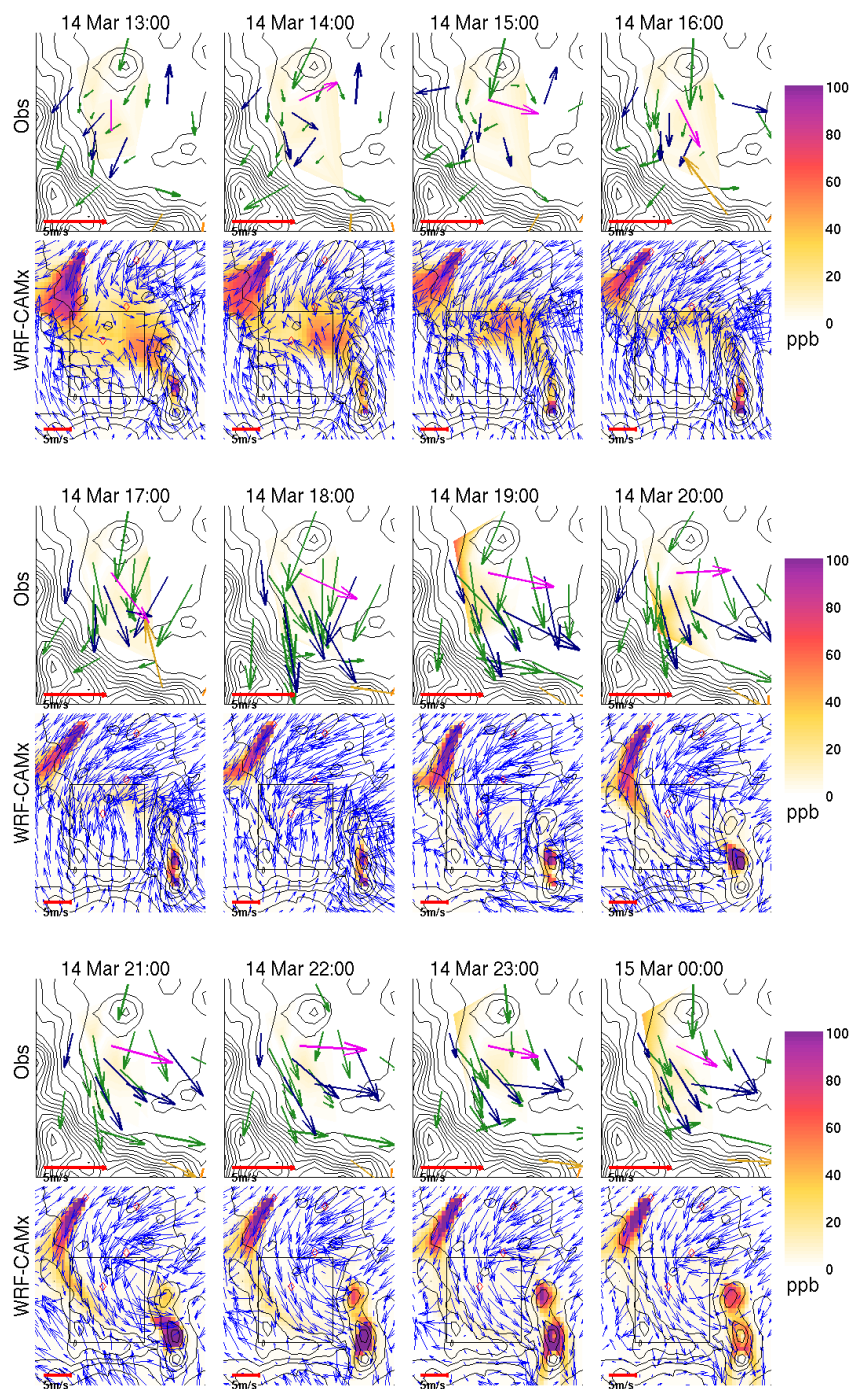


Figure 58: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

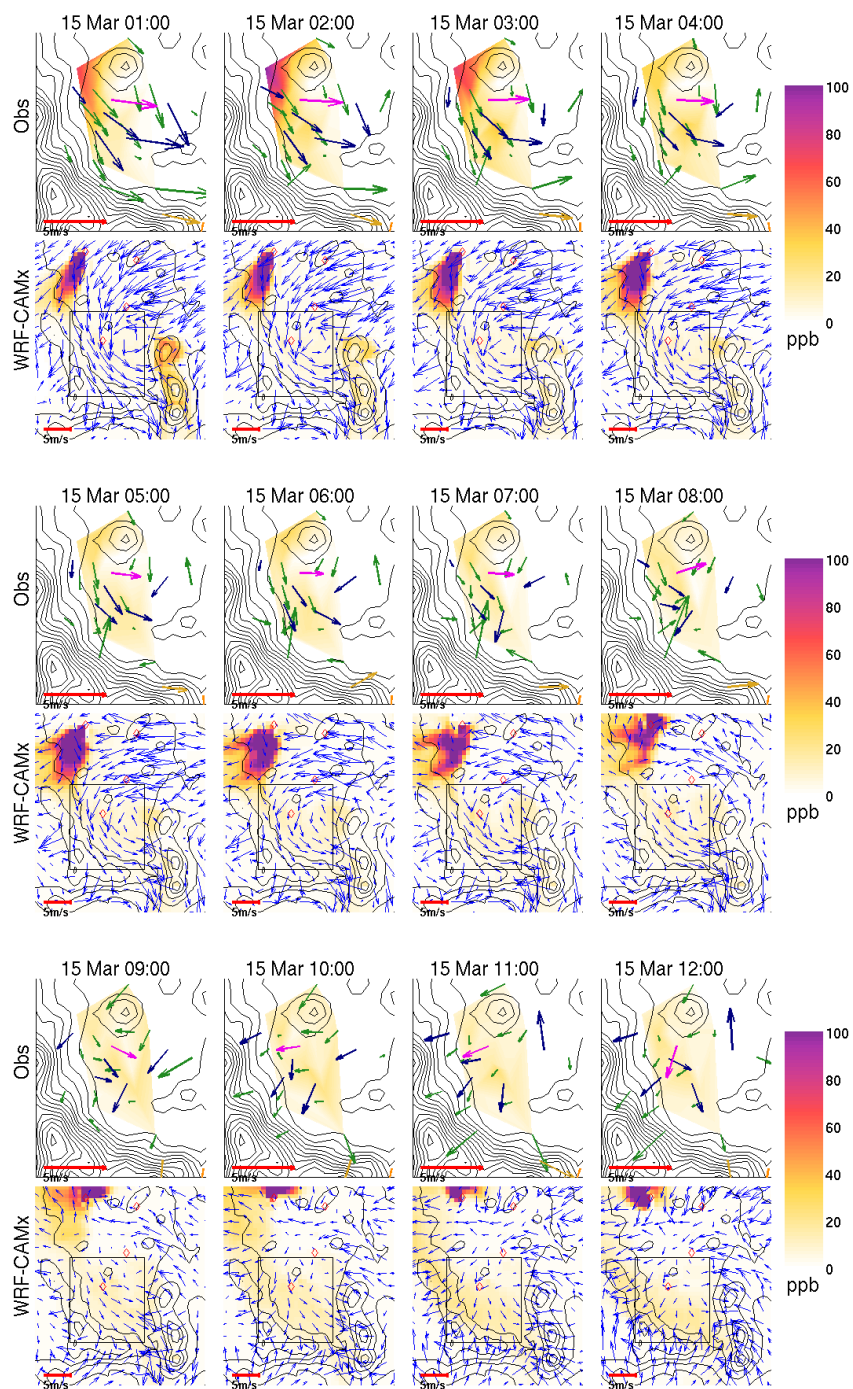


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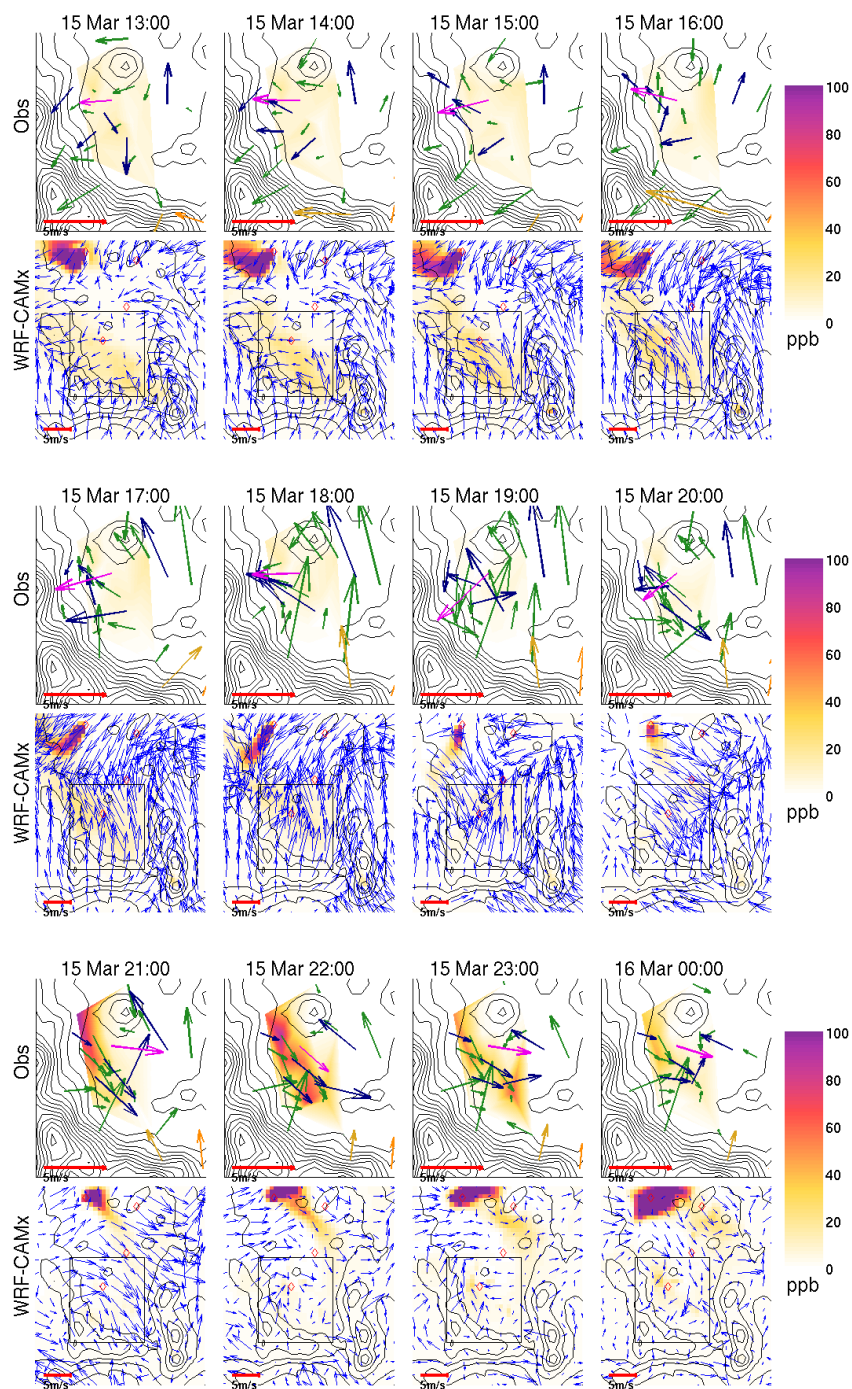


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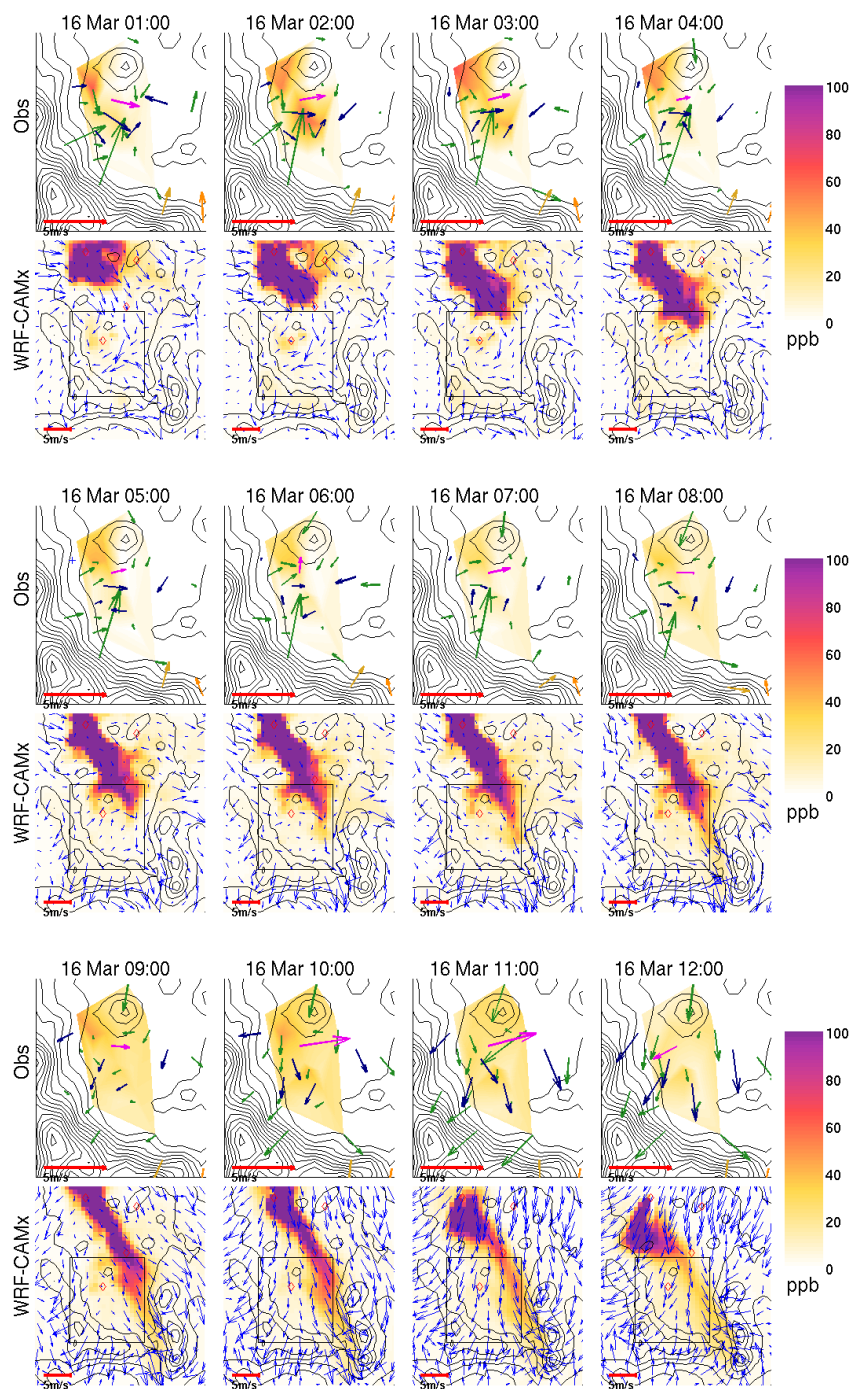


