Appendix A. Sandersville Prescribed Fire Exceptional Events Plots

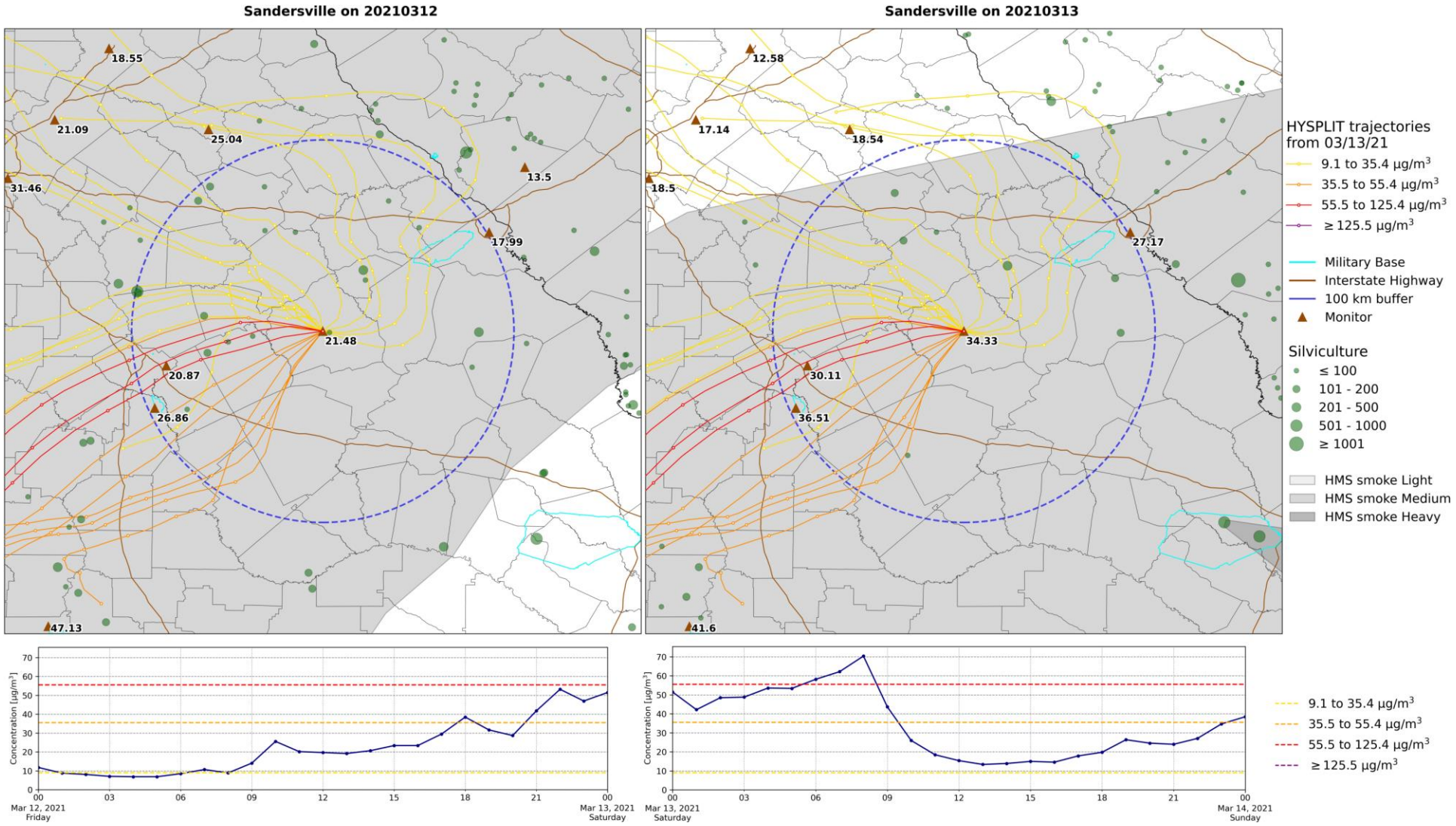

Figure 1A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 12, 2021. The top right map contains the same information for March 13, 2021. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 13, 2021. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

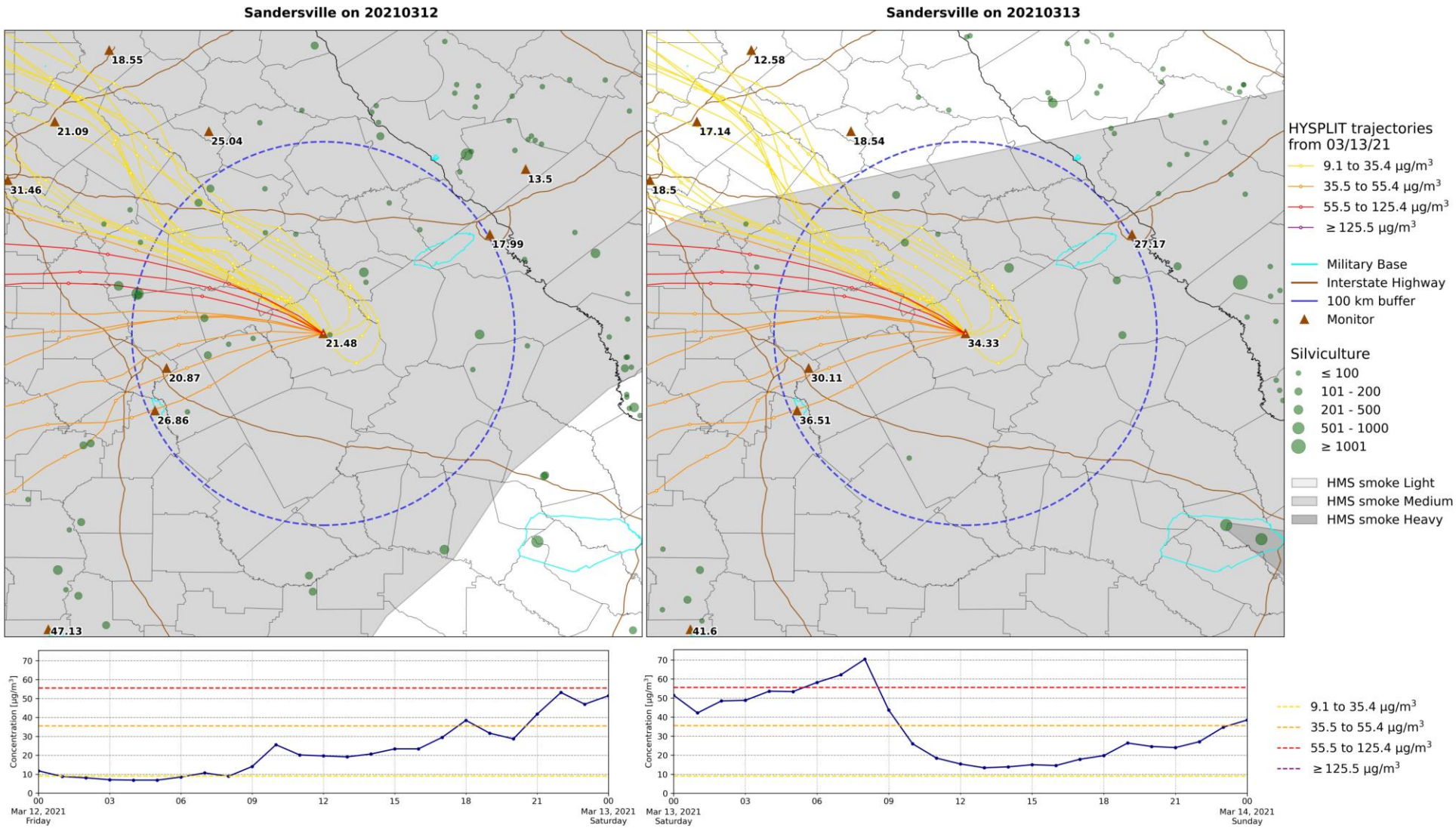

Figure 1B. The same as Figure 1A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

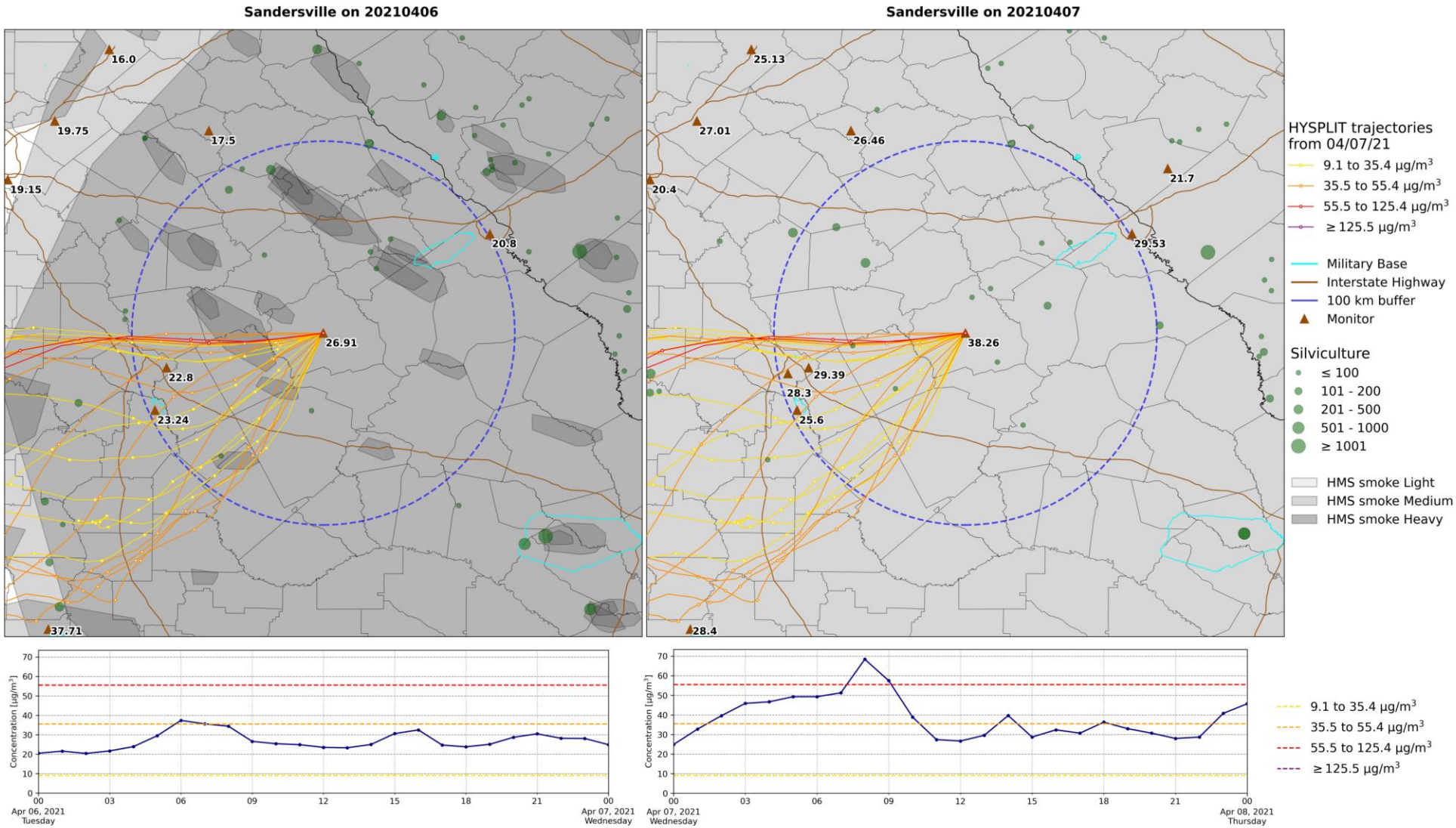

Figure 2A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on April 6, 2021. The top right map contains the same information for April 7, 2021. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on April 7, 2021. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

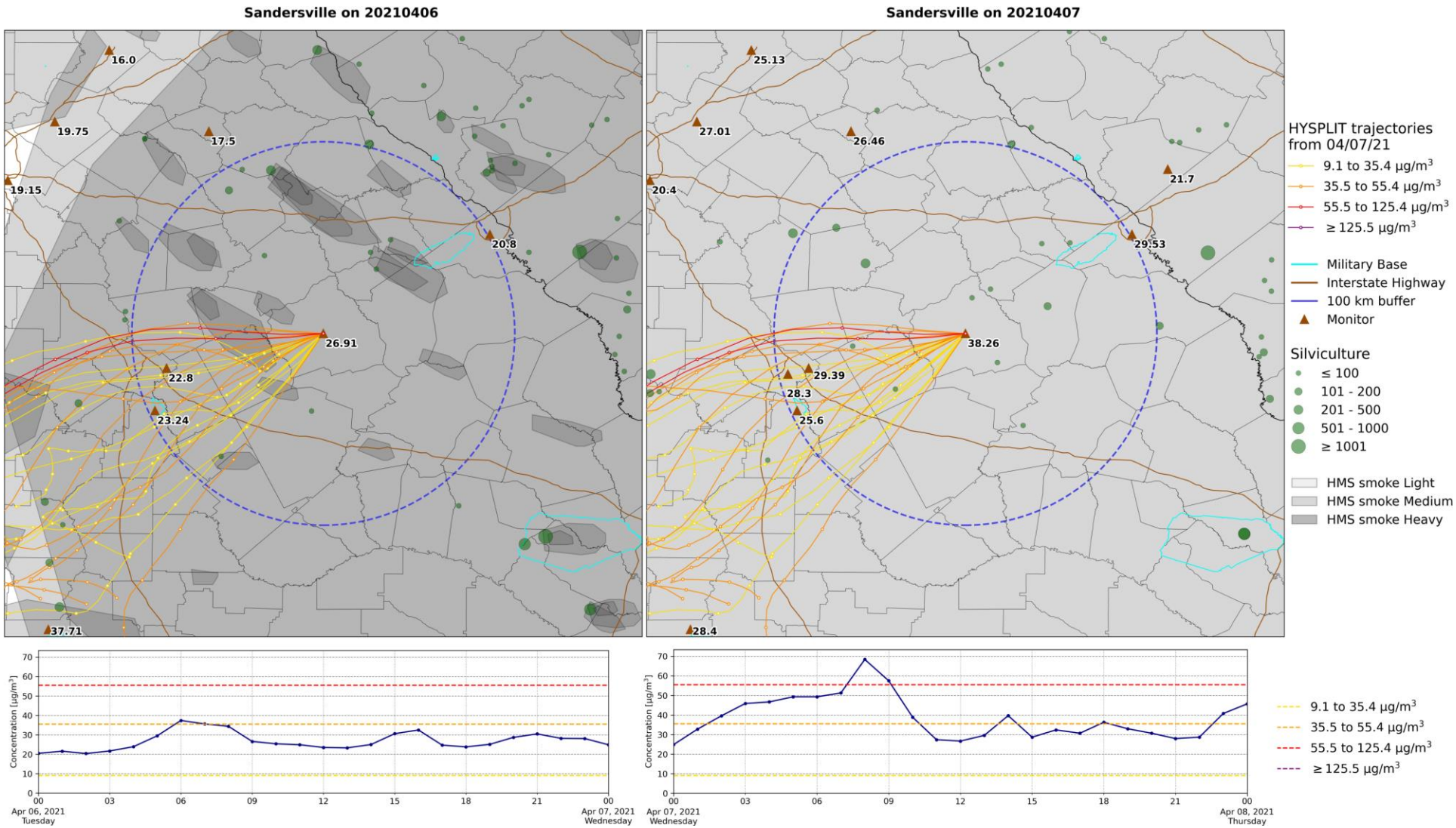

Figure 2B. The same as Figure 2A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

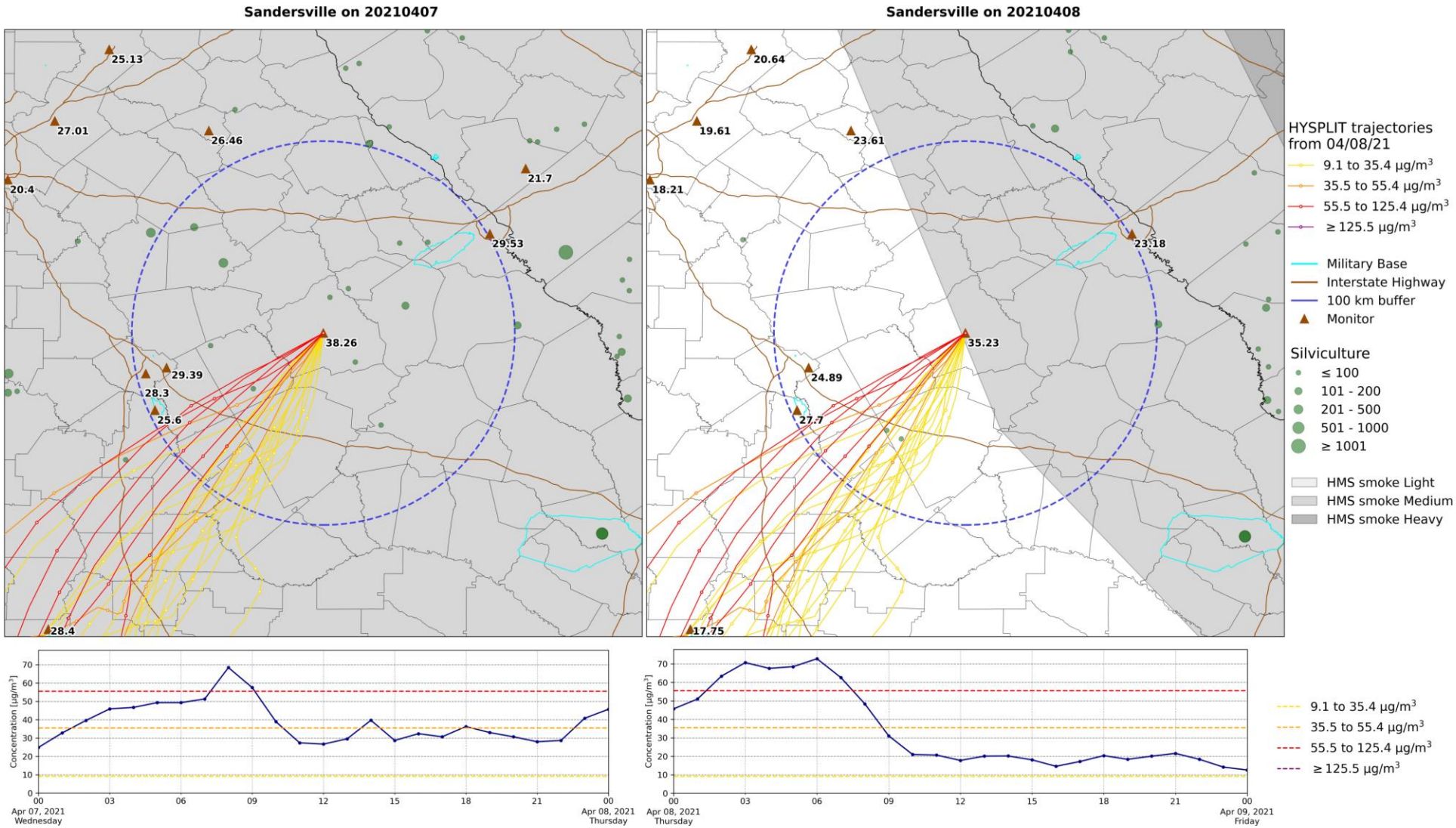

Figure 3A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on April 7, 2021. The top right map contains the same information for April 8, 2021. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on April 8, 2021. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

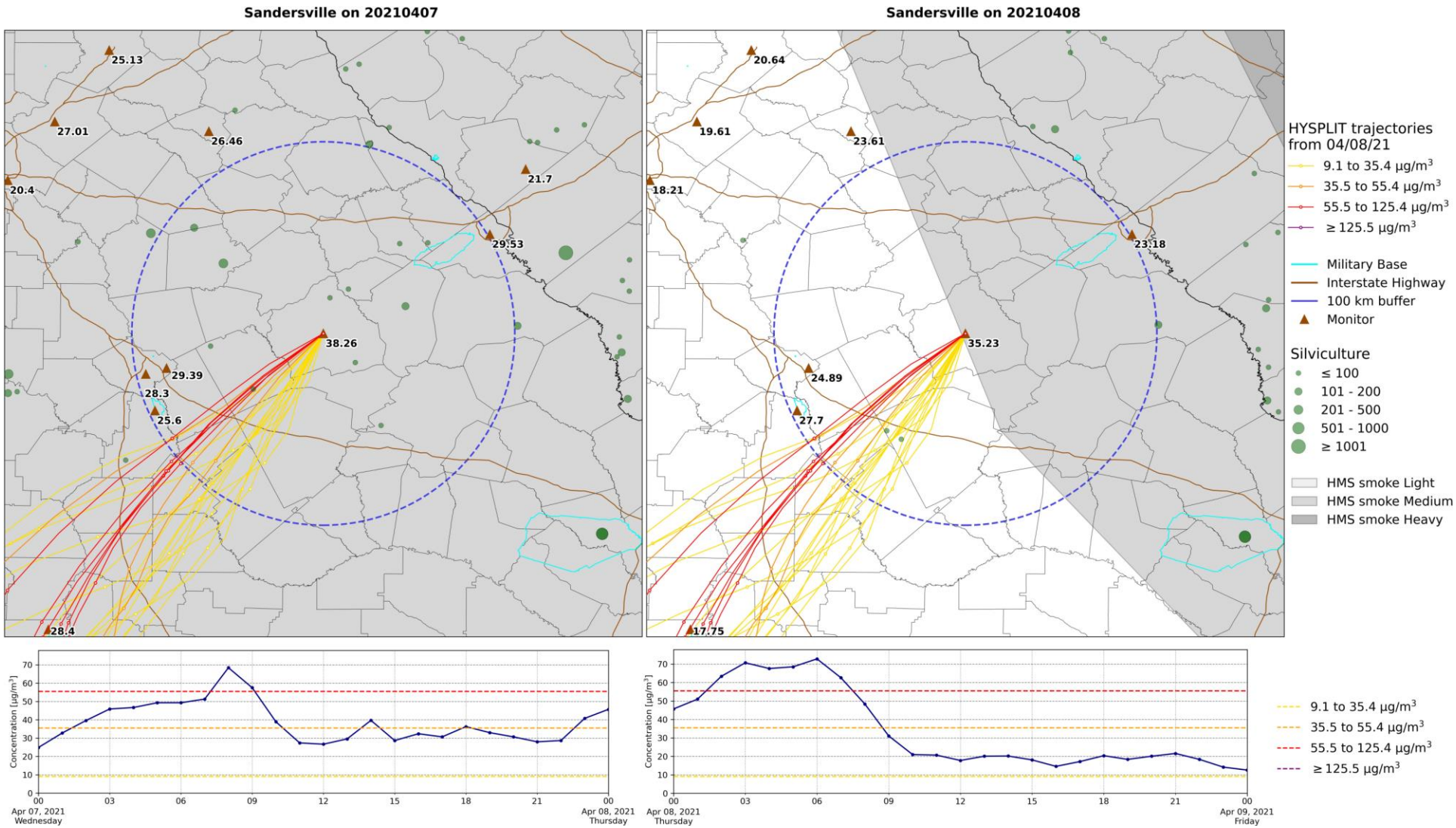

Figure 3B. The same as Figure 3A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

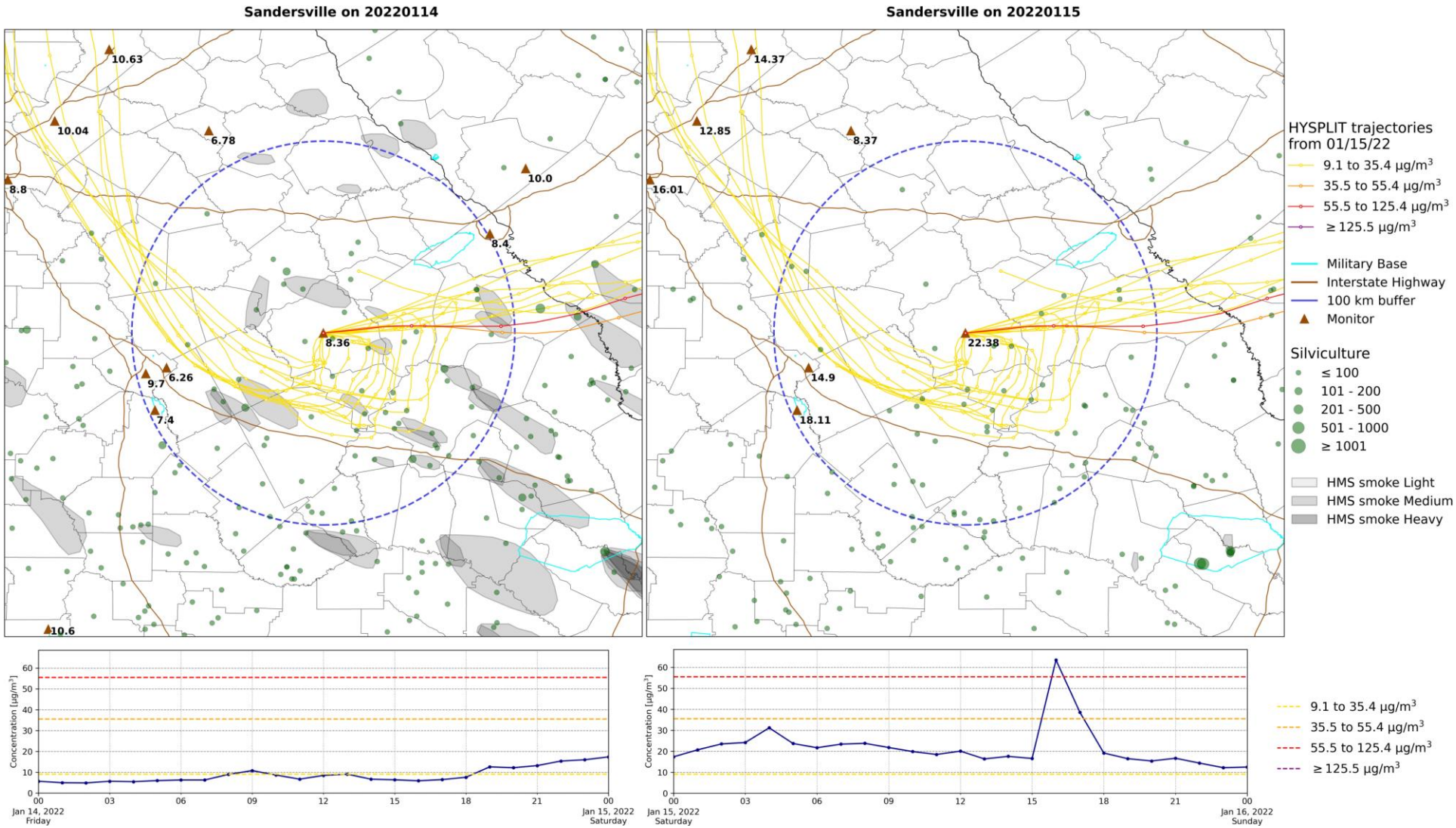

Figure 4A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 14, 2022. The top right map contains the same information for January 15, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 15, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

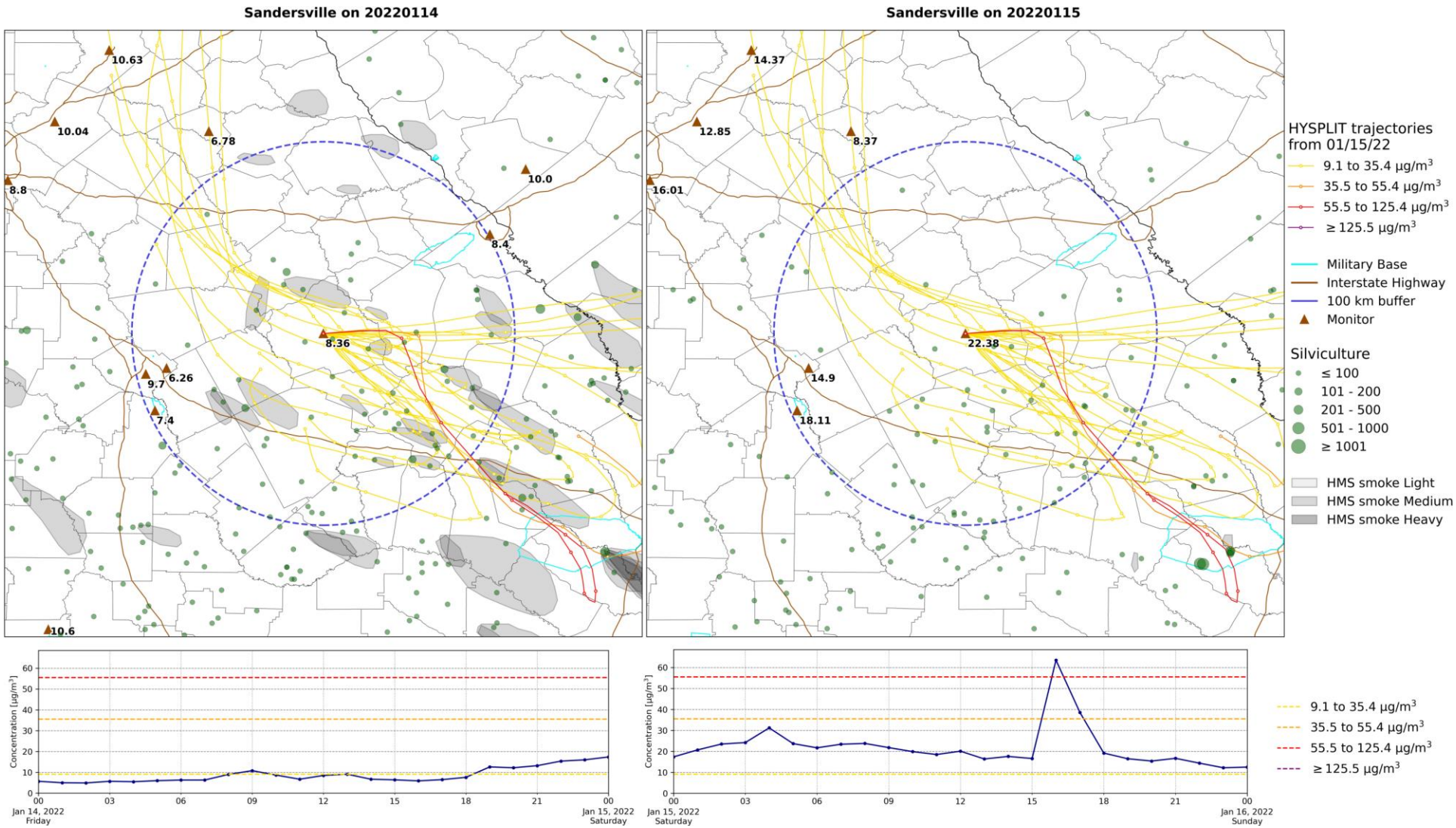

Figure 4B. The same as Figure 4A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

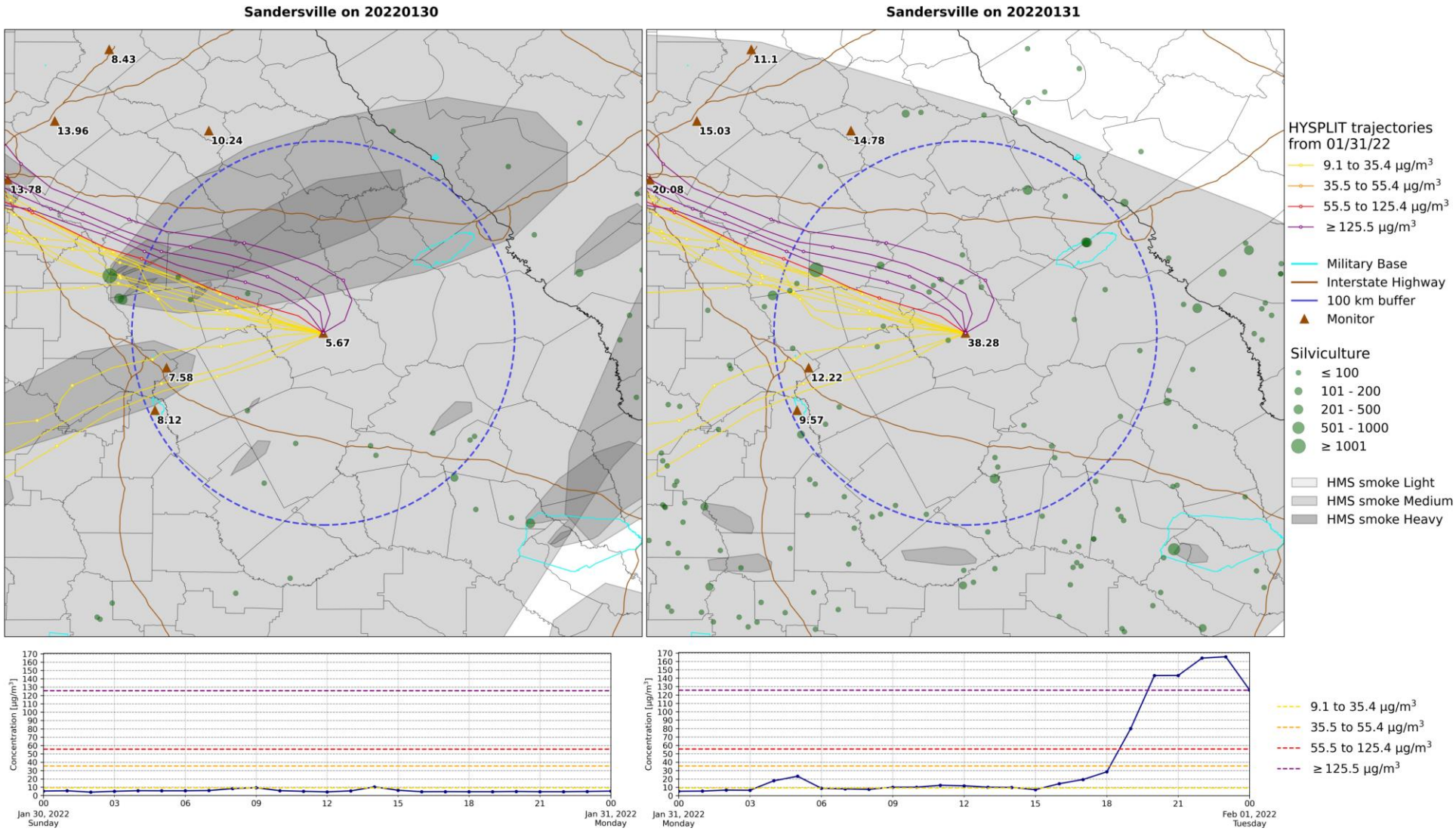

Figure 5A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 30, 2022. The top right map contains the same information for January 31, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 31, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

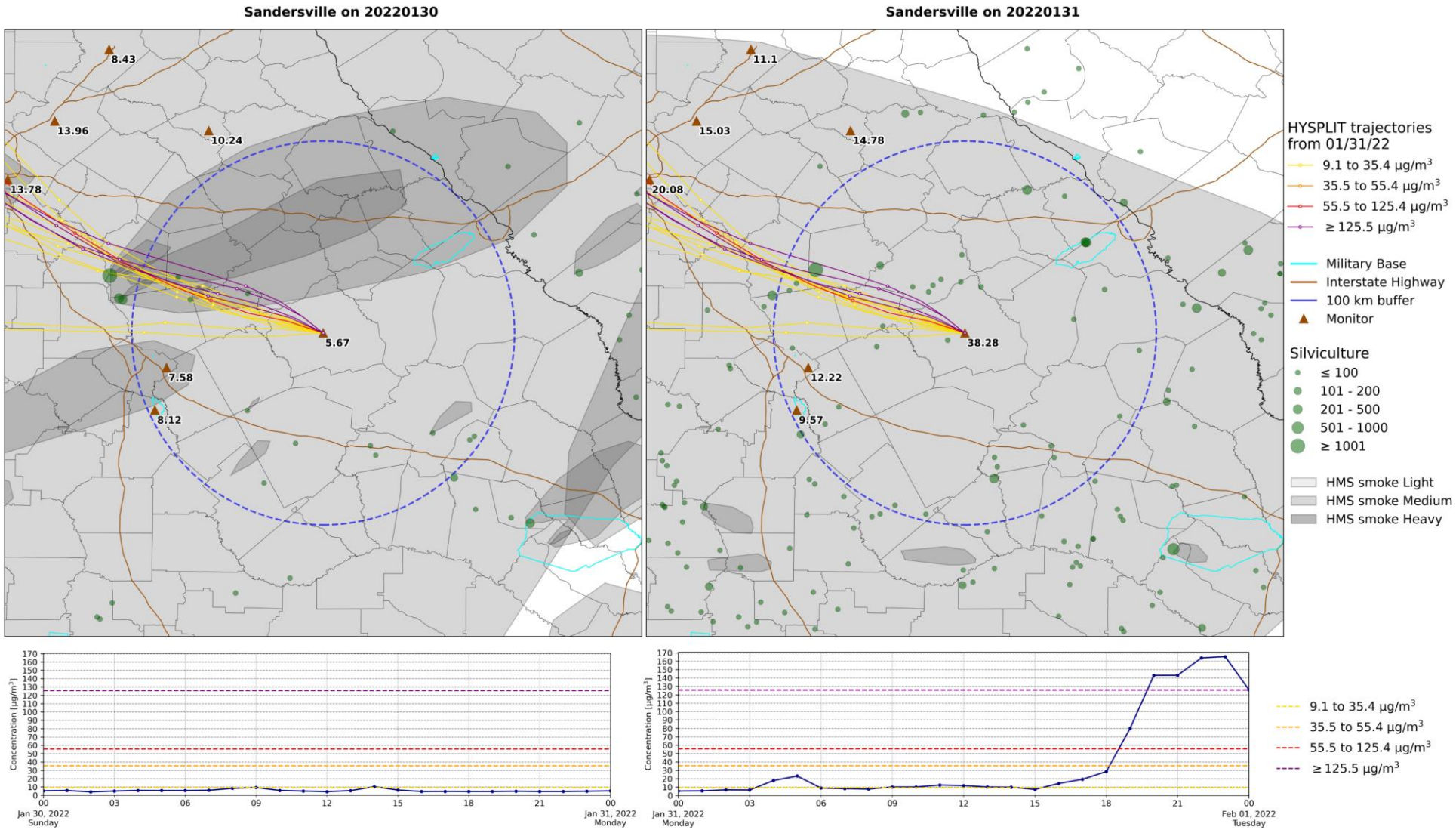

Figure 5B. The same as Figure 5A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

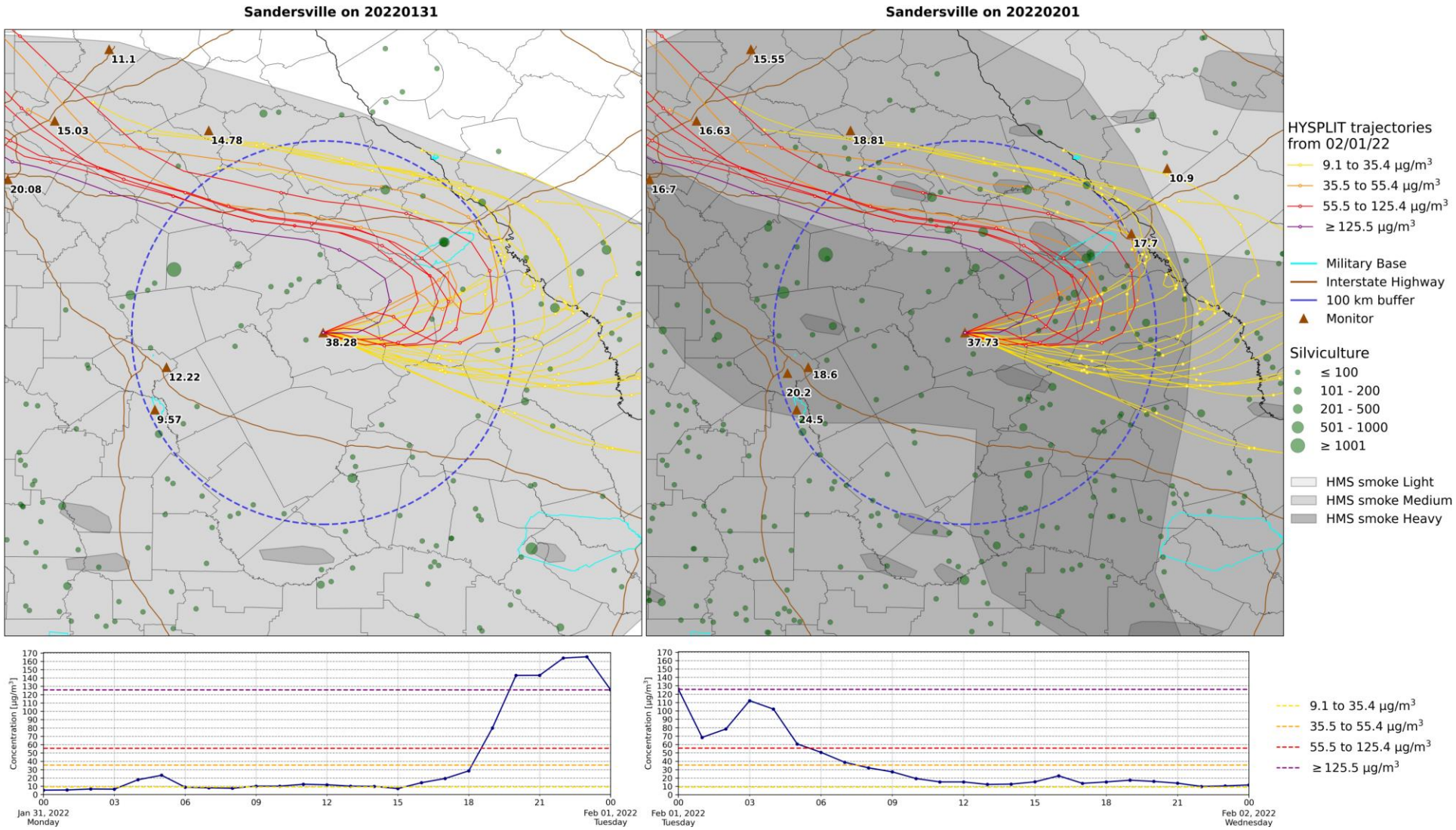

Figure 6A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 31, 2022. The top right map contains the same information for February 1, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 1, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