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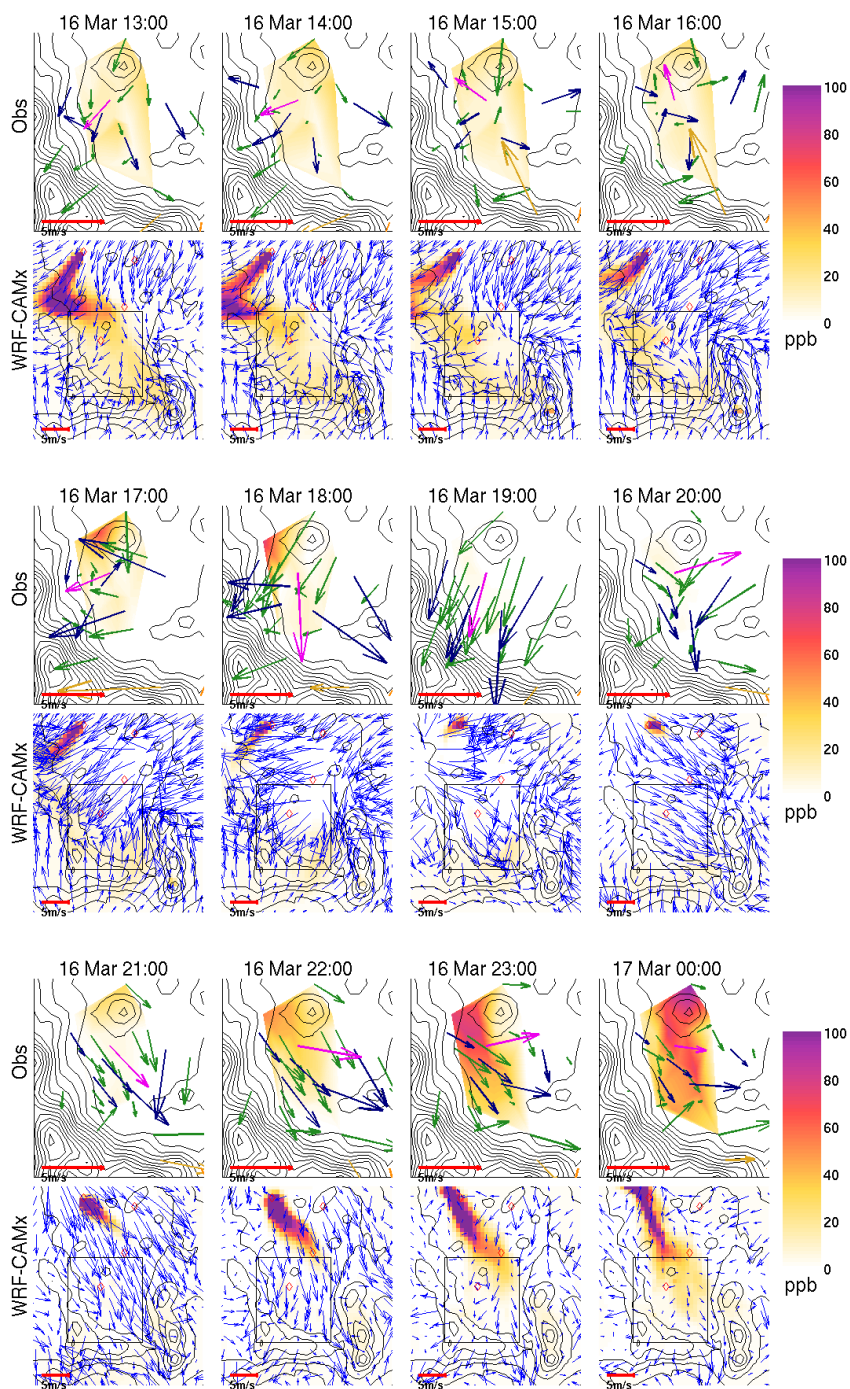


Figure 62: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

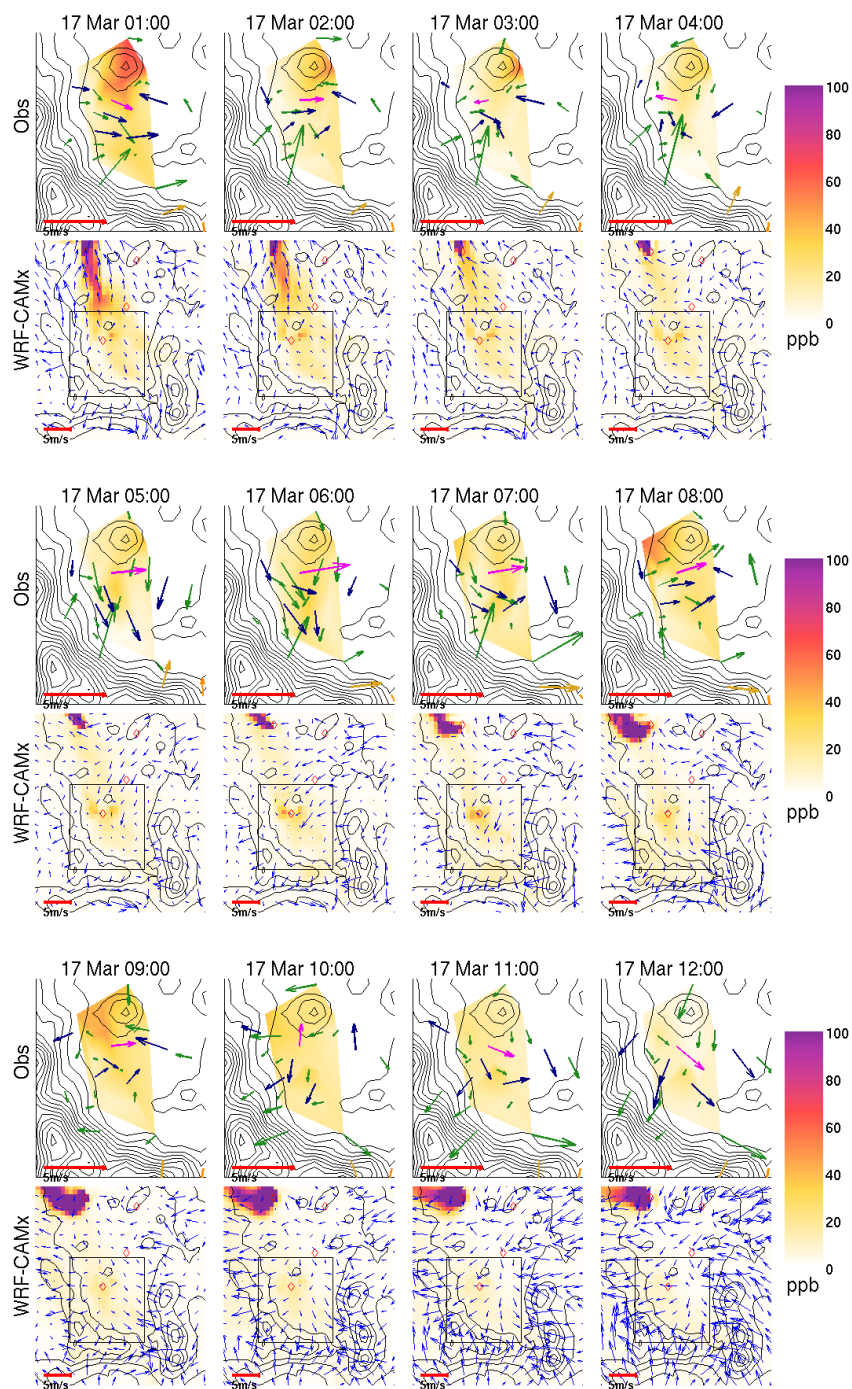


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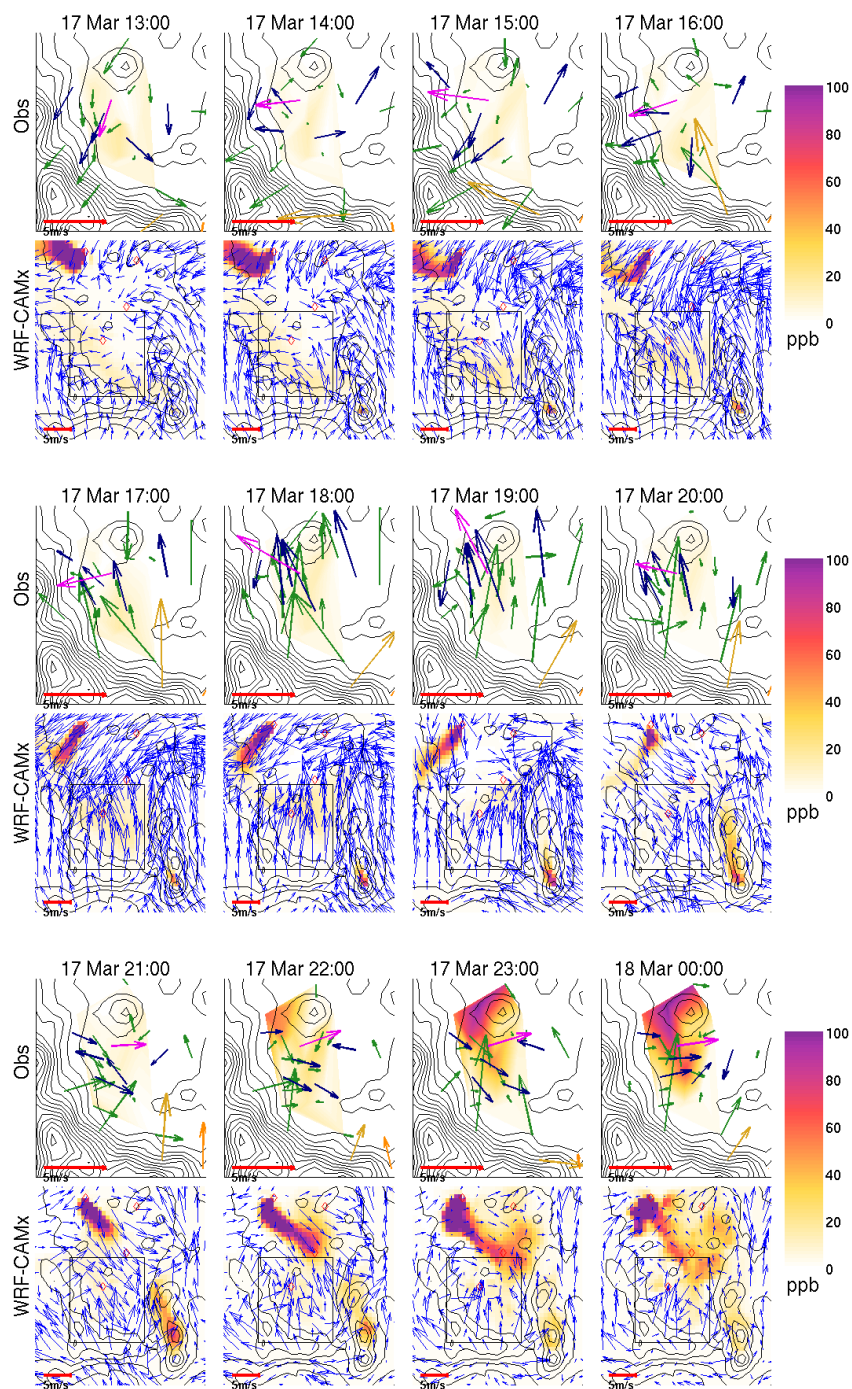


Figure 64: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

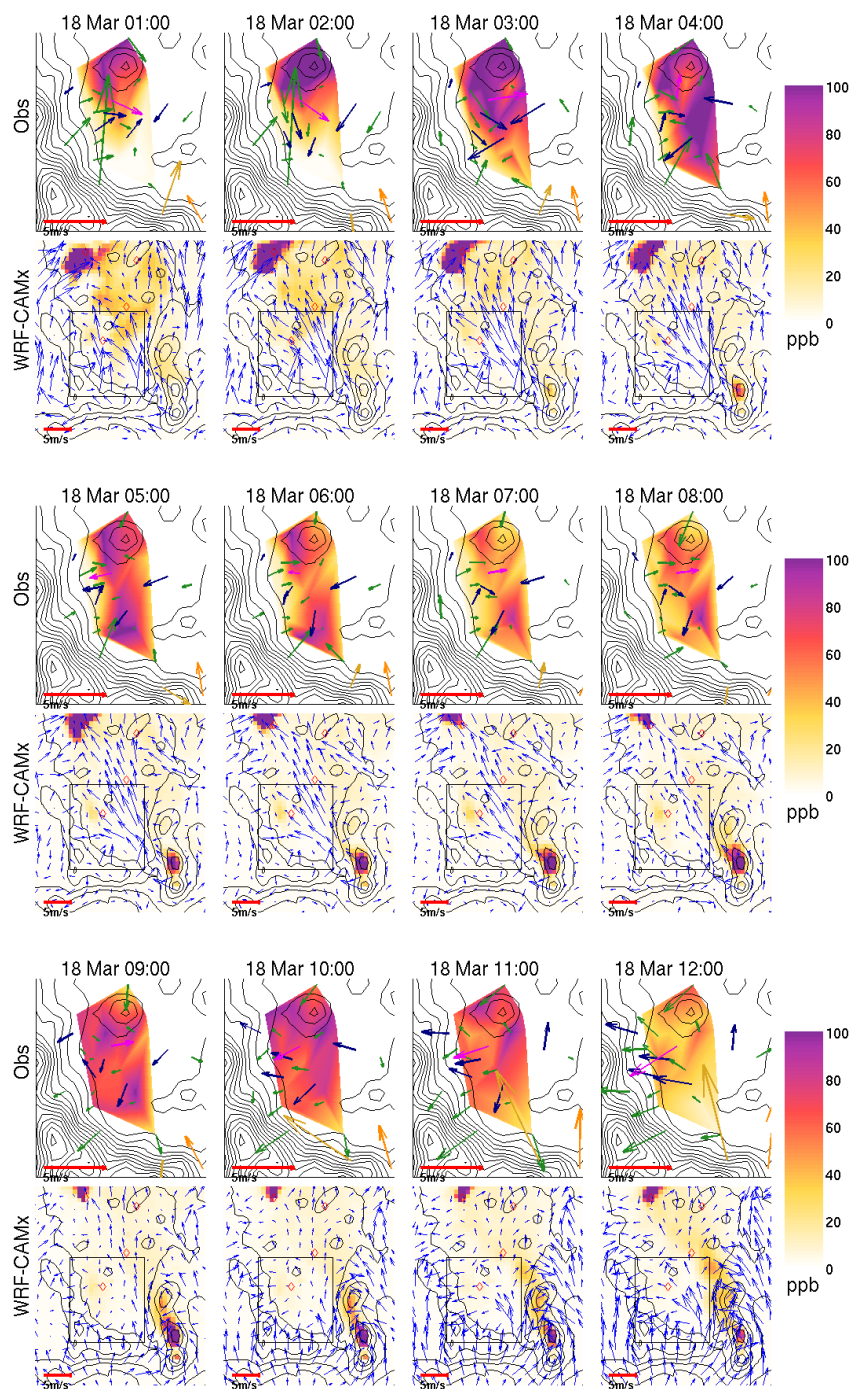


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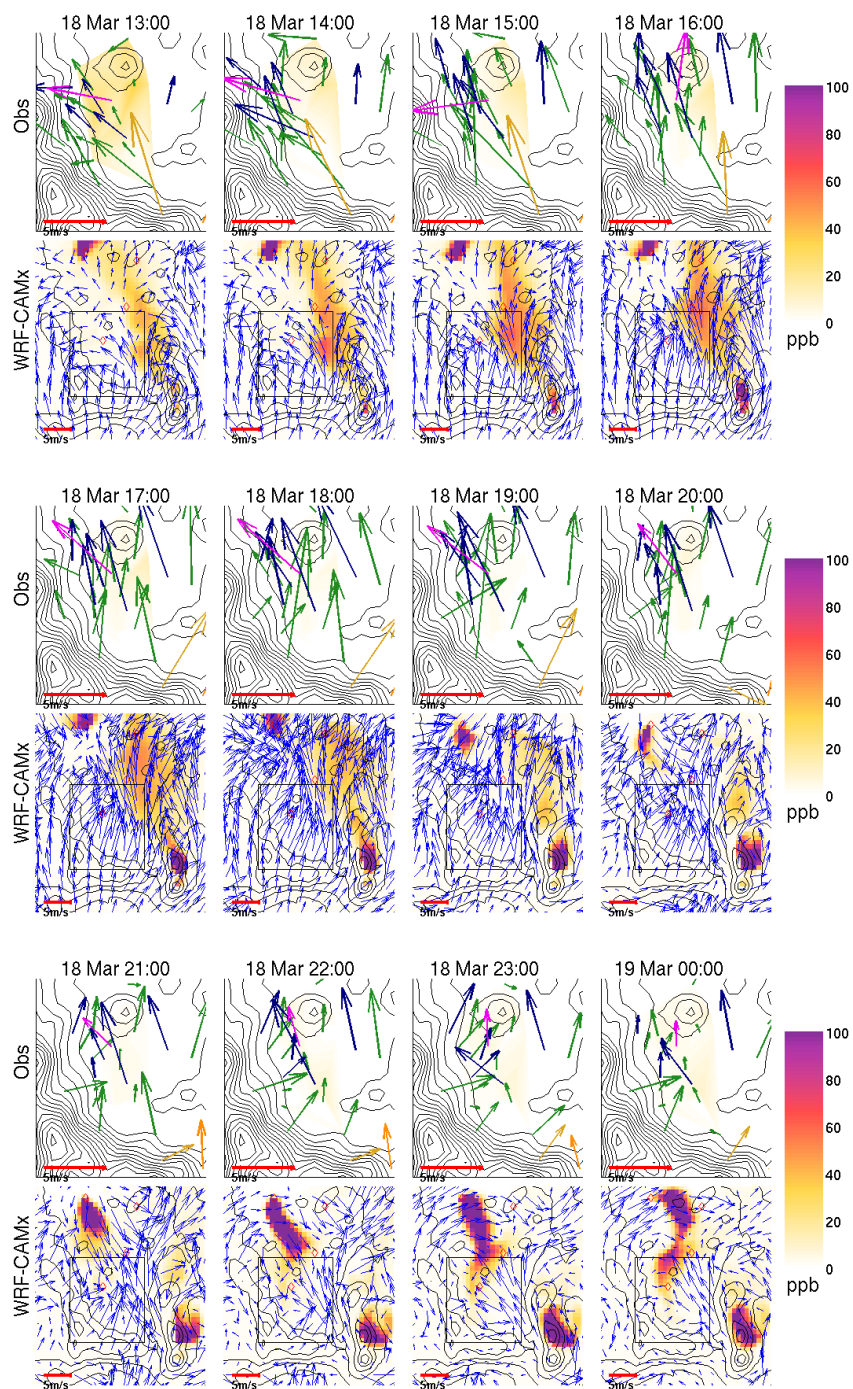