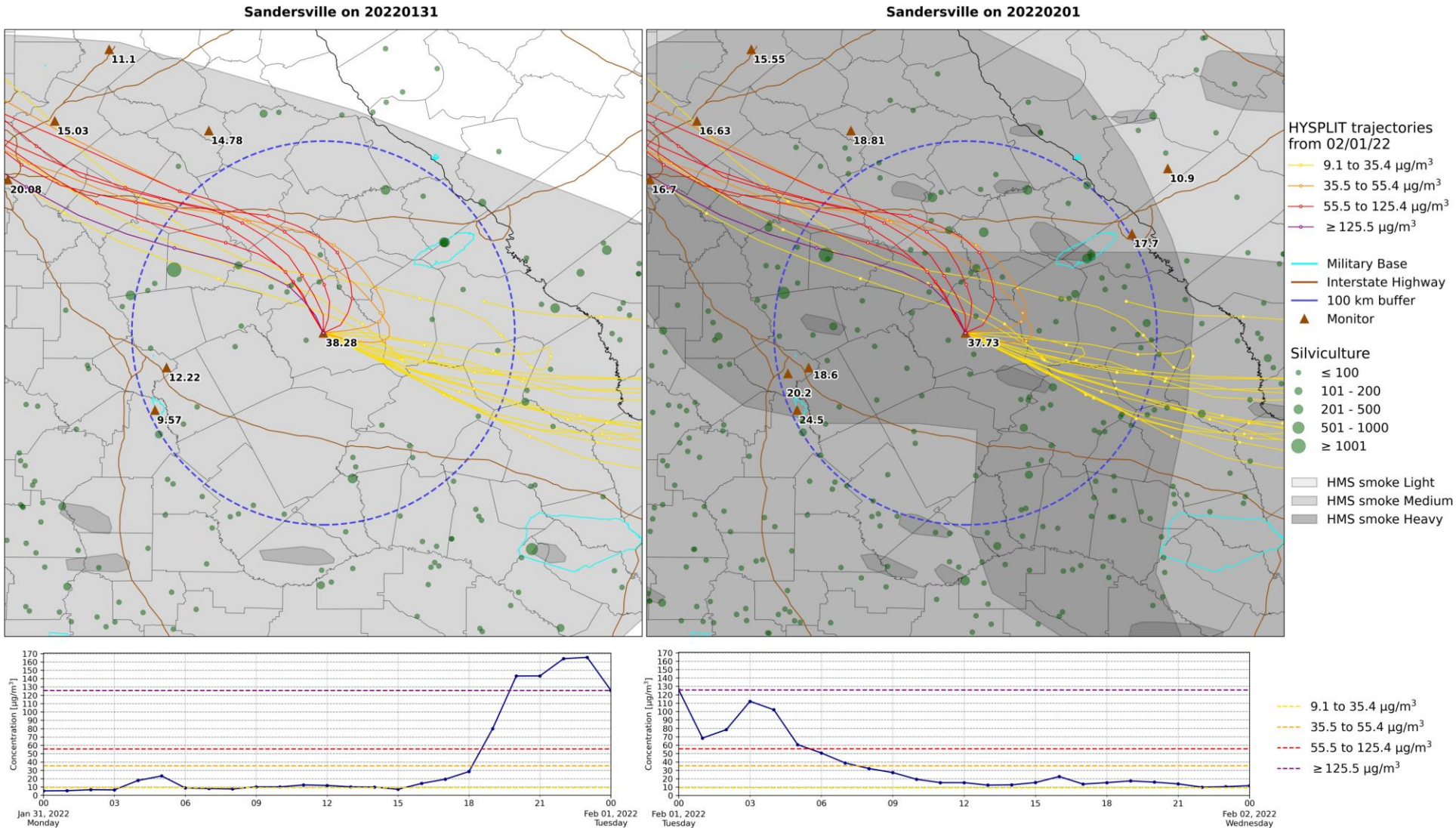

Figure 6B. The same as Figure 6A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

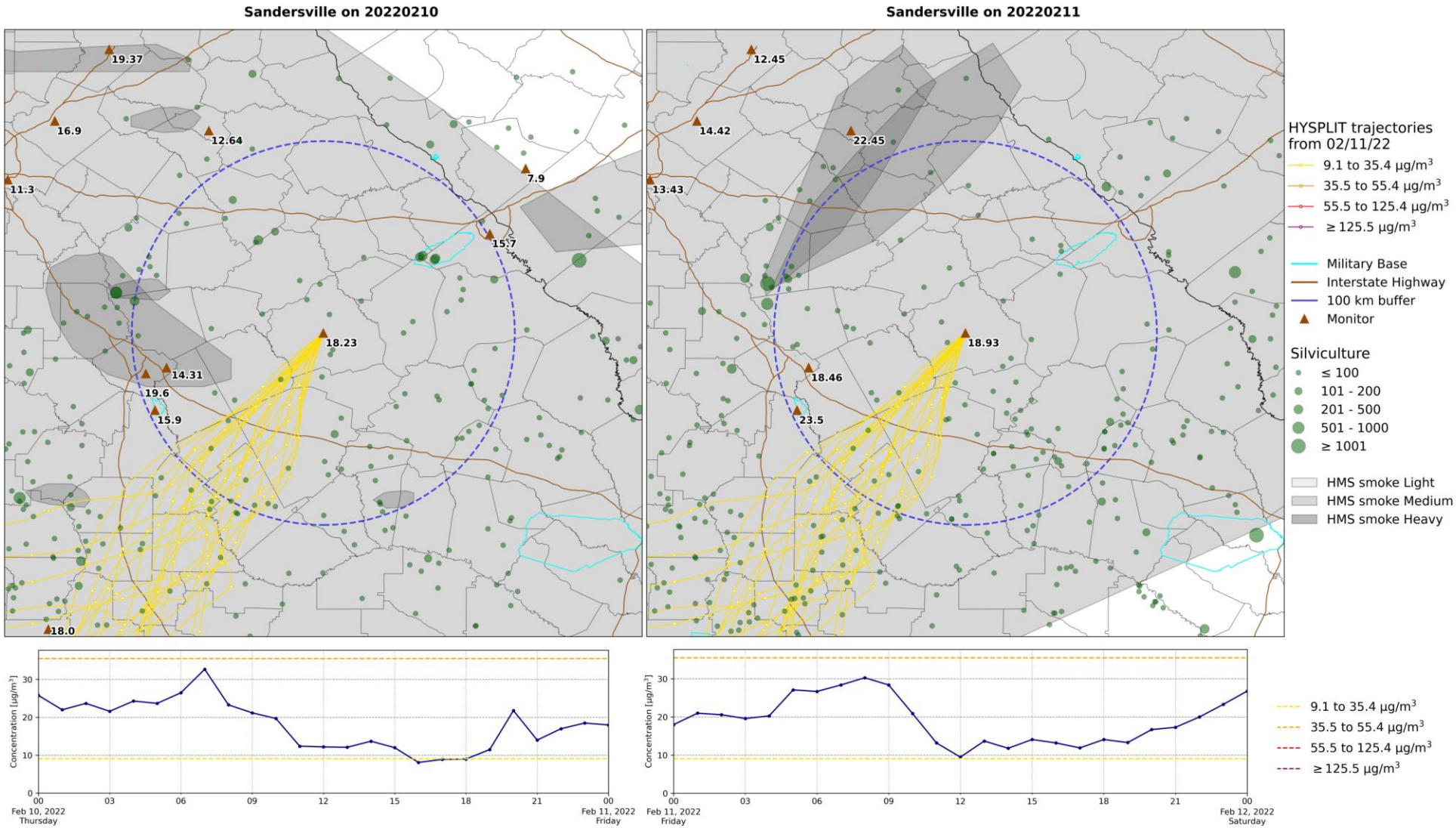

Figure 7A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 10, 2022. The top right map contains the same information for February 11, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 11, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

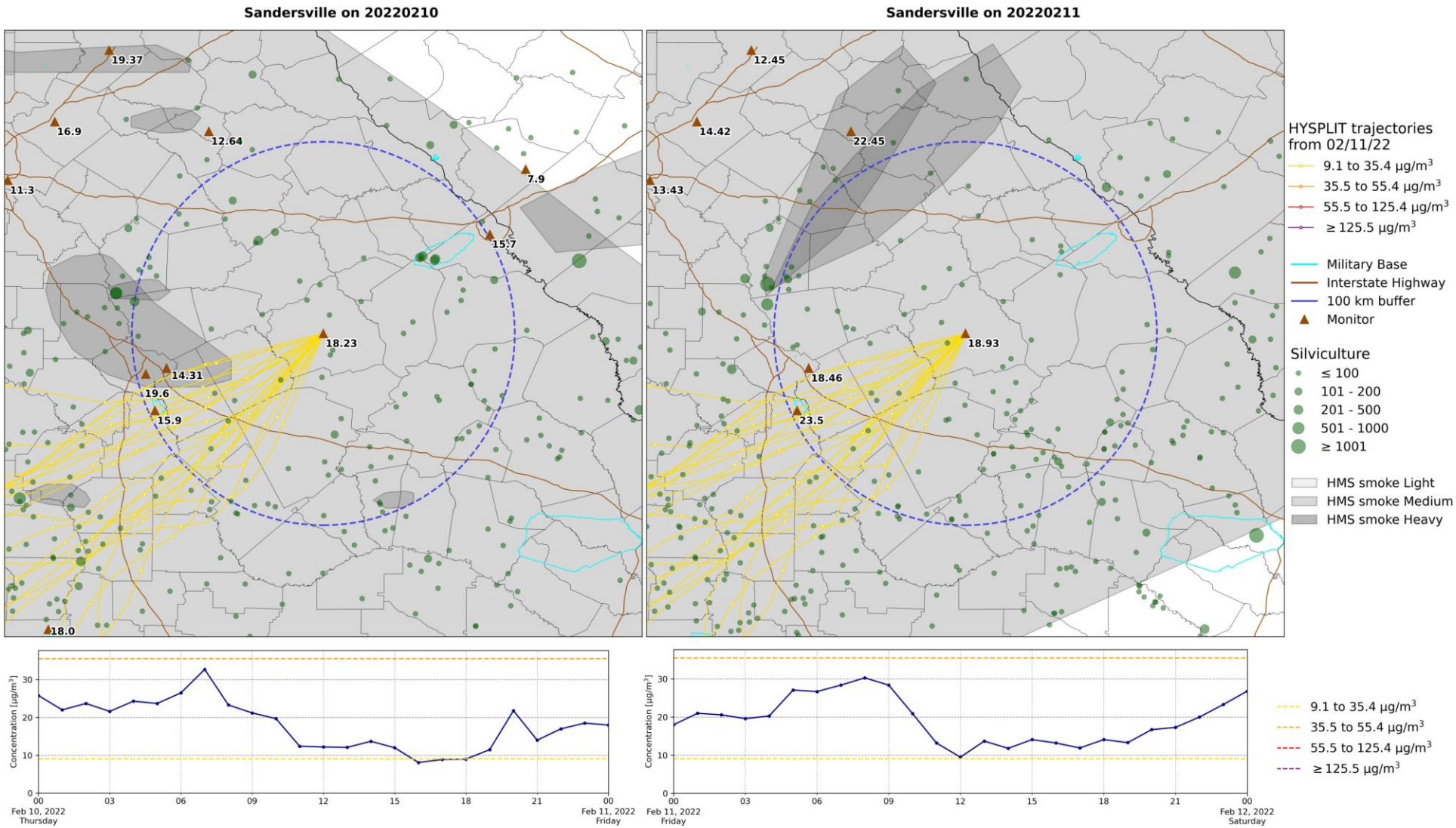

Figure 7B. The same as Figure 7A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

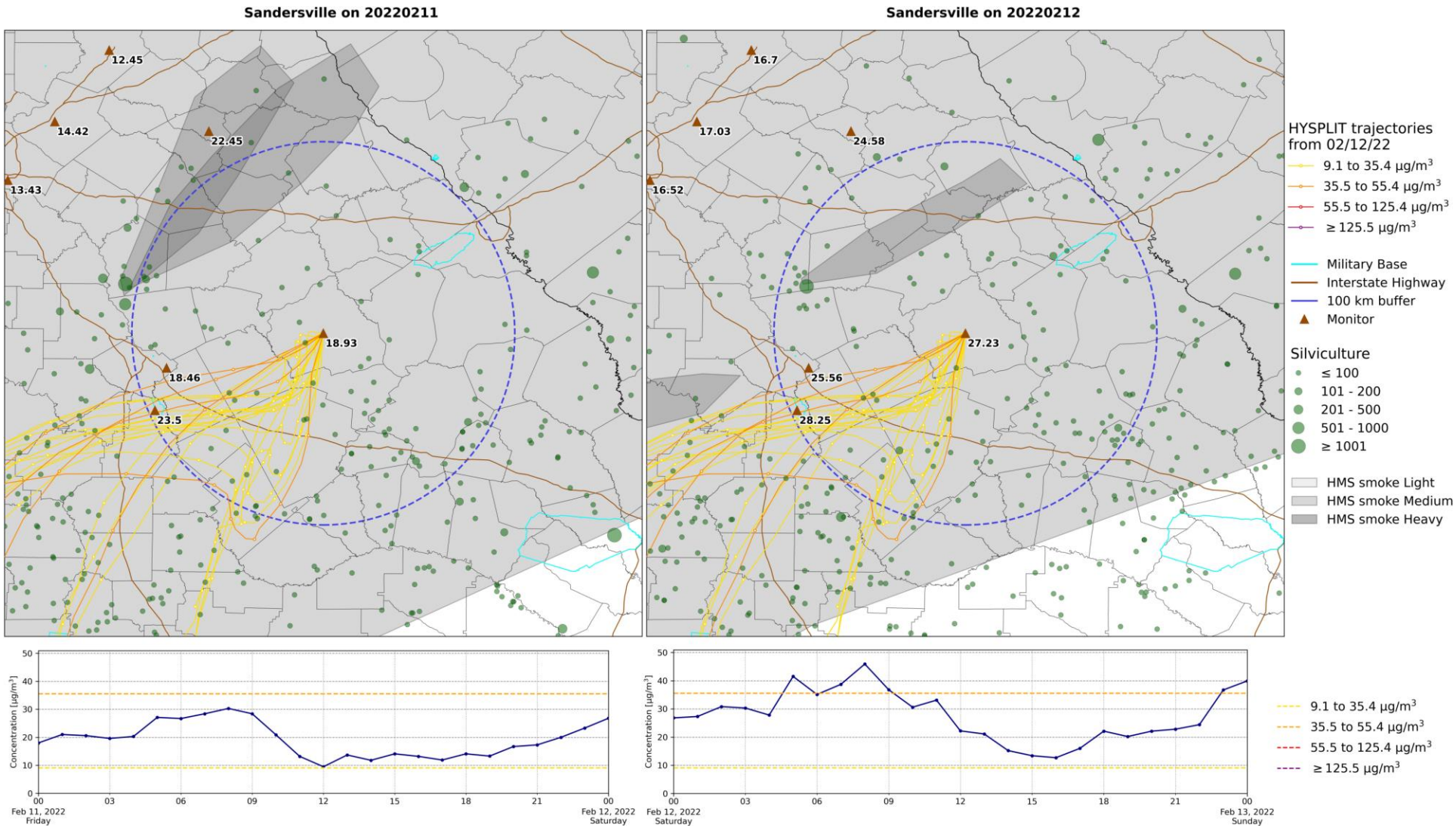

Figure 8A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 11, 2022. The top right map contains the same information for February 12, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 12, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

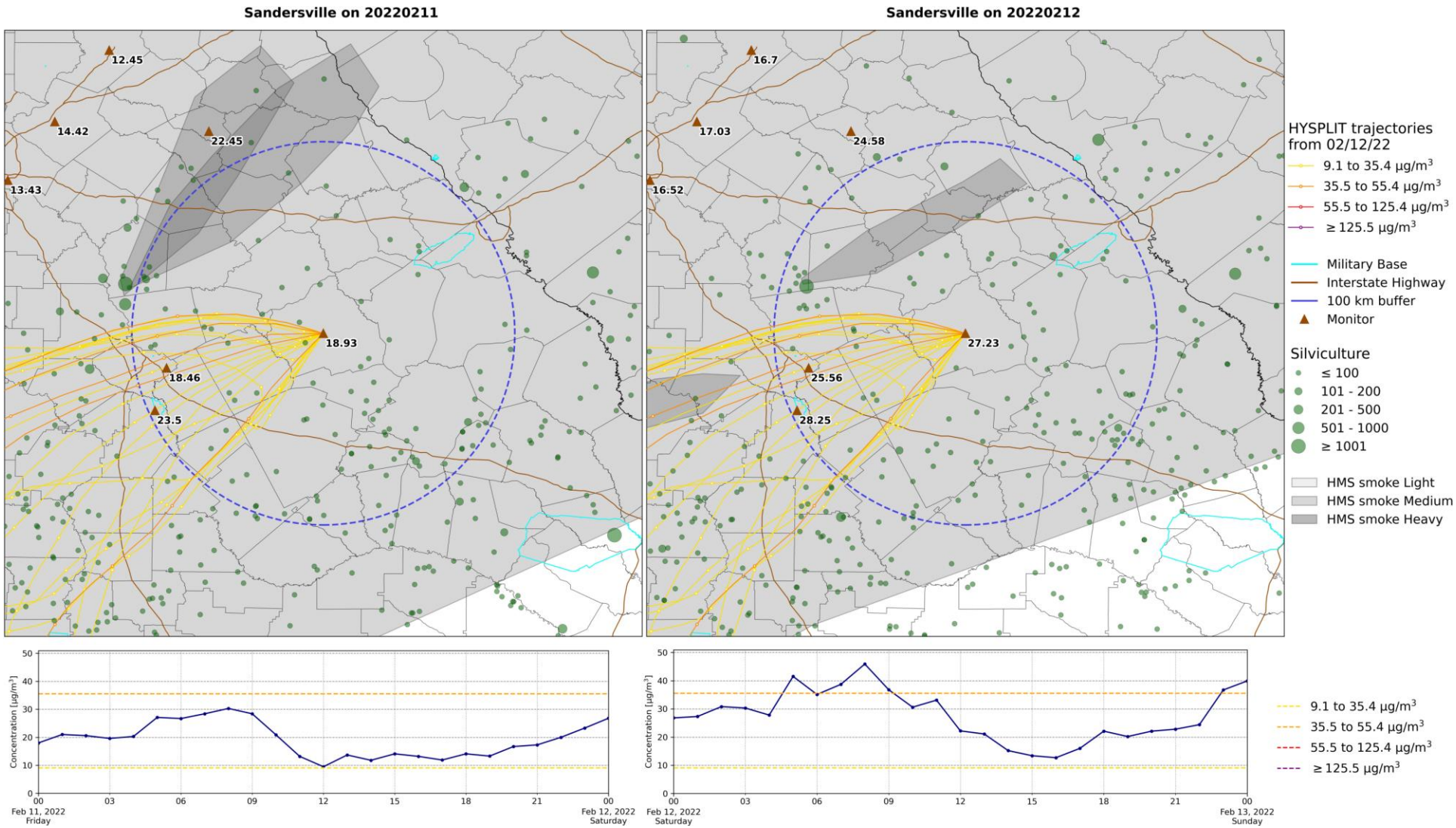

Figure 8B. The same as Figure 8A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

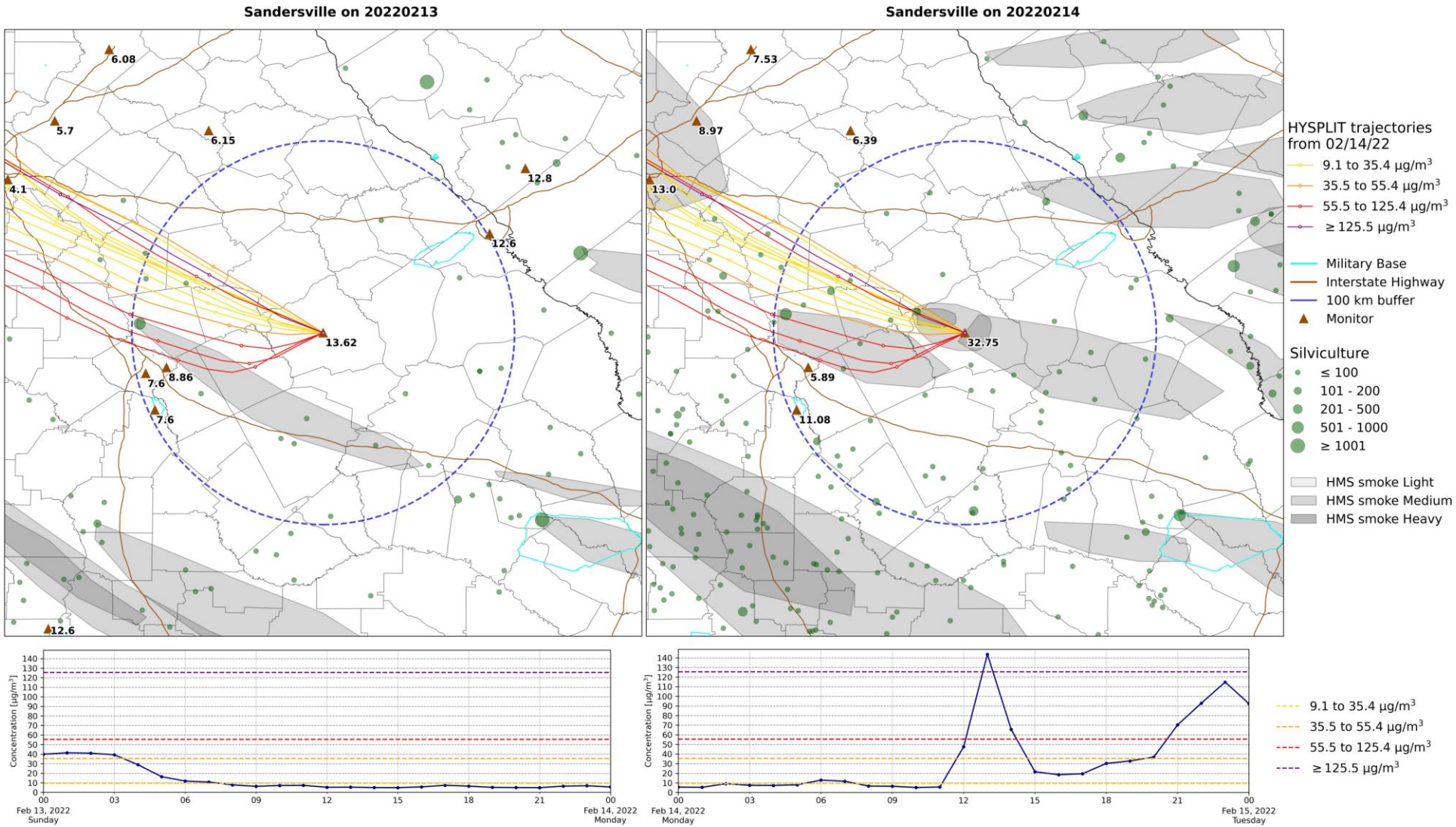

Figure 9A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 13, 2022. The top right map contains the same information for February 14, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 14, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

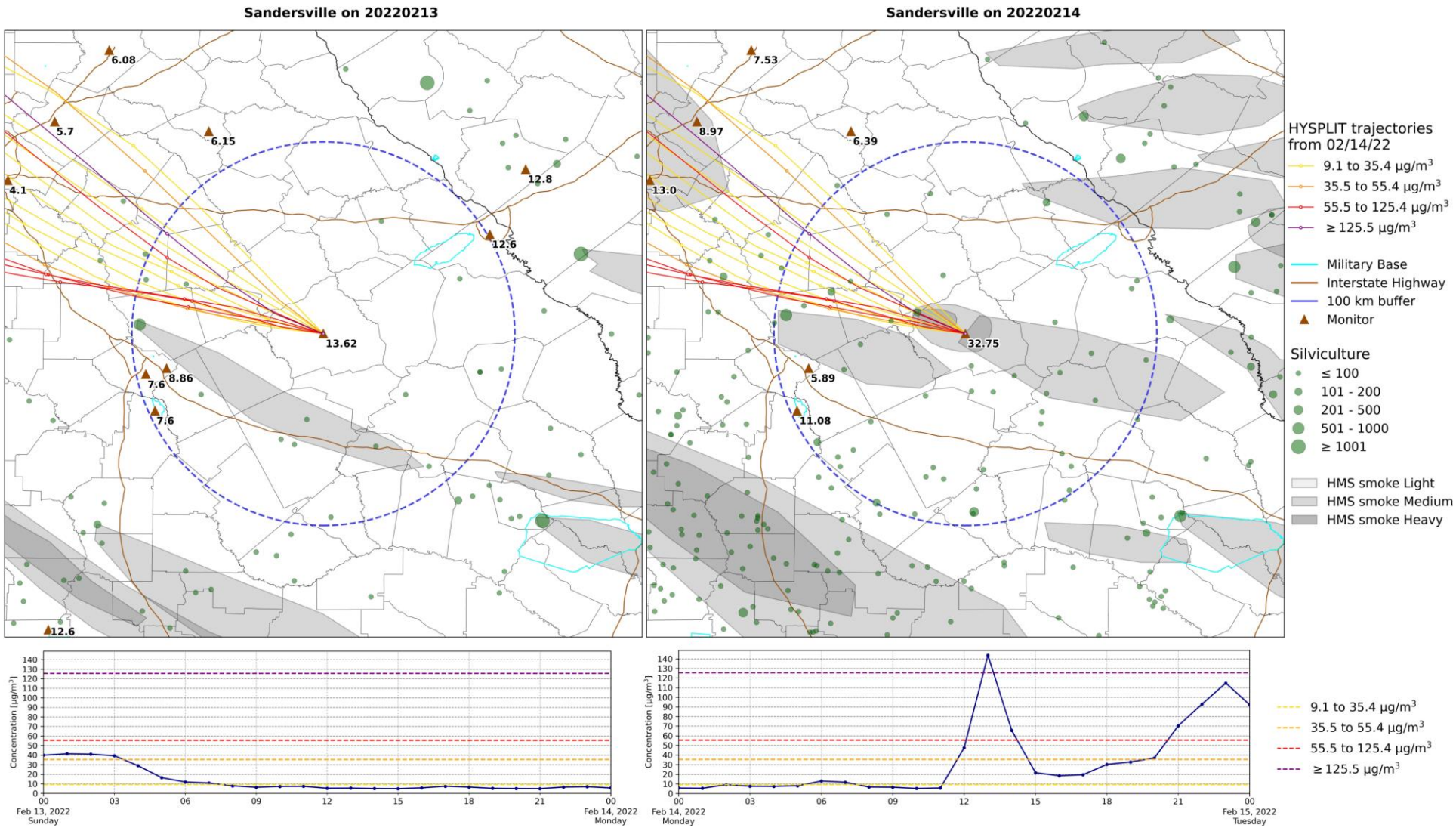

Figure 9B. The same as Figure 9A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

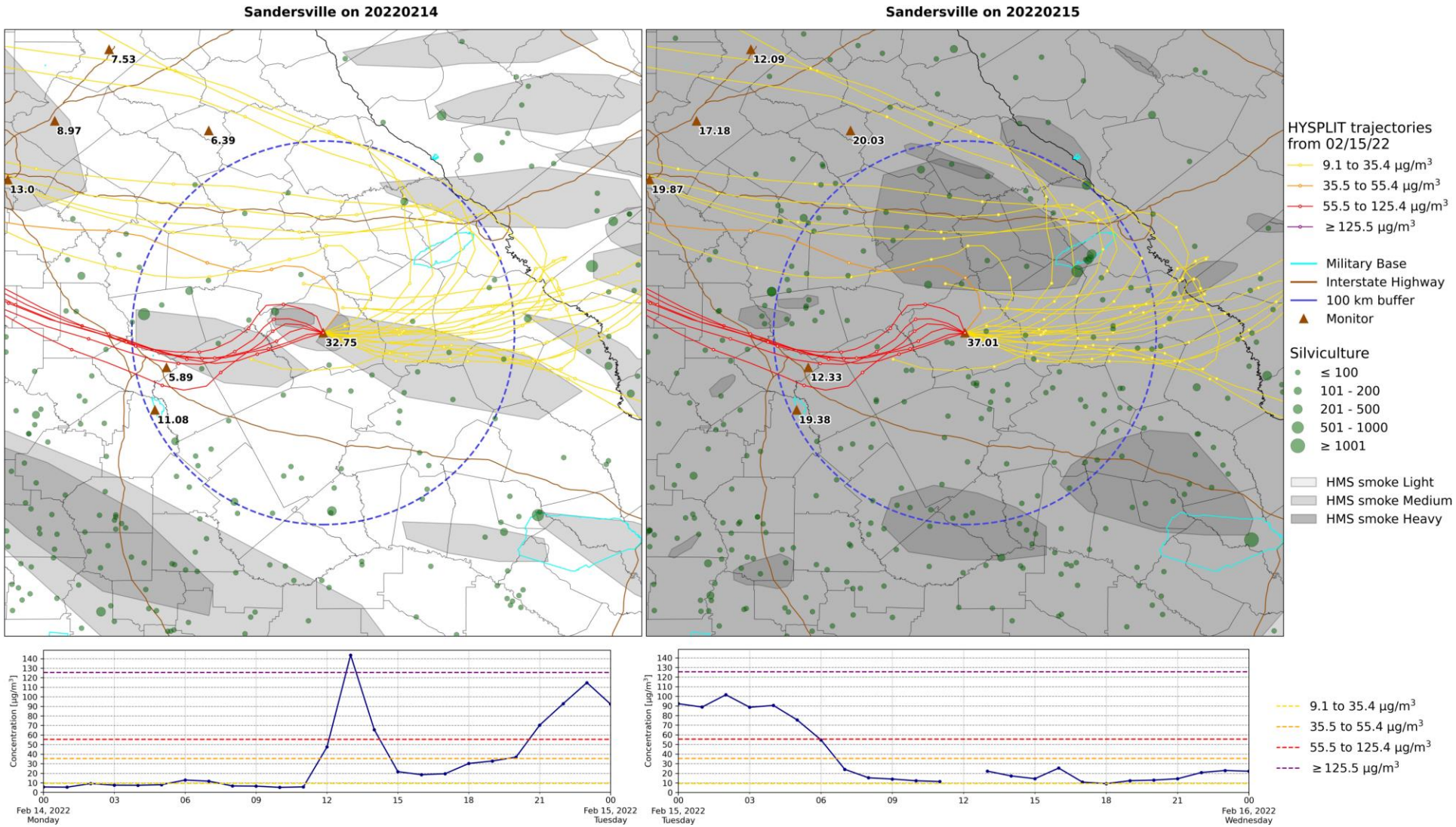

Figure 10A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 14, 2022. The top right map contains the same information for February 15, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 15, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

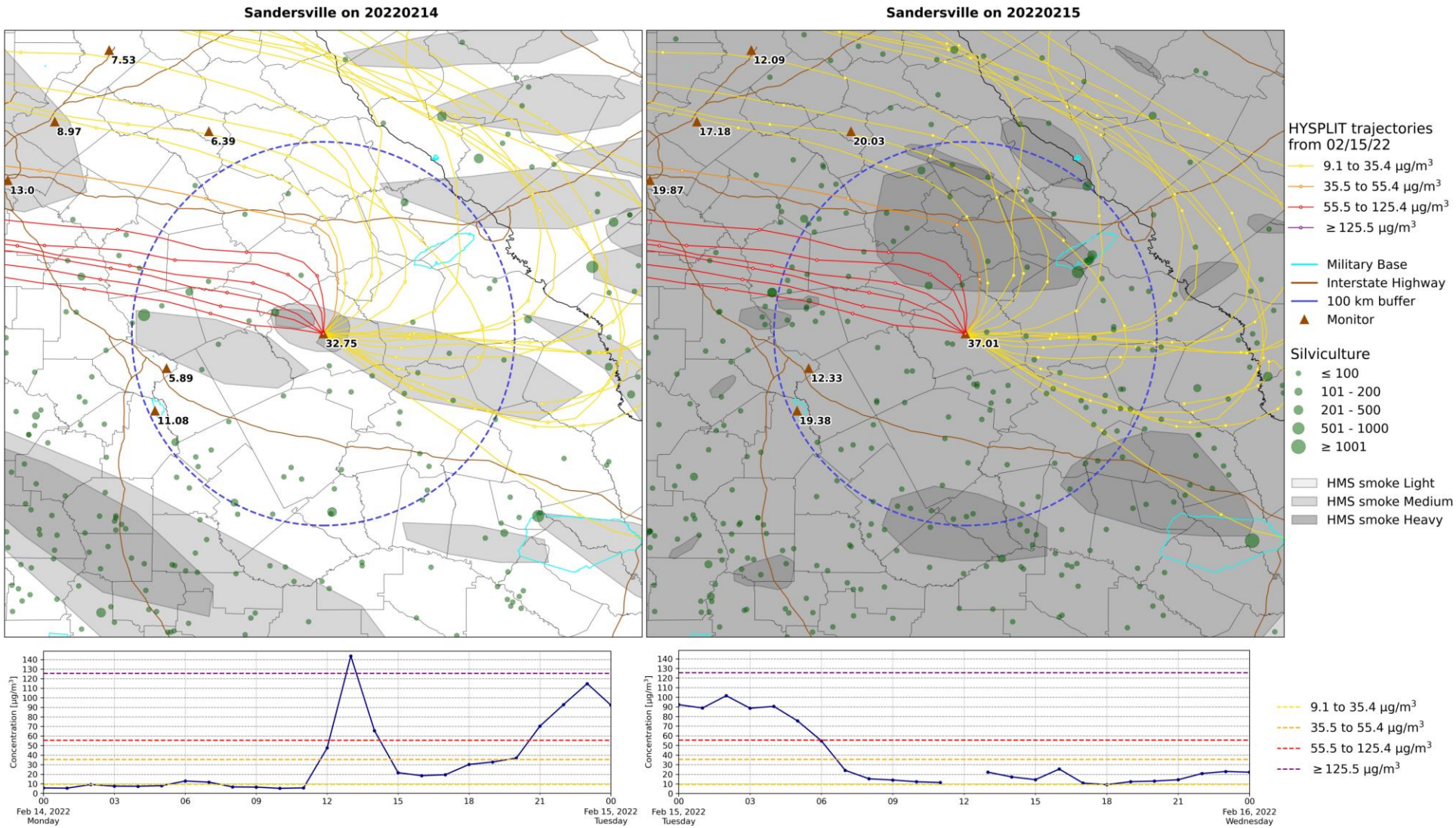

Figure 10B. The same as Figure 10A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

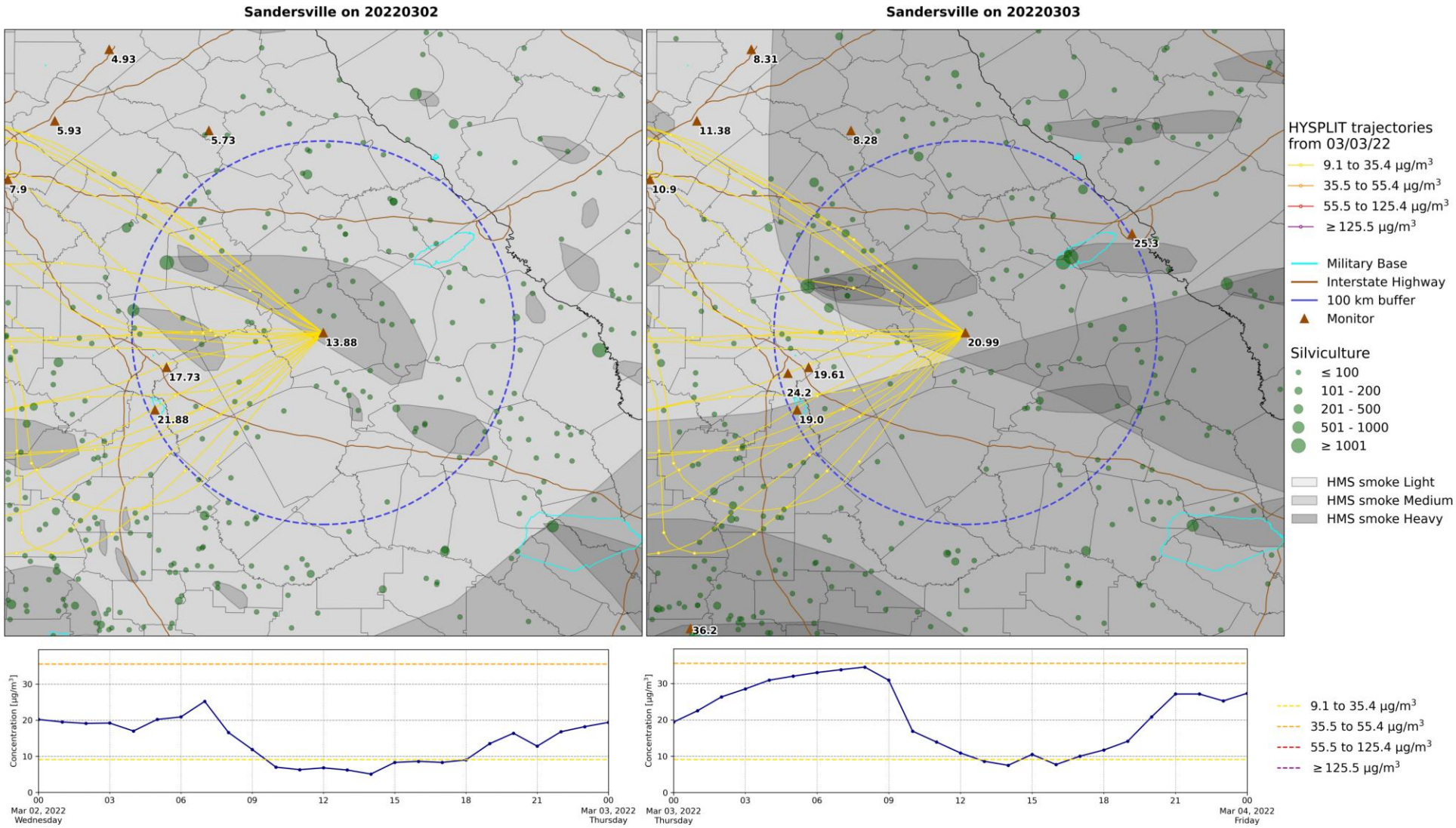

Figure 11A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 2, 2022. The top right map contains the same information for March 3, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 3, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

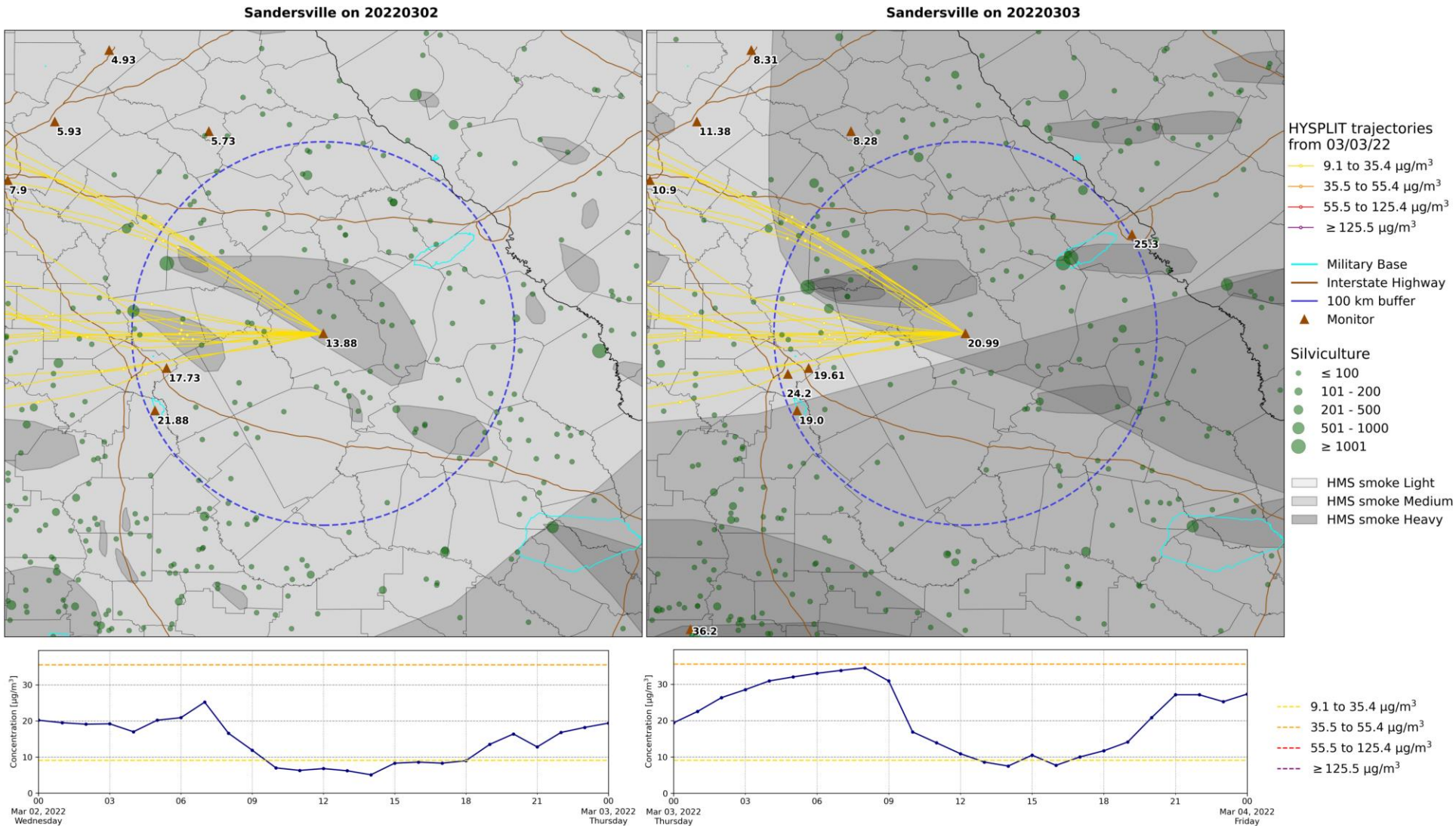

Figure 11B. The same as Figure 11A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

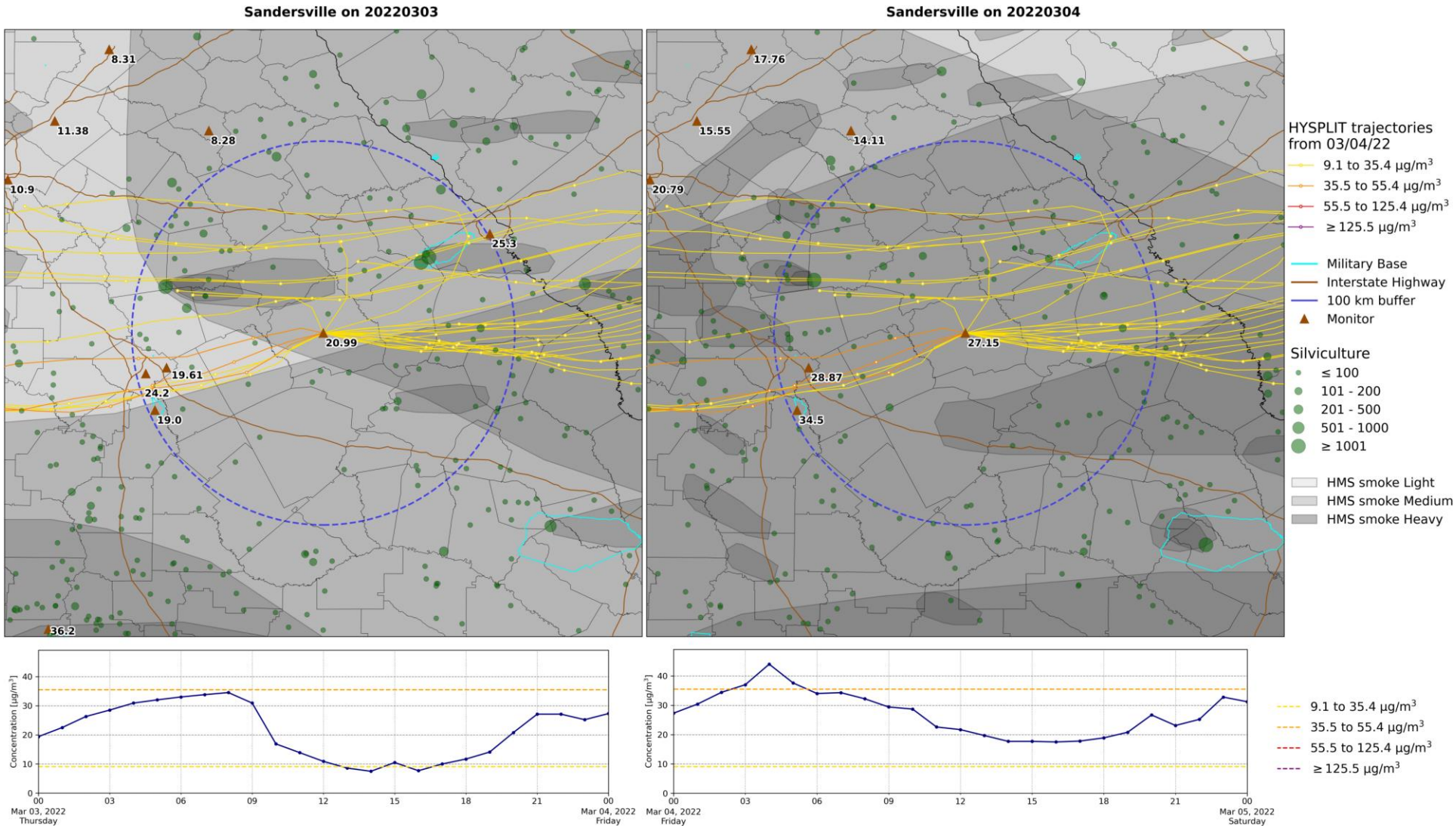

Figure 12A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 3, 2022. The top right map contains the same information for March 4, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 4, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

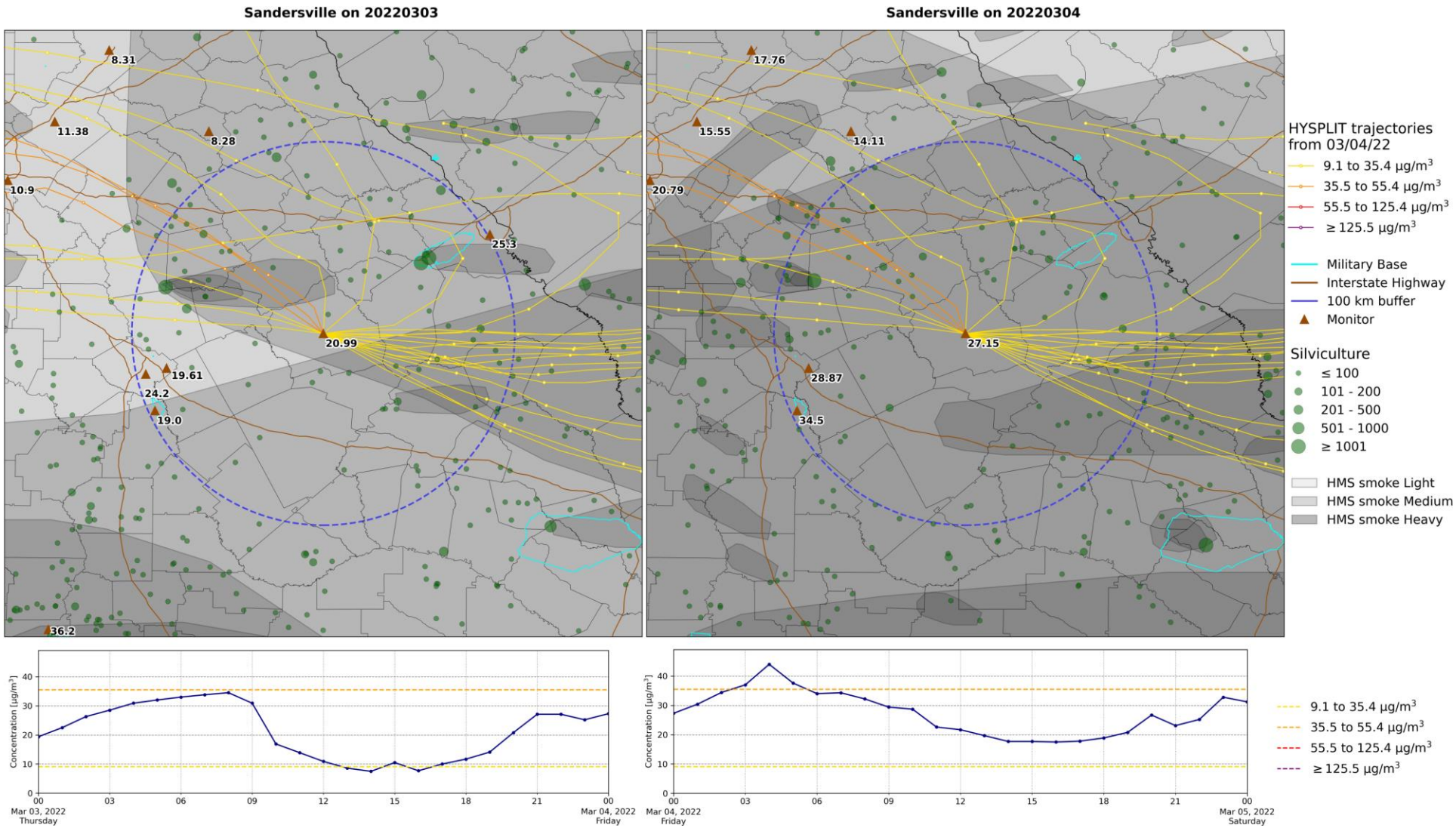

Figure 12B. The same as Figure 12A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

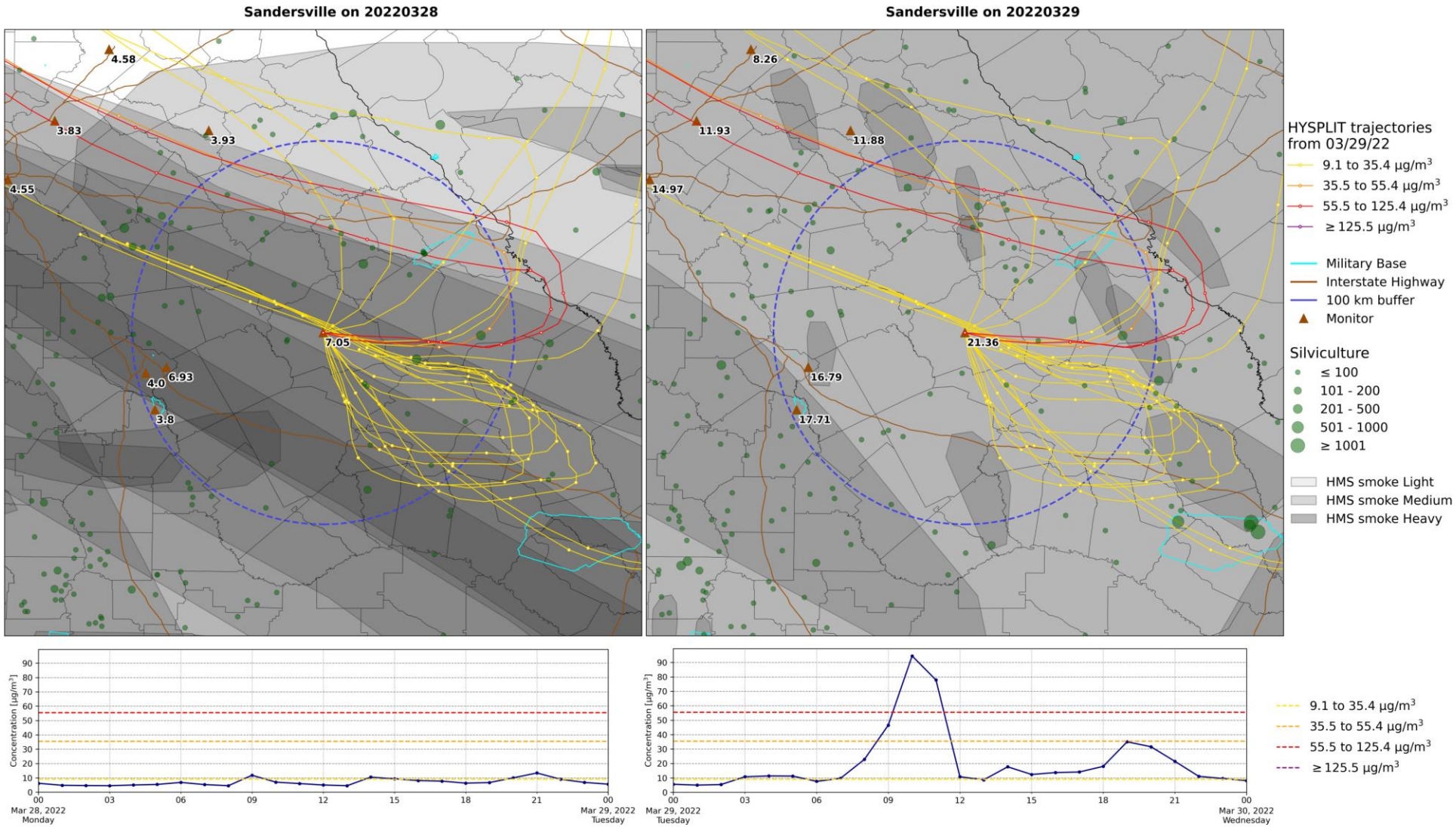

Figure 13A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 28, 2022. The top right map contains the same information for March 29, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 29, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

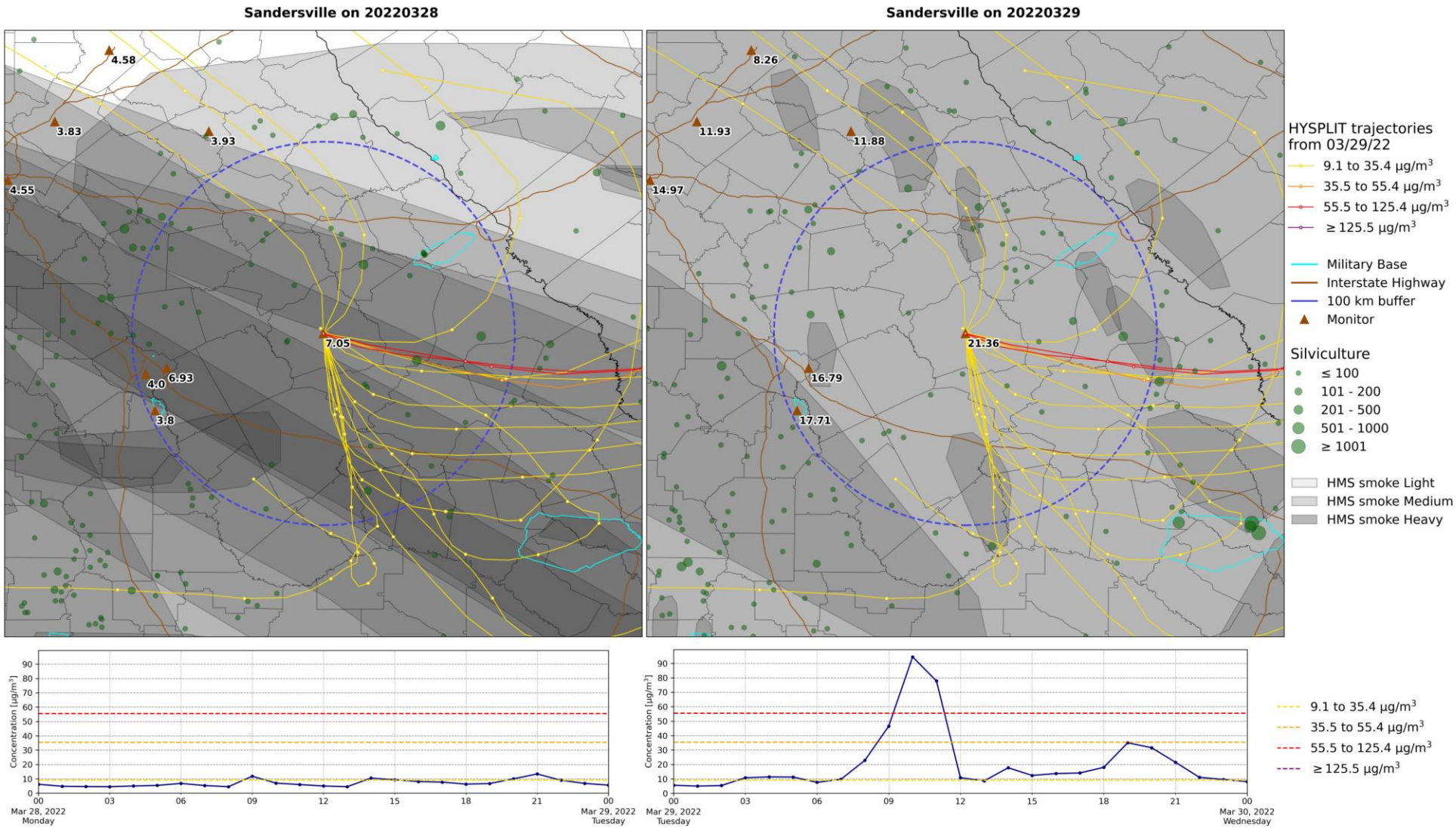

Figure 13B. The same as Figure 13A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

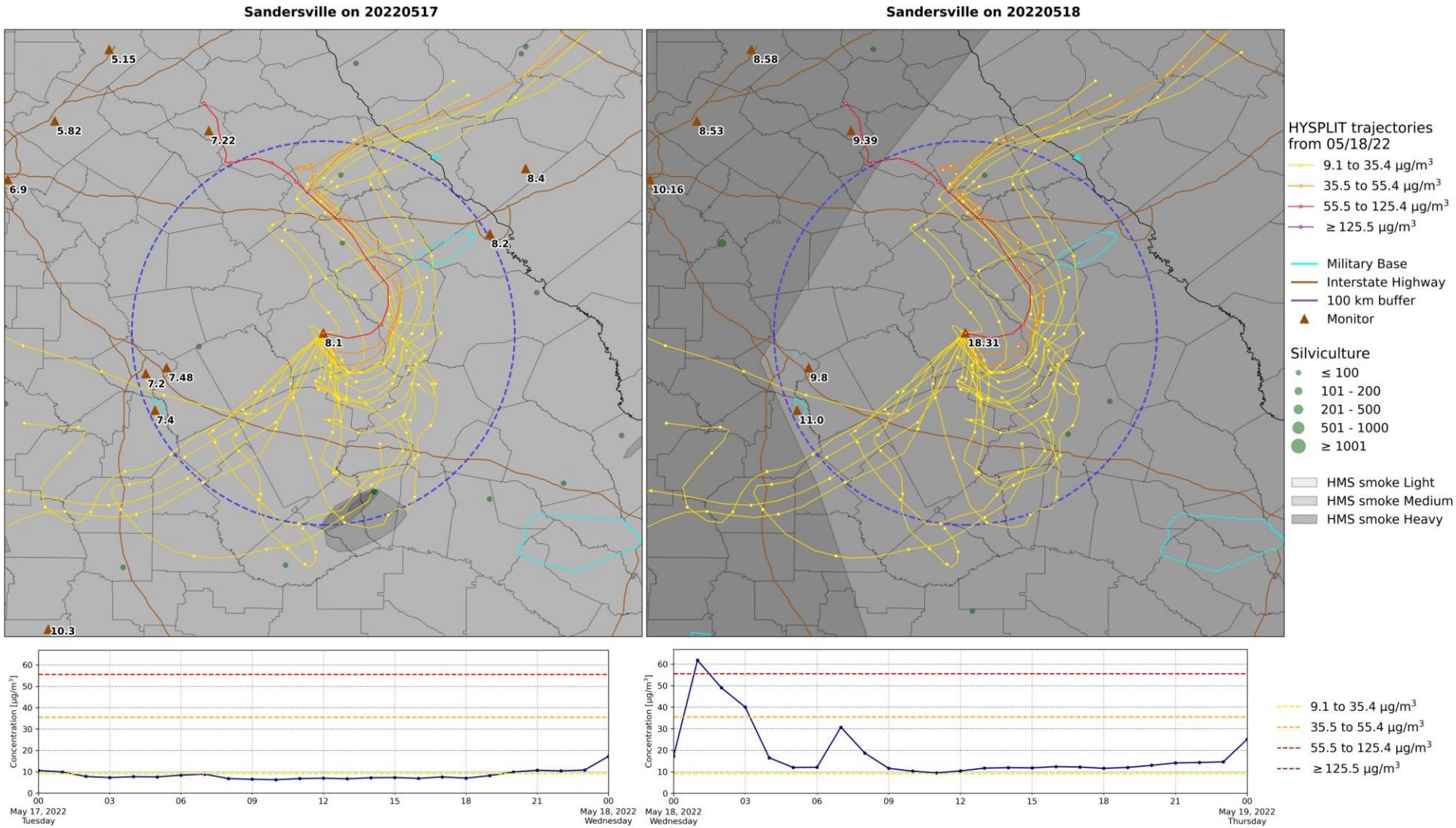

Figure 14A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on May 17, 2022. The top right map contains the same information for May 18, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on May 18, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

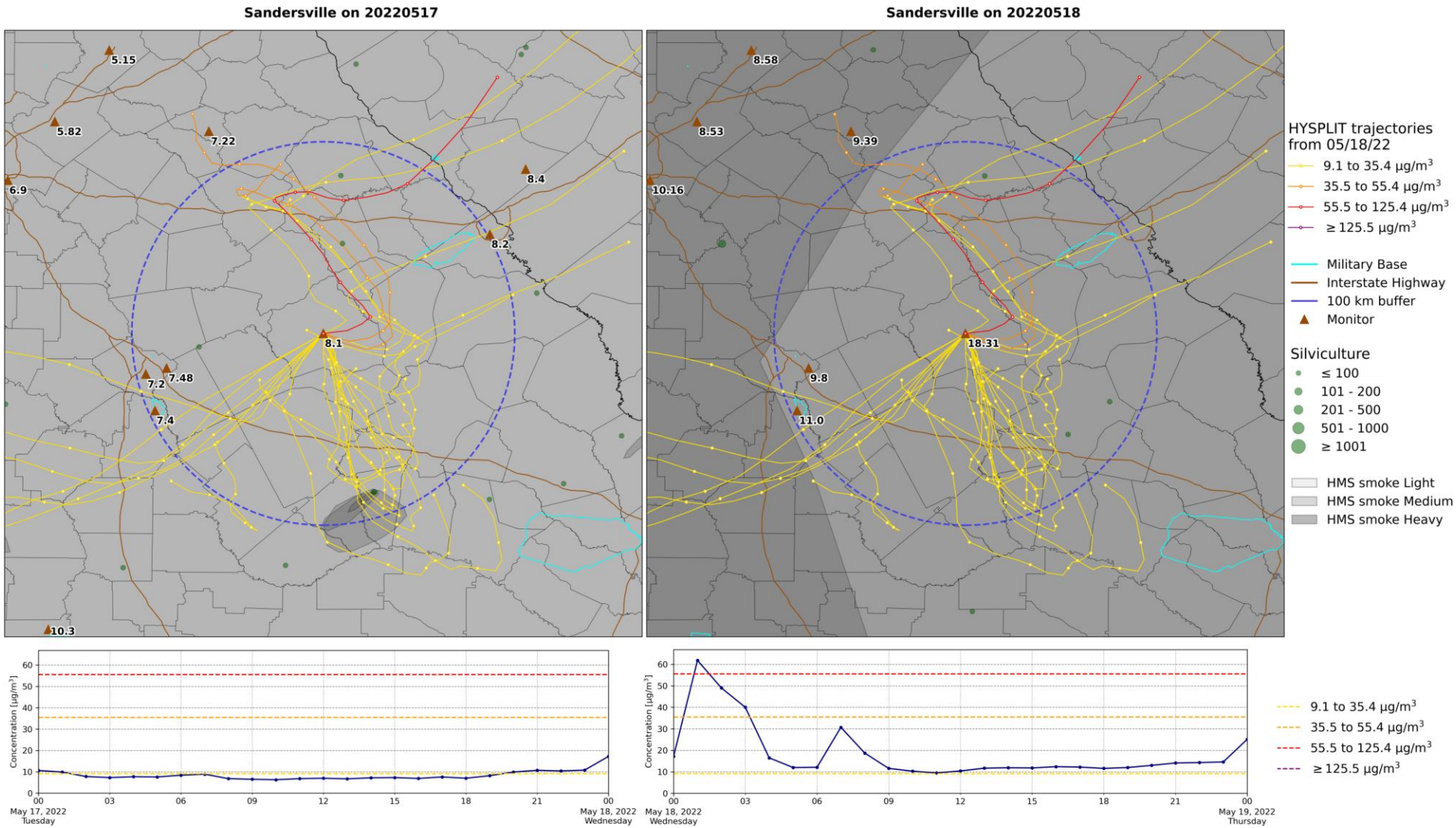

Figure 14B. The same as Figure 14A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

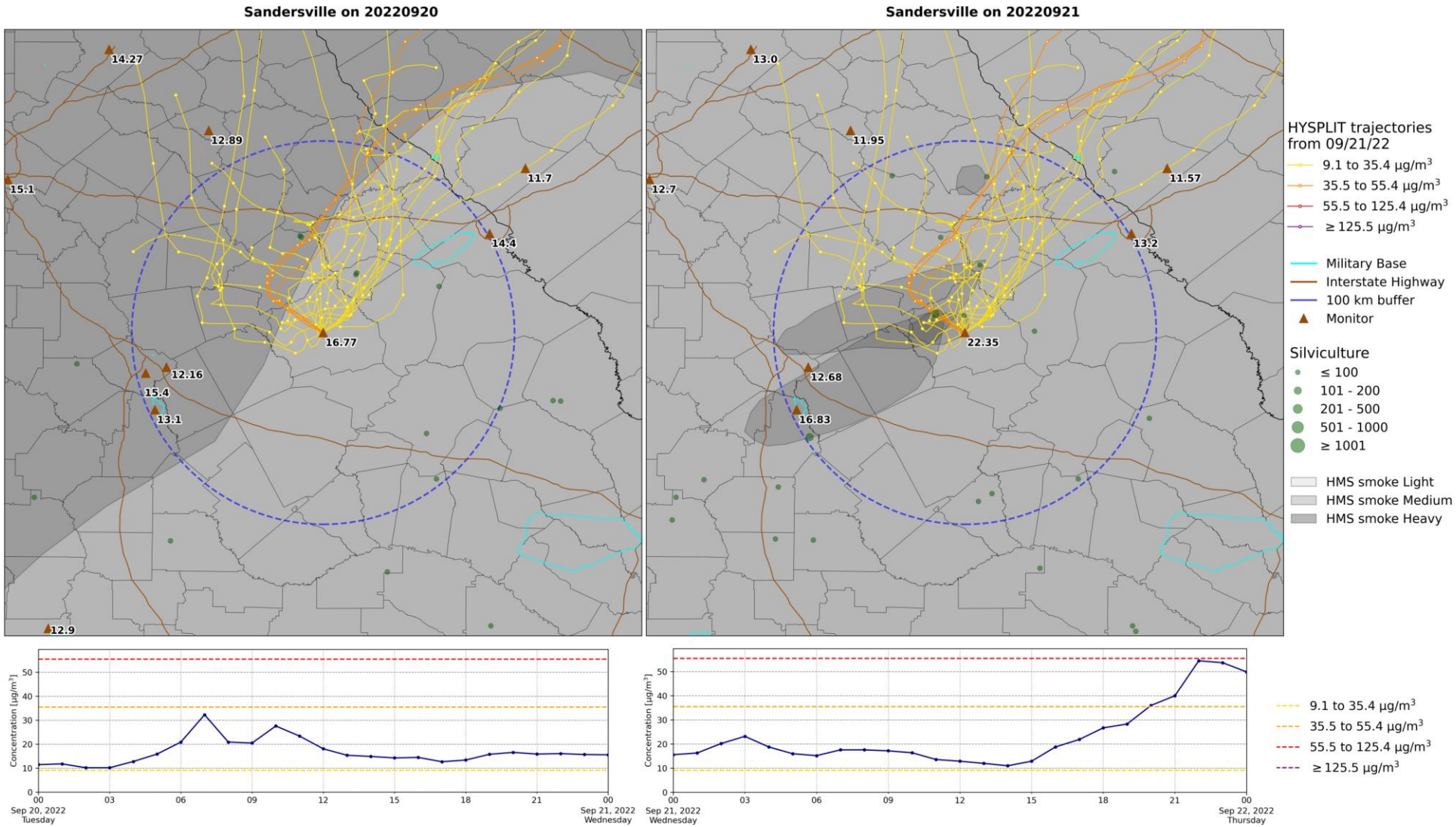

Figure 15A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on September 20, 2022. The top right map contains the same information for September 21, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on September 21, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

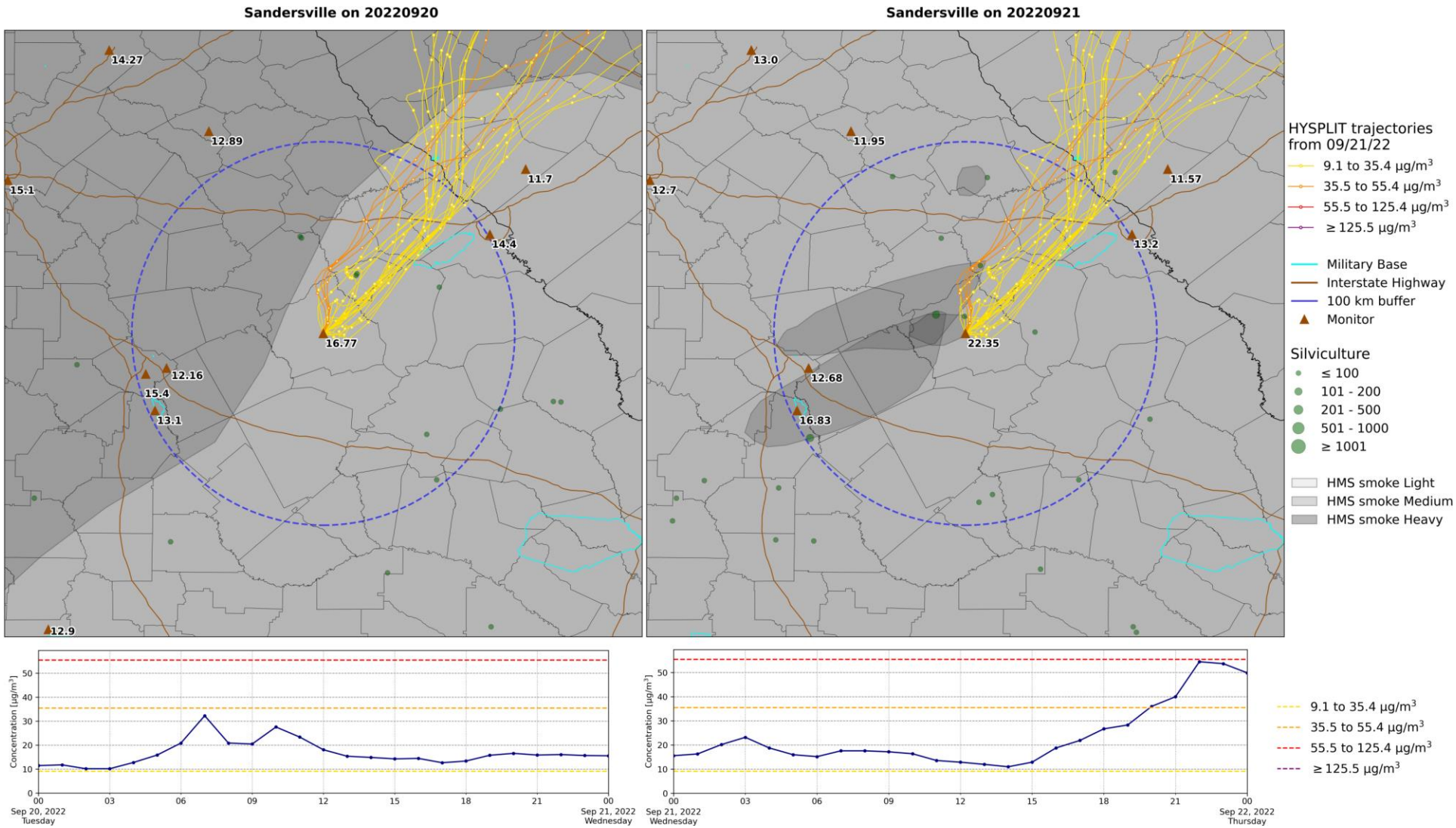

Figure 15B. The same as Figure 15A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

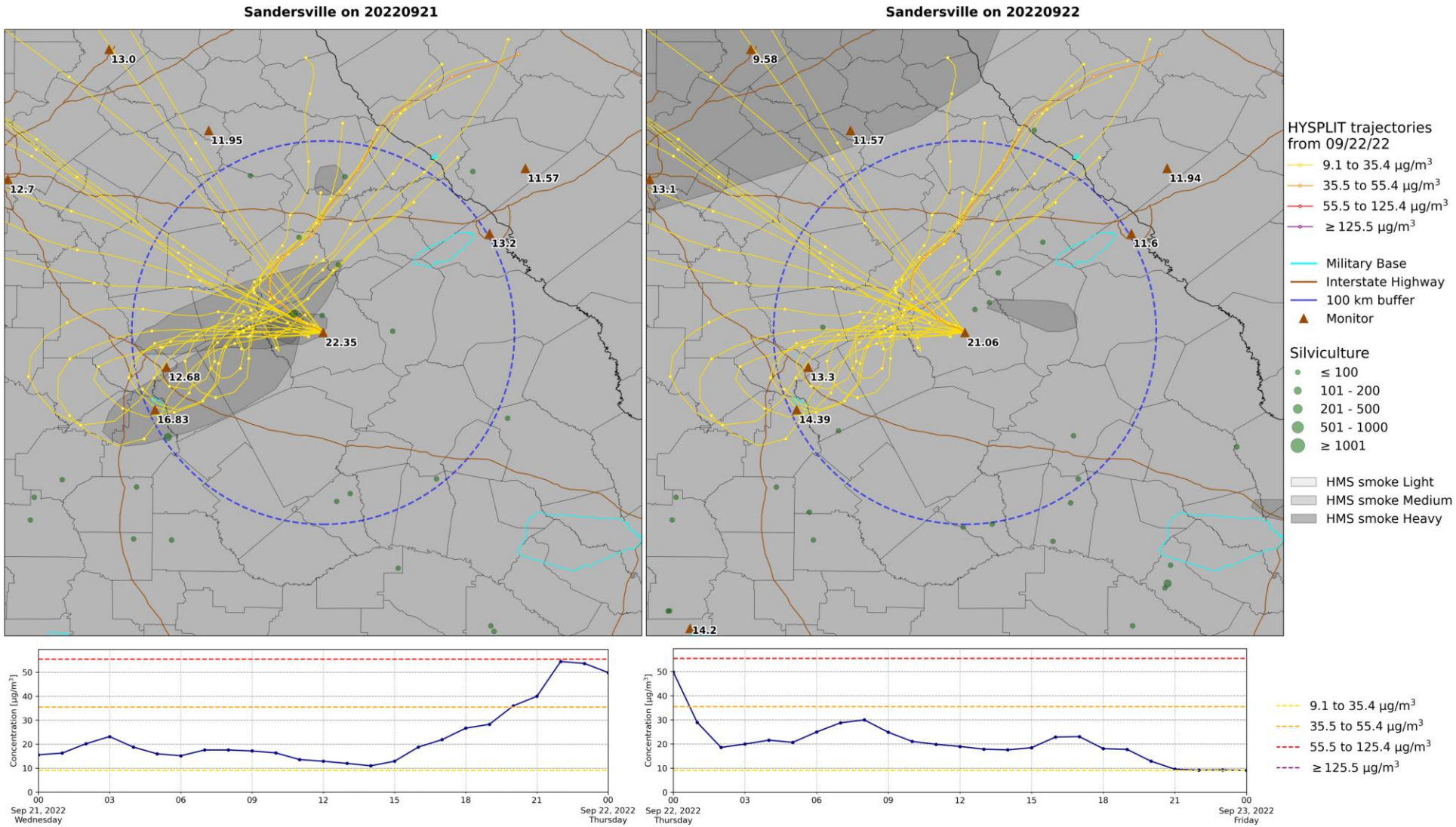

Figure 16A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on September 21, 2022. The top right map contains the same information for September 22, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on September 22, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

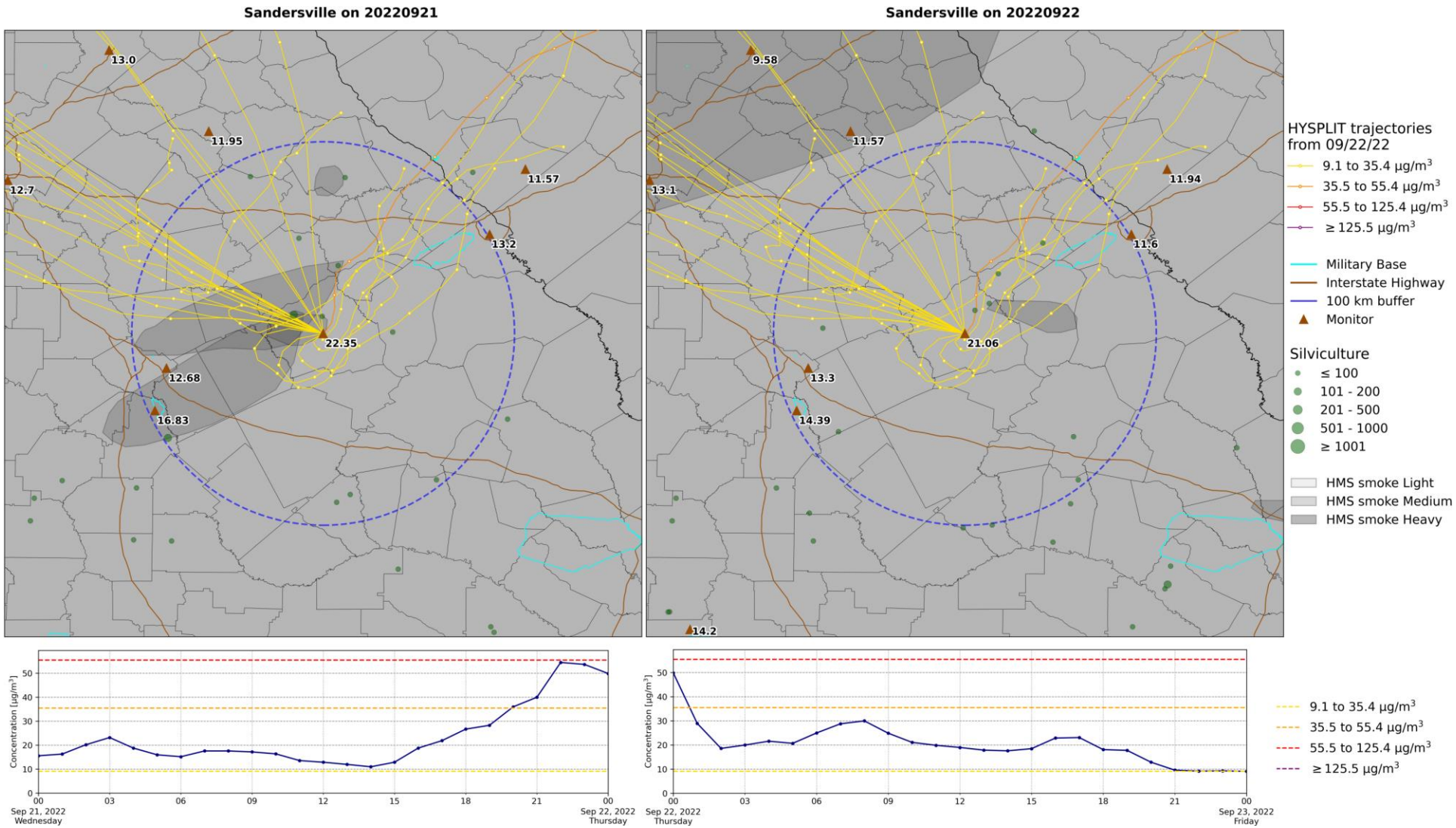

Figure 16B. The same as Figure 16A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