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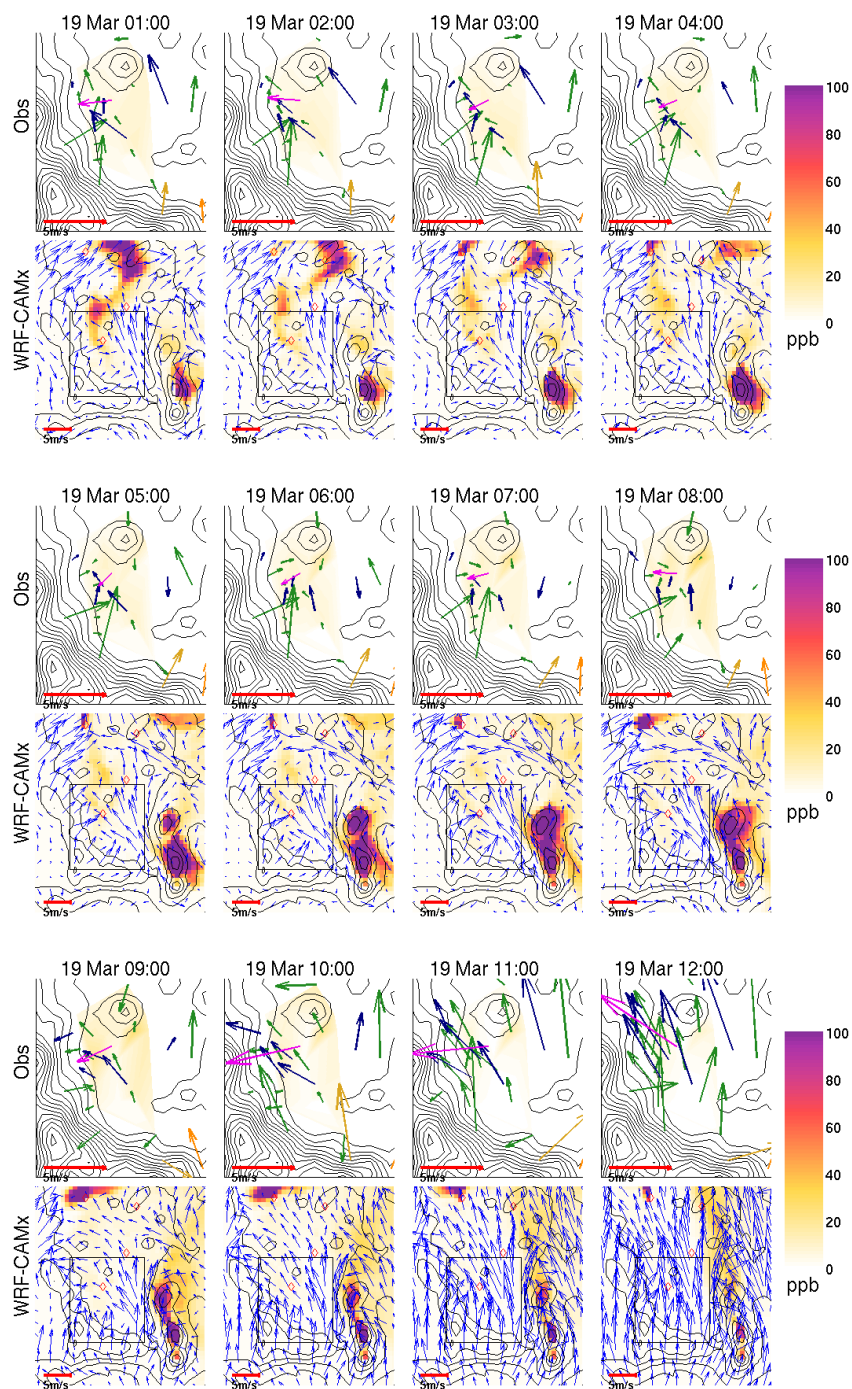