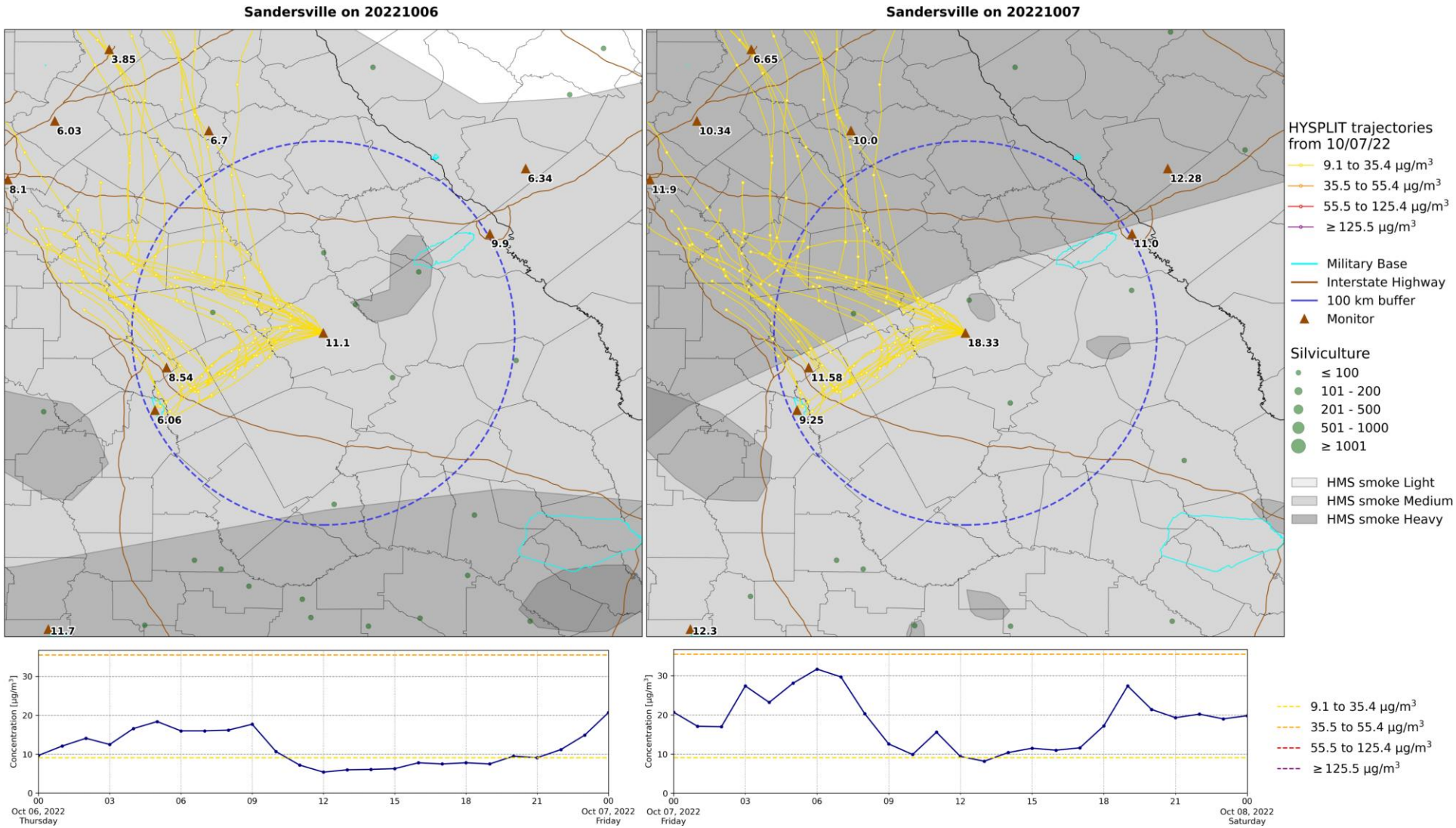

Figure 17A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on October 6, 2022. The top right map contains the same information for October 7, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on October 7, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

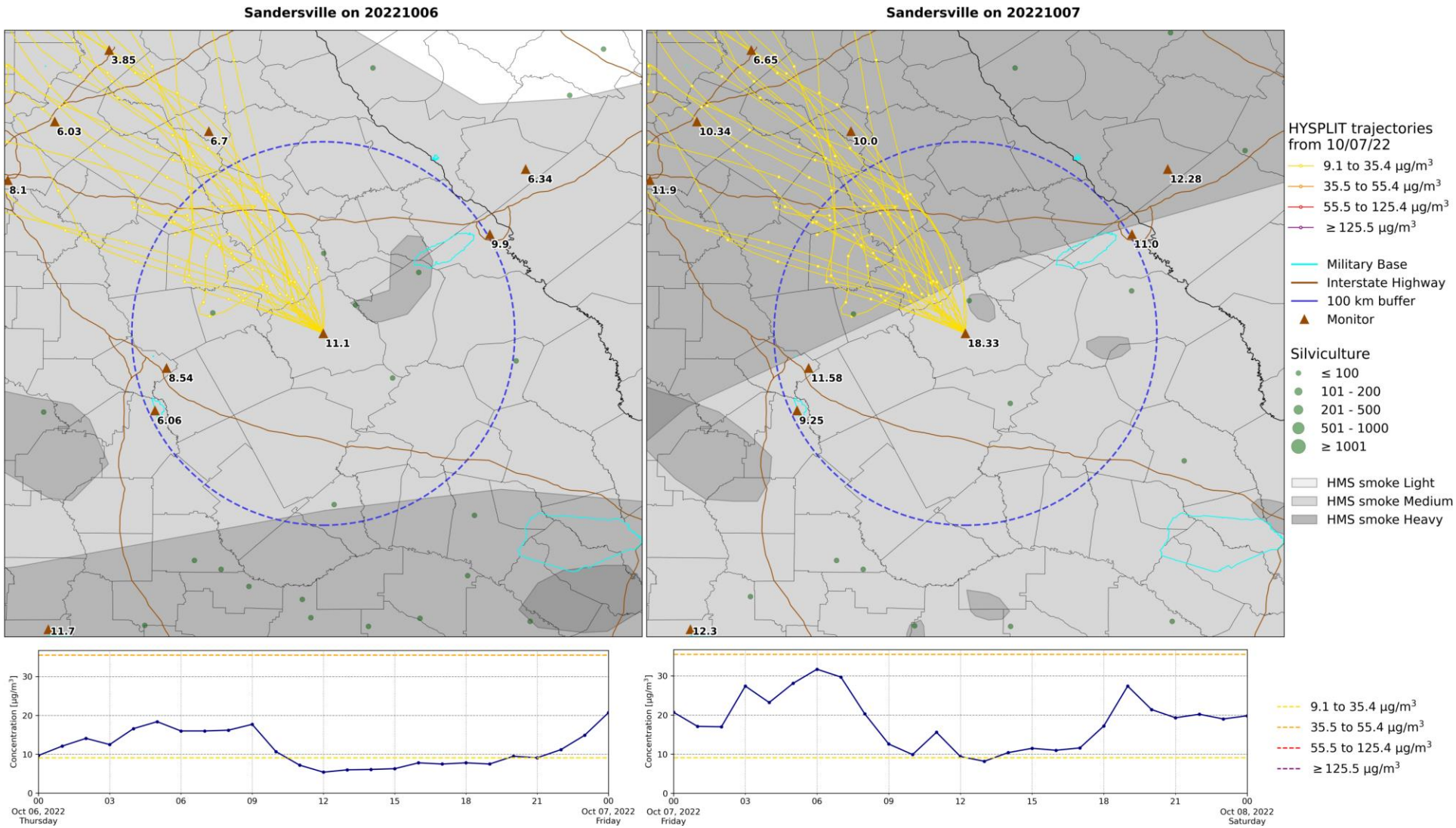

Figure 17B. The same as Figure 17A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

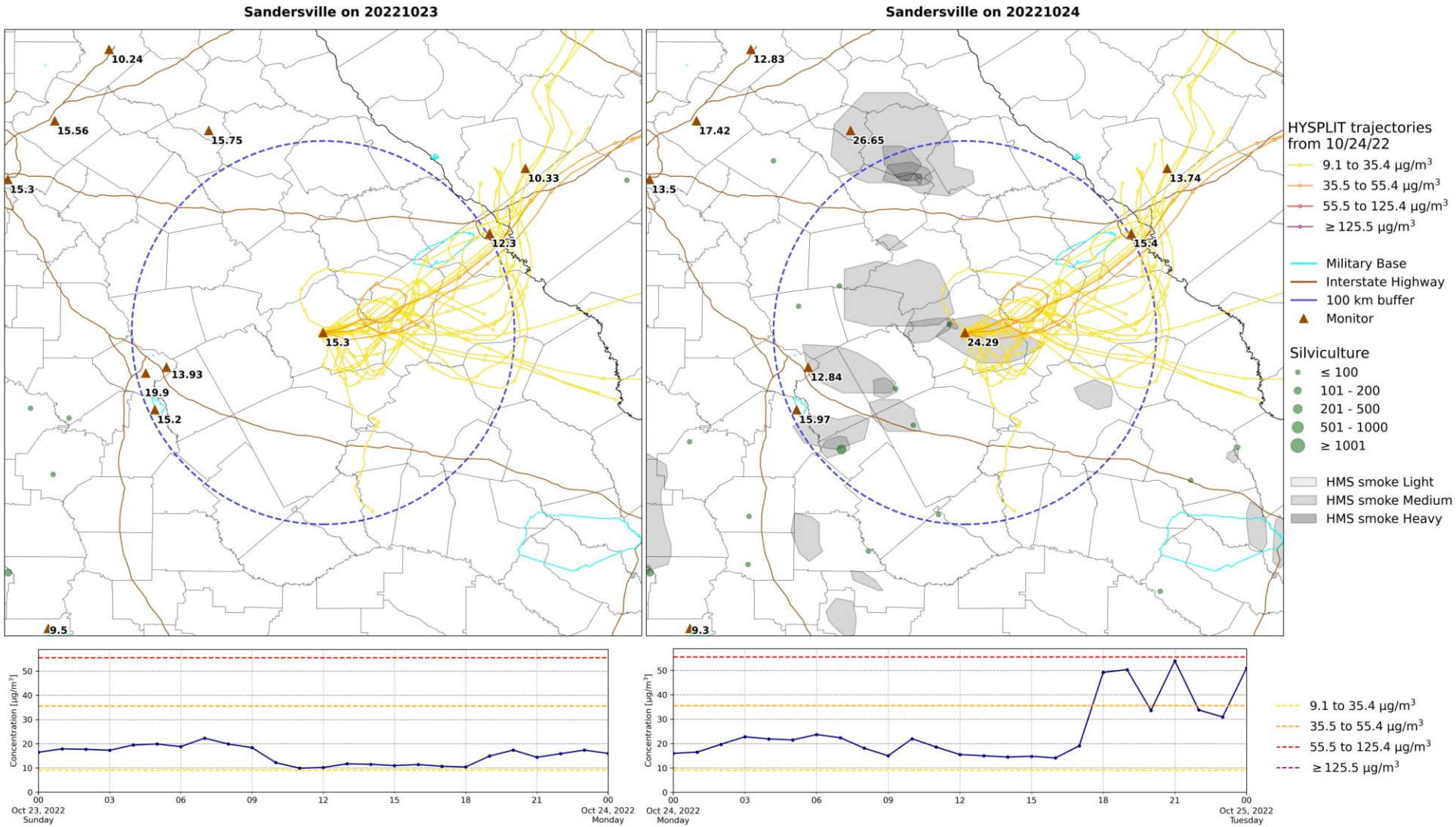

Figure 18A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on October 23, 2022. The top right map contains the same information for October 24, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on October 24, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

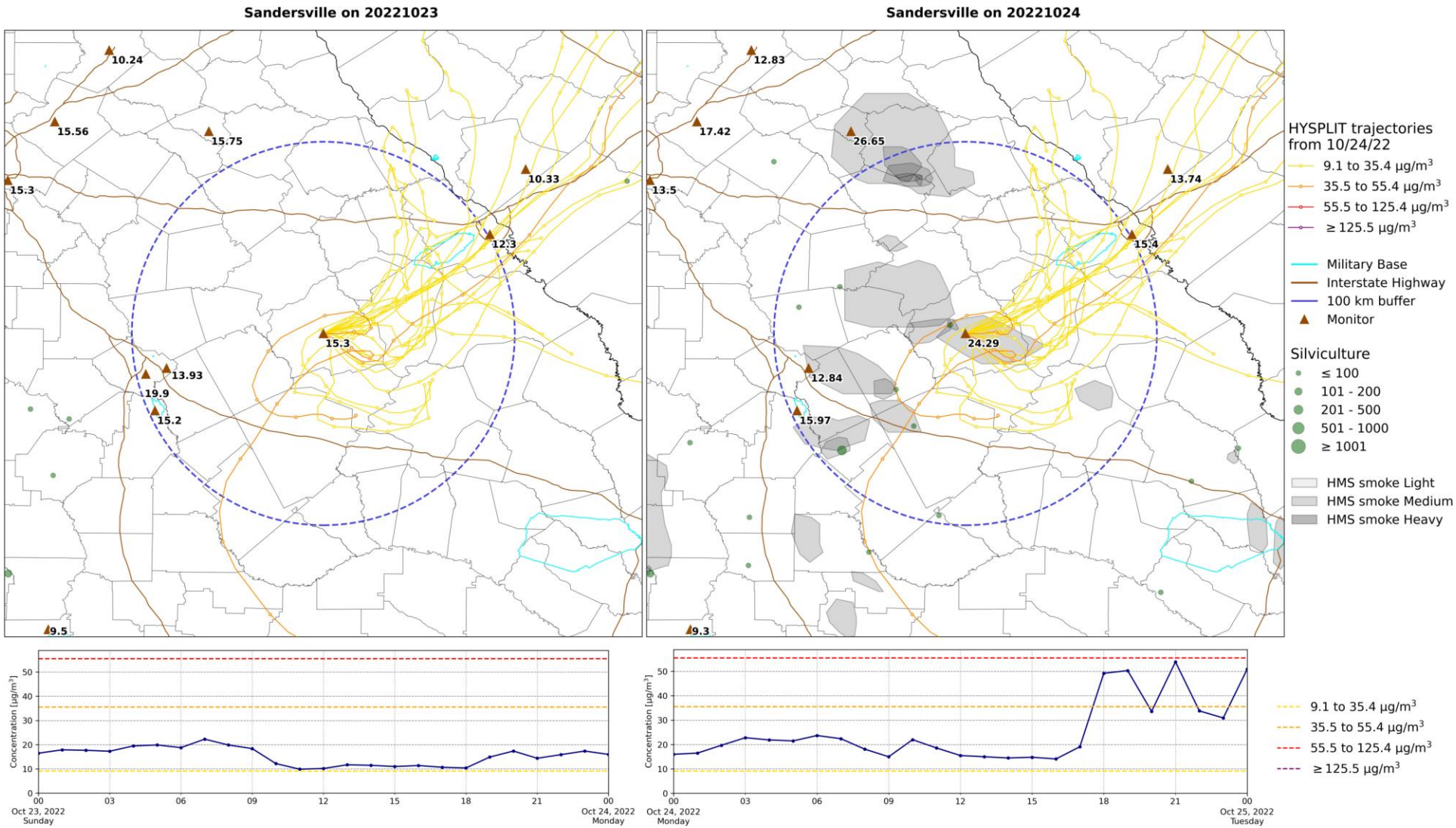

Figure 18B. The same as Figure 18A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

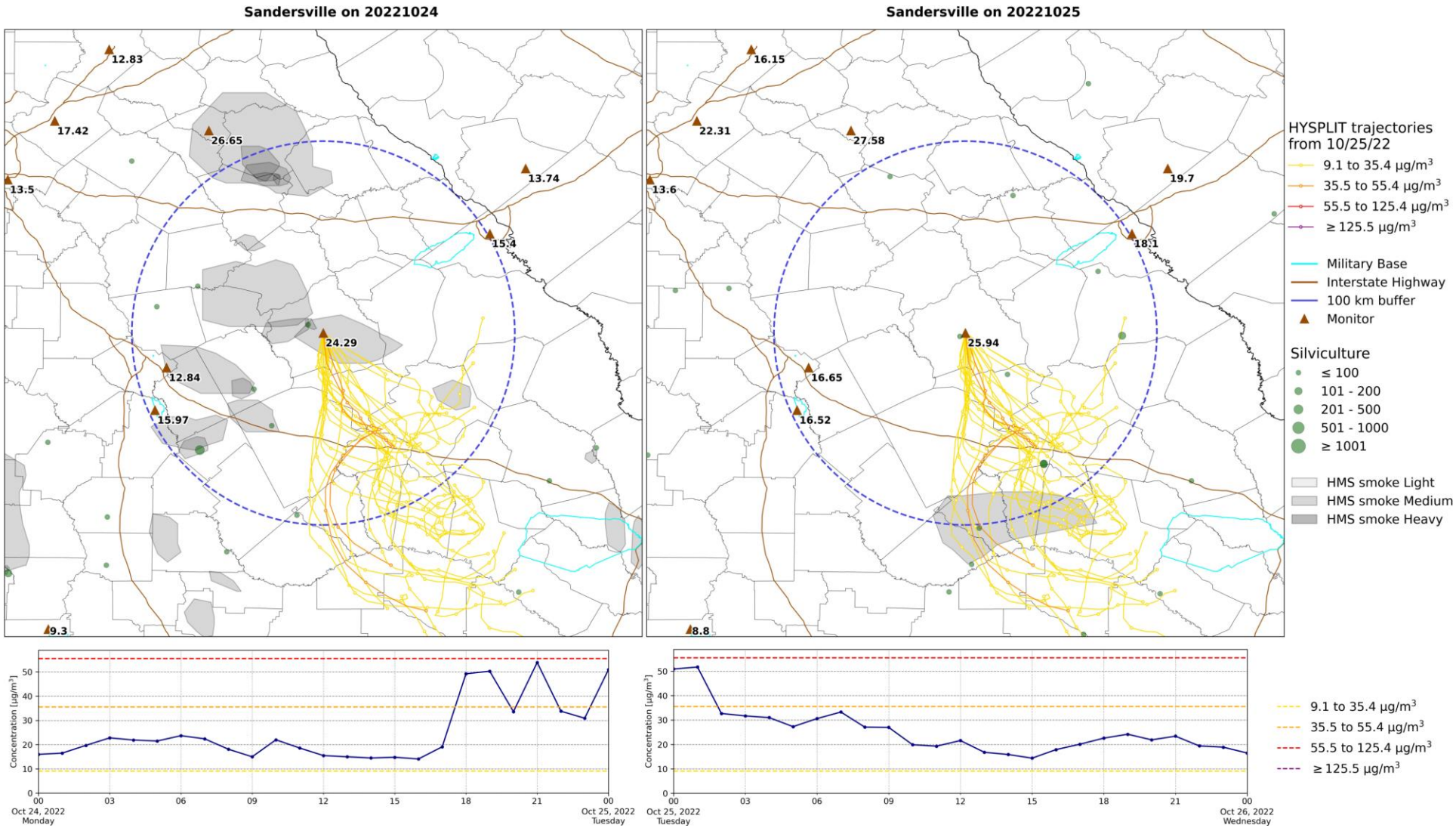

Figure 19A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on October 24, 2022. The top right map contains the same information for October 25, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on October 25, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

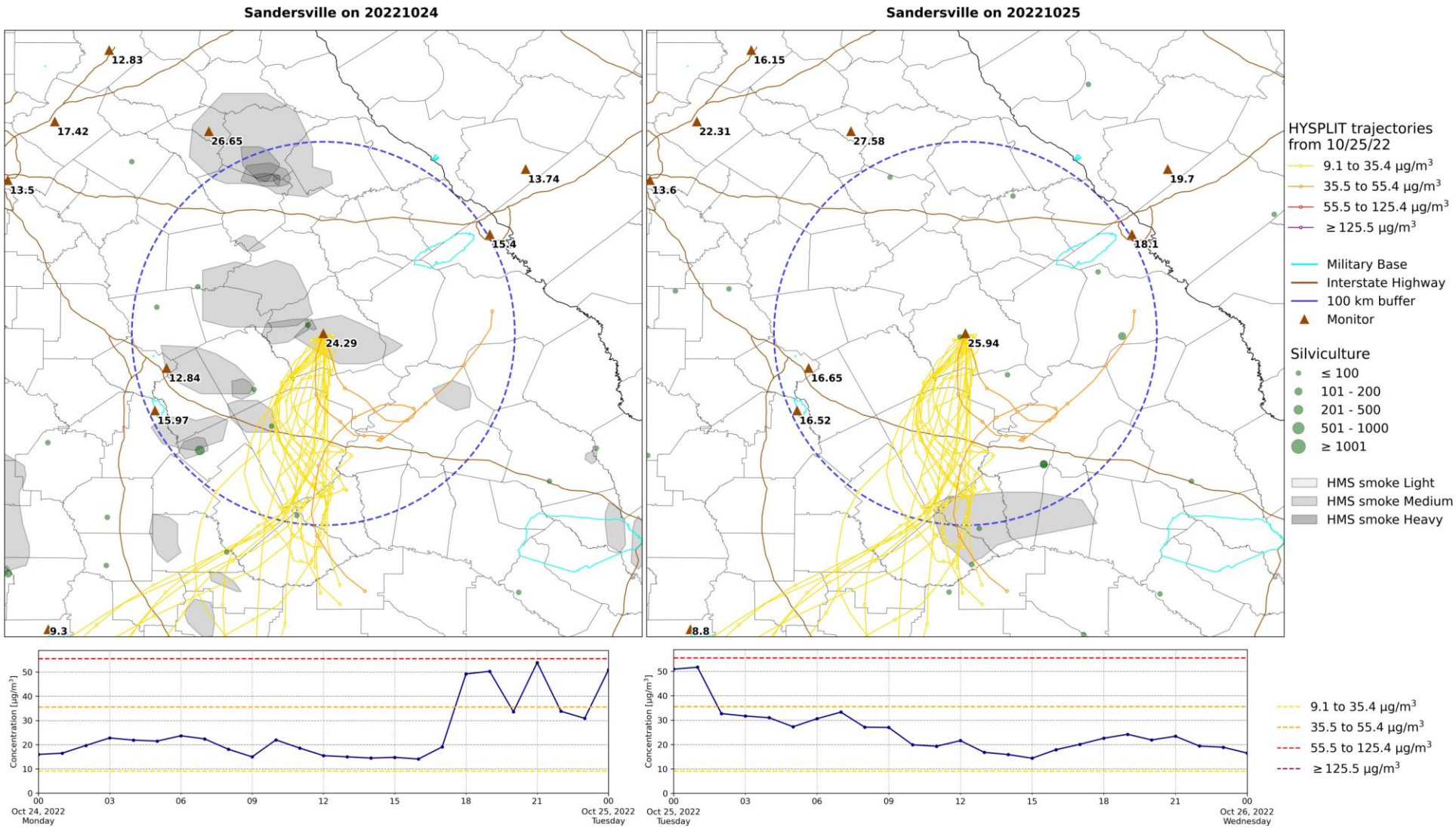

Figure 19B. The same as Figure 19A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

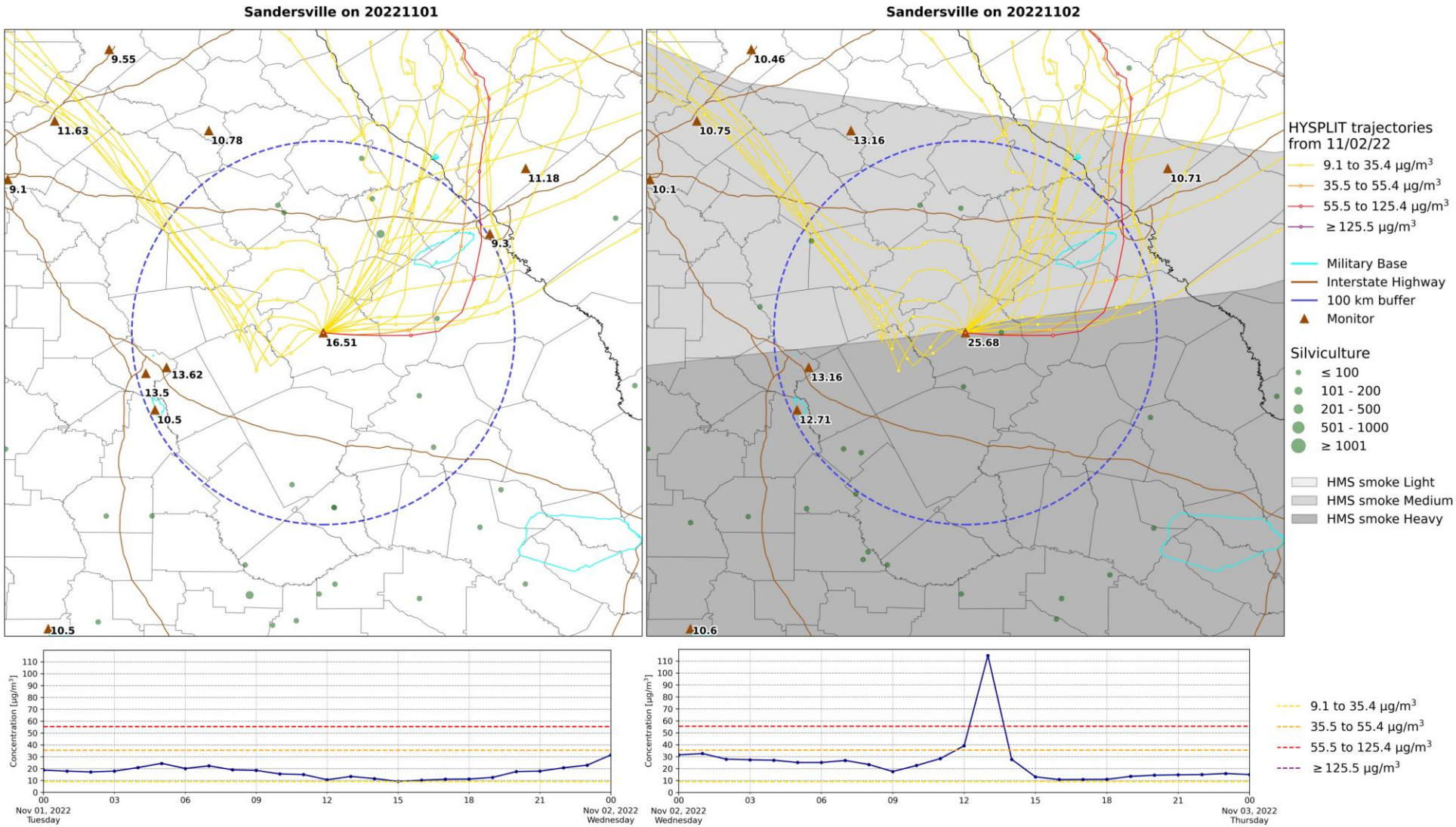

Figure 20A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 1, 2022. The top right map contains the same information for November 2, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 2, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

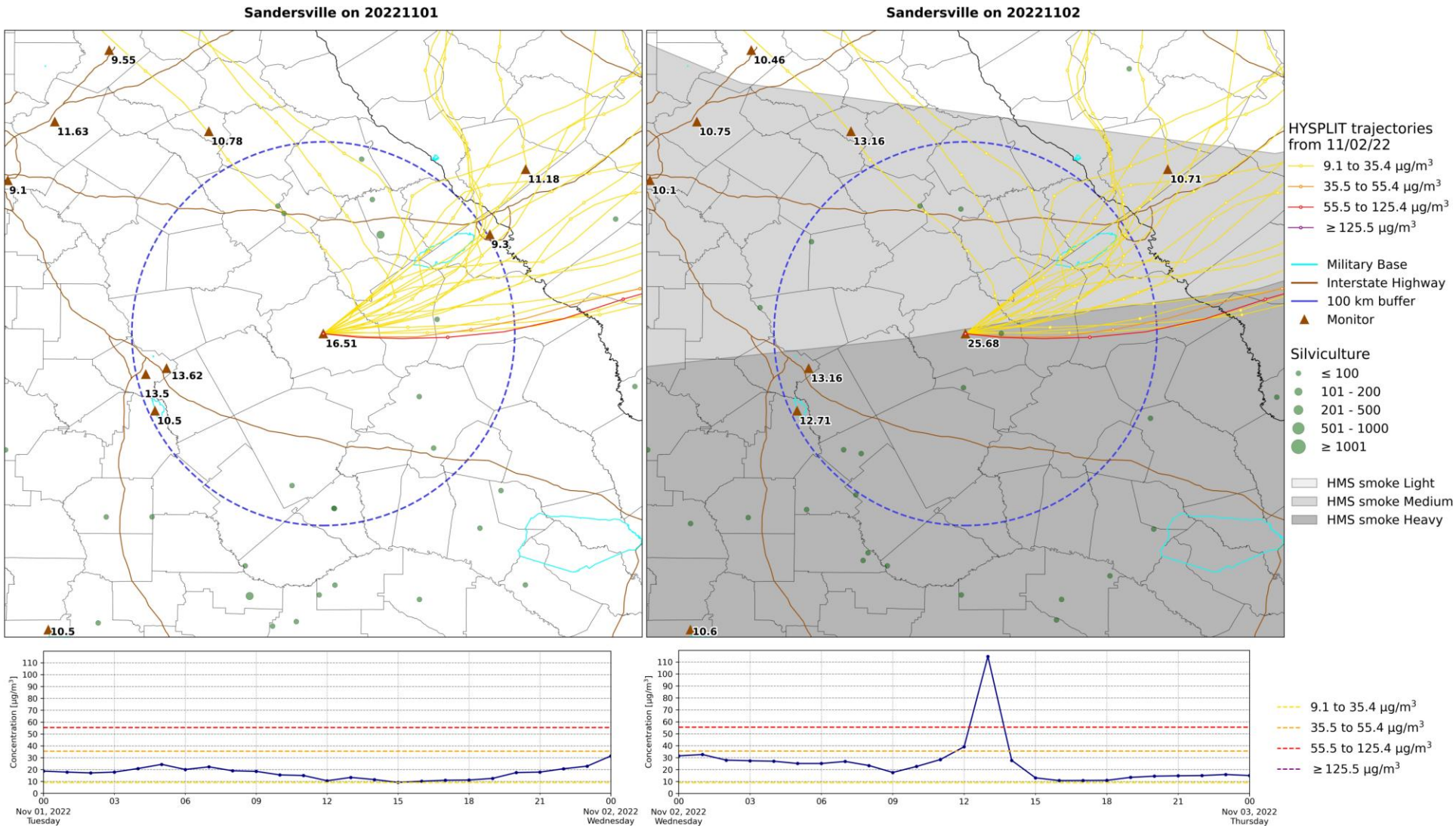

Figure 20B. The same as Figure 20A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

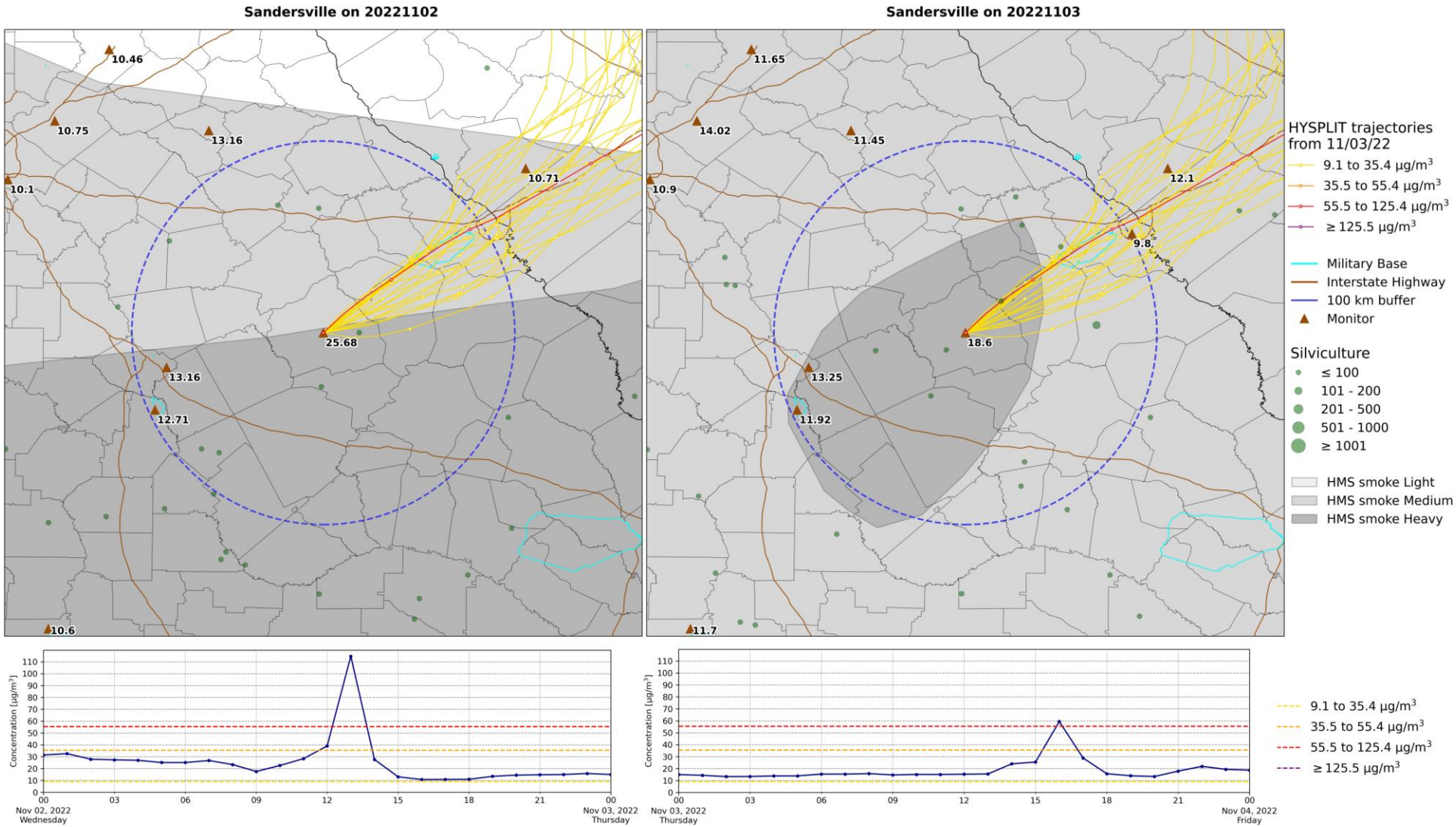

Figure 21A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 2, 2022. The top right map contains the same information for November 3, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 3, 202. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

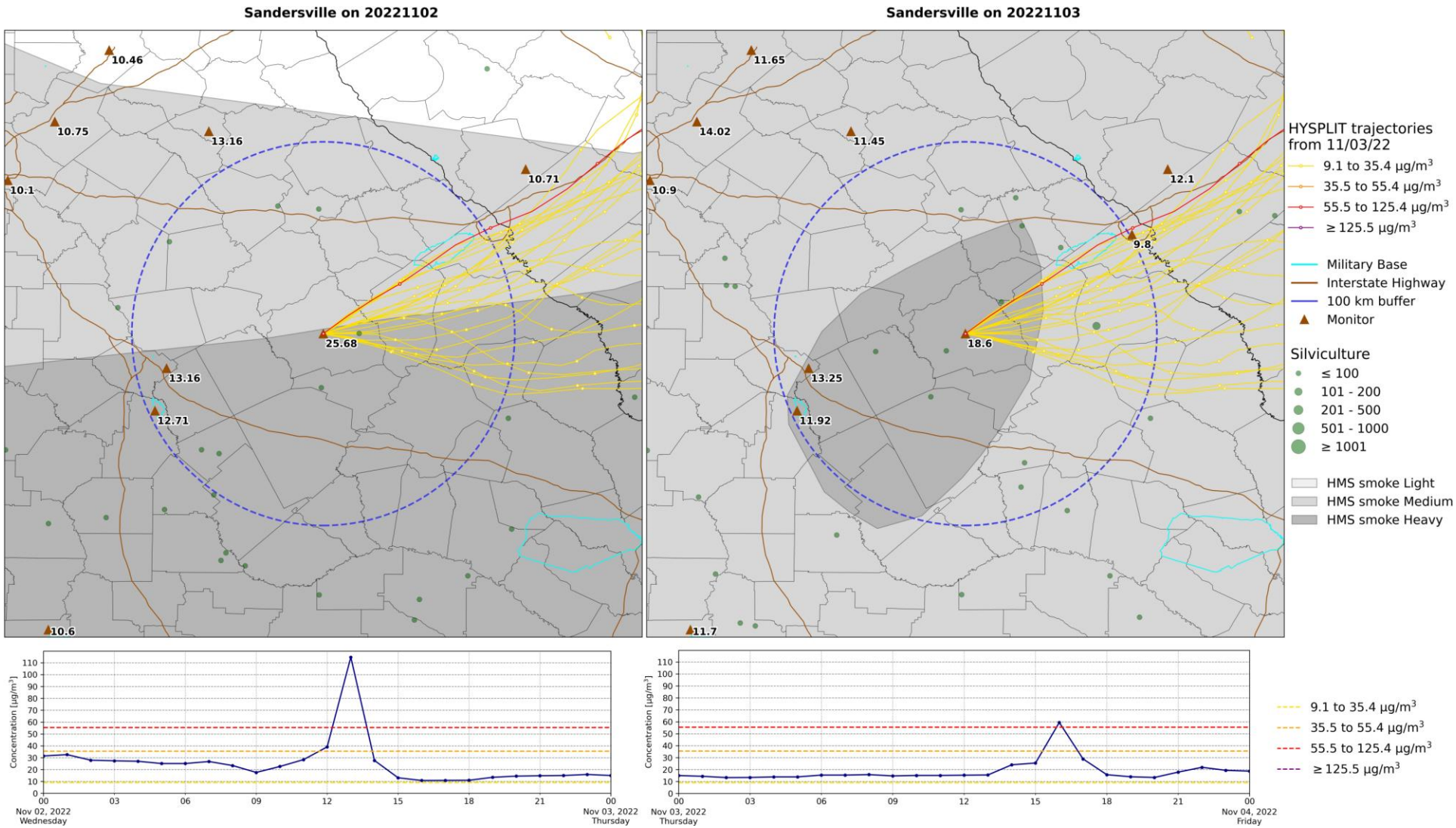

Figure 21B. The same as Figure 21A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

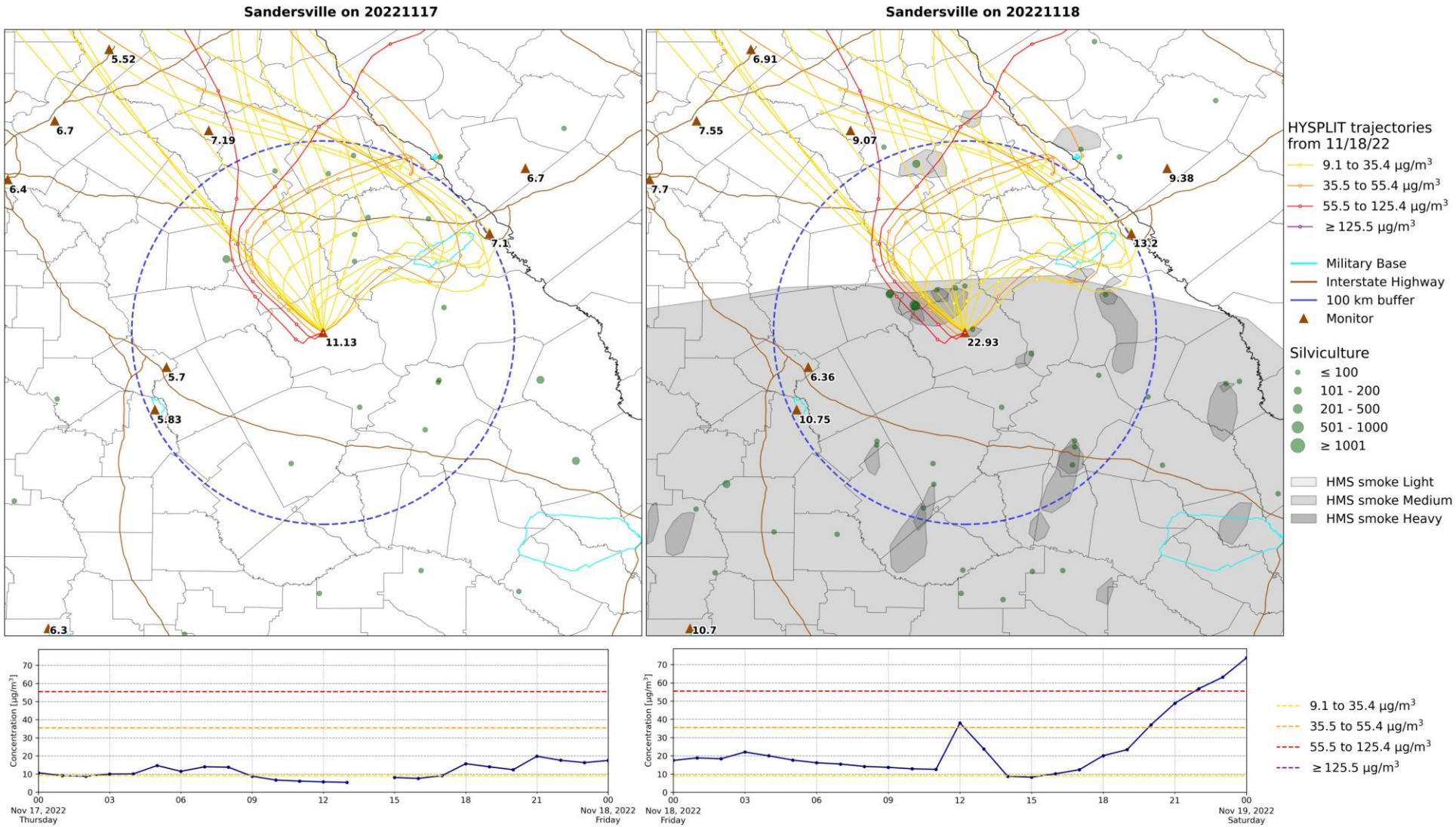

Figure 22A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 17, 2022. The top right map contains the same information for November 18, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 18, 202. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

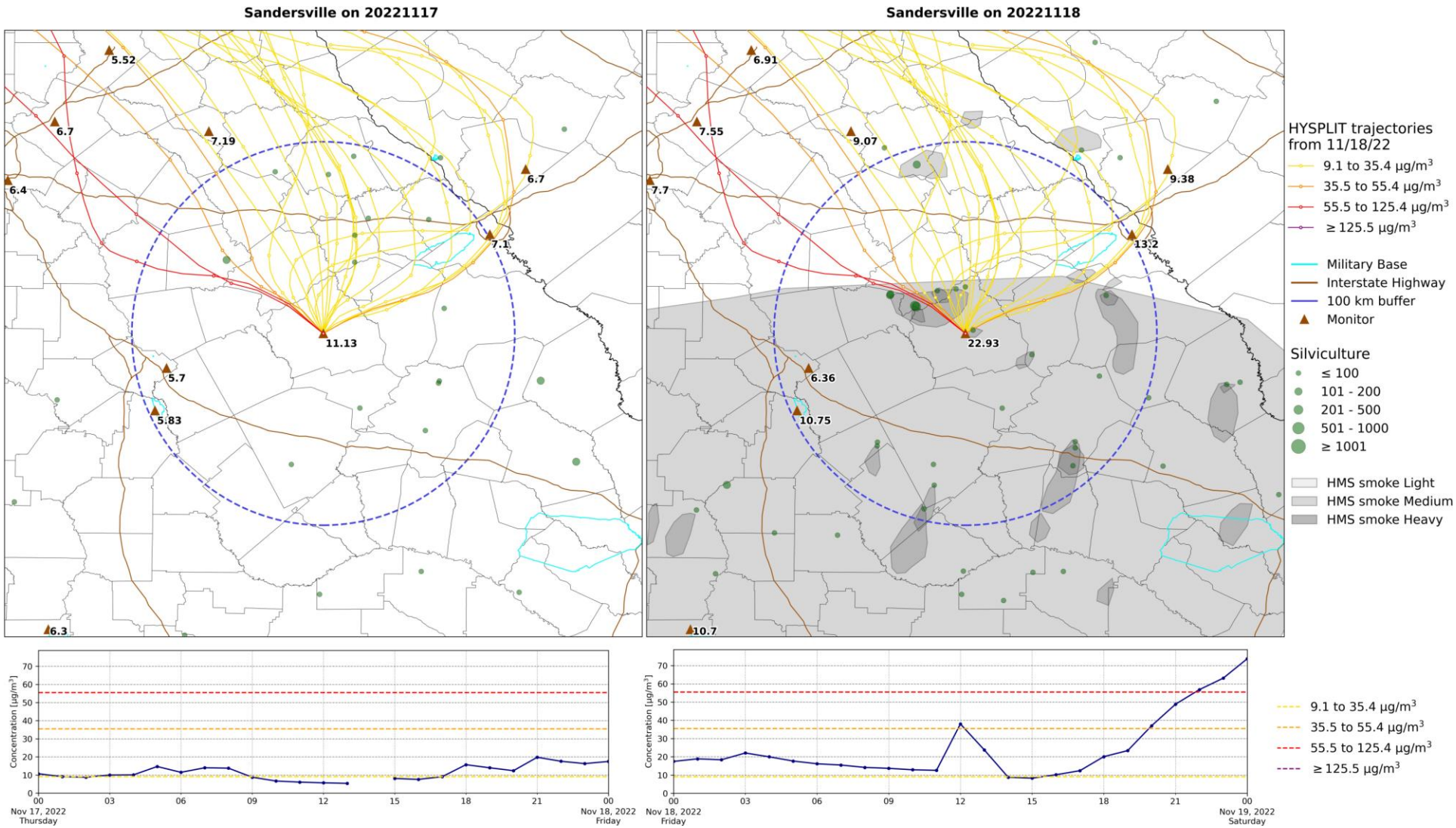

Figure 22B. The same as Figure 22A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

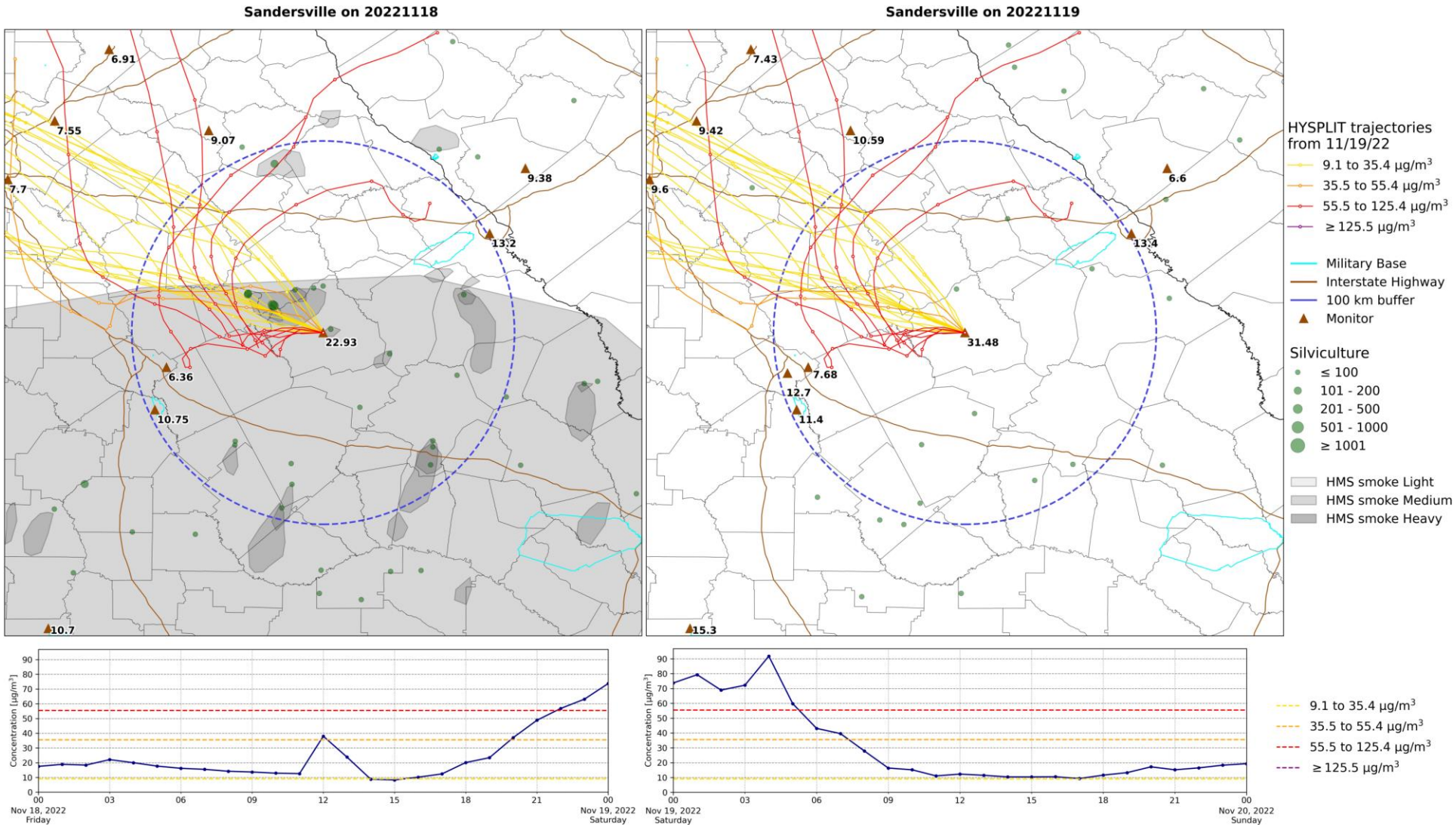

Figure 23A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 18, 2022. The top right map contains the same information for November 19, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 19, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

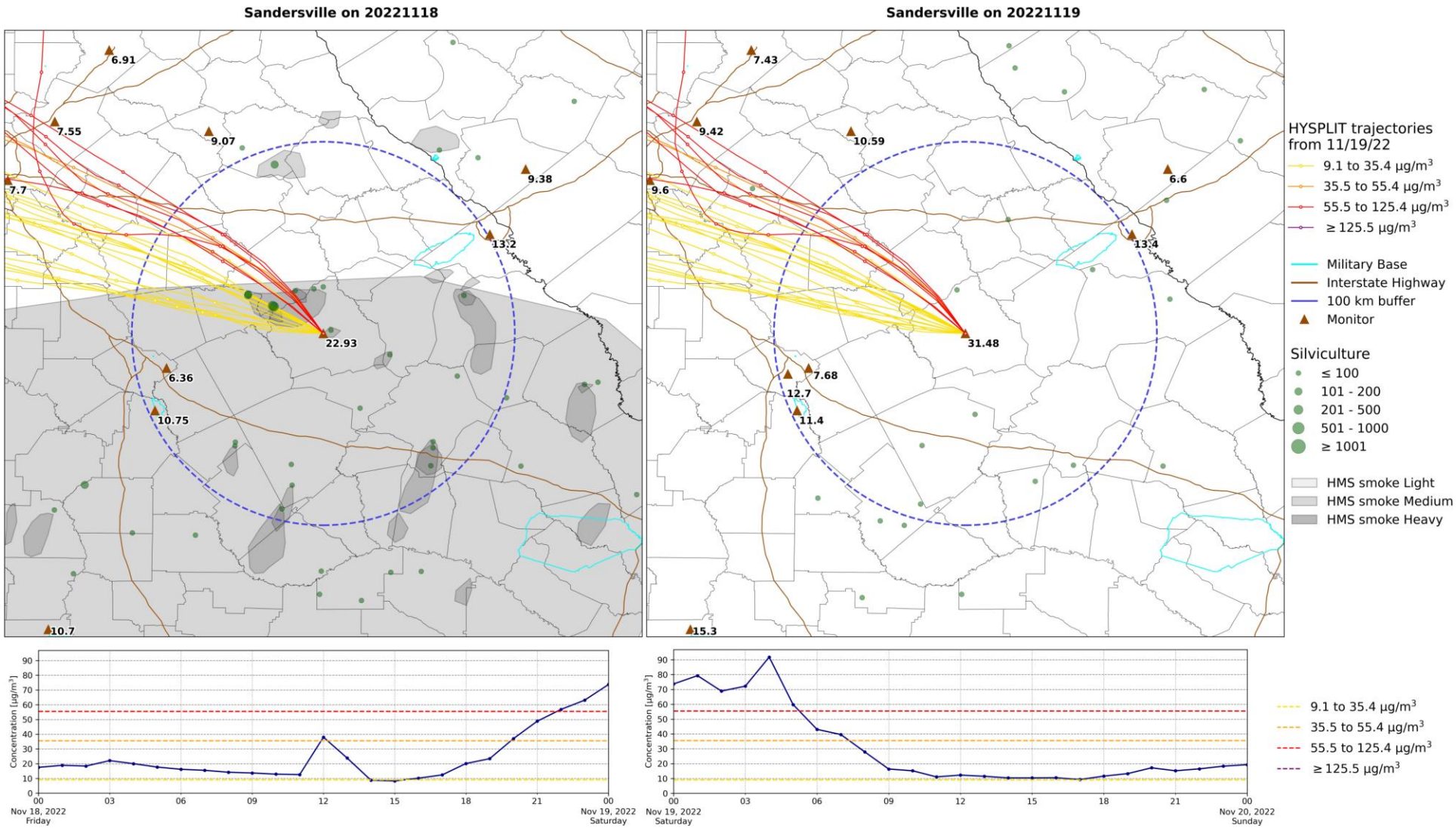

Figure 23B. The same as Figure 23A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

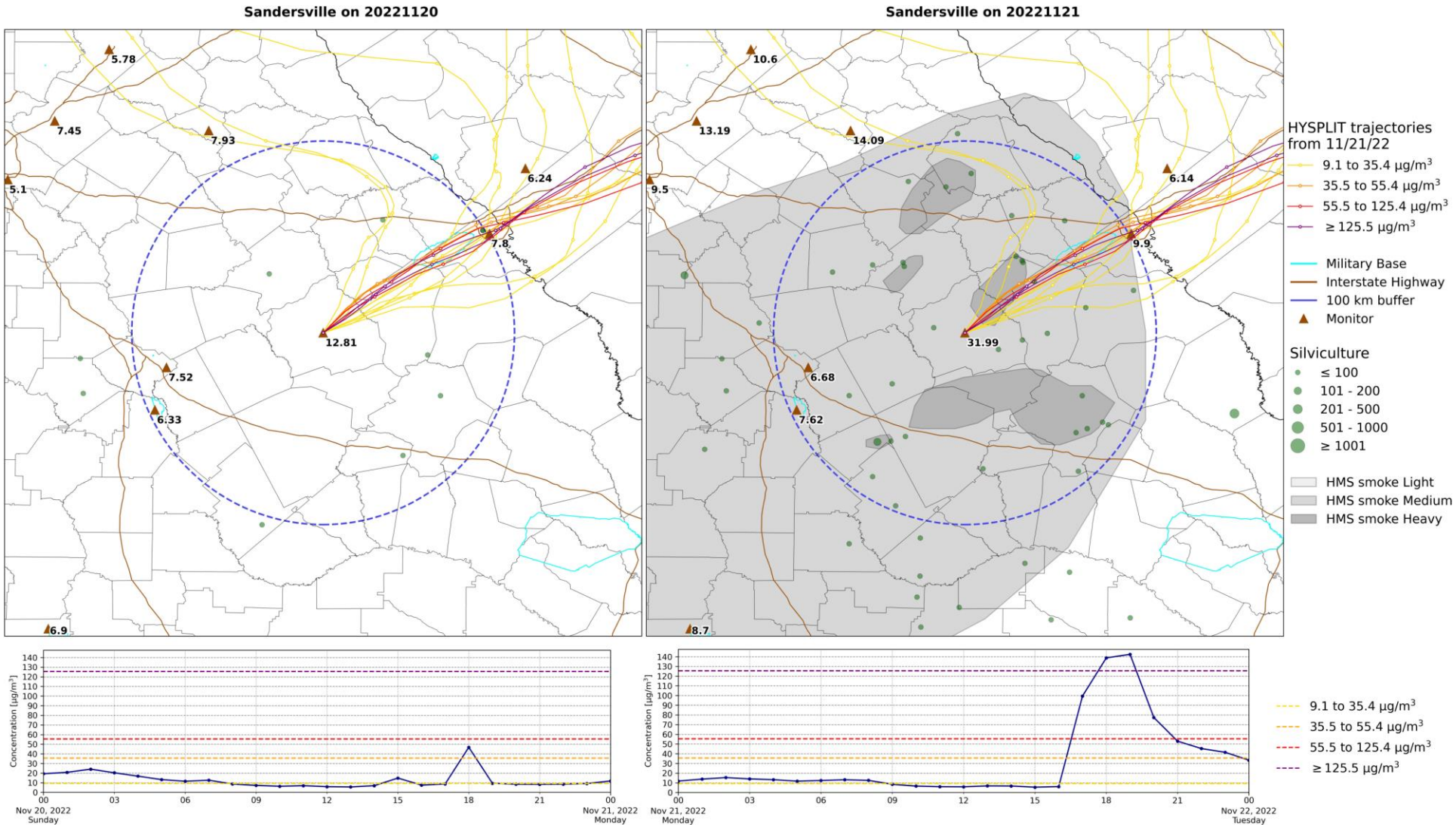

Figure 24A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 20, 2022. The top right map contains the same information for November 21, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 21, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

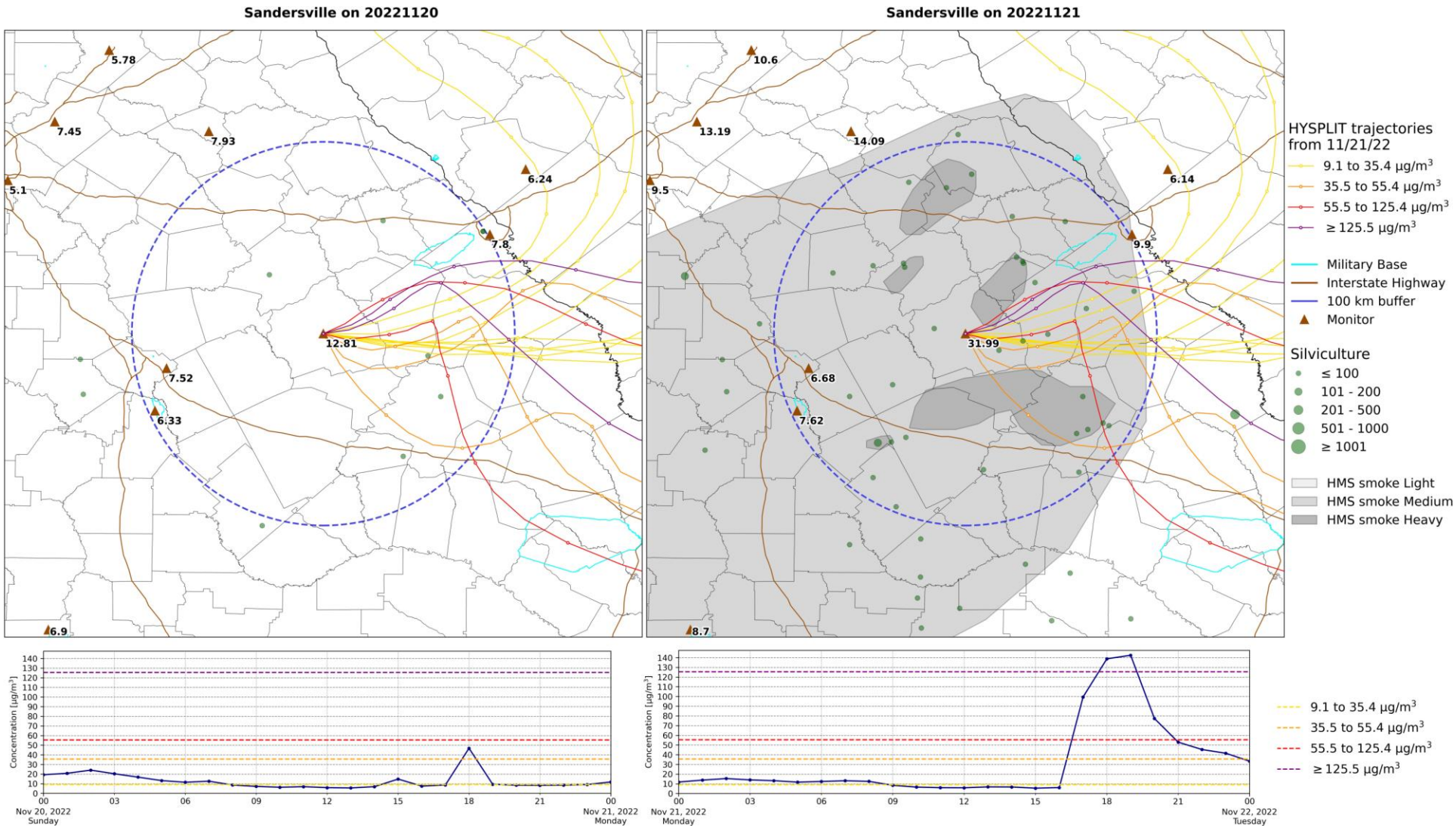

Figure 24B. The same as Figure 24A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

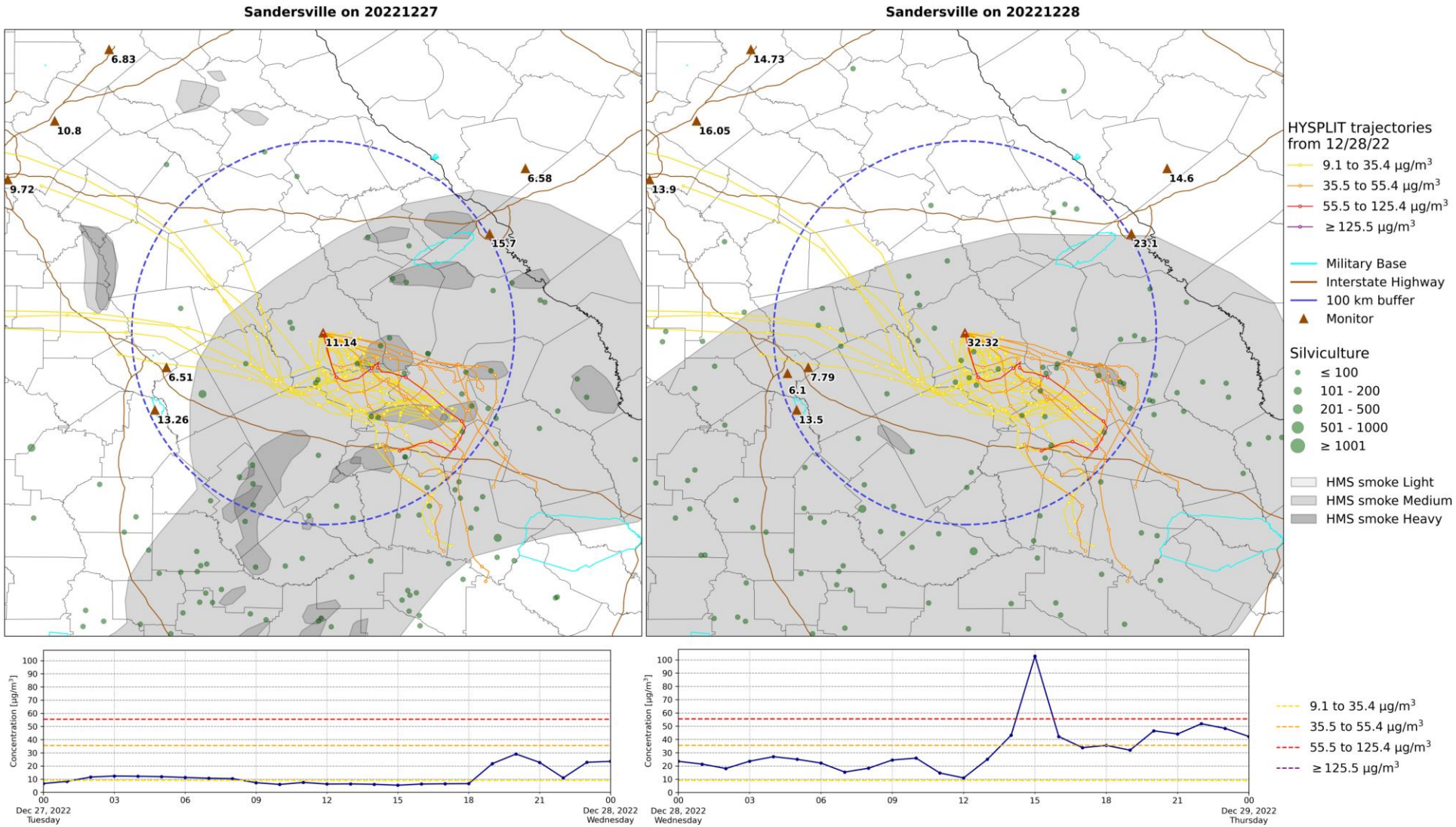

Figure 25A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on December 27, 2022. The top right map contains the same information for December 28, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on December 28, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

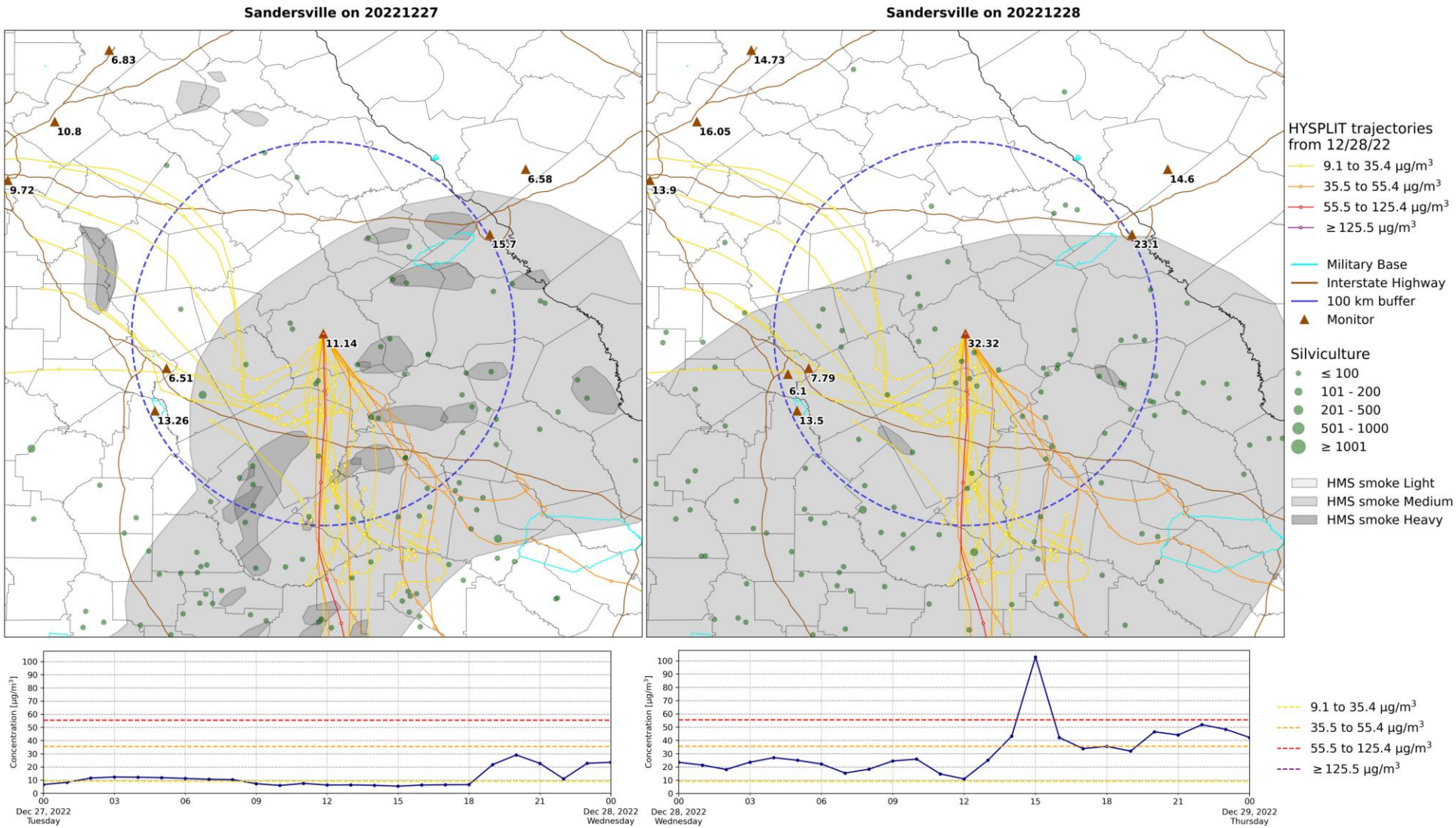

Figure 25B. The same as Figure 25A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

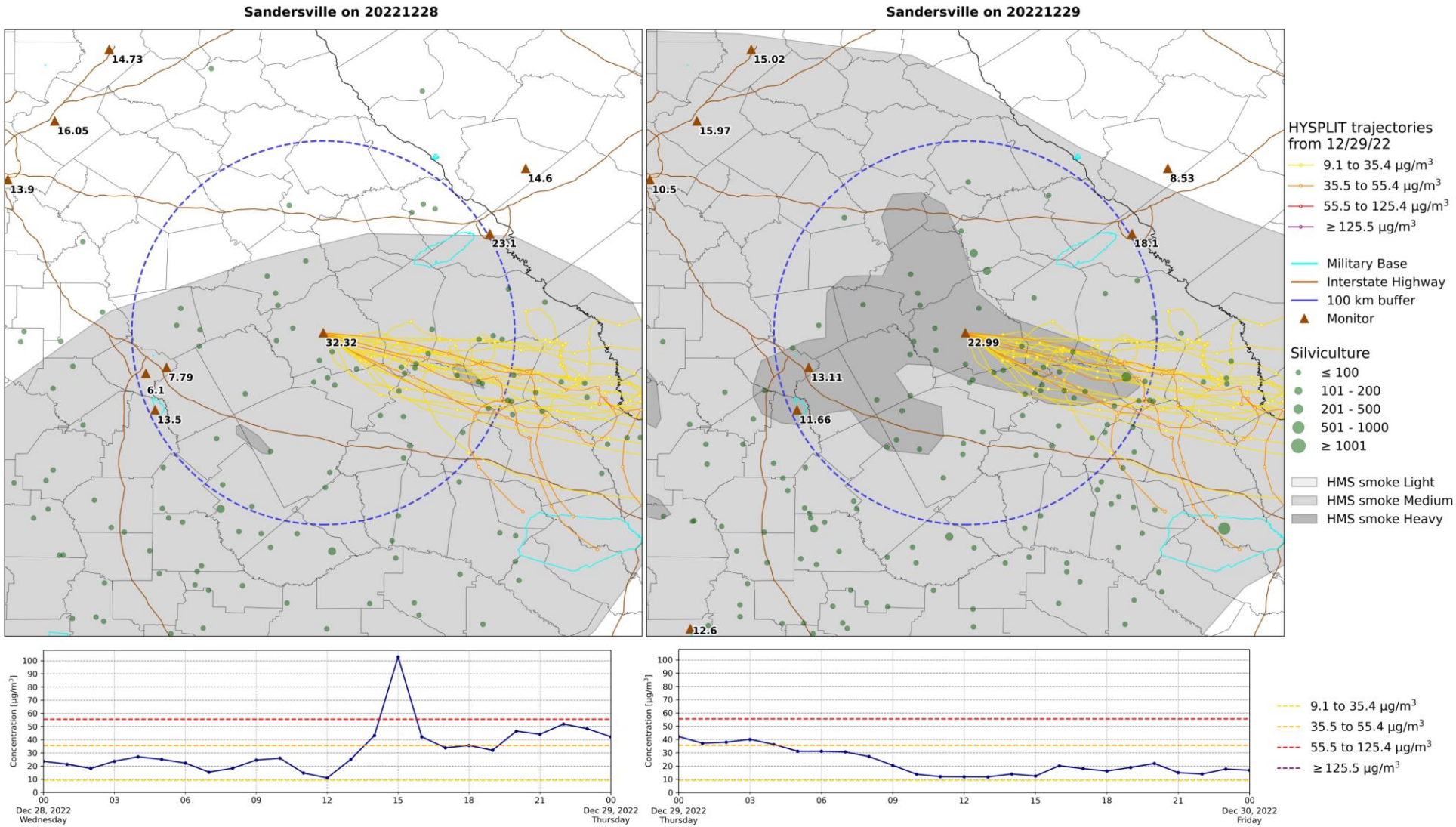

Figure 26A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on December 28, 2022. The top right map contains the same information for December 29, 2022. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on December 29, 2022. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

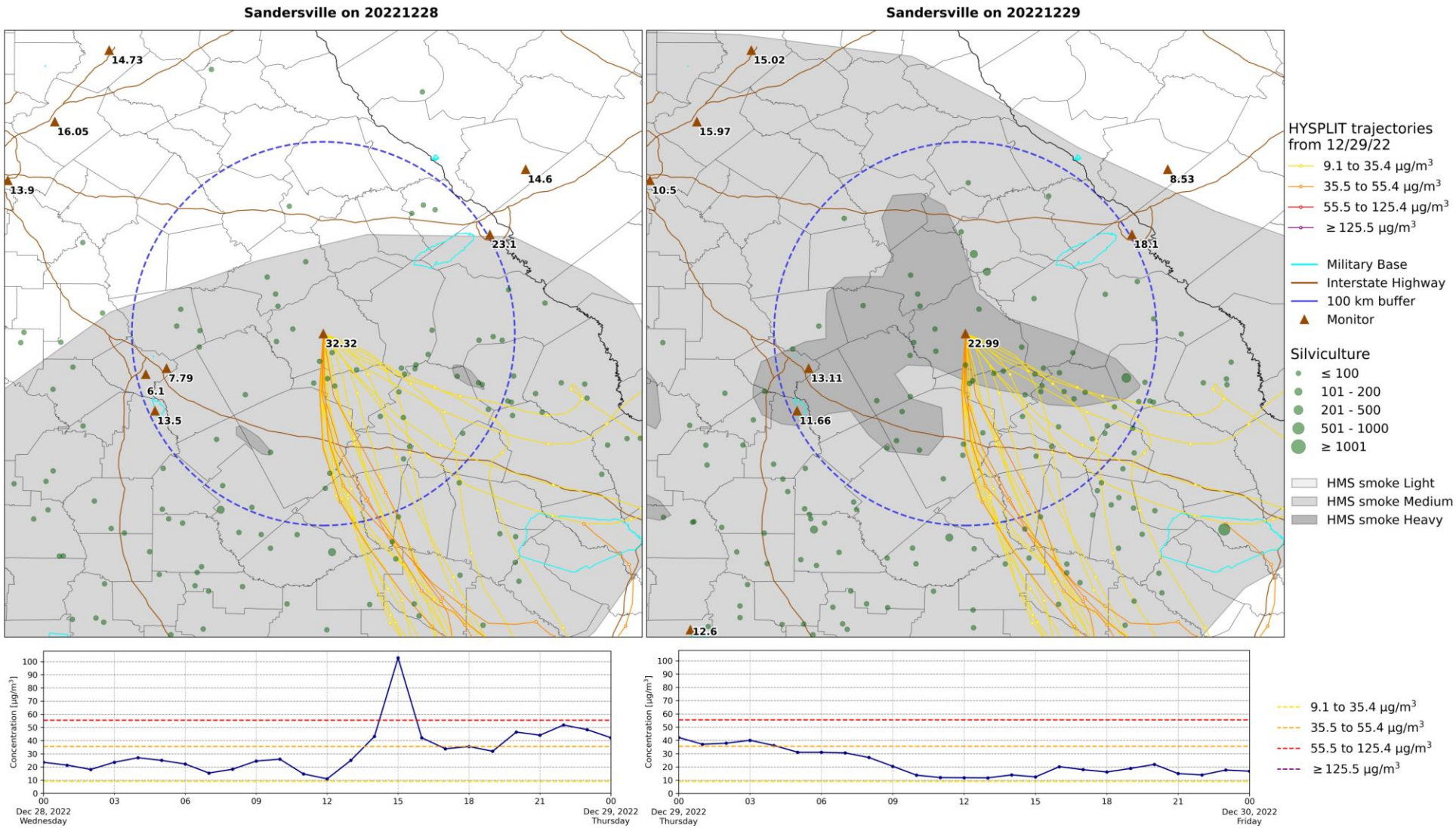

Figure 26B. The same as Figure 26A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

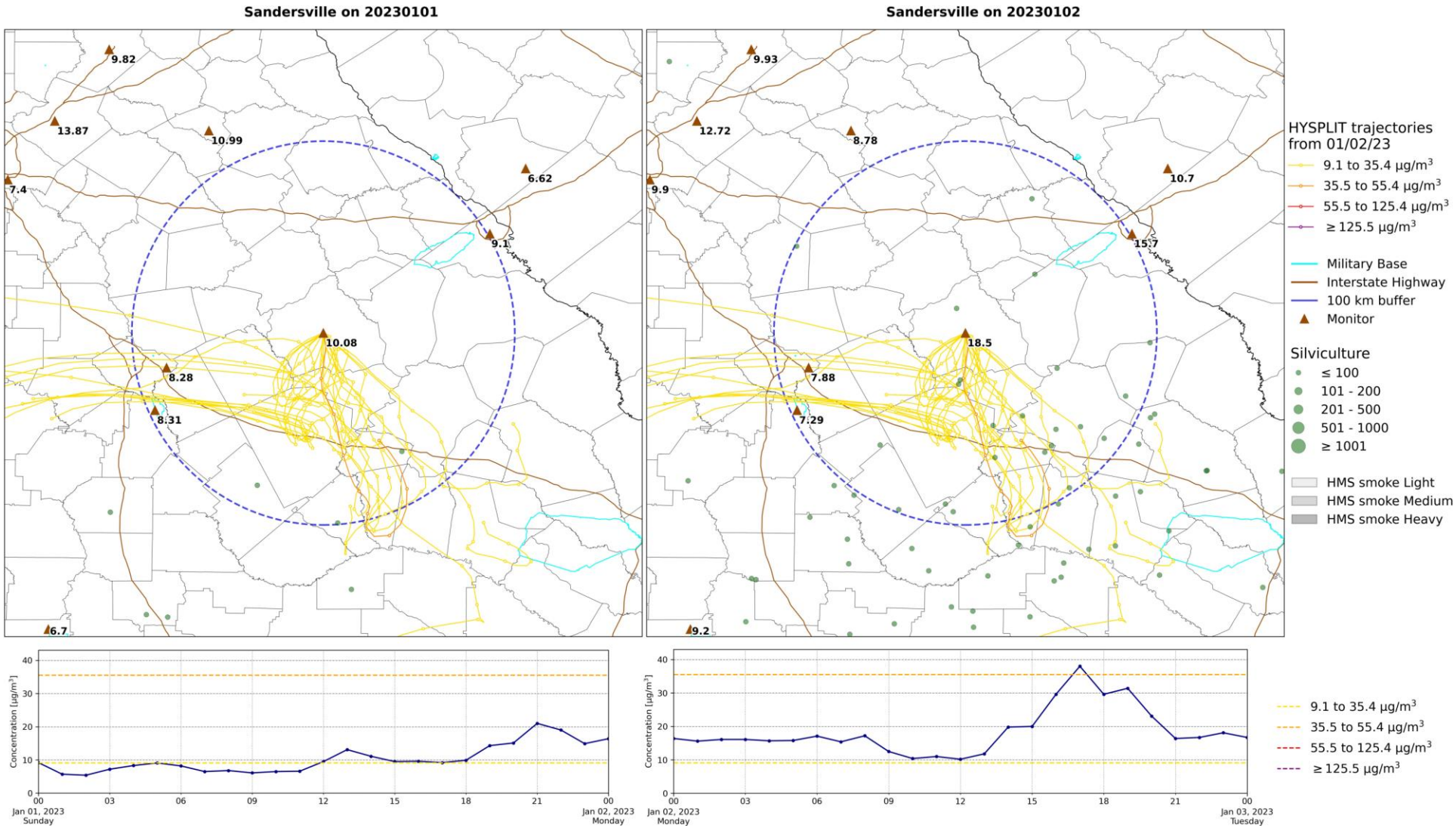

Figure 27A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 1, 2023. The top right map contains the same information for January 2, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 2, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

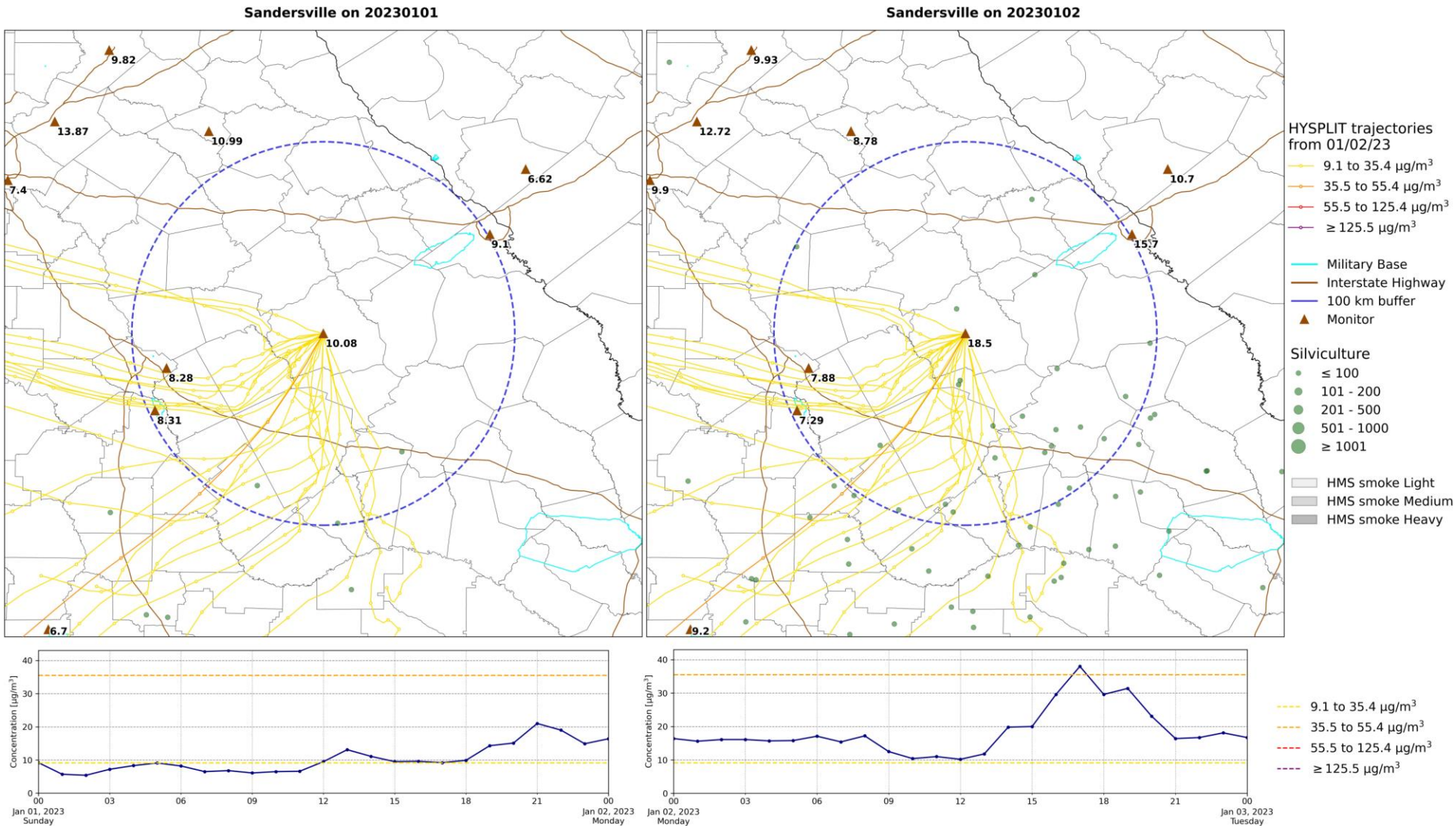

Figure 27B. The same as Figure 27A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