Figure 67: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

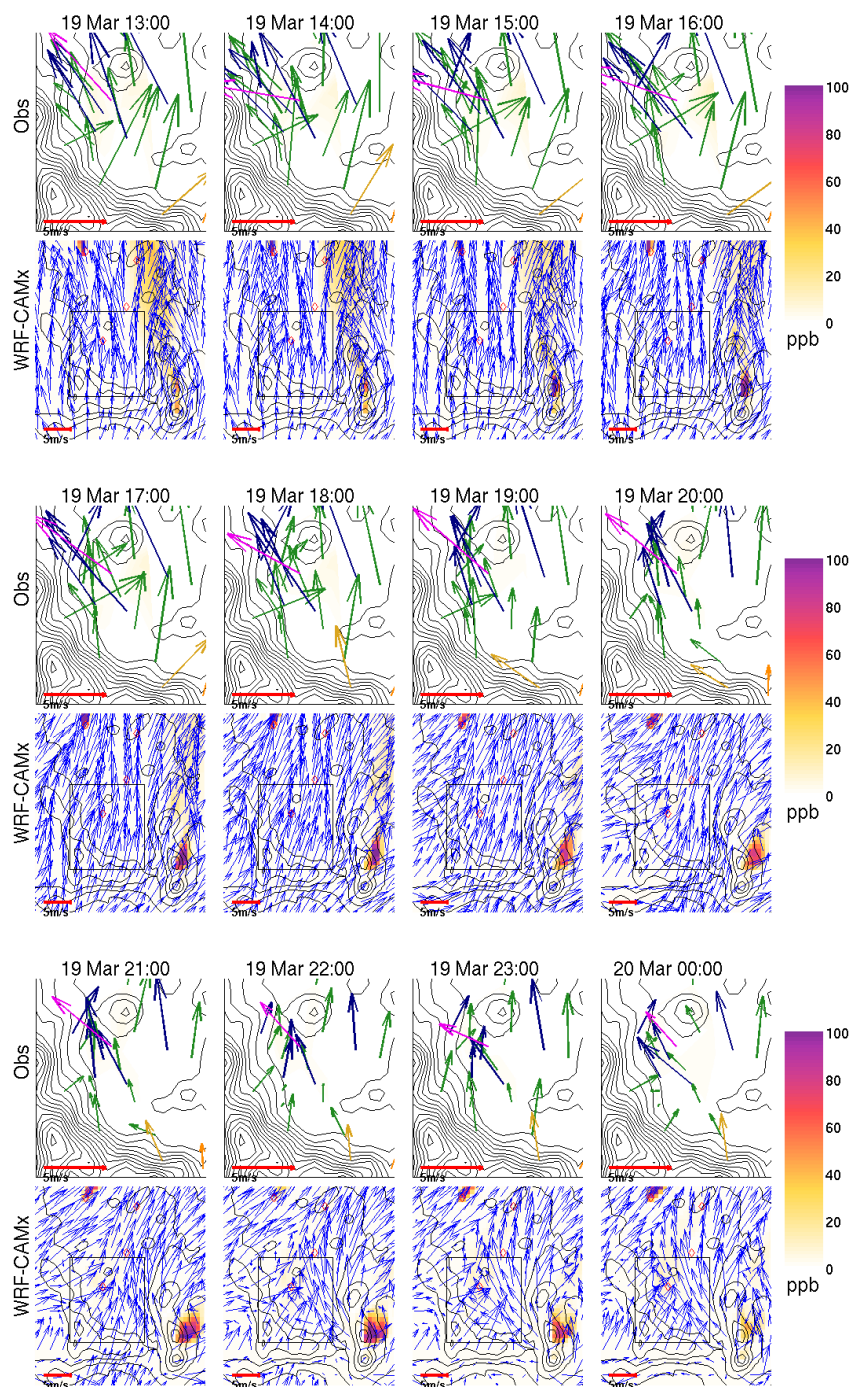


Figure 68: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

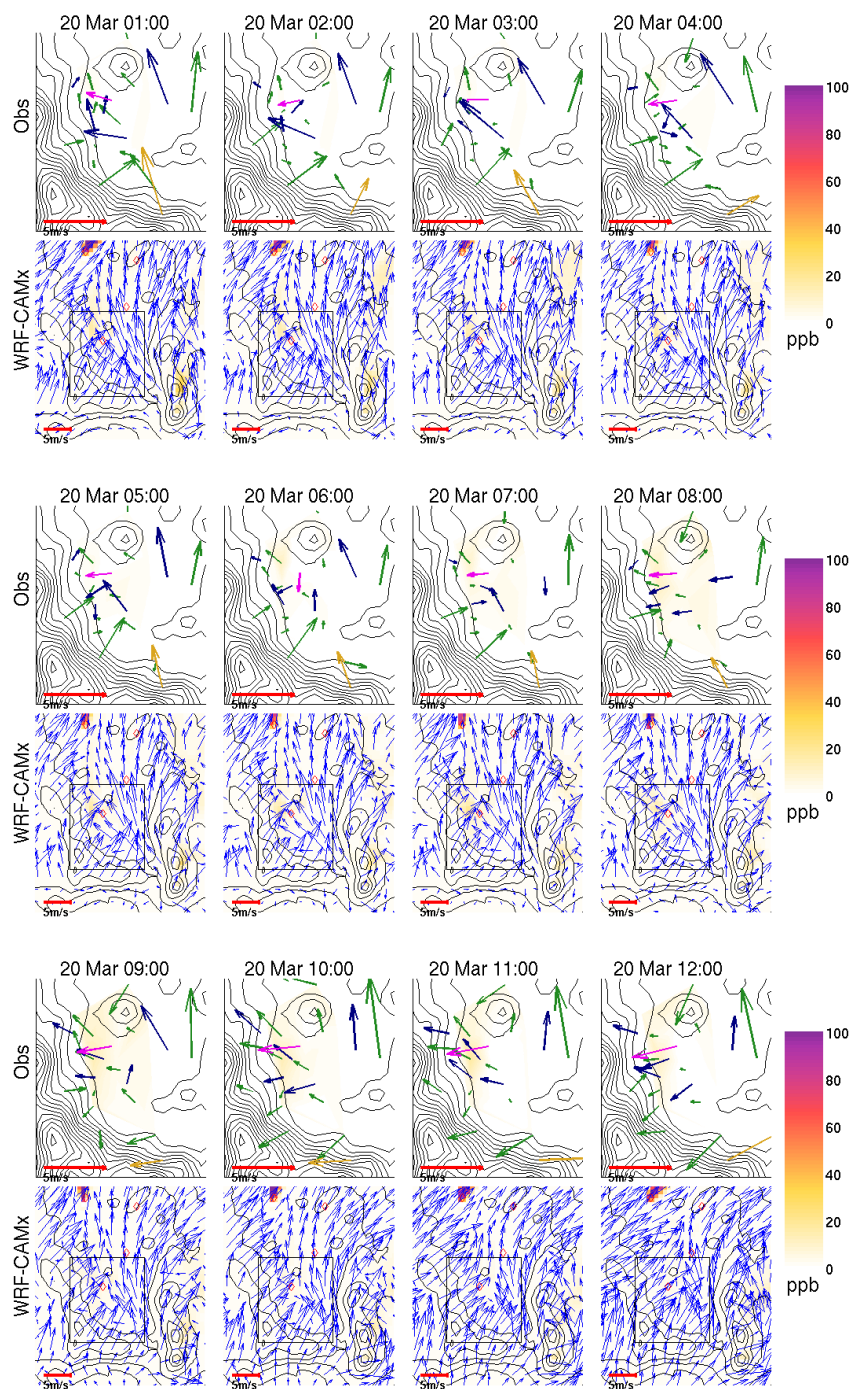


Figure 69: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

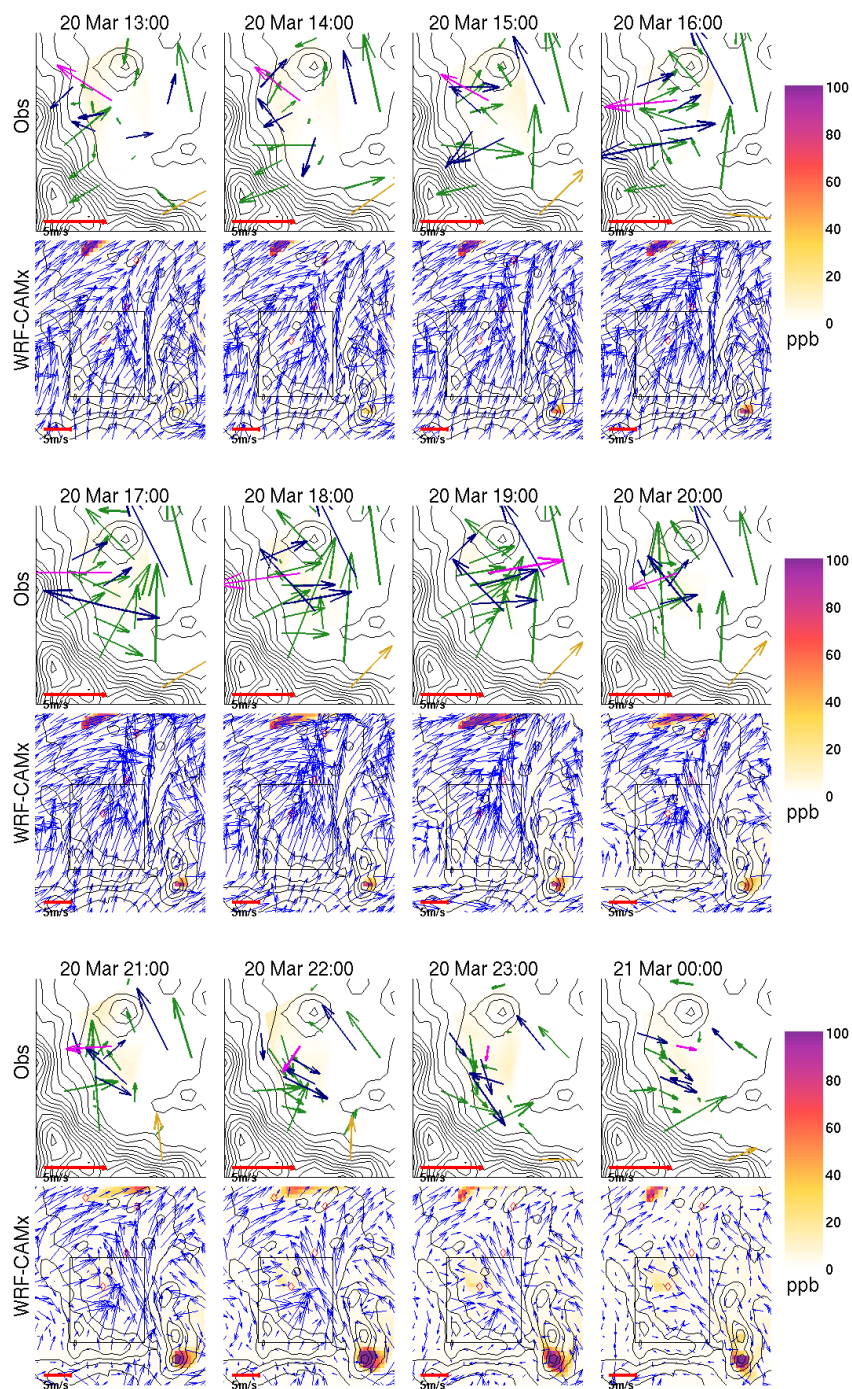


Figure 70: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

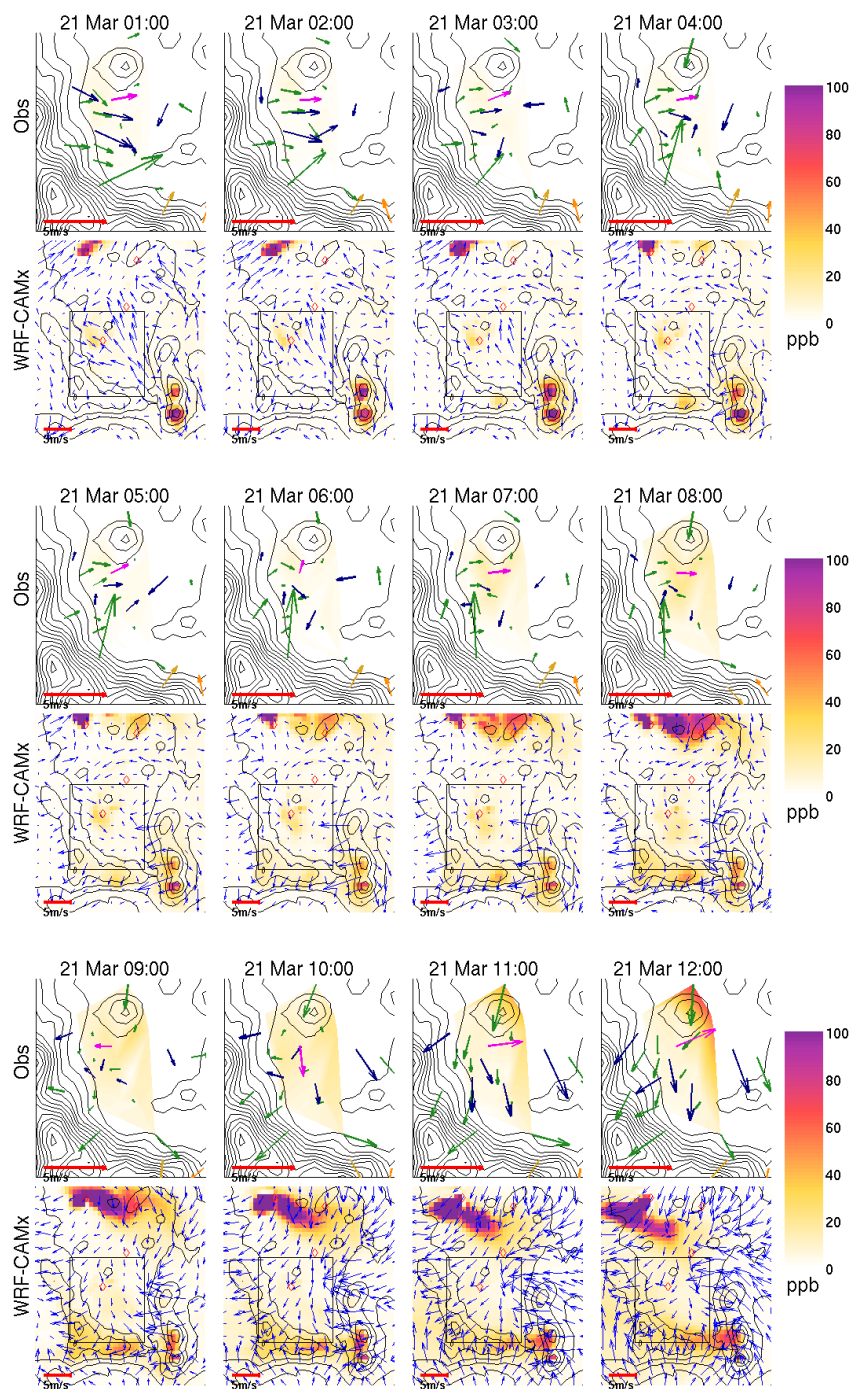


Figure 71: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

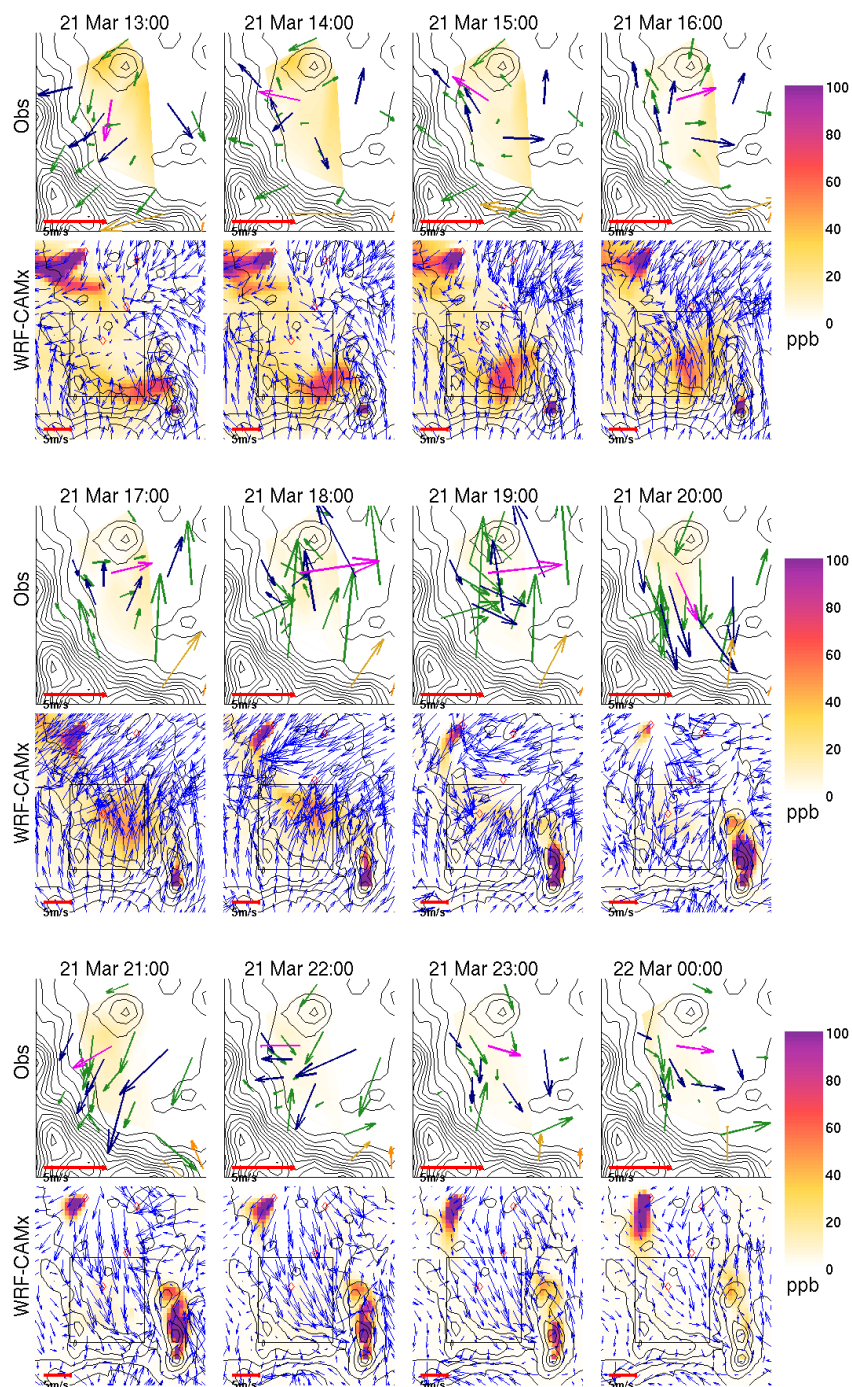


Figure 72: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

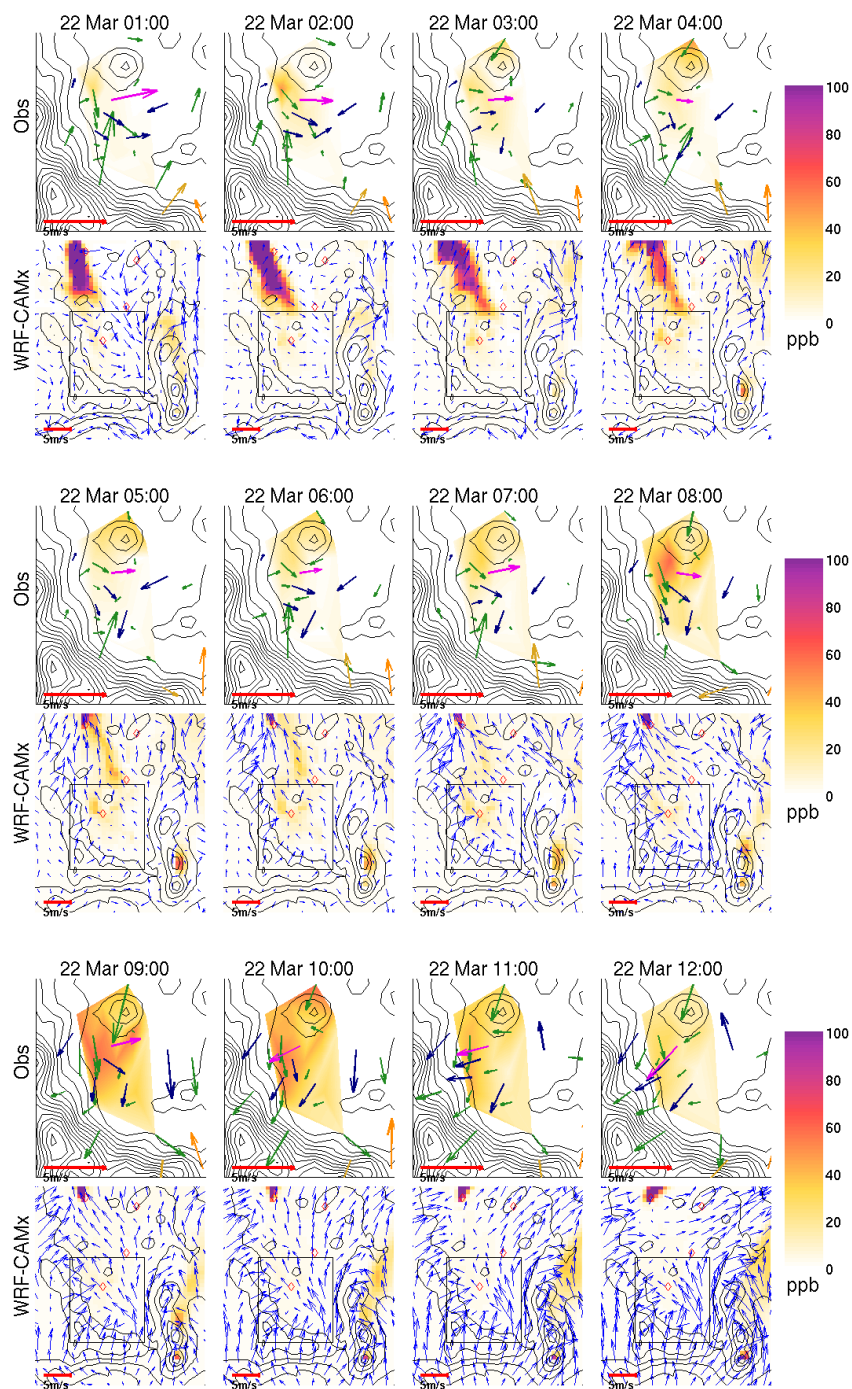


Figure 73: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

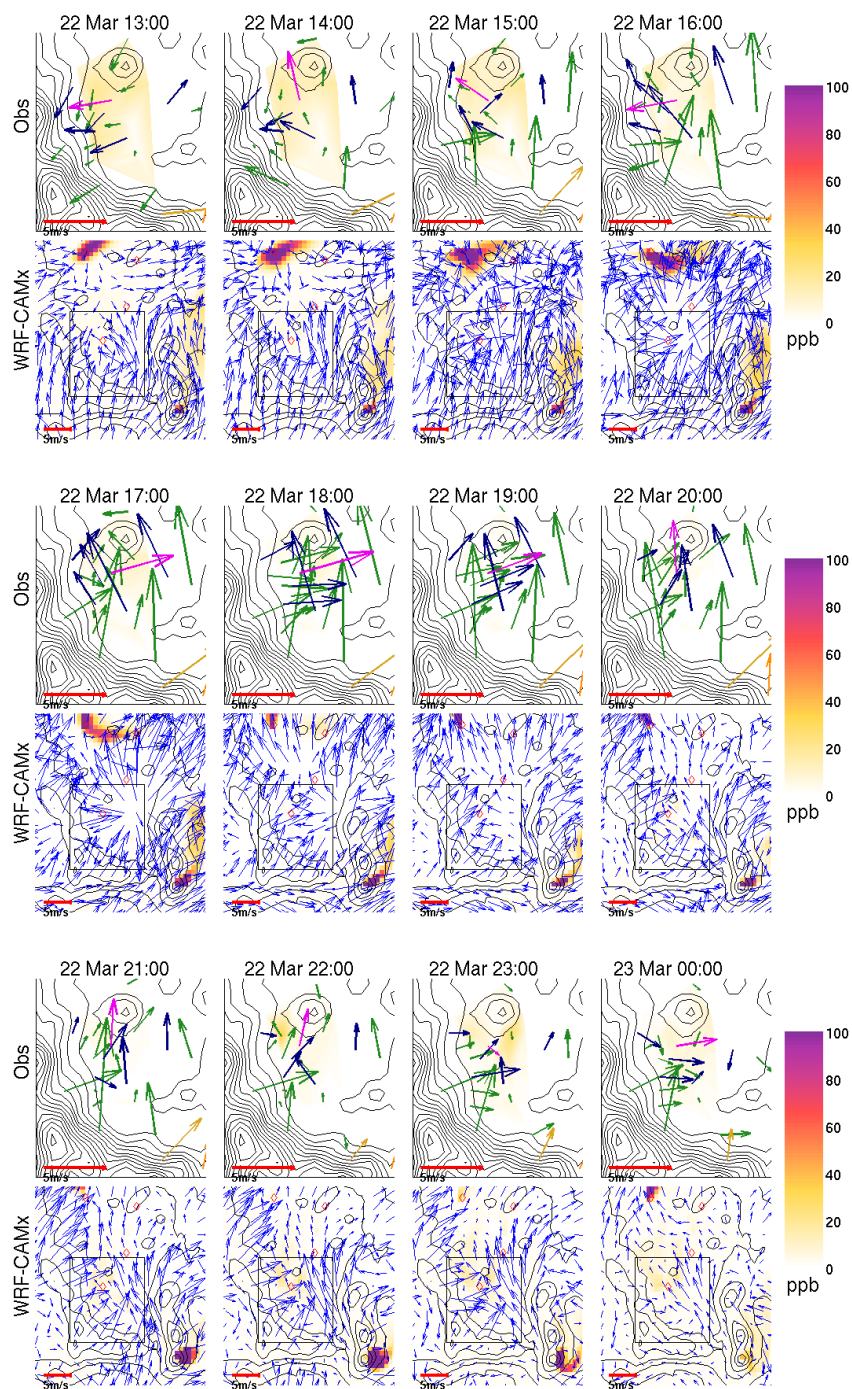


Figure 74: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

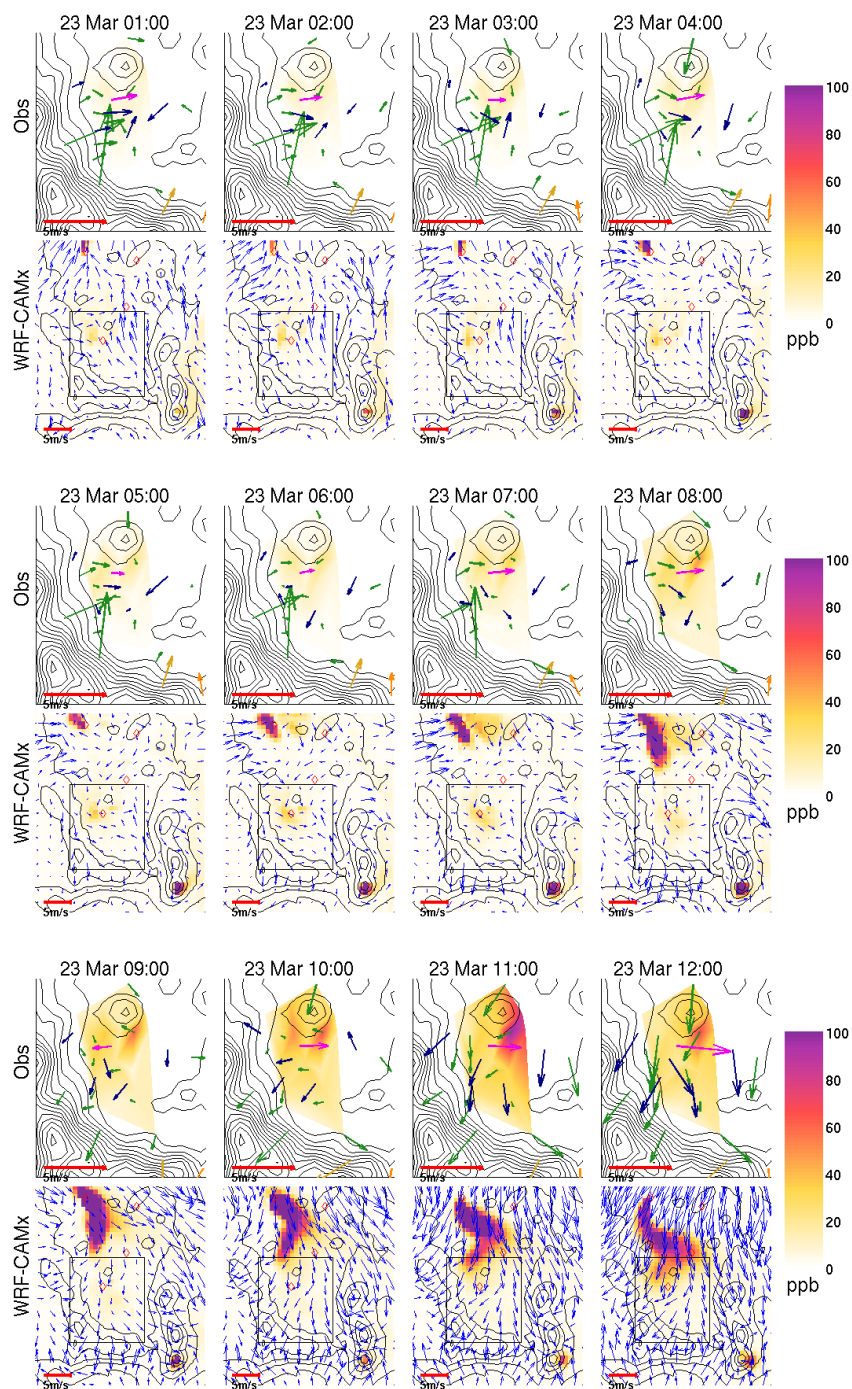


Figure 75: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

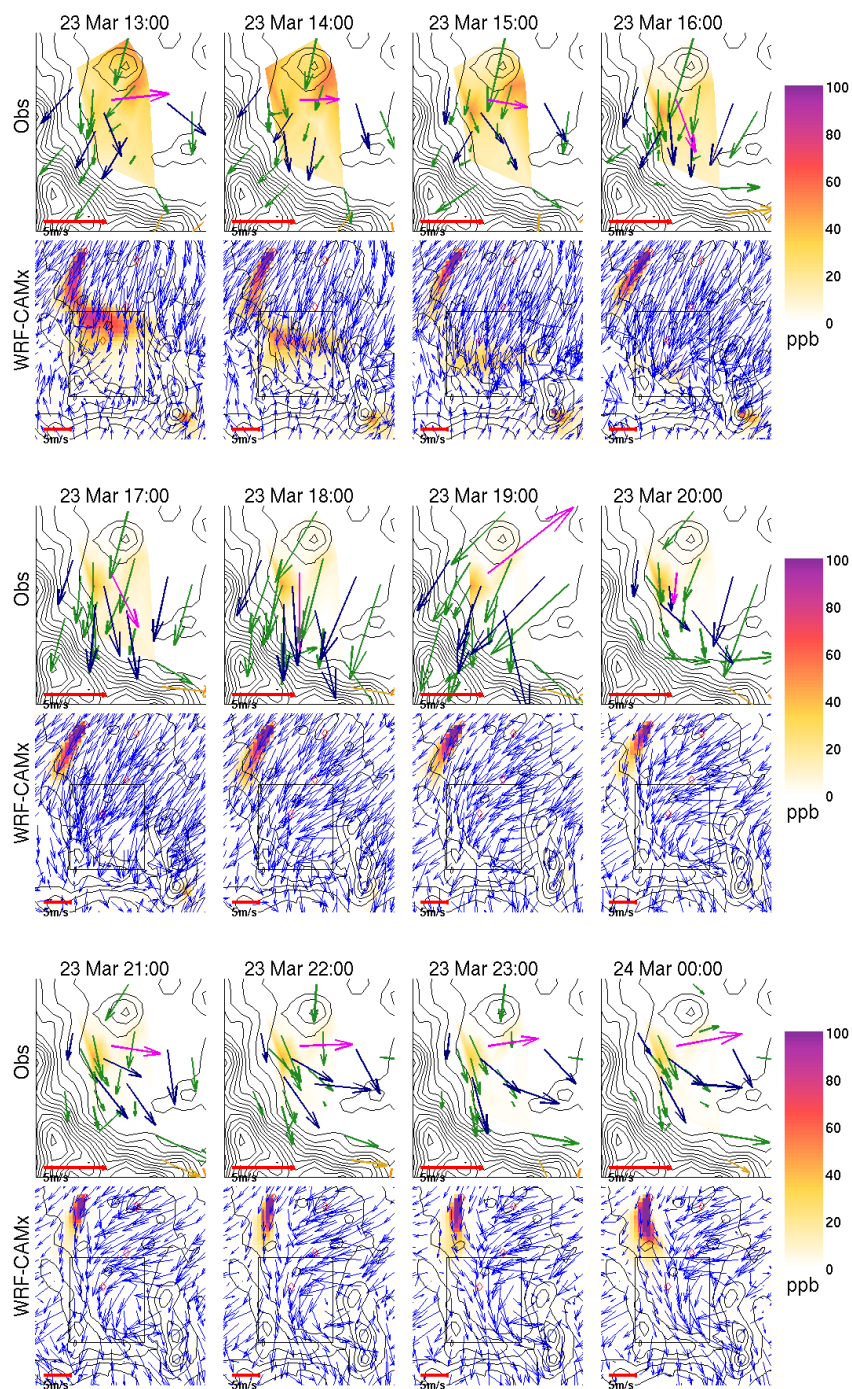