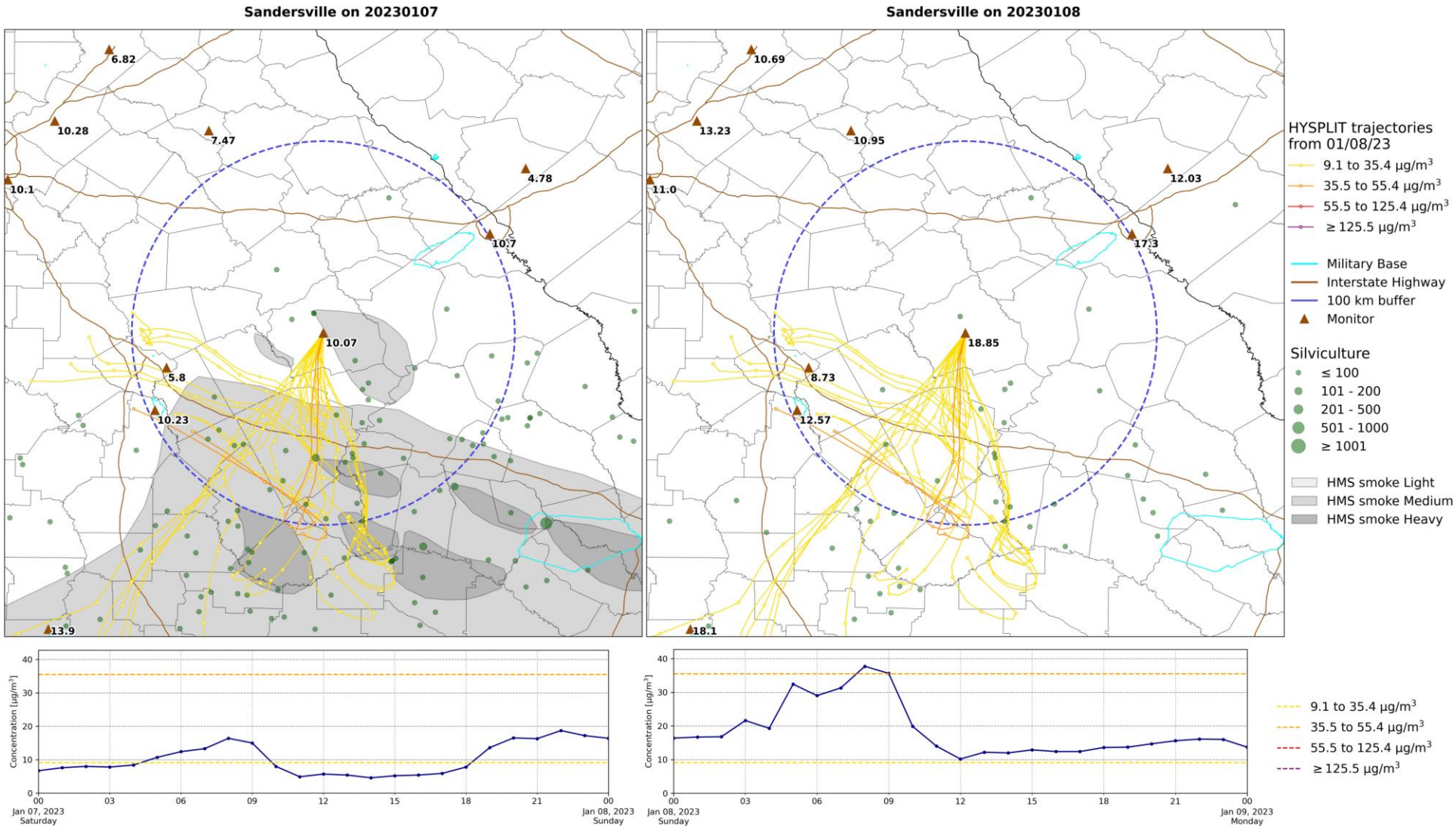

Figure 28A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 7, 2023. The top right map contains the same information for January 8, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 8, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

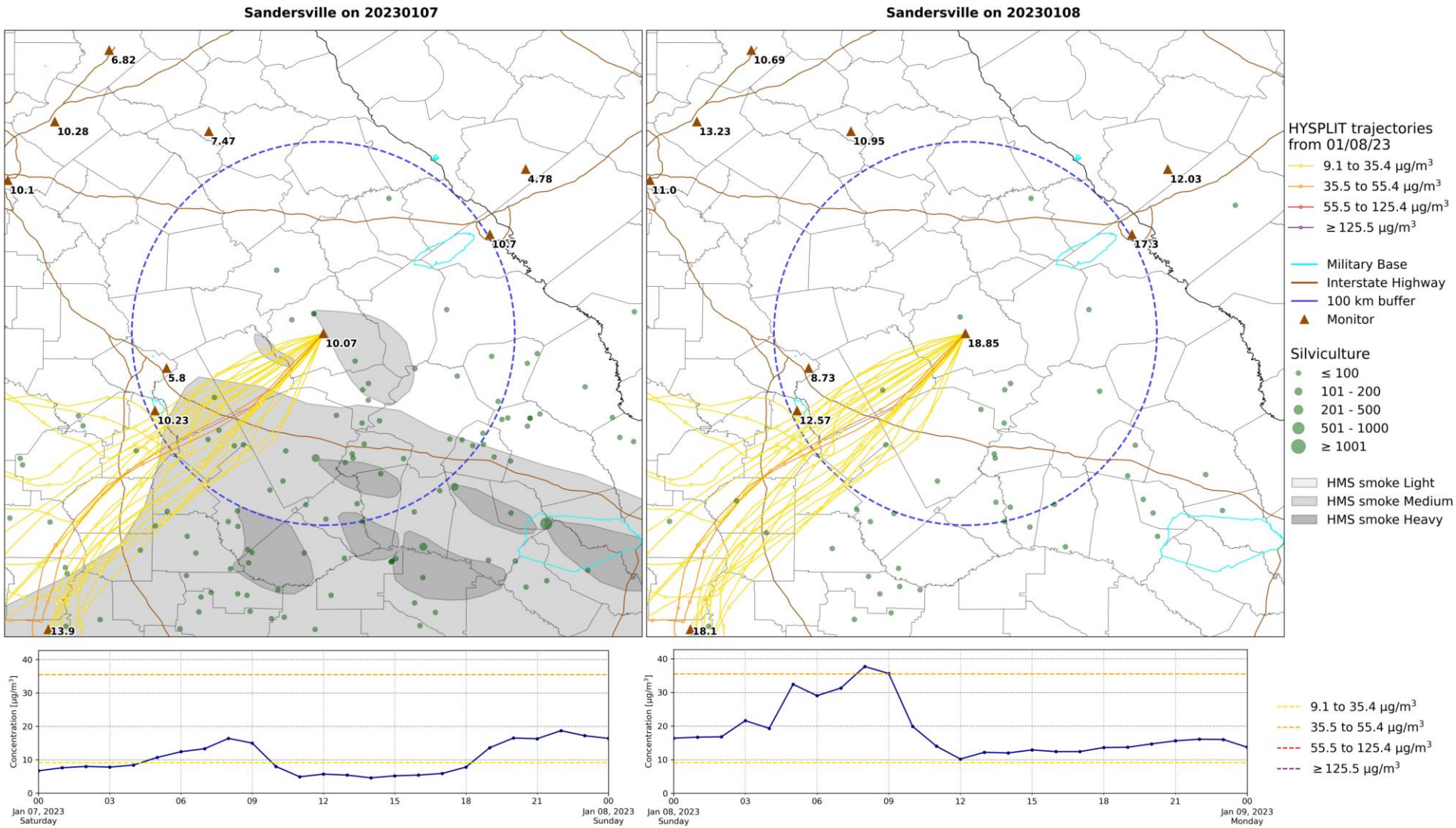

Figure 28B. The same as Figure 28A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

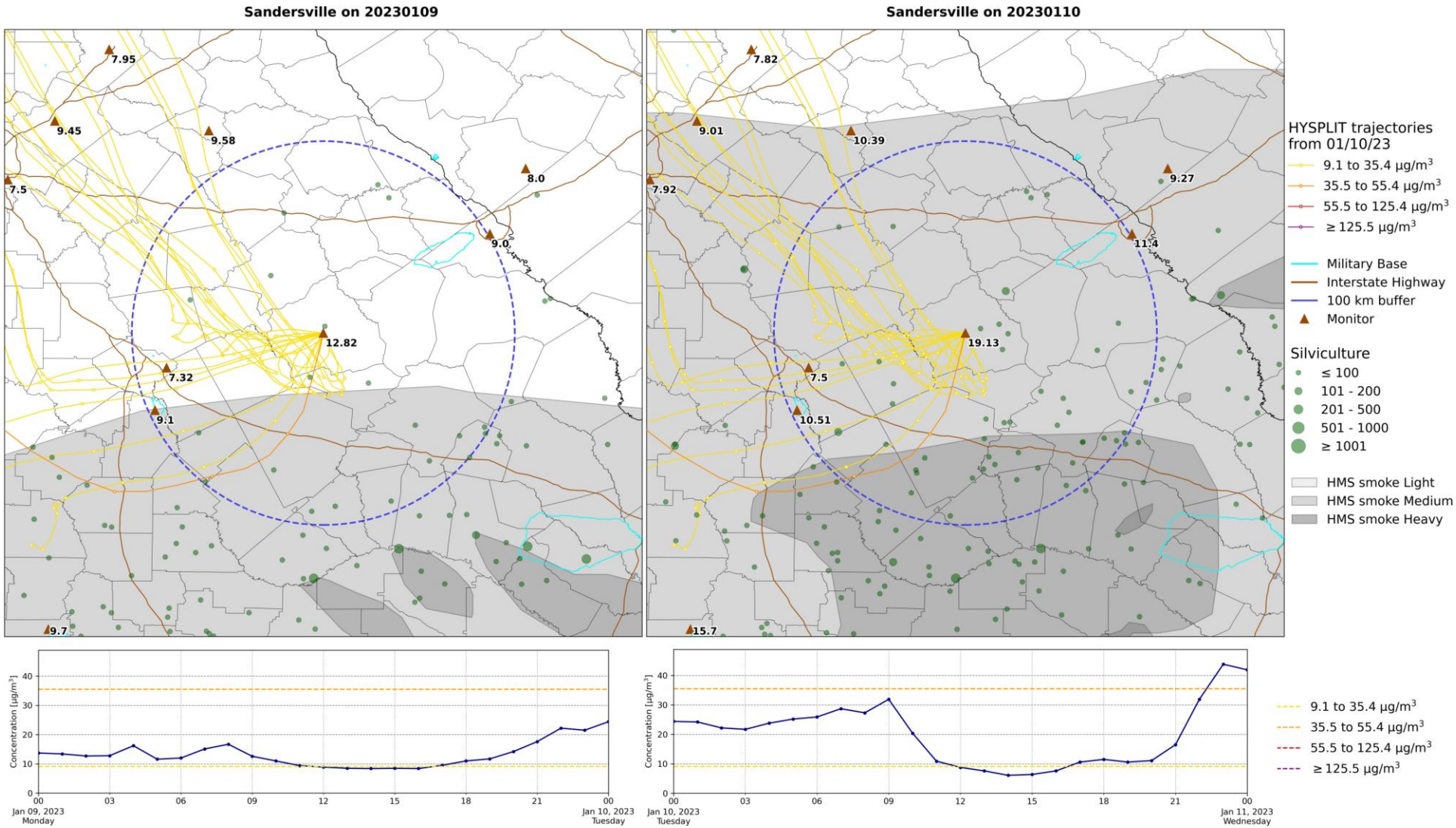

Figure 29A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 9, 2023. The top right map contains the same information for January 10, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 10, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

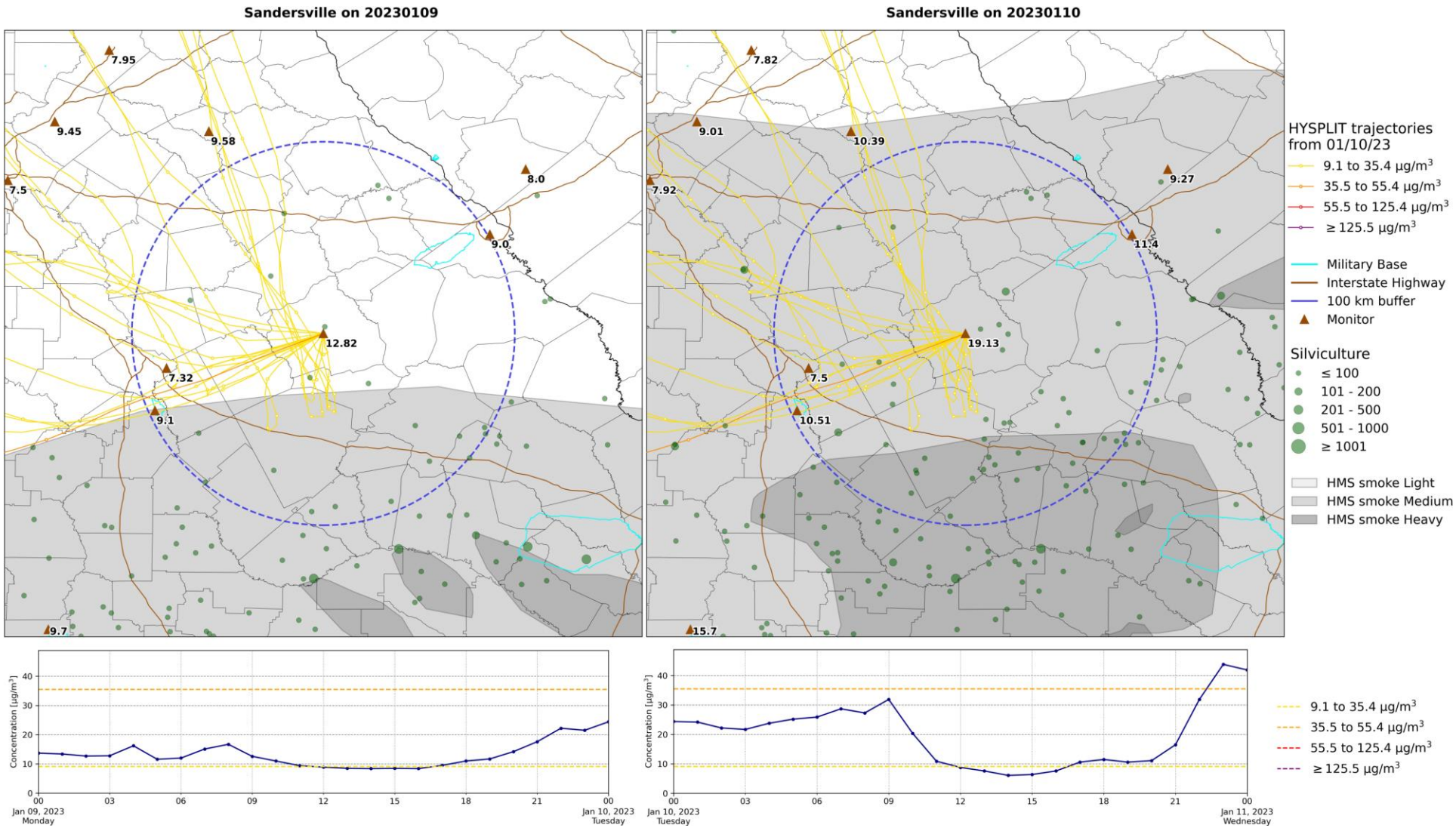

Figure 29B. The same as Figure 29A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

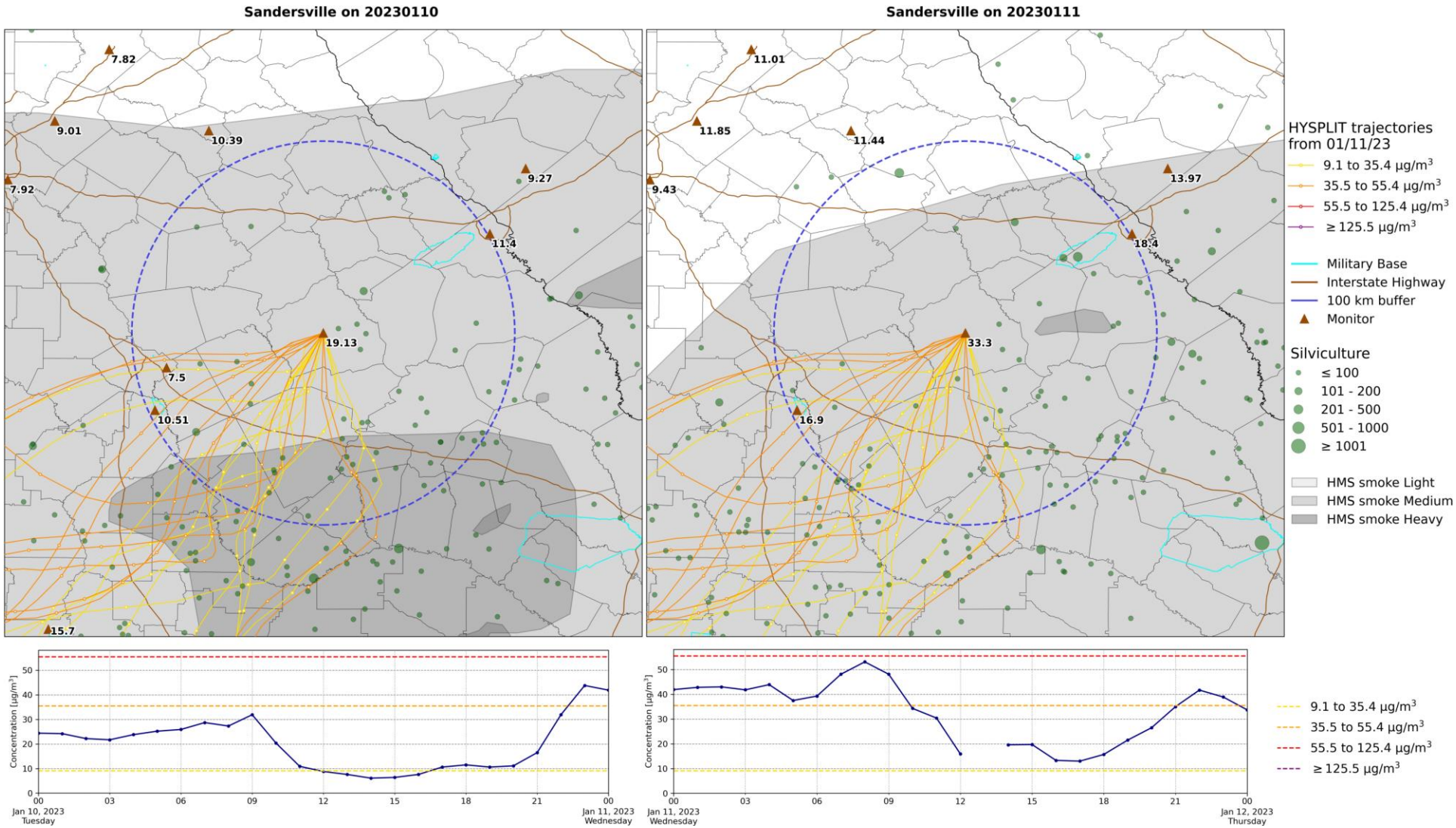

Figure 30A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 10, 2023. The top right map contains the same information for January 11, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 11, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

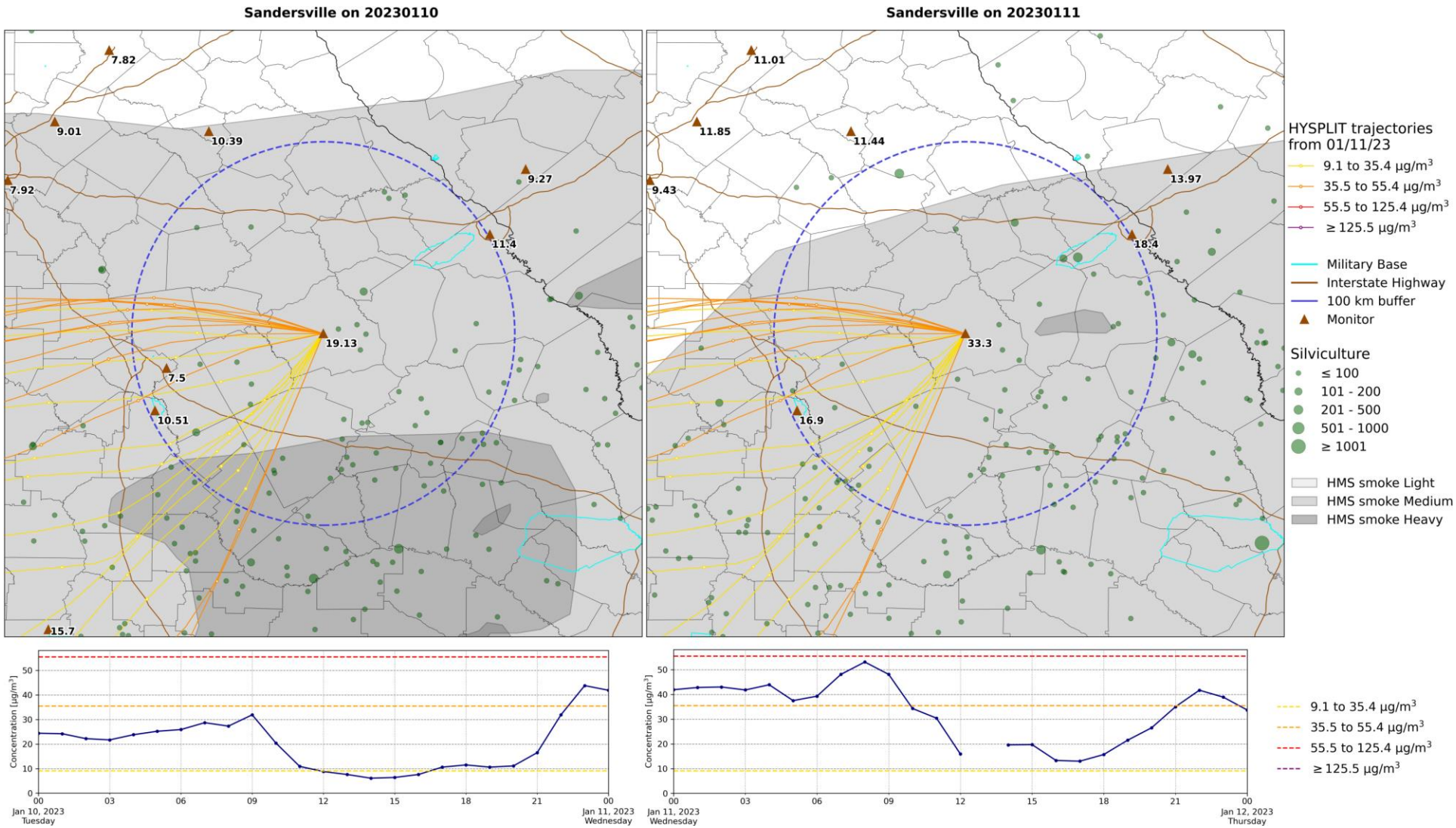

Figure 30B. The same as Figure 30A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

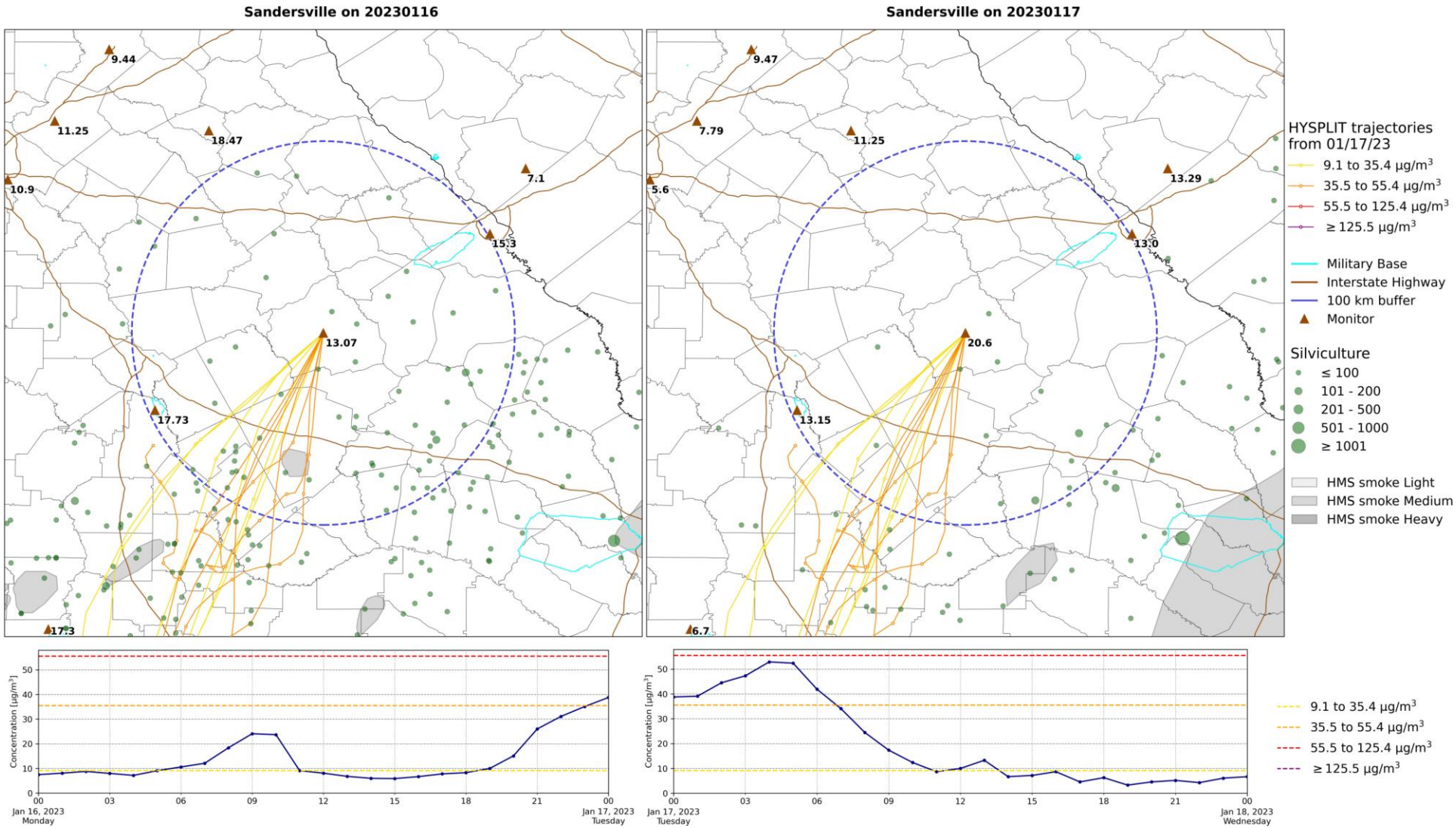

Figure 31A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 16, 2023. The top right map contains the same information for January 17, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 17, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

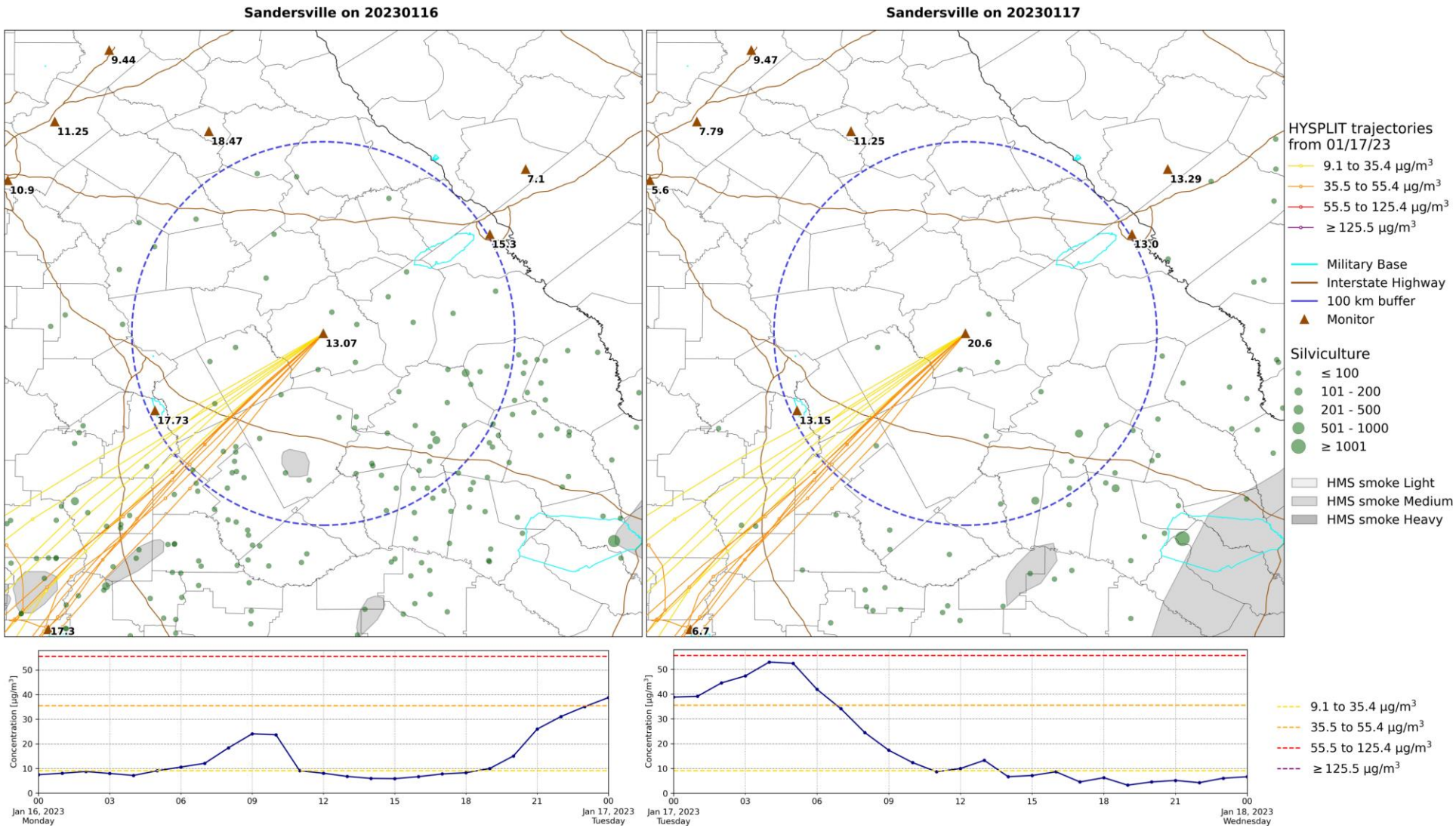

Figure 31B. The same as Figure 31A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

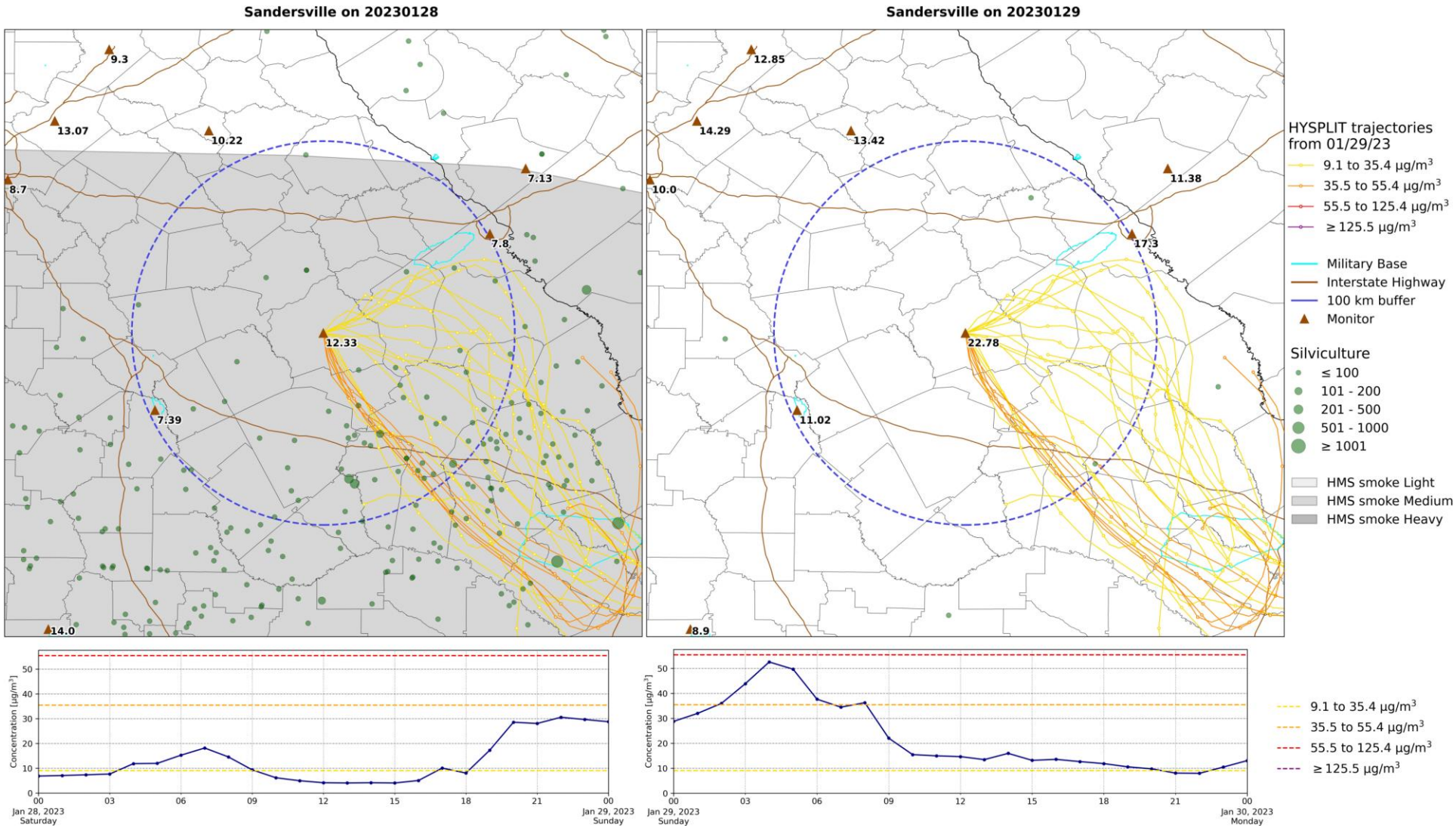

Figure 32A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on January 28, 2023. The top right map contains the same information for January 29, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on January 29, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

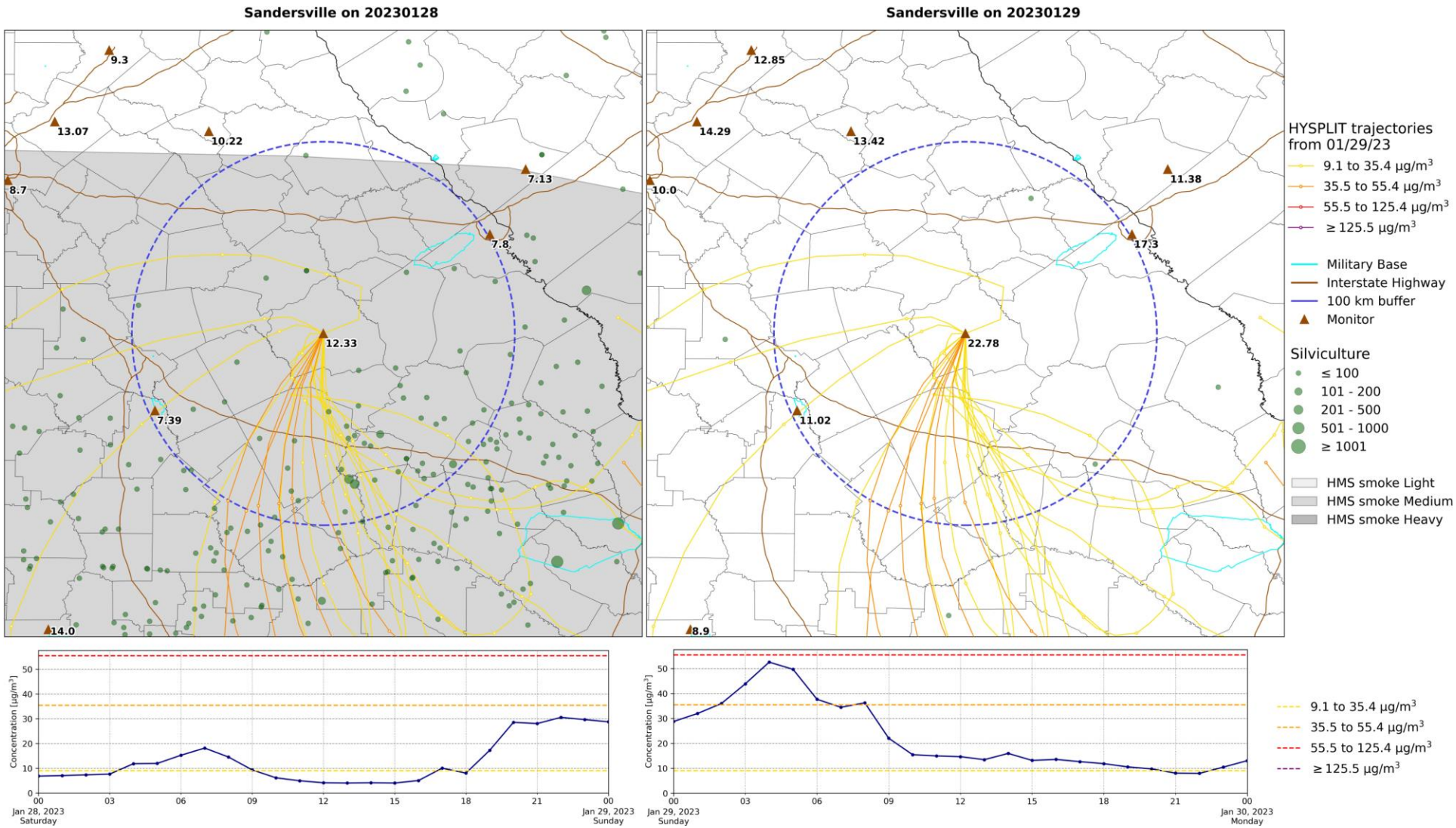

Figure 32B. The same as Figure 32A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