Figure 76: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

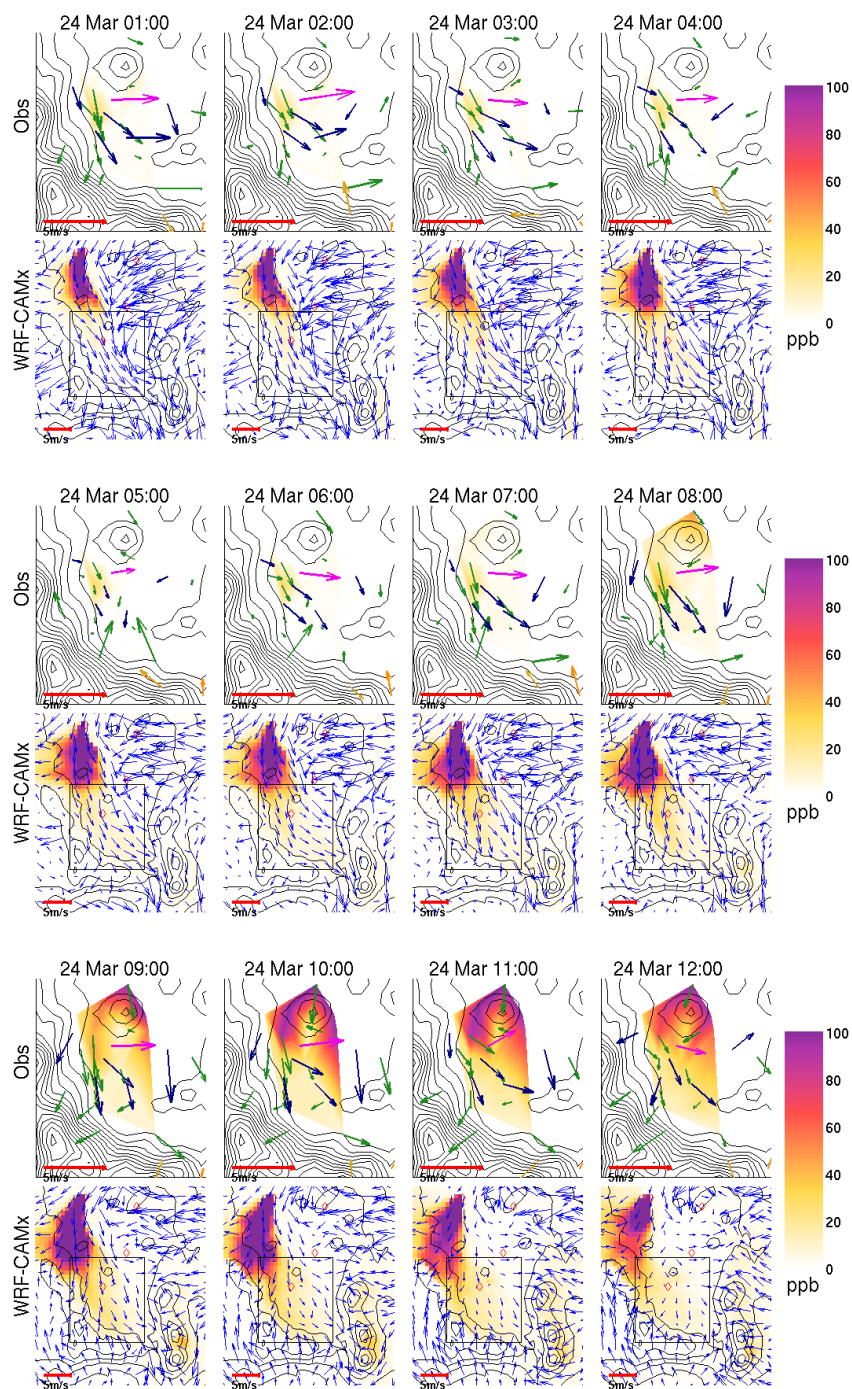


Figure 77: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

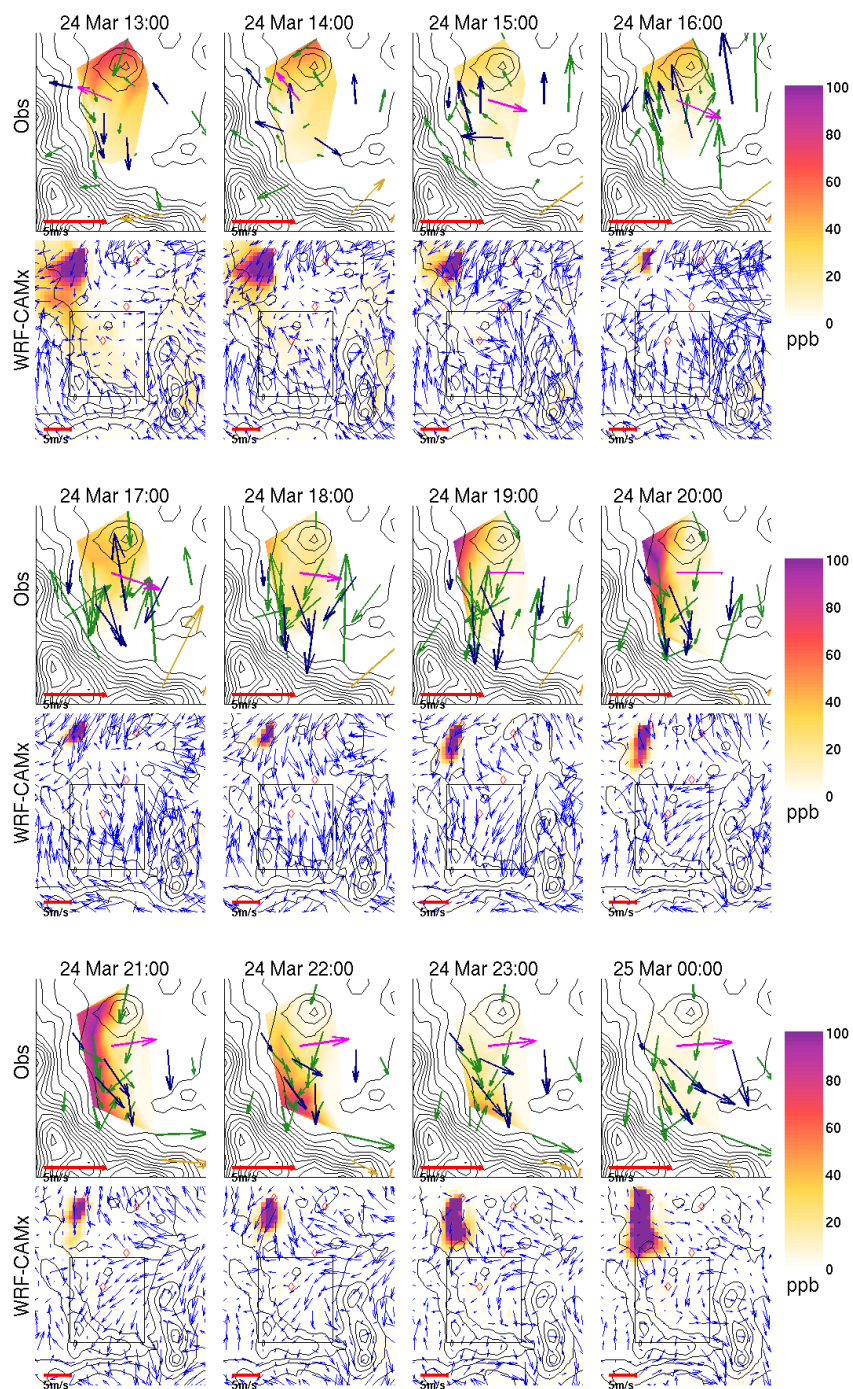


Figure 78: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

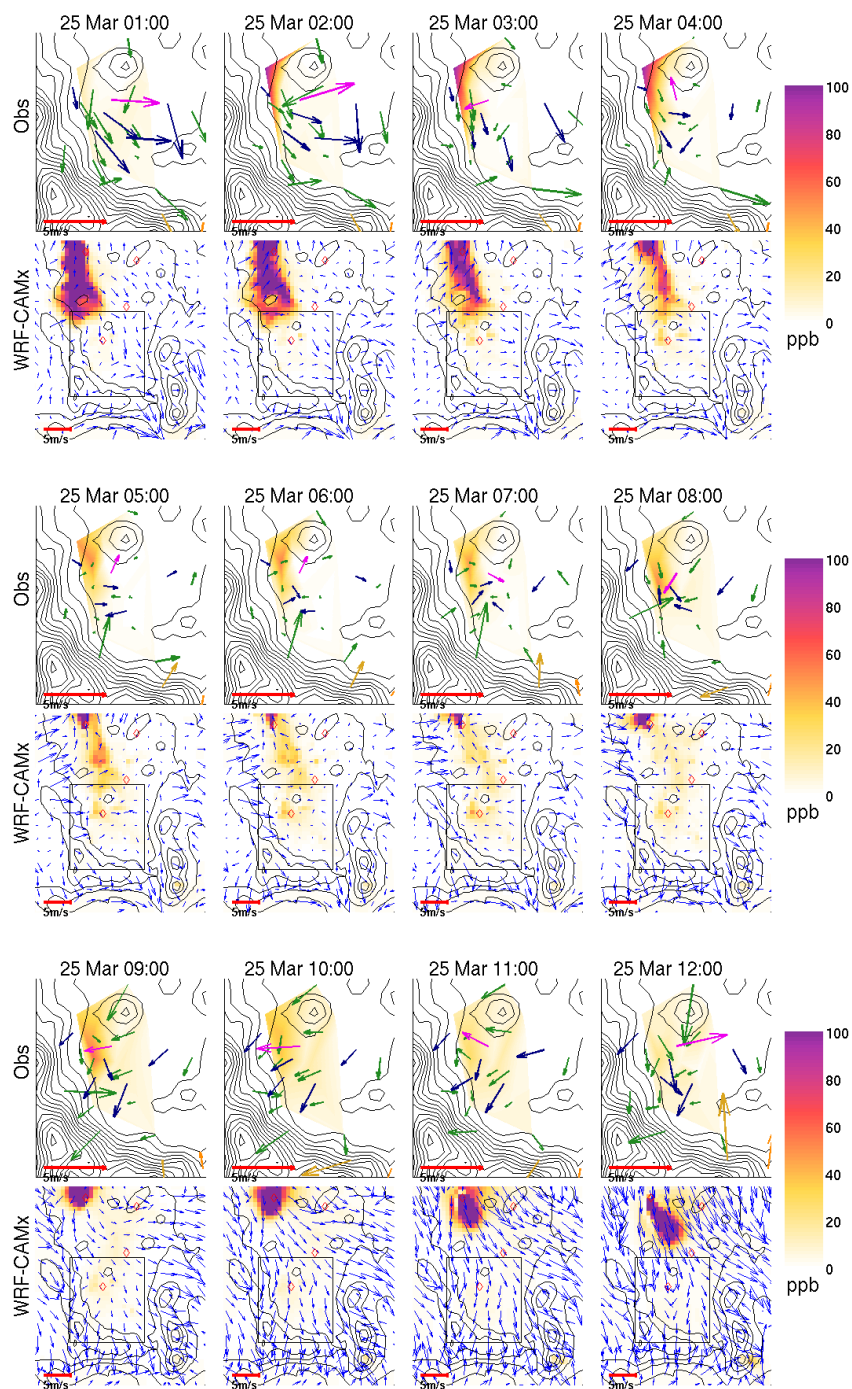


Figure 79: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

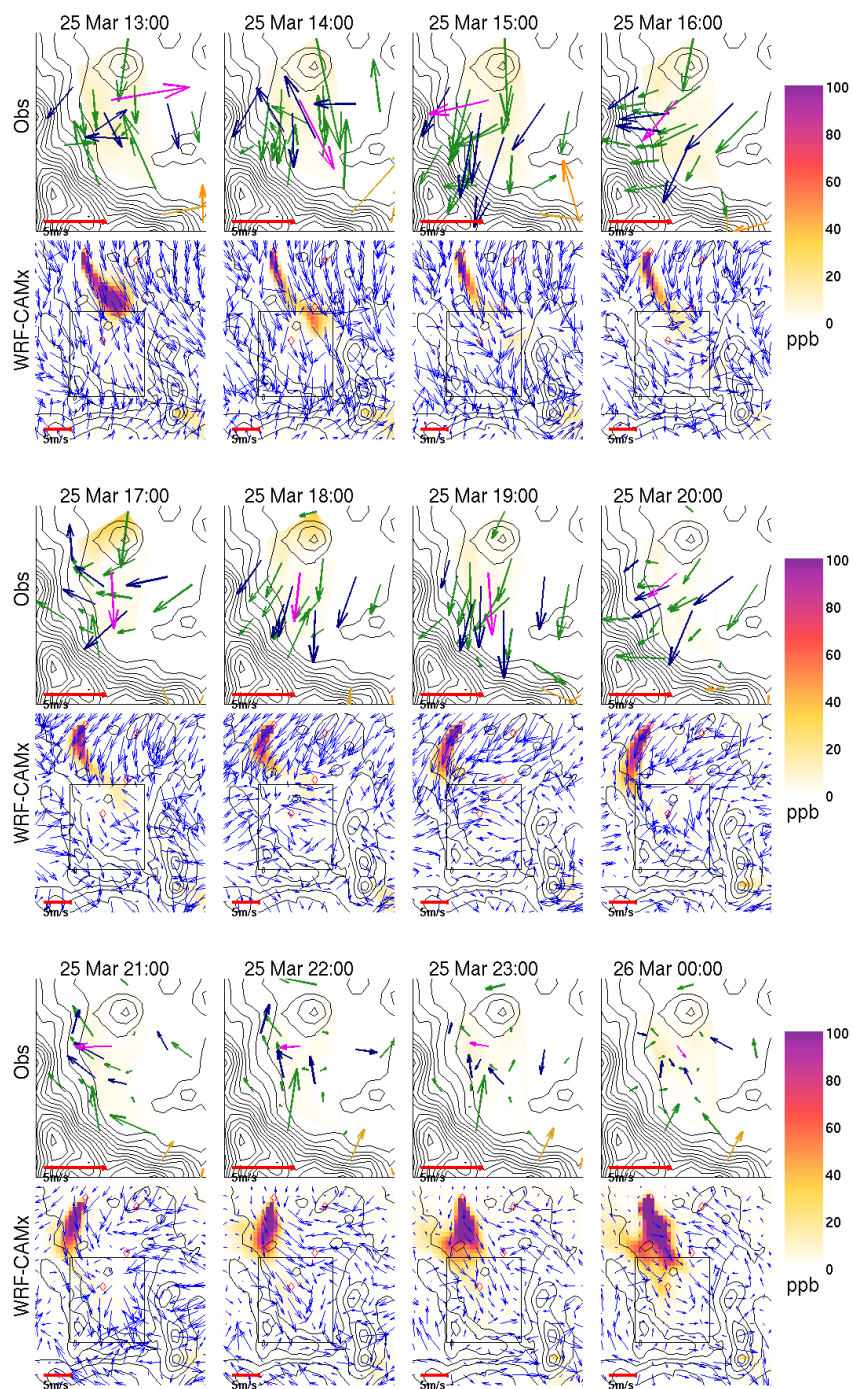


Figure 80: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

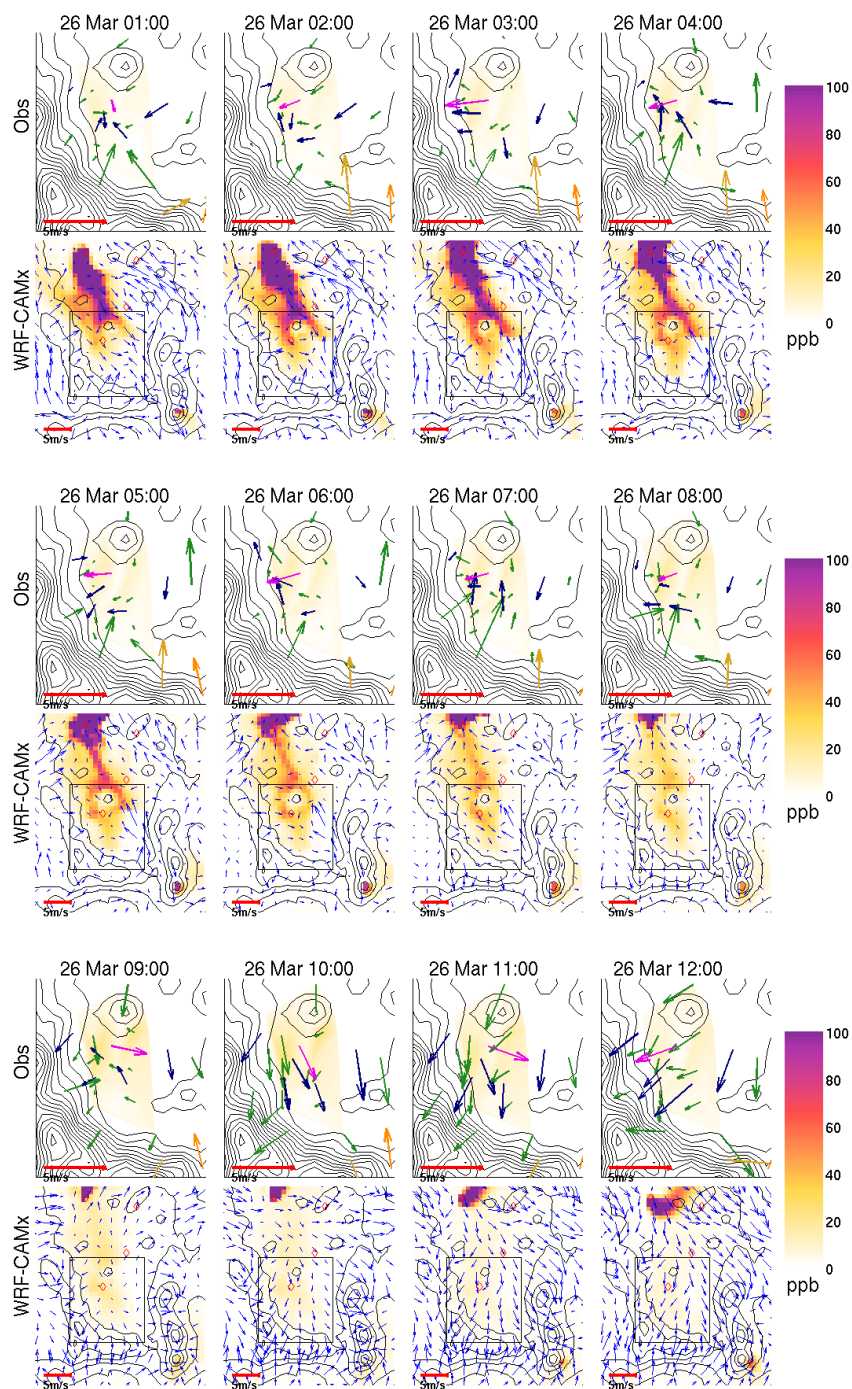


Figure 81: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

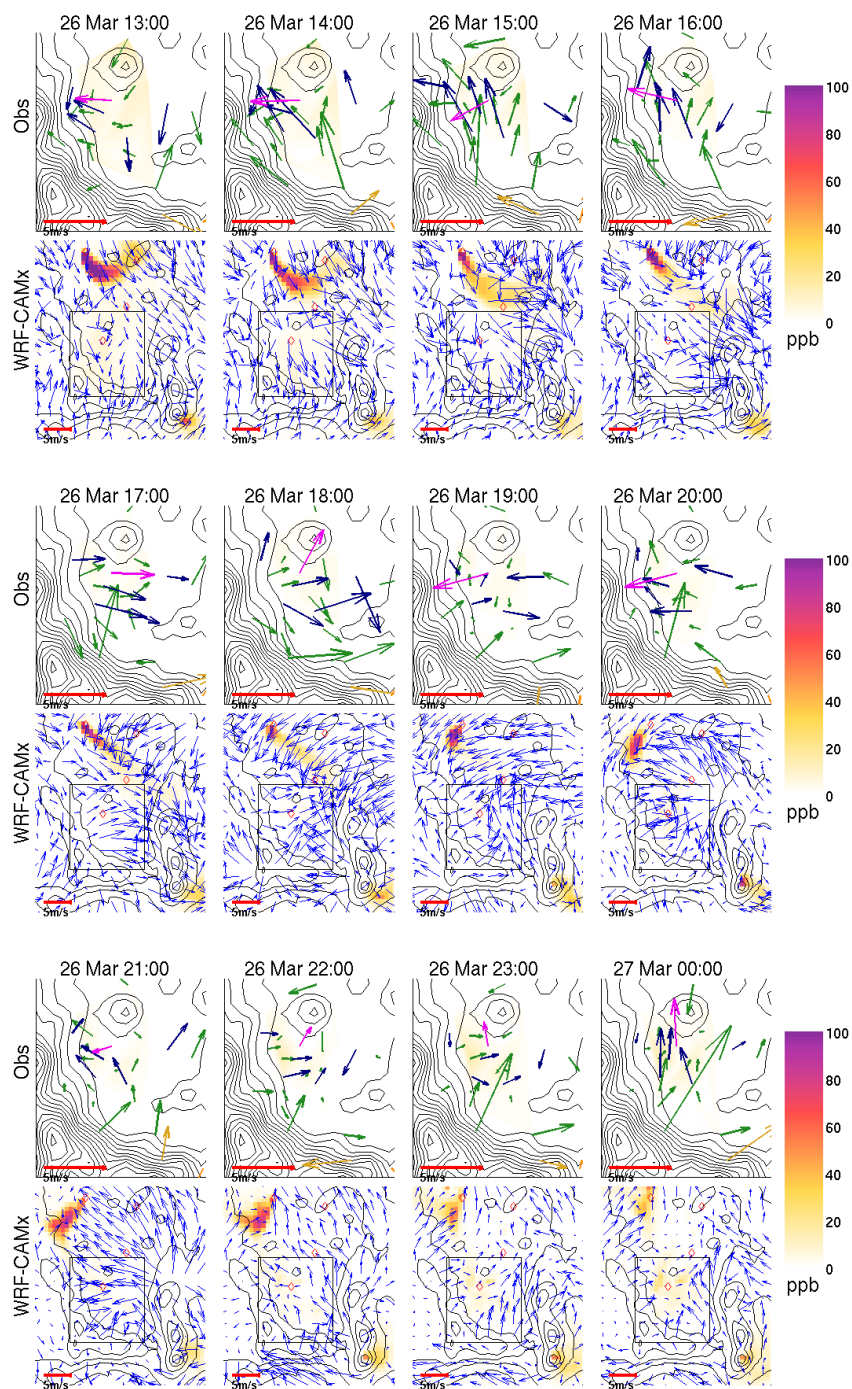


Figure 82: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

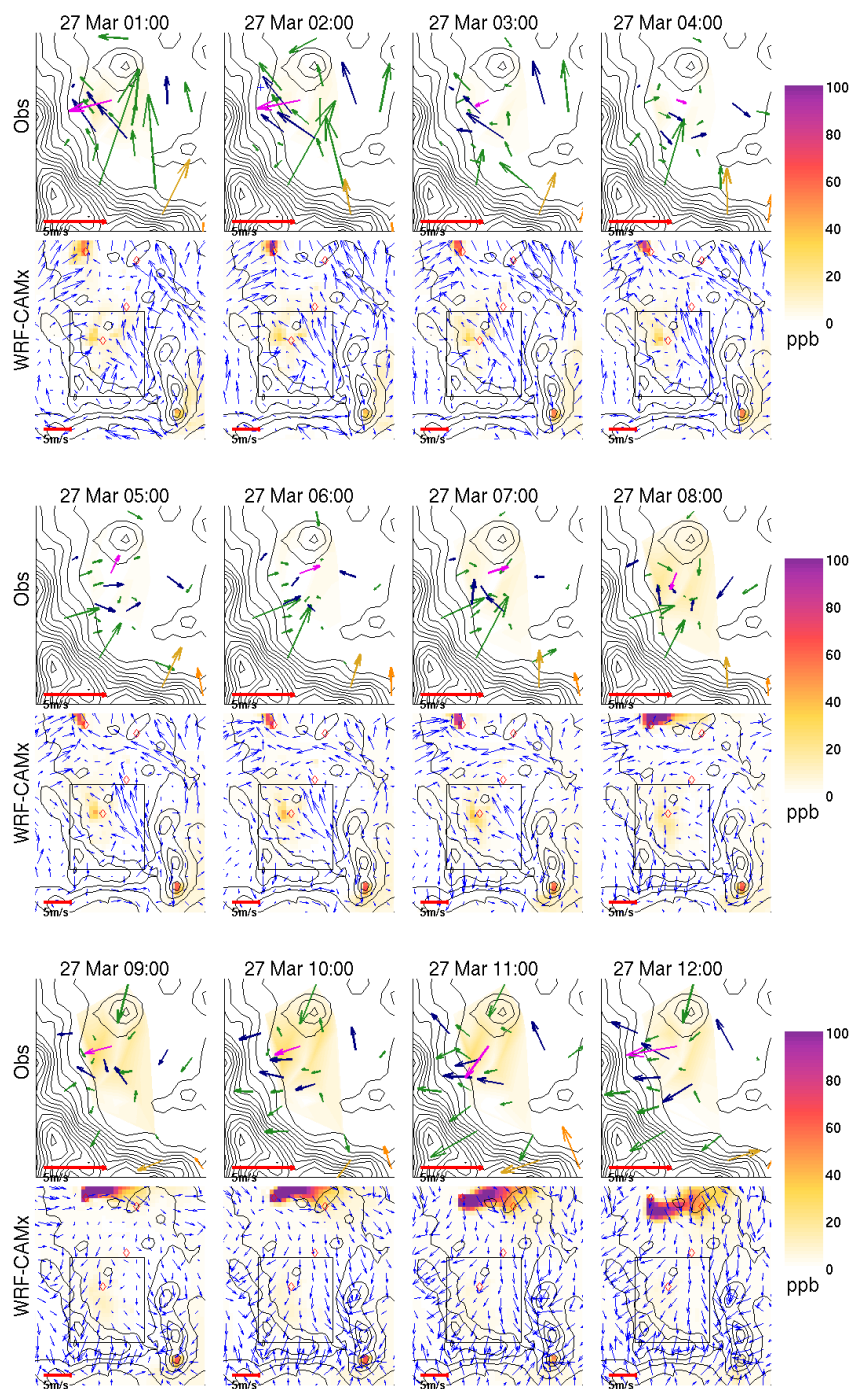


Figure 83: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

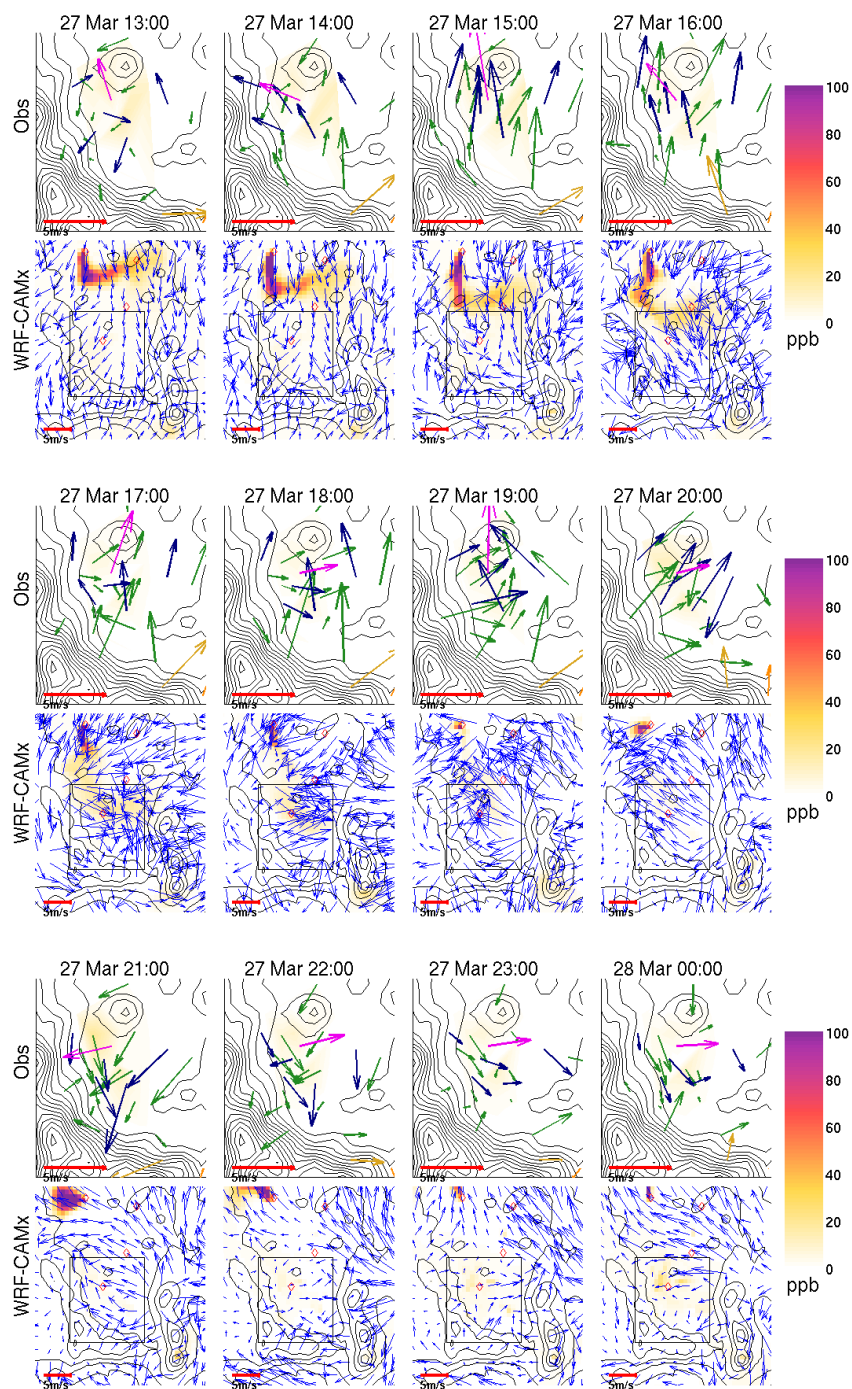


Figure 84: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.