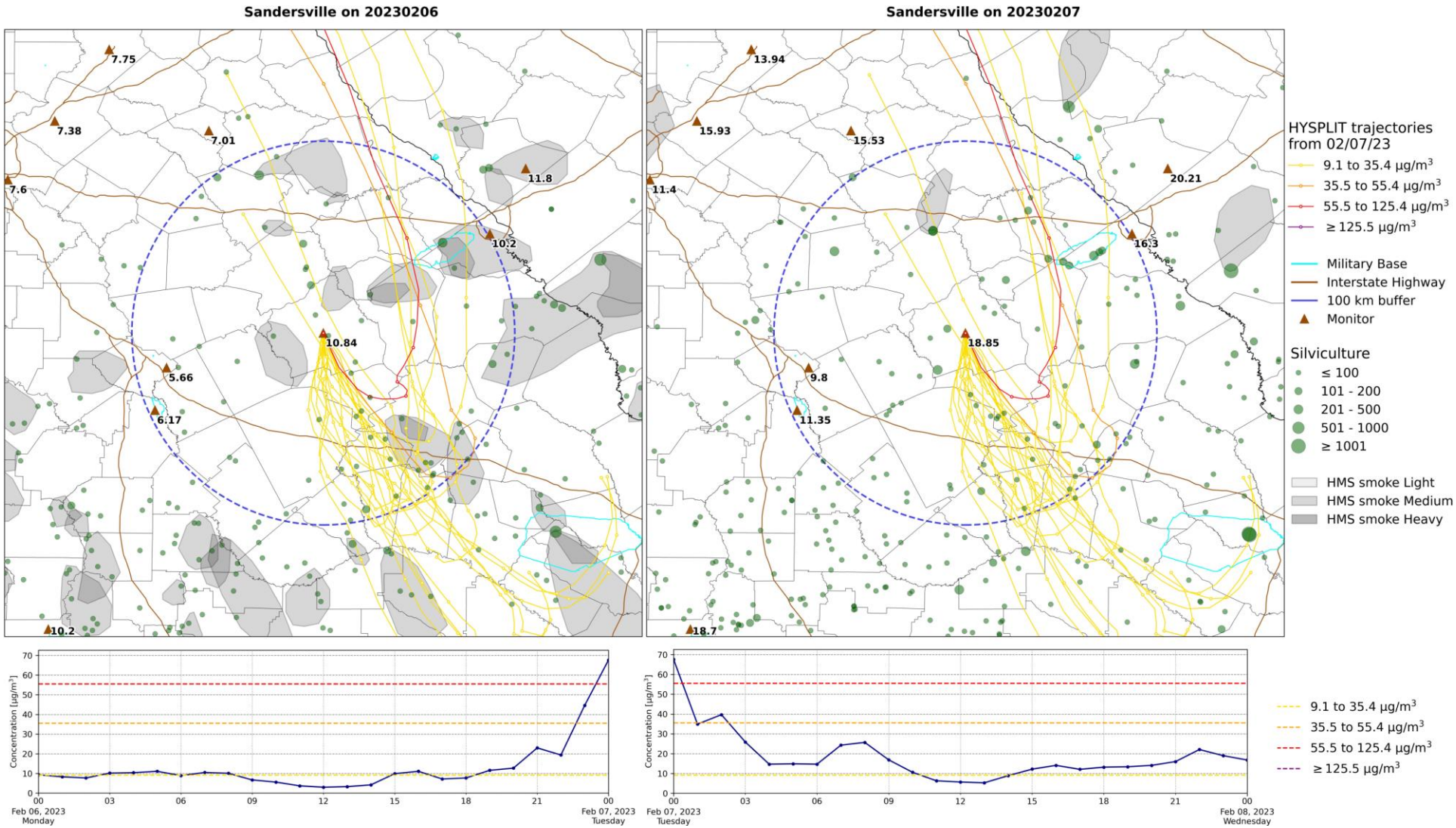

Figure 33A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 6, 2023. The top right map contains the same information for February 7, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 7, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

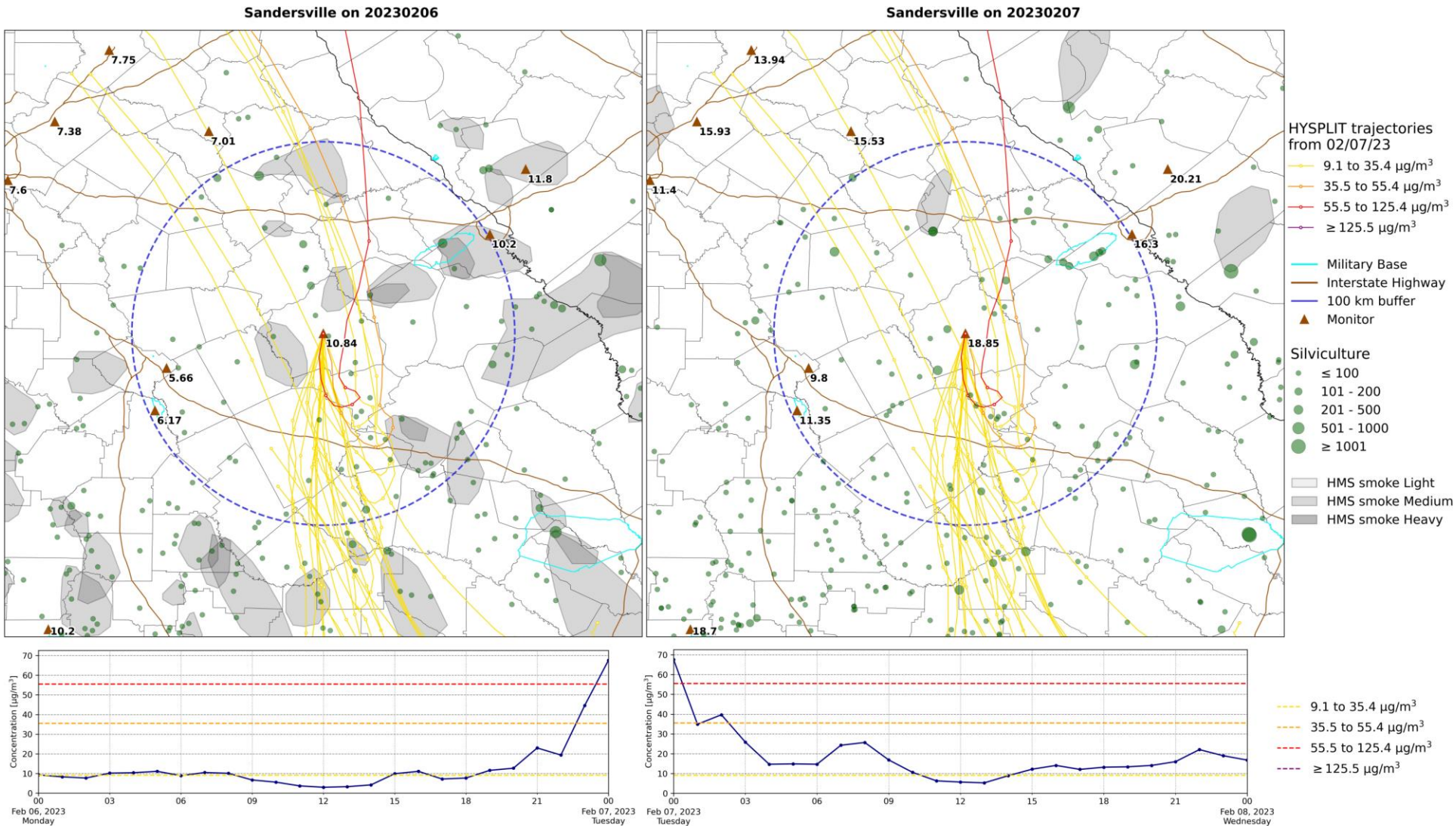

Figure 33B. The same as Figure 33A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

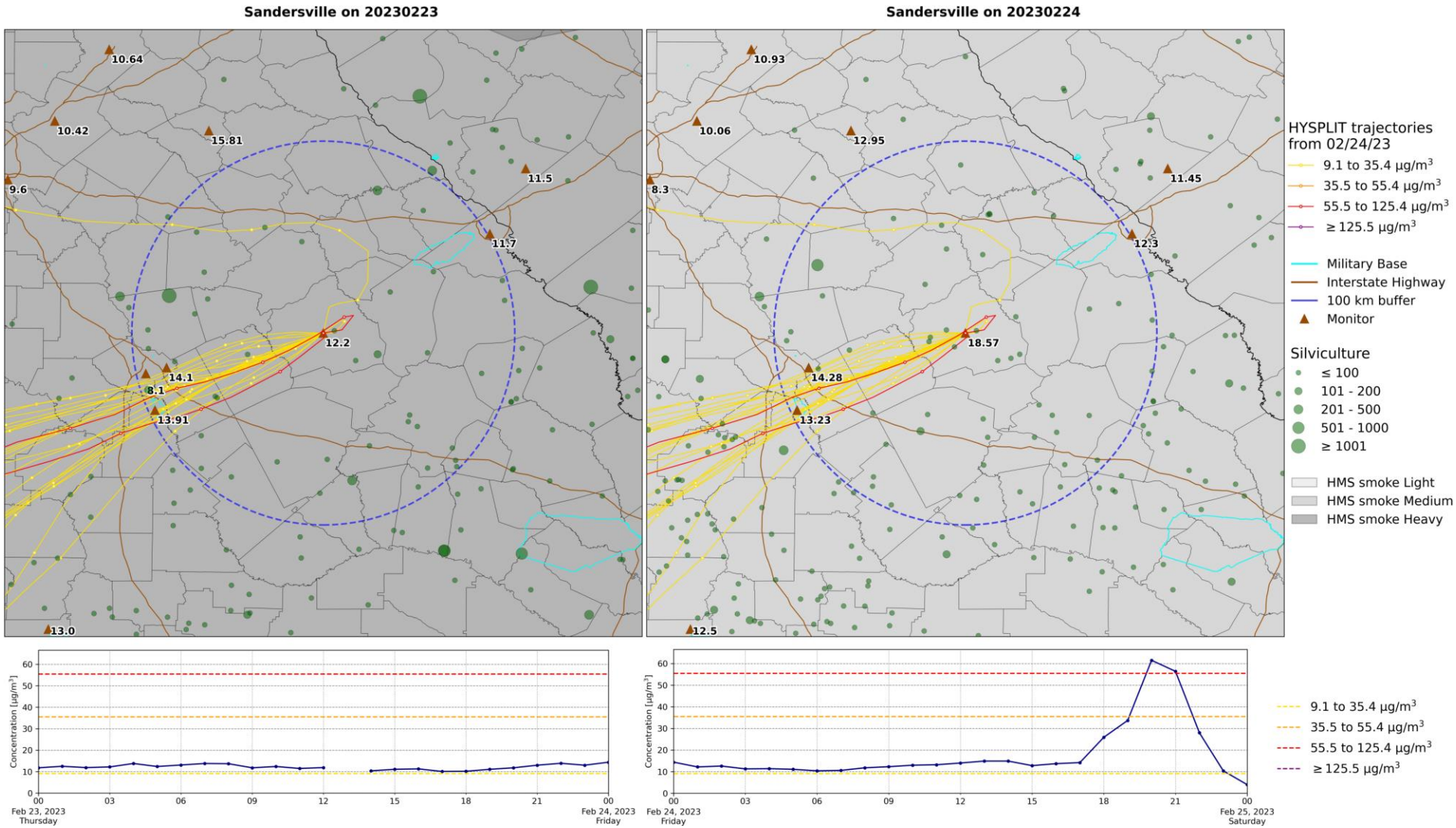

Figure 34A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 23, 2023. The top right map contains the same information for February 24, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 24, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

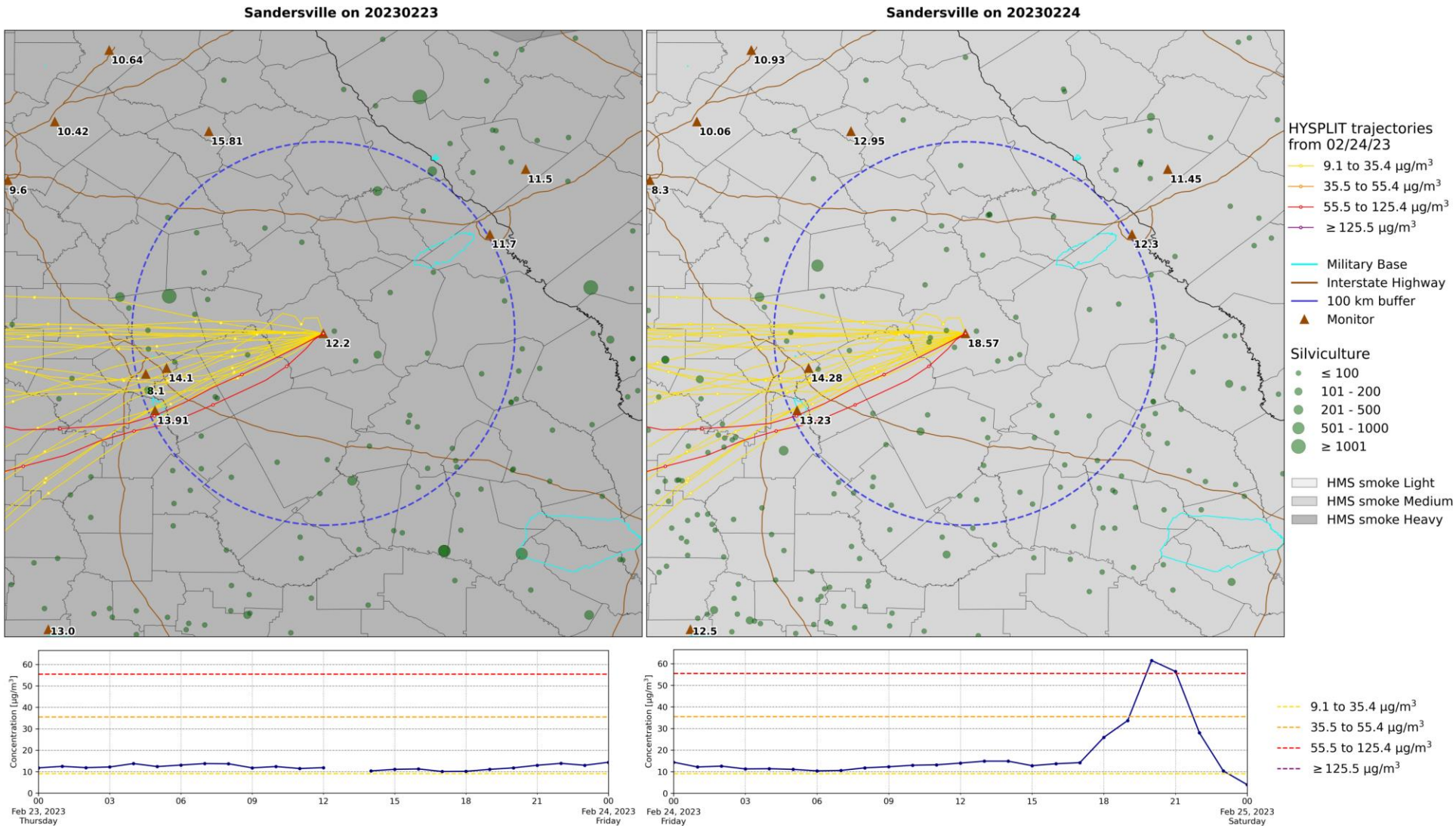

Figure 34B. The same as Figure 34A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

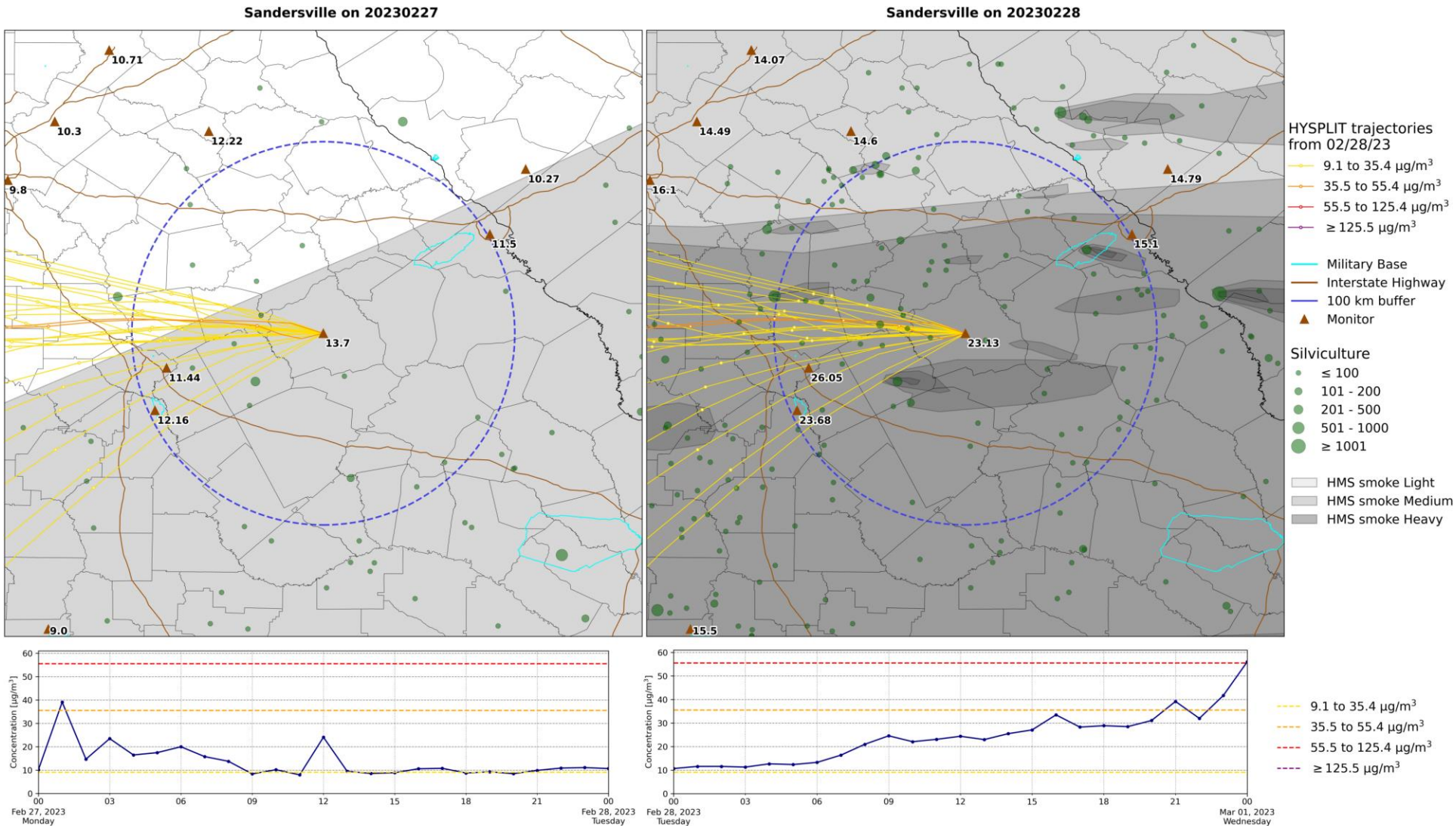

Figure 35A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 27, 2023. The top right map contains the same information for February 28, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on February 28, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

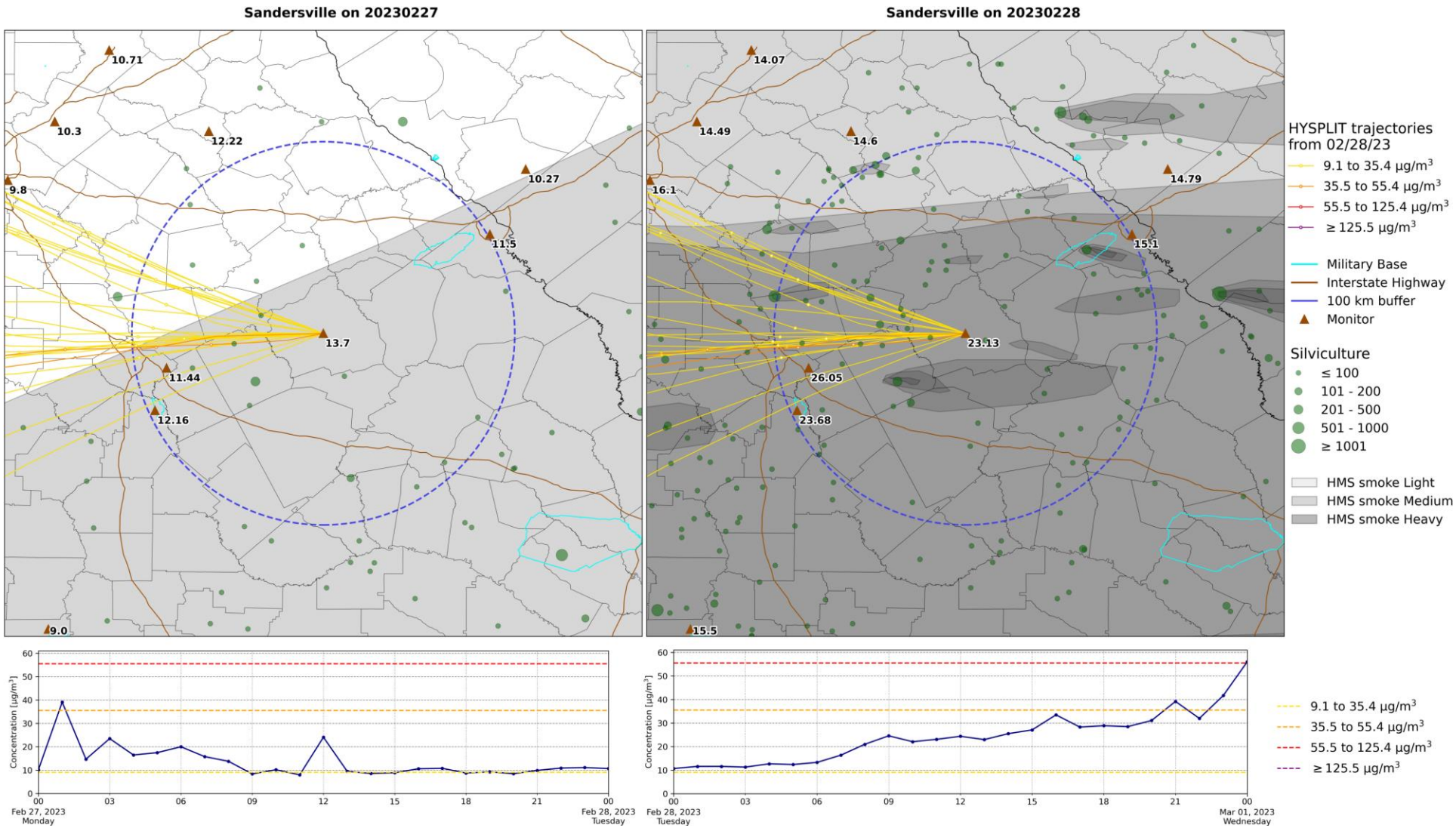

Figure 35B. The same as Figure 35A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

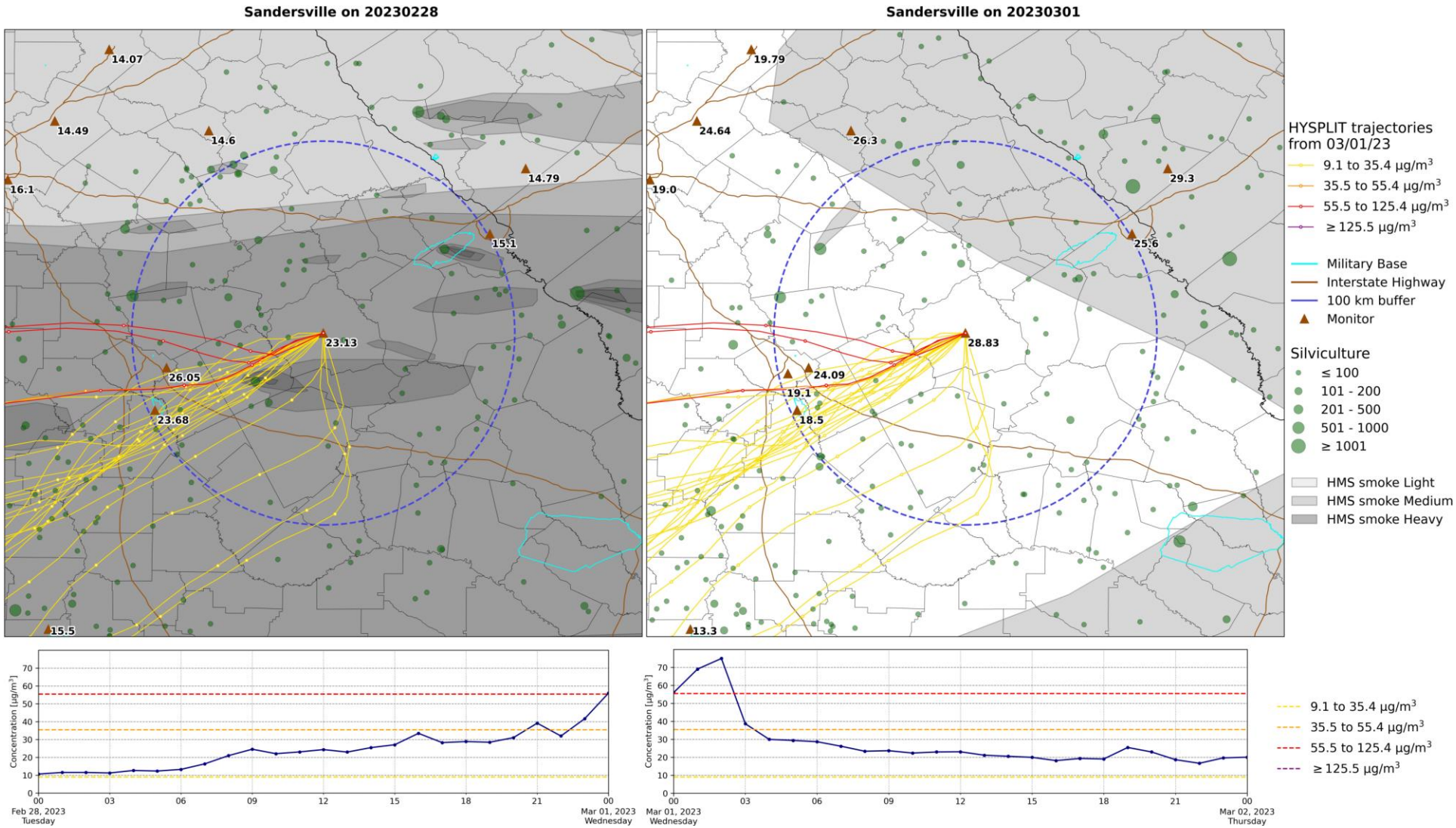

Figure 36A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on February 28, 2023. The top right map contains the same information for March 1, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 1, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

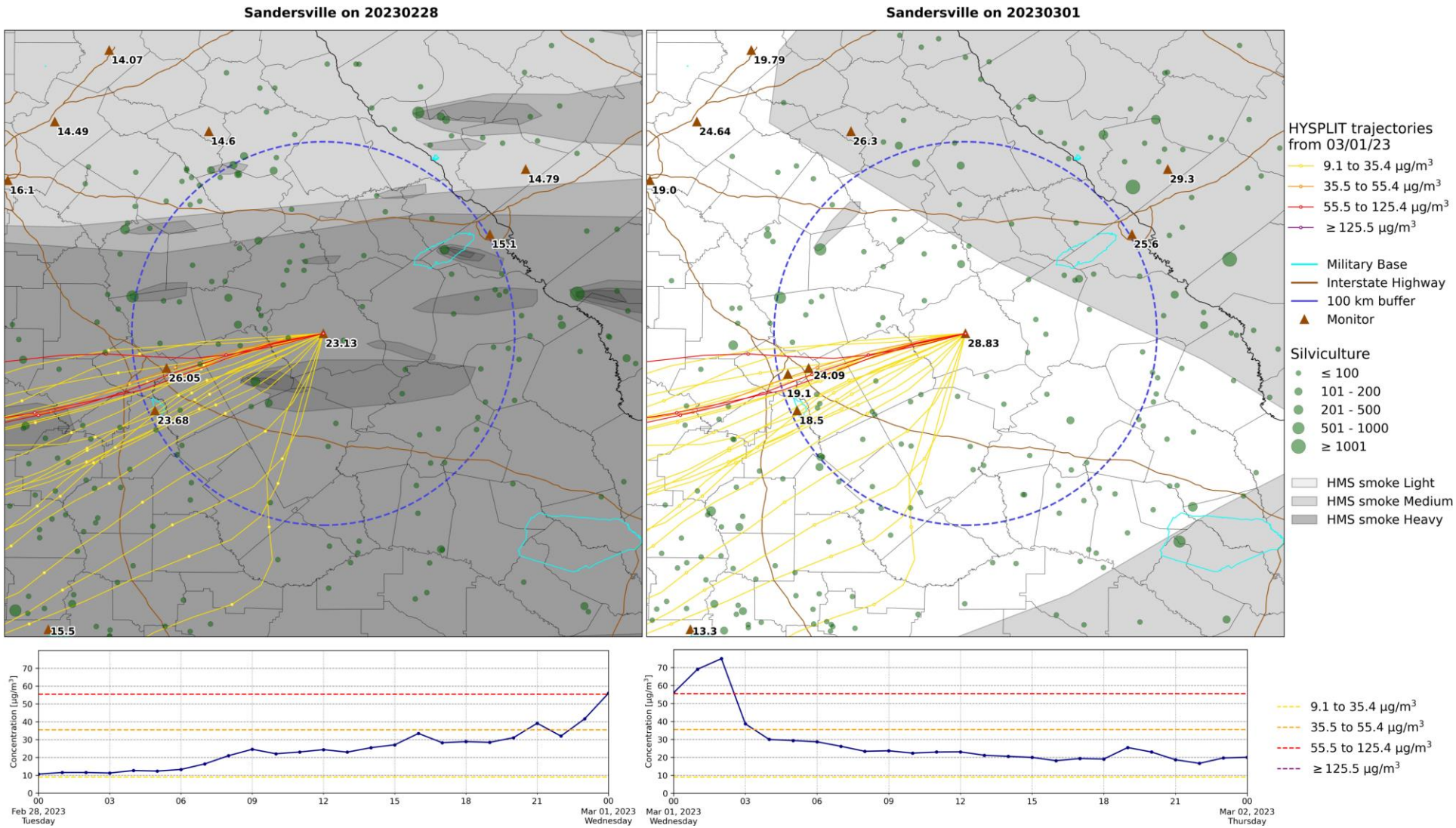

Figure 36B. The same as Figure 36A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

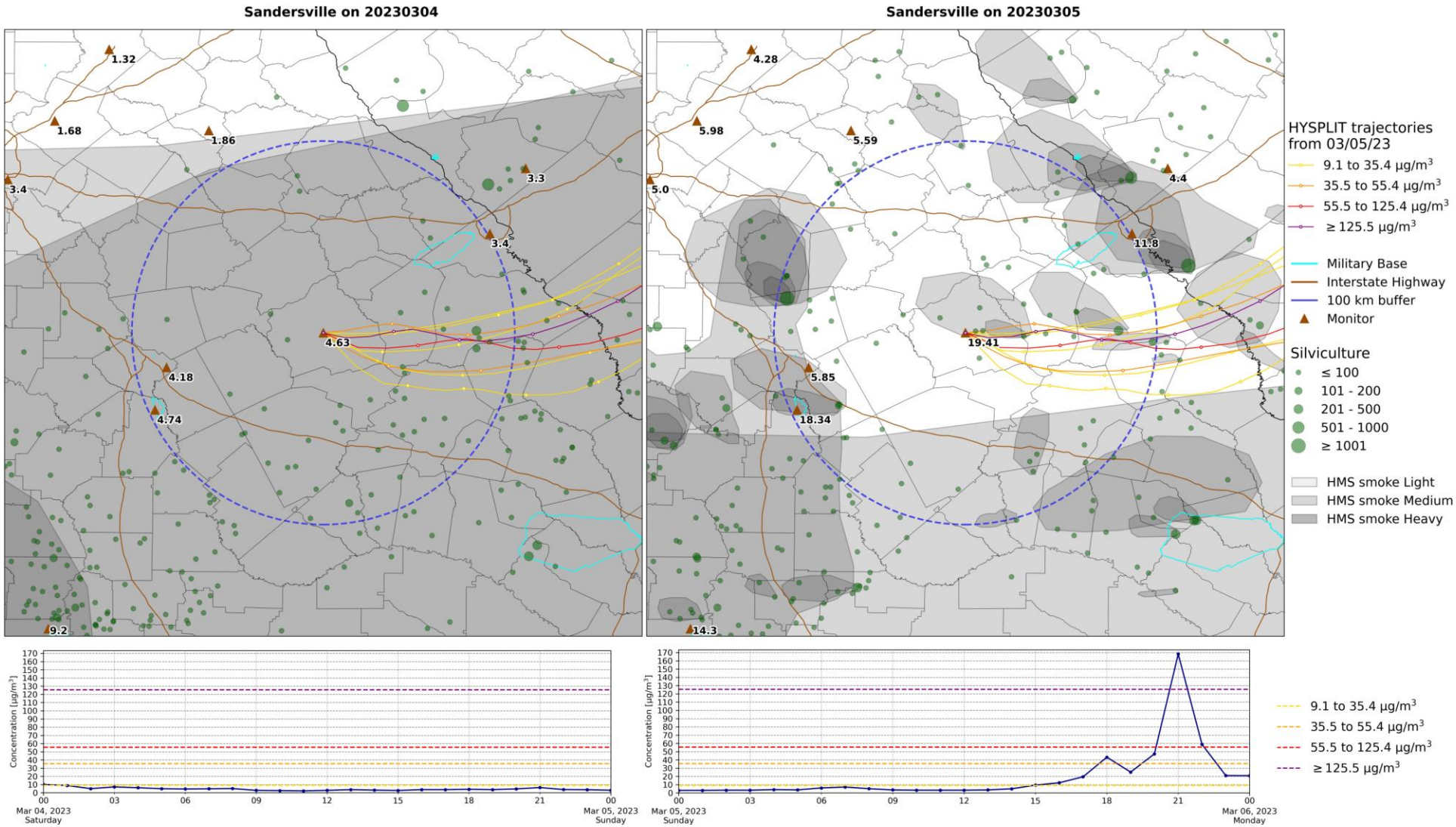

Figure 37A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 4, 2023. The top right map contains the same information for March 5, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 5, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

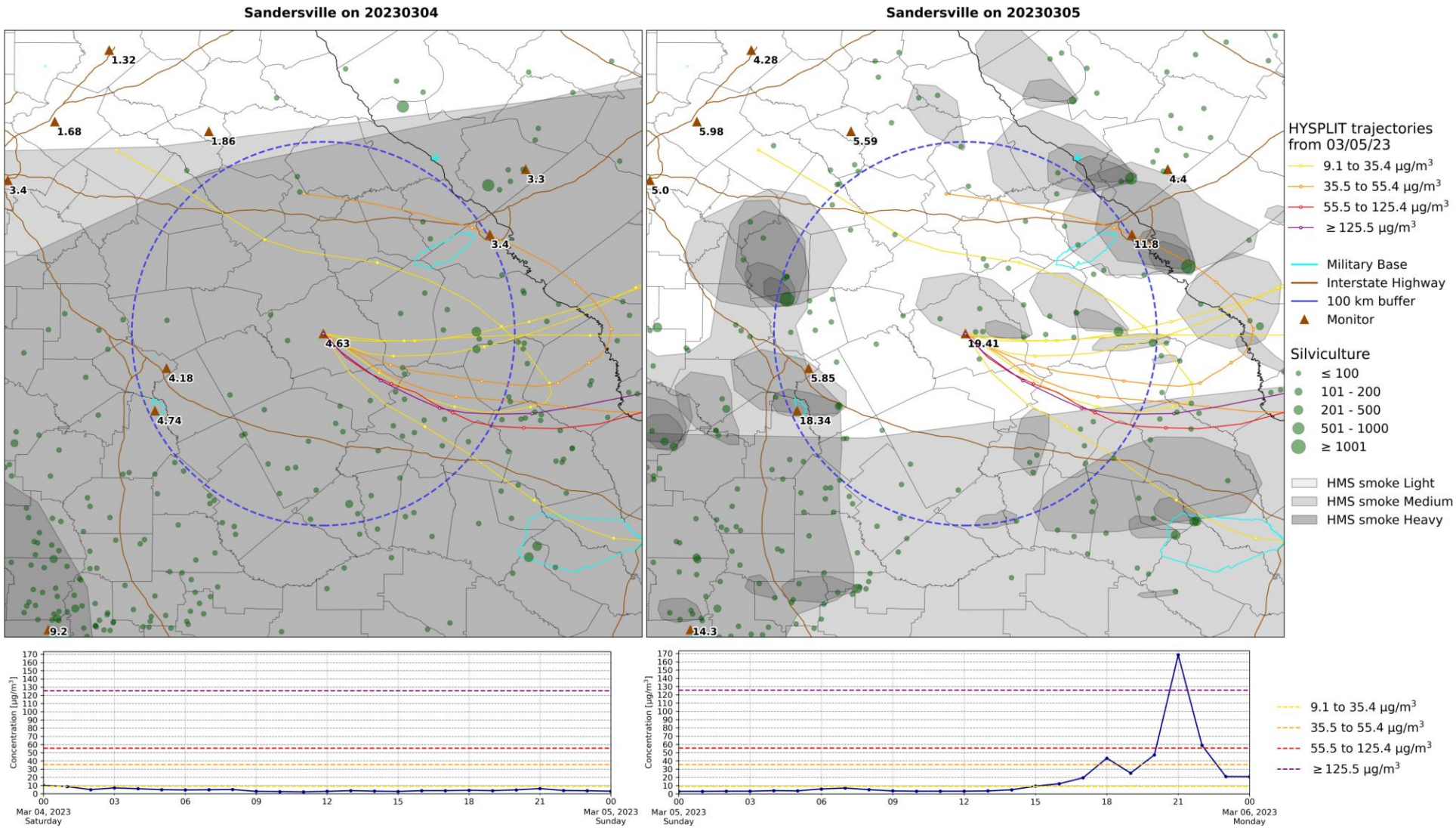

Figure 37B. The same as Figure 37A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

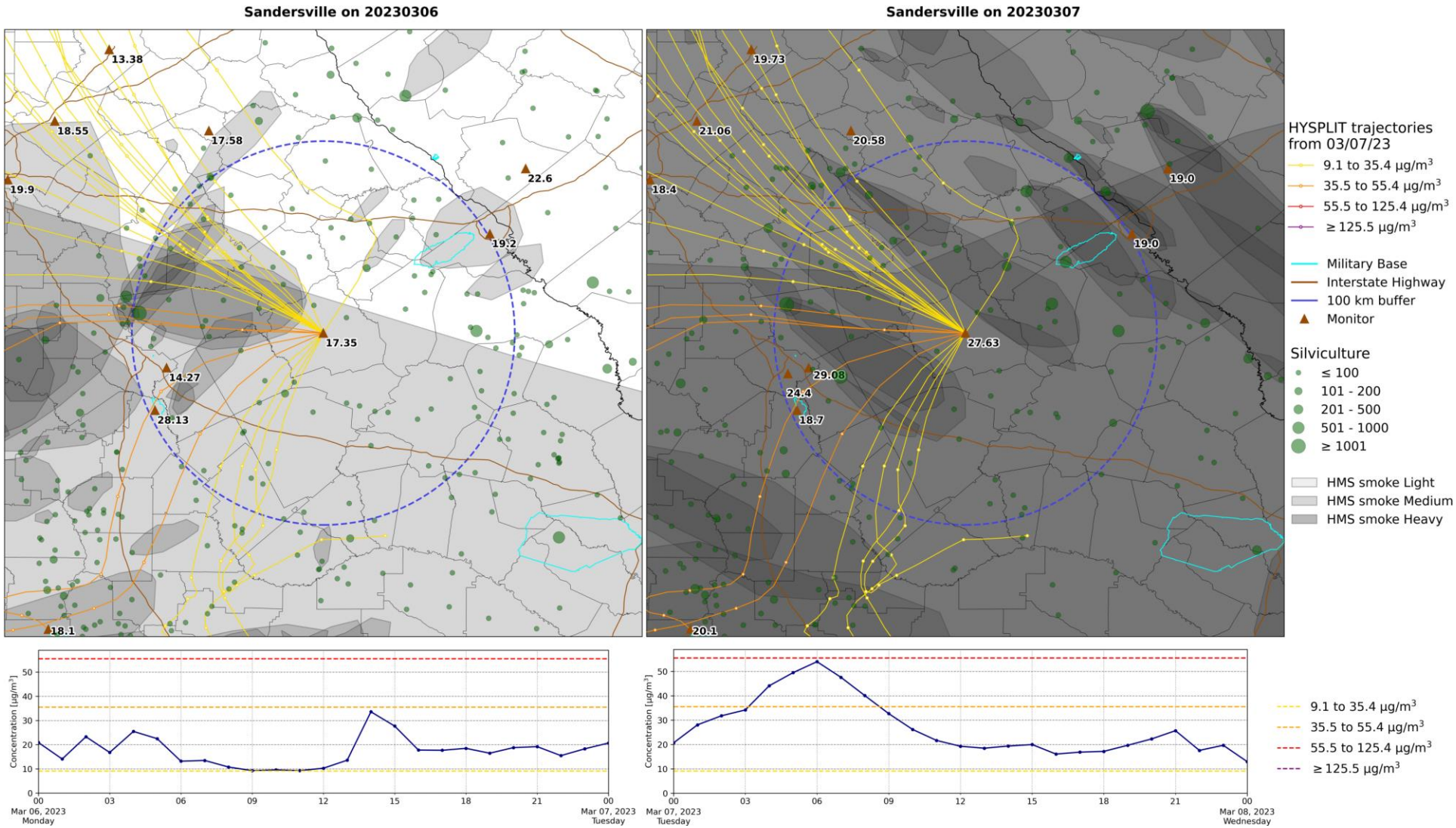

Figure 38A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 6, 2023. The top right map contains the same information for March 7, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 7, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