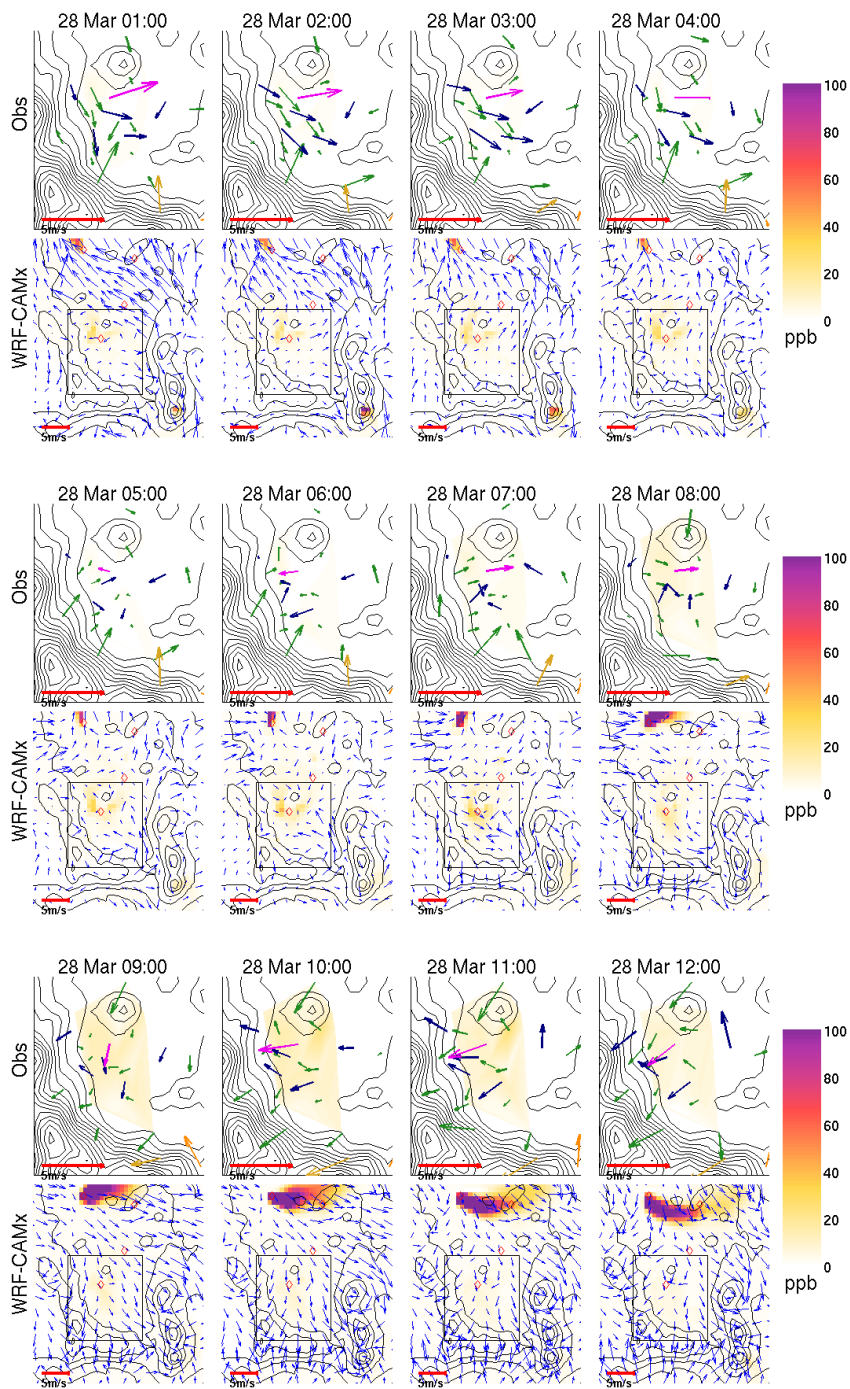


Figure 85: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

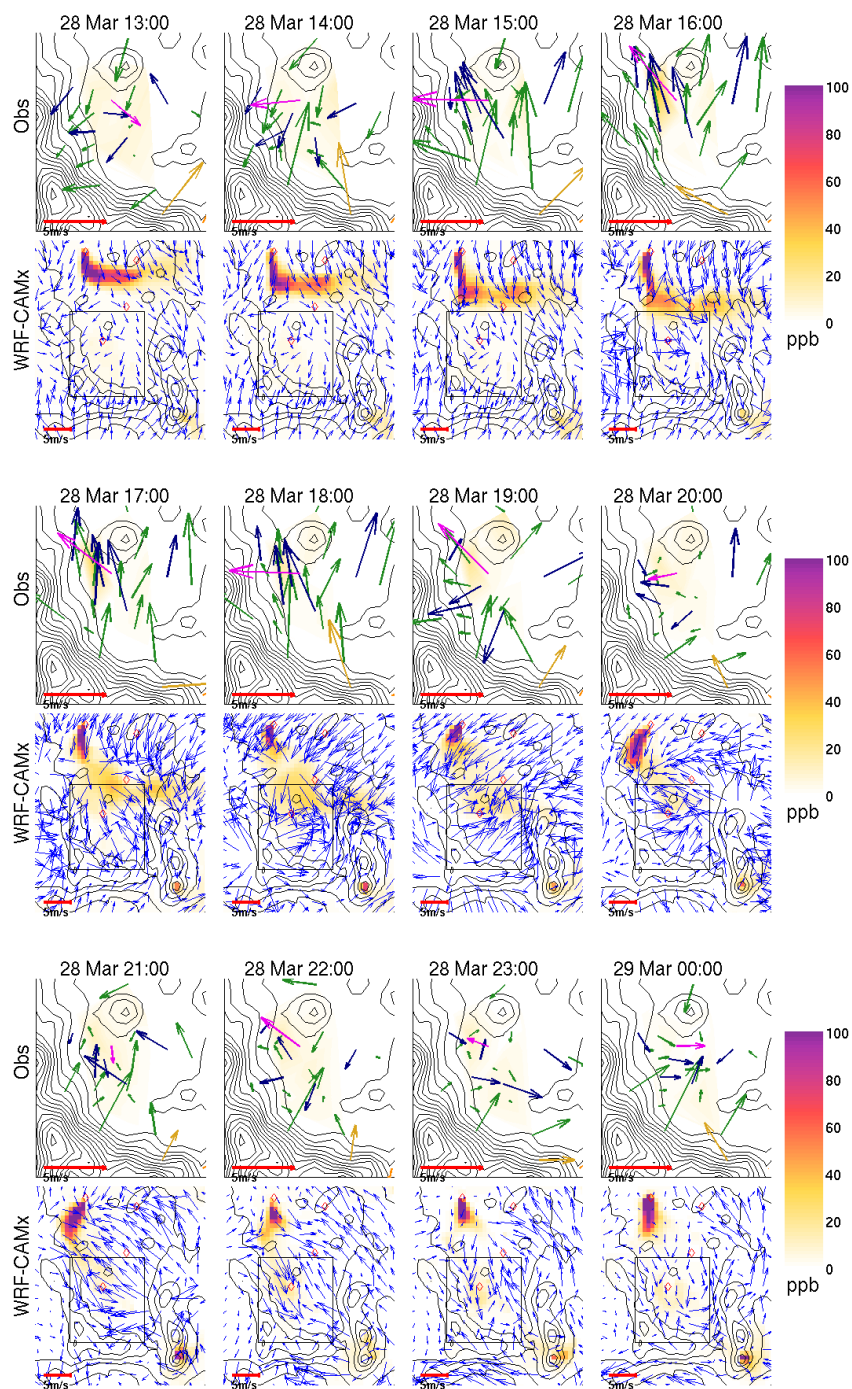


Figure 86: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

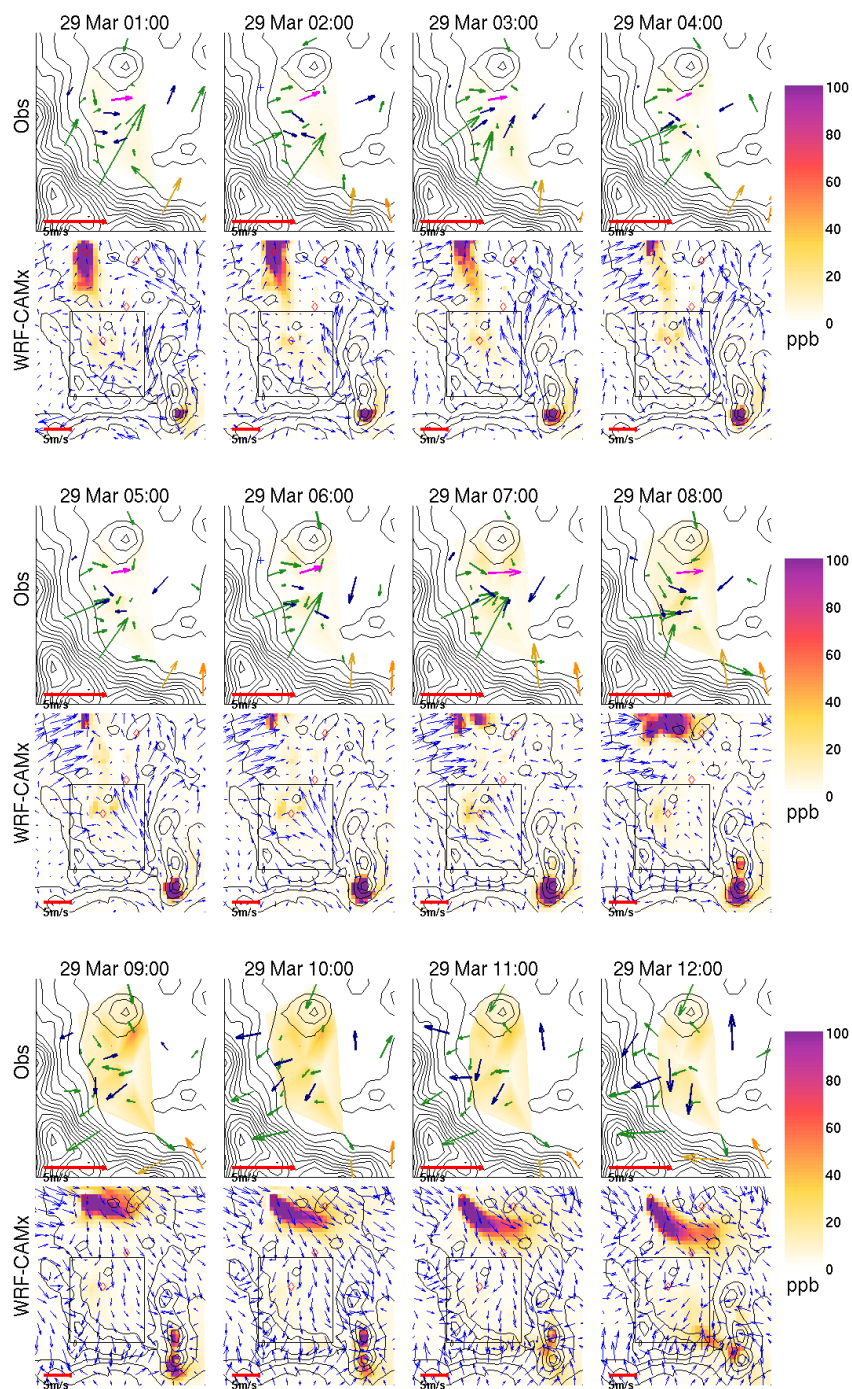


Figure 87: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

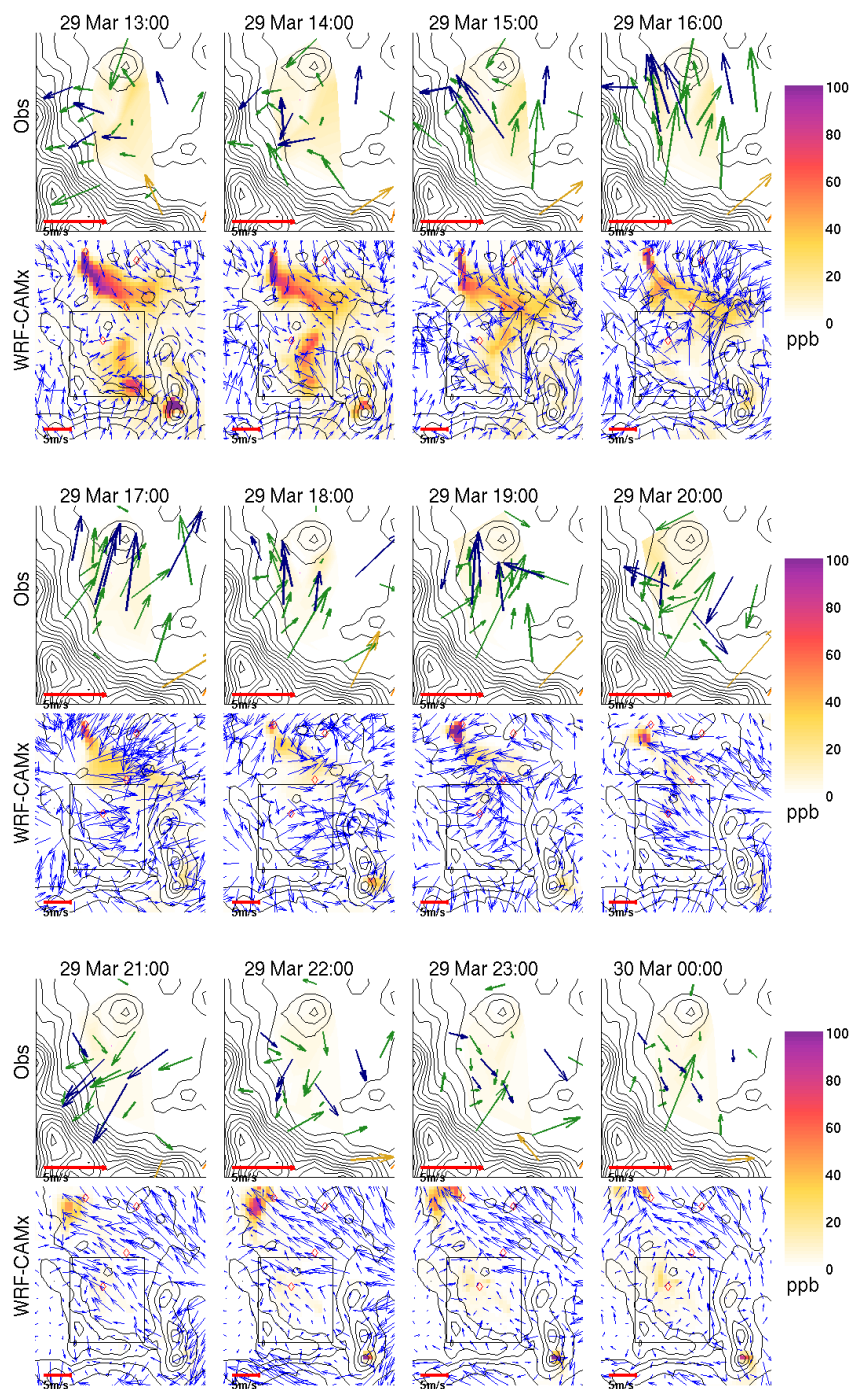


Figure 88: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

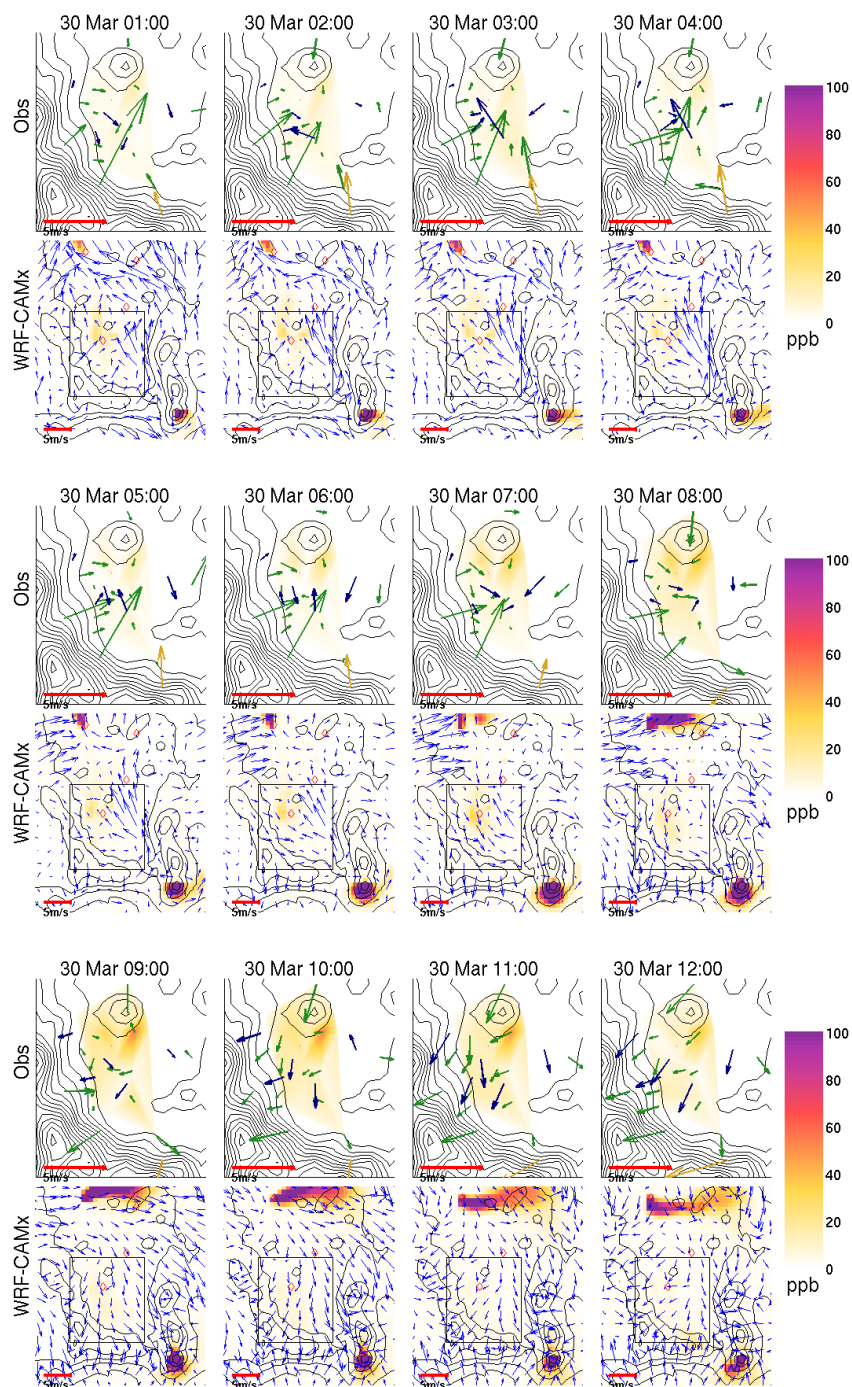


Figure 89: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

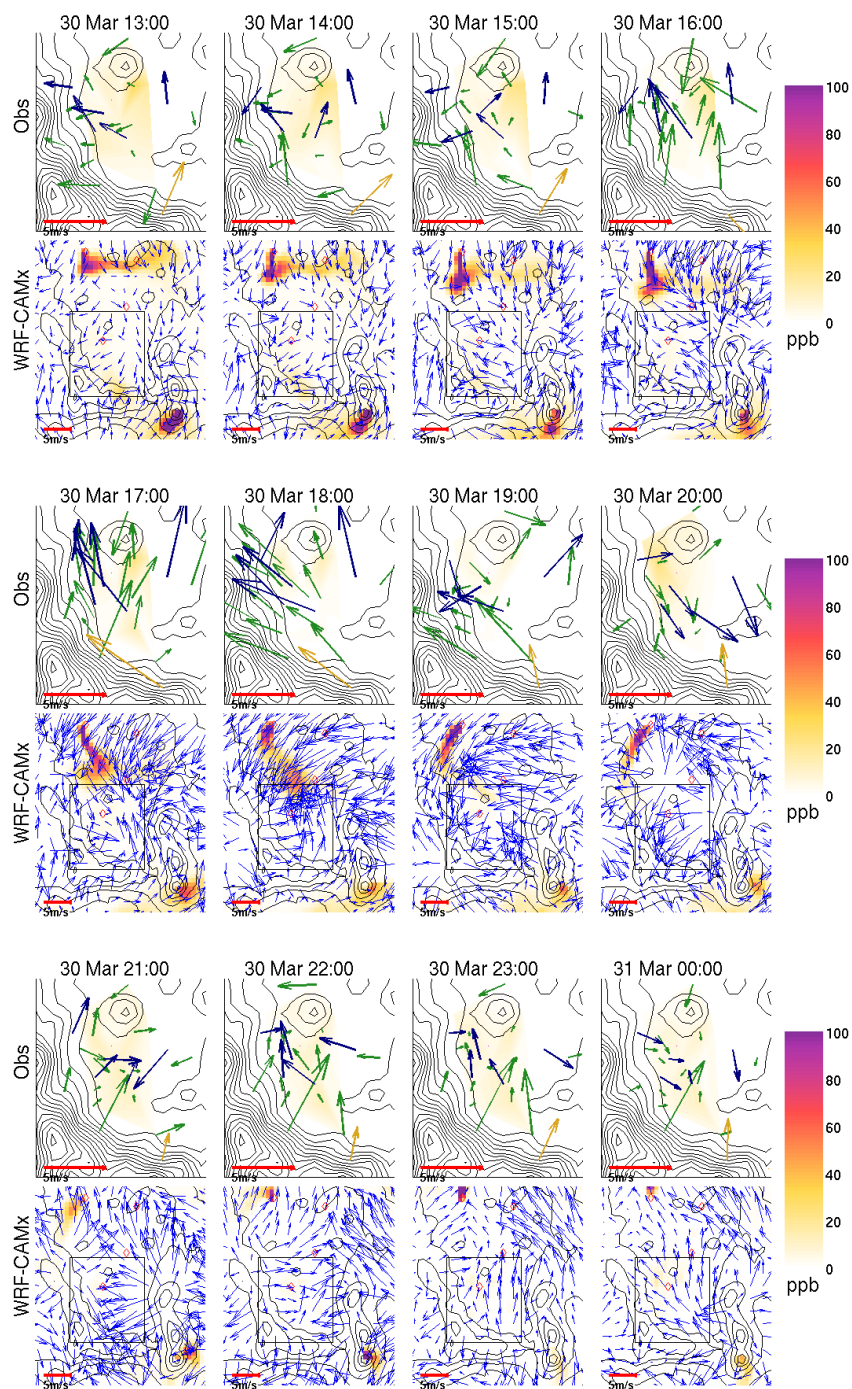


Figure 90: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

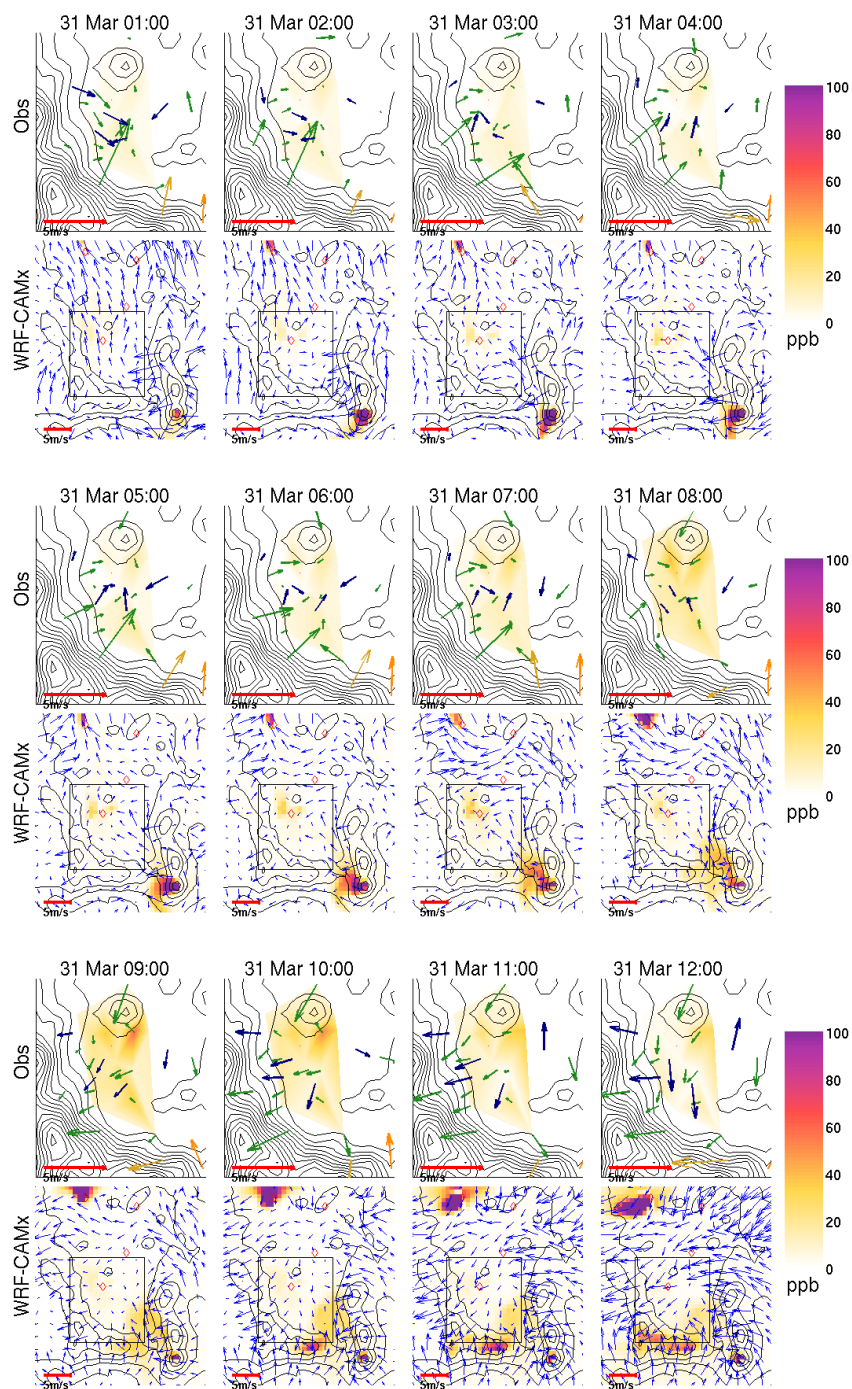


Figure 91: Hourly Surface wind vectors and SO₂ concentrations from measurements and simulations.

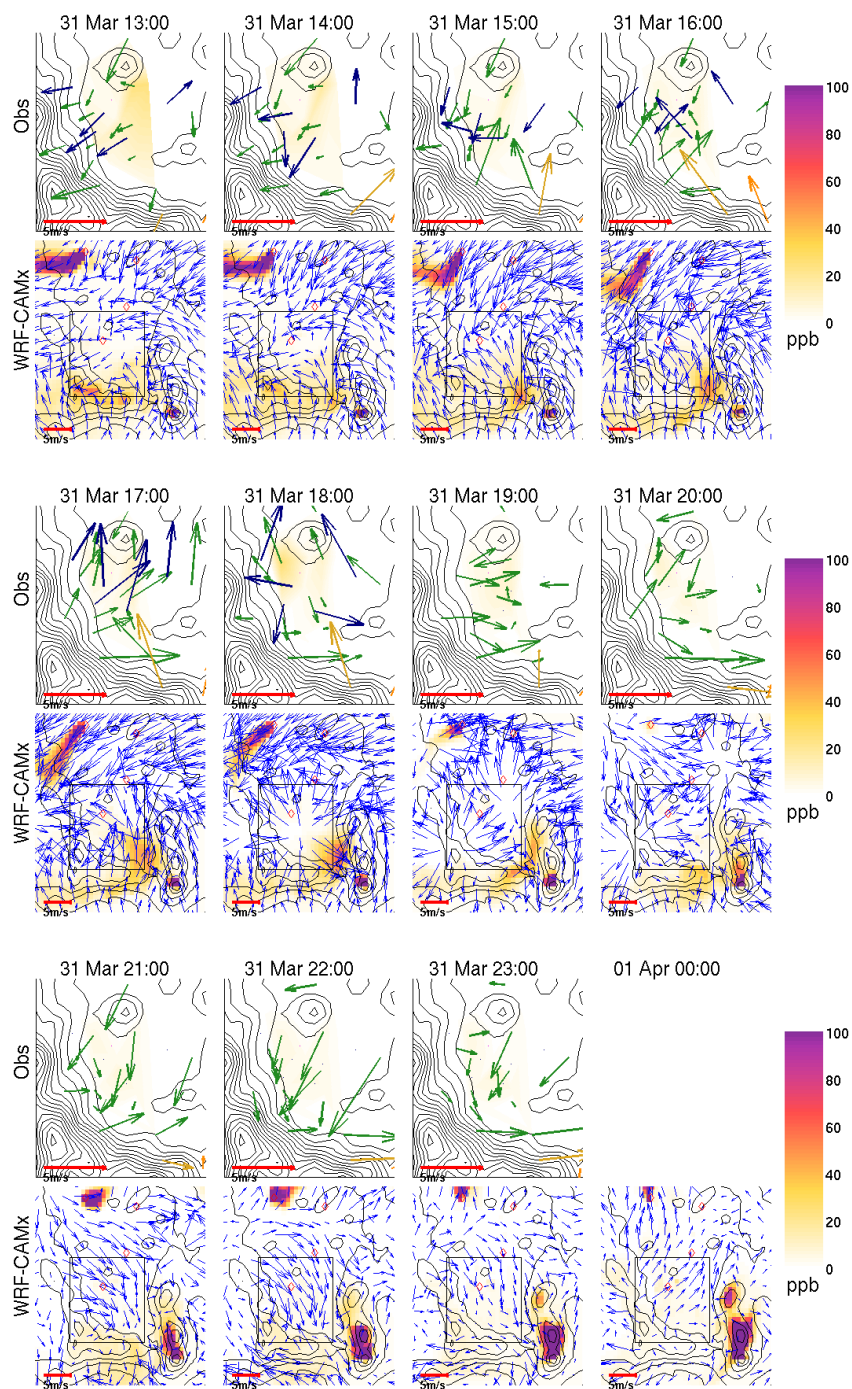


Figure 92: Hourly Surface wind vectors and SO2 concentrations from measurements and simulations.