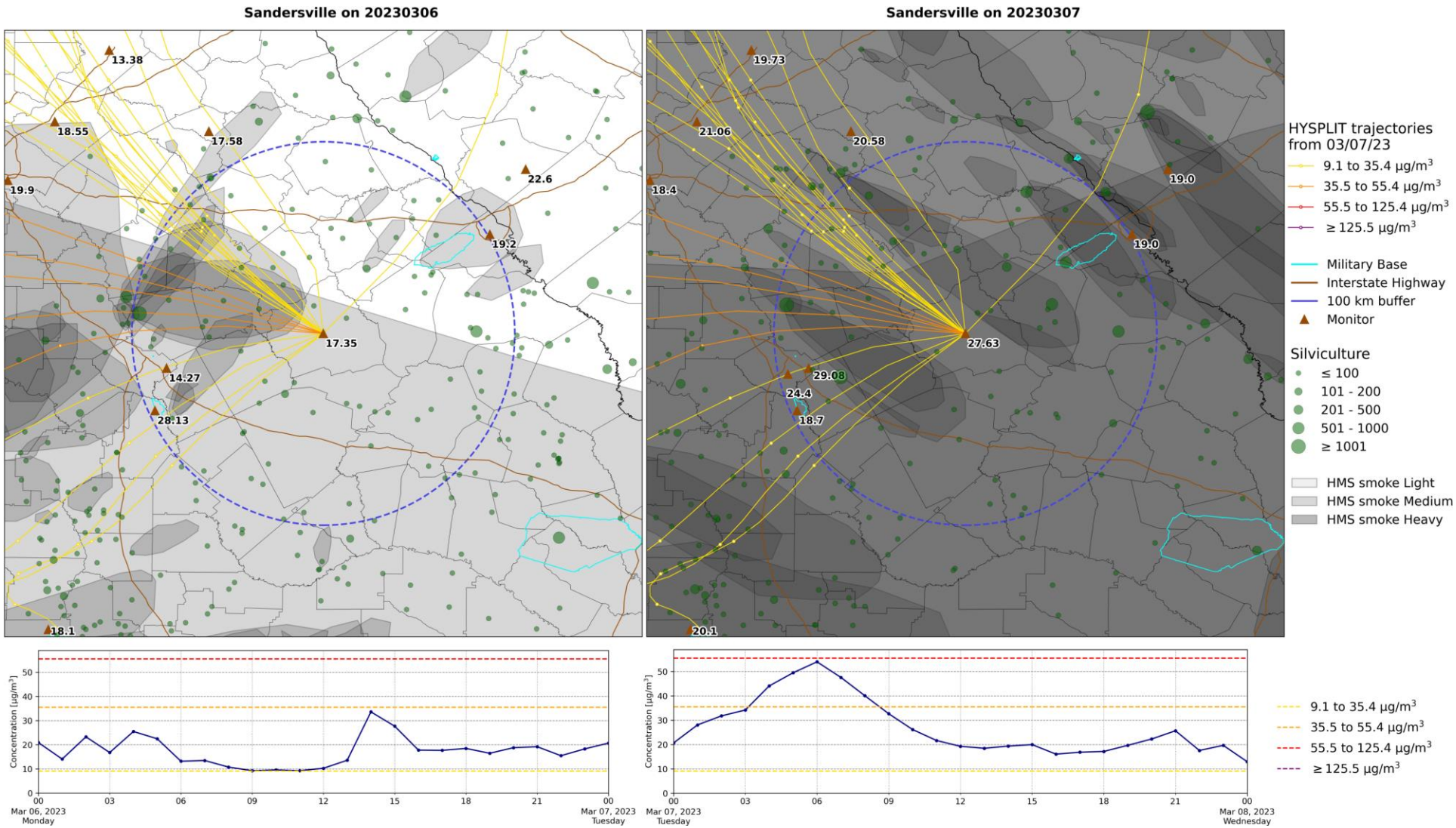

Figure 38B. The same as Figure 38A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

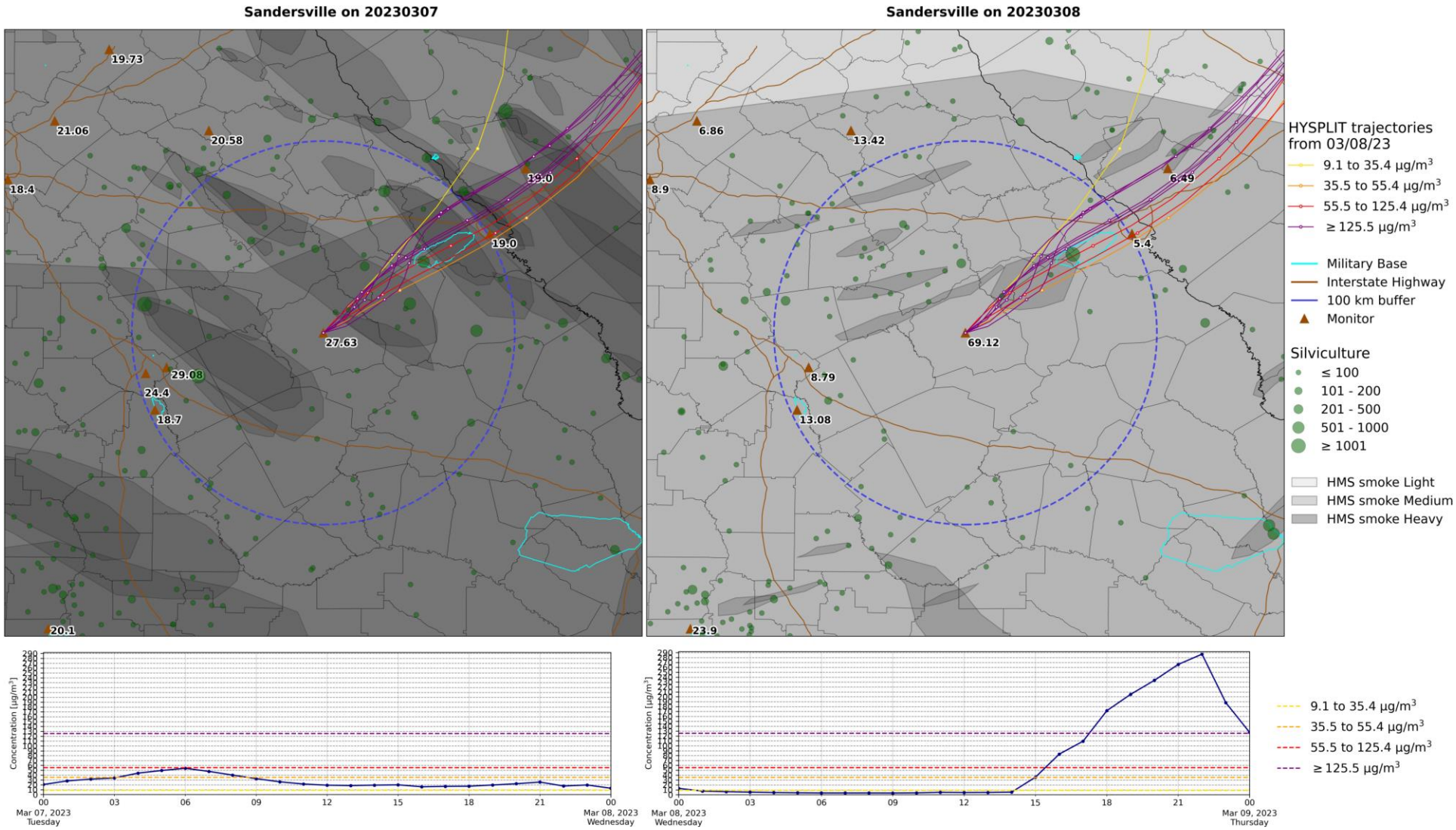

Figure 39A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 7, 2023. The top right map contains the same information for March 8, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 8, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

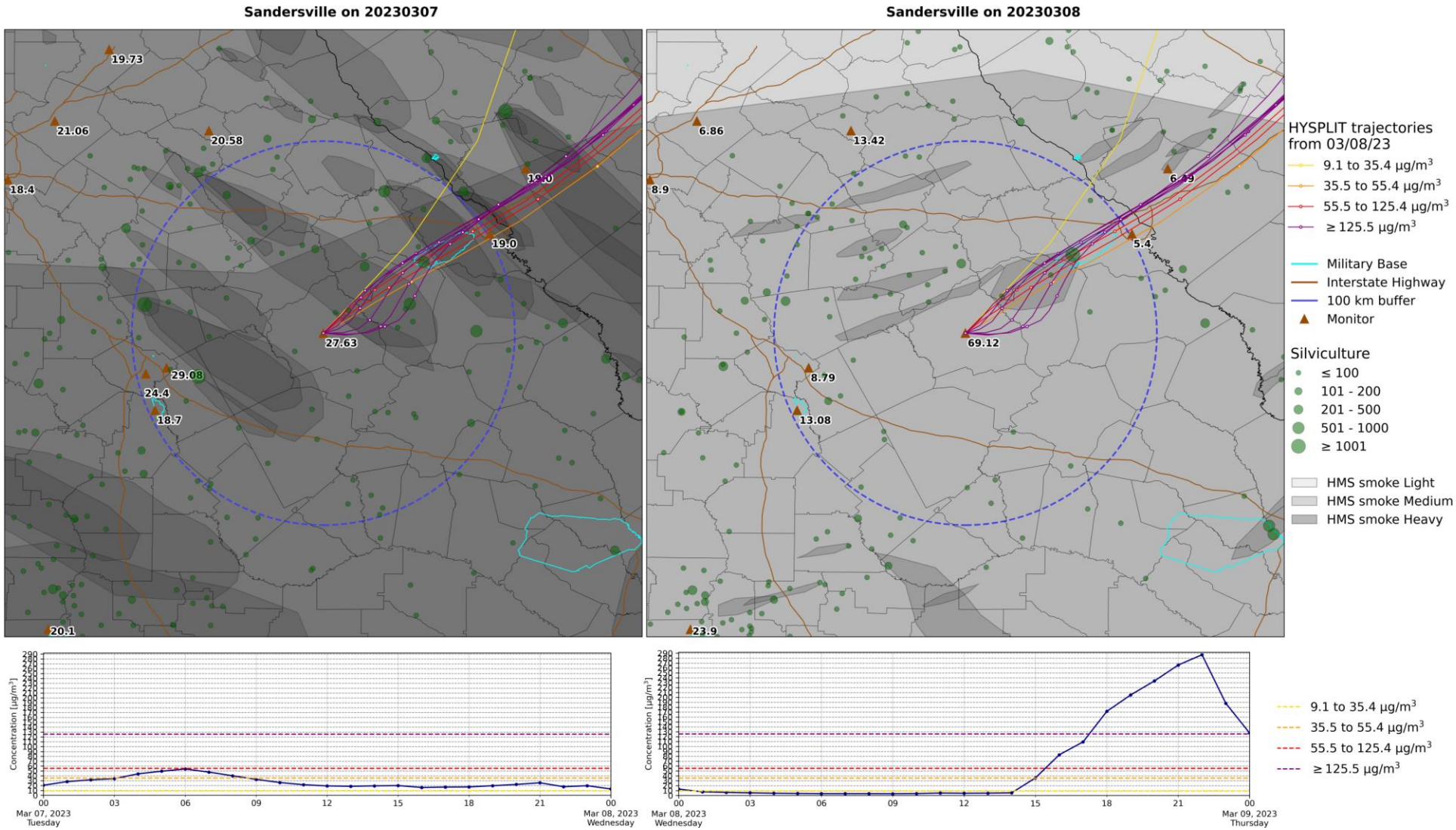

Figure 39B. The same as Figure 39A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

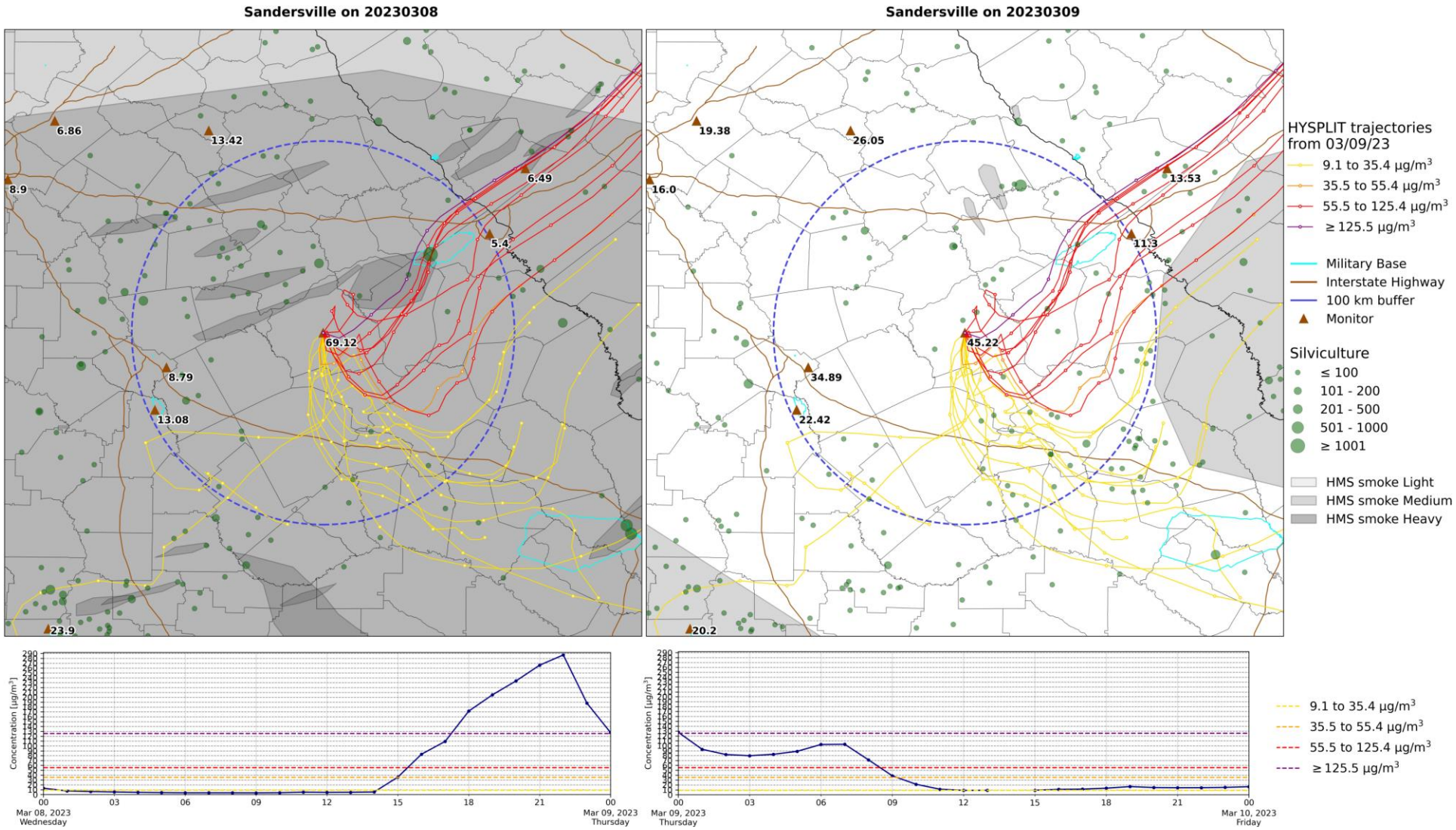

Figure 40A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 8, 2023. The top right map contains the same information for March 9, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 9, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

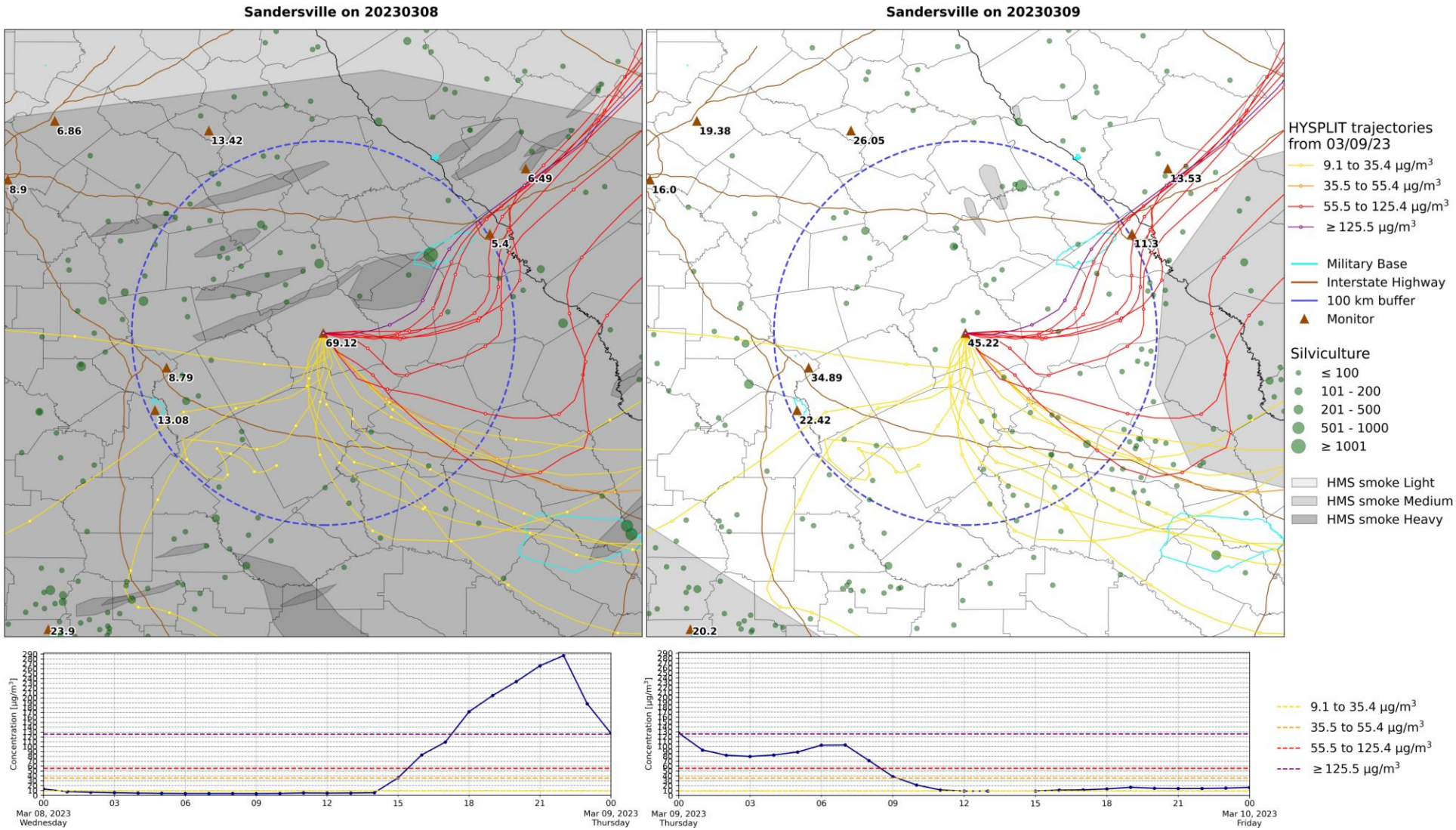

Figure 40B. The same as Figure 40A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

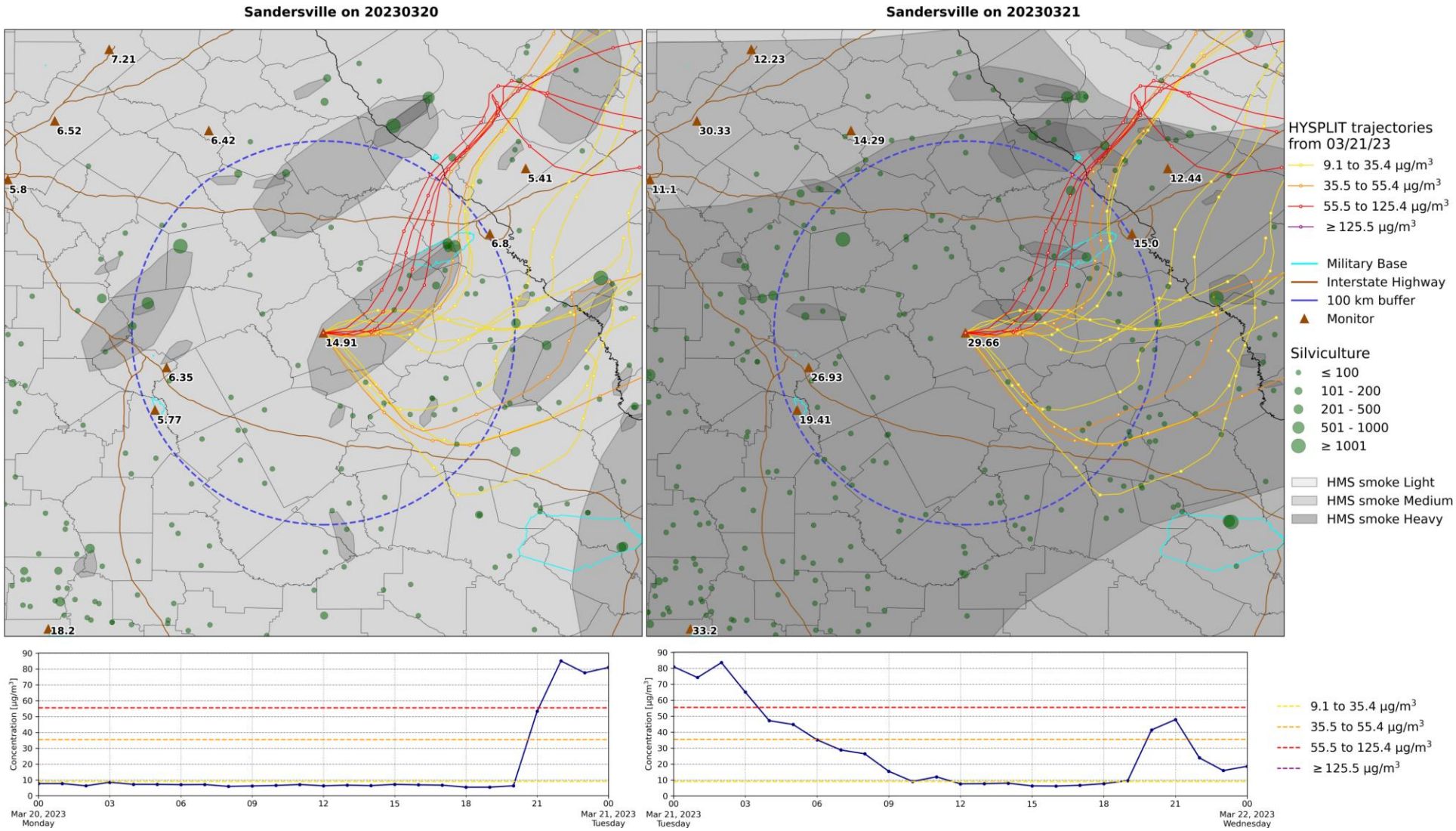

Figure 41A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on March 21, 2023. The top right map contains the same information for March 22, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on March 22, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

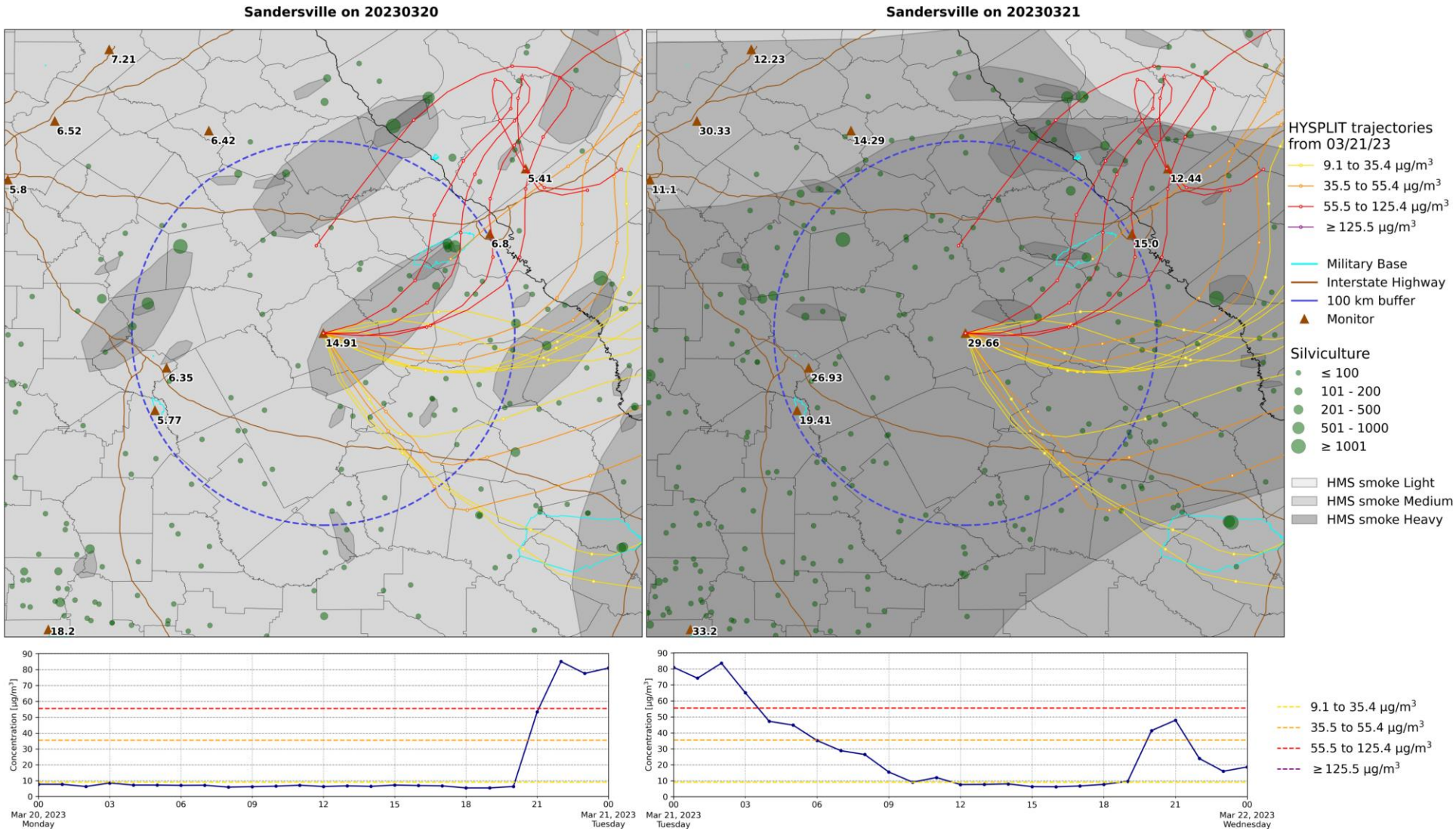

Figure 41B. The same as Figure 41A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

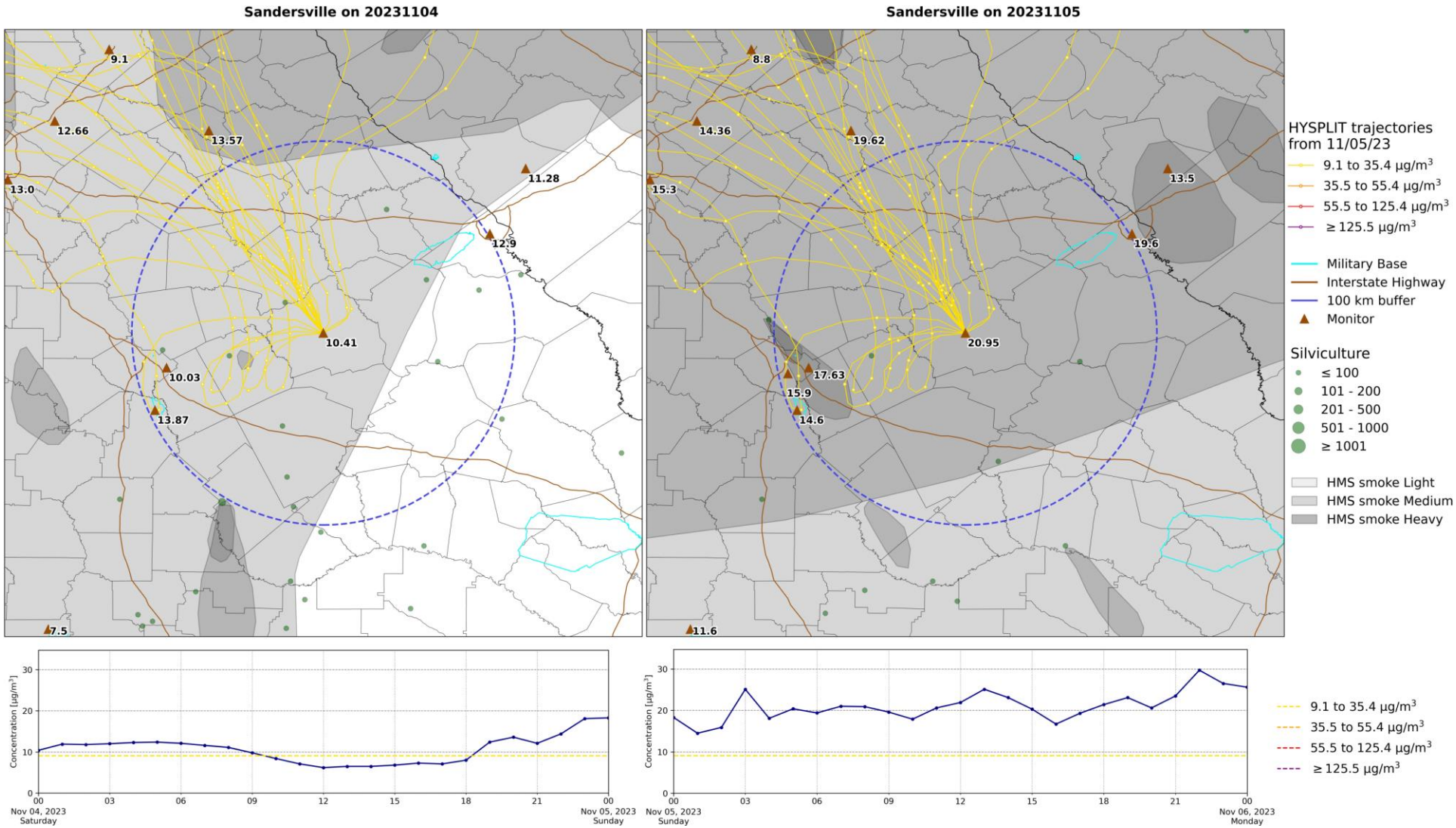

Figure 42A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 4, 2023. The top right map contains the same information for November 5, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 5, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

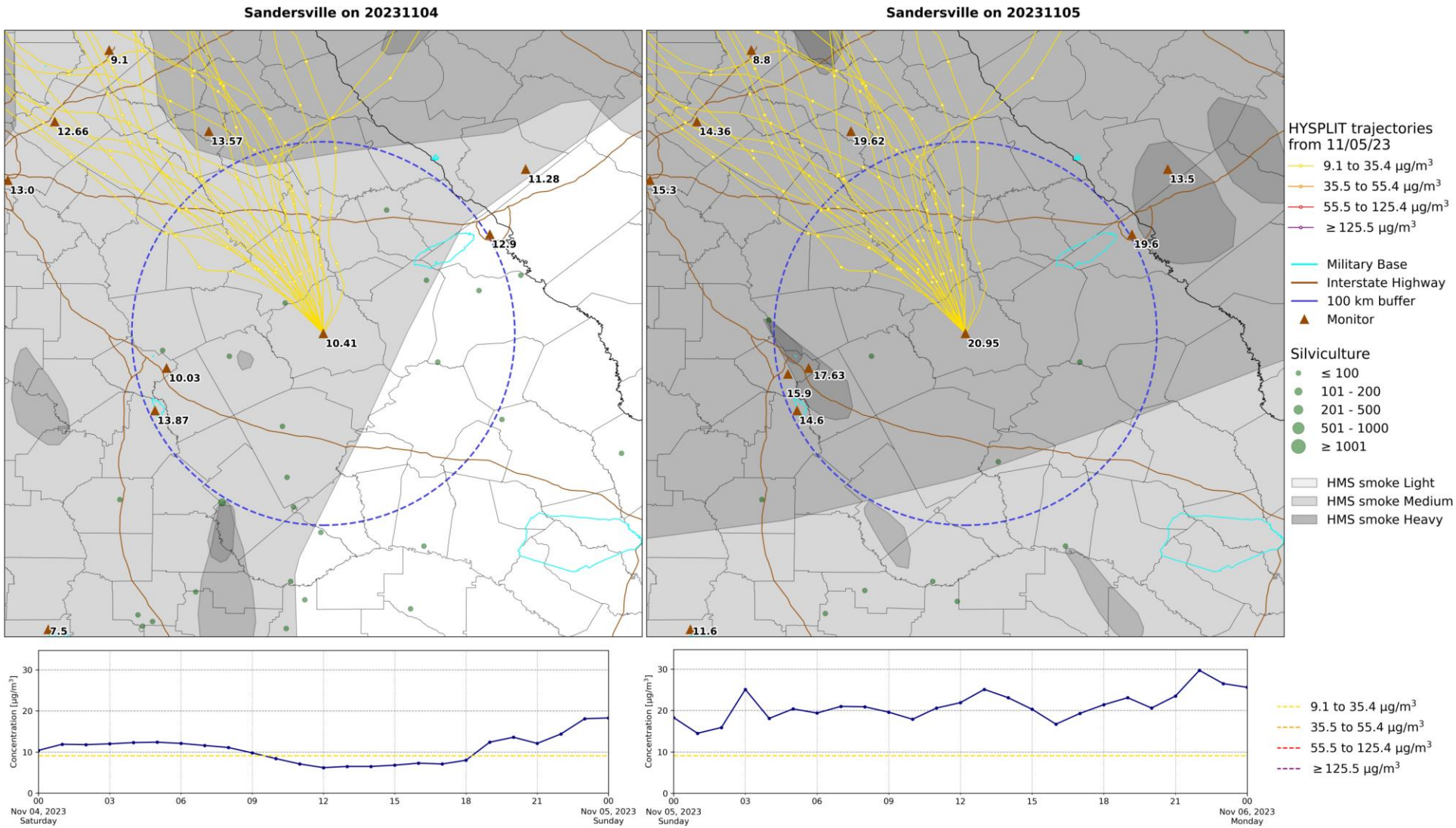

Figure 42B. The same as Figure 42A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

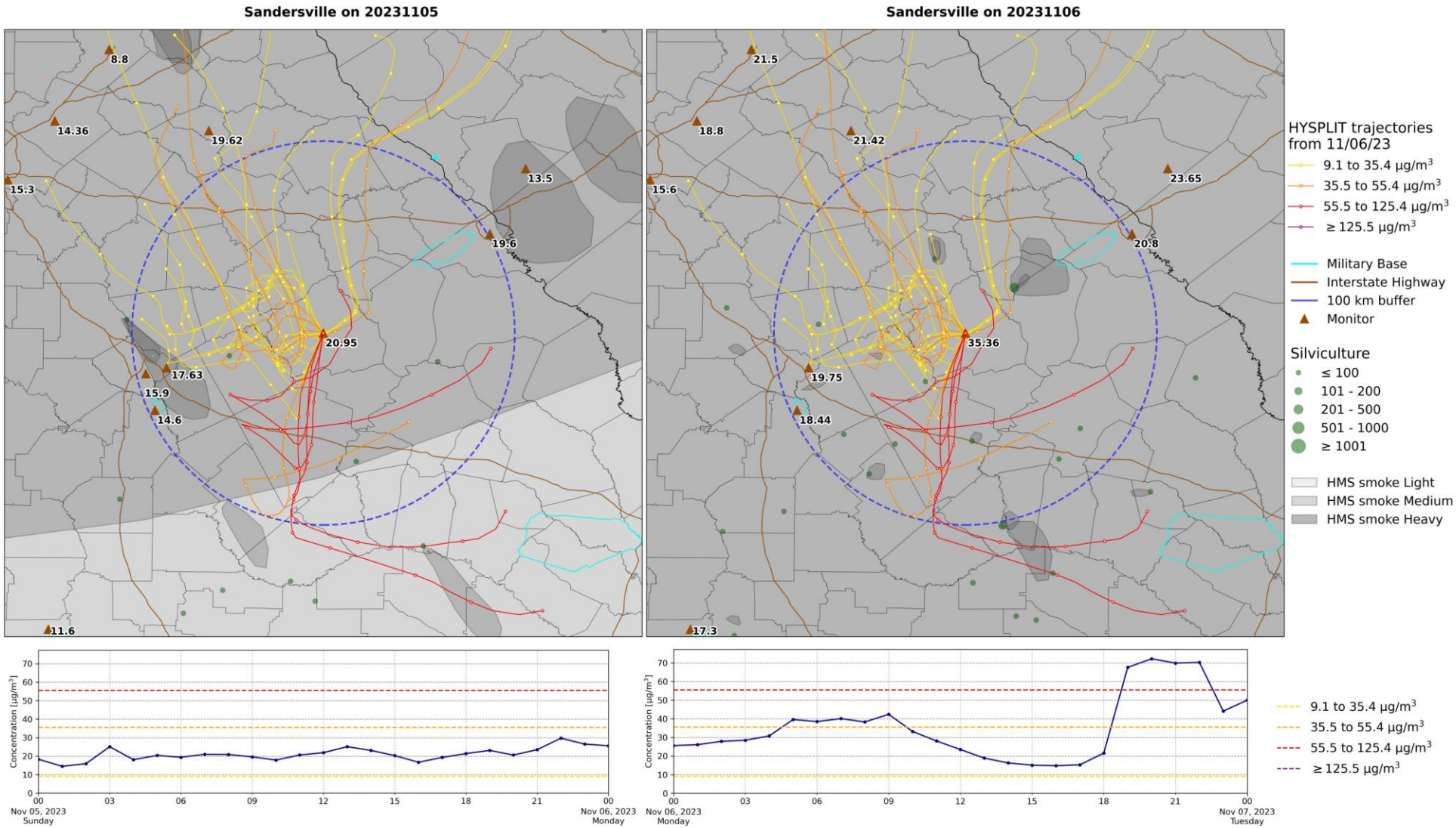

Figure 43A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 5, 2023. The top right map contains the same information for November 6, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 6, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

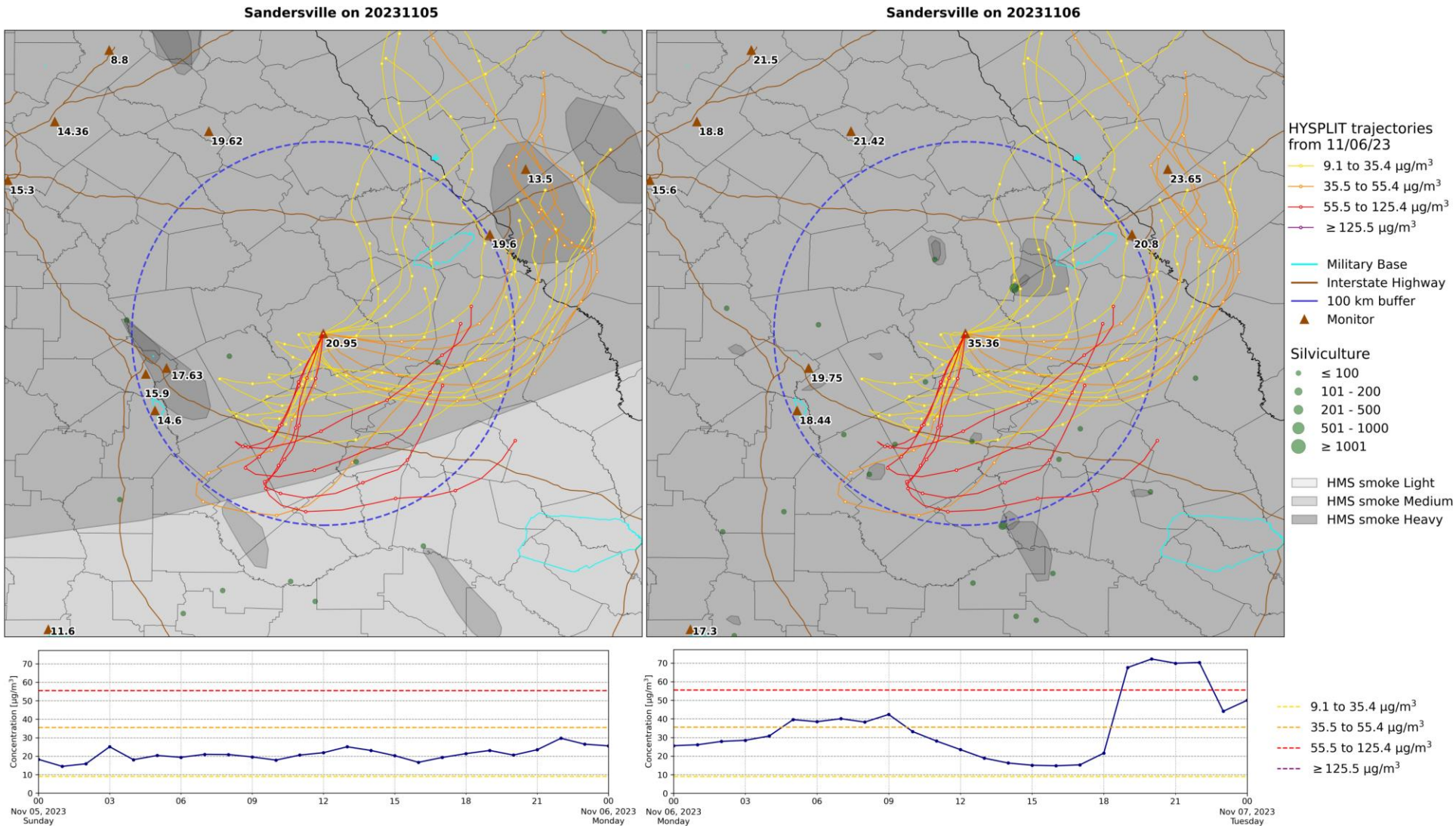

Figure 43B. The same as Figure 43A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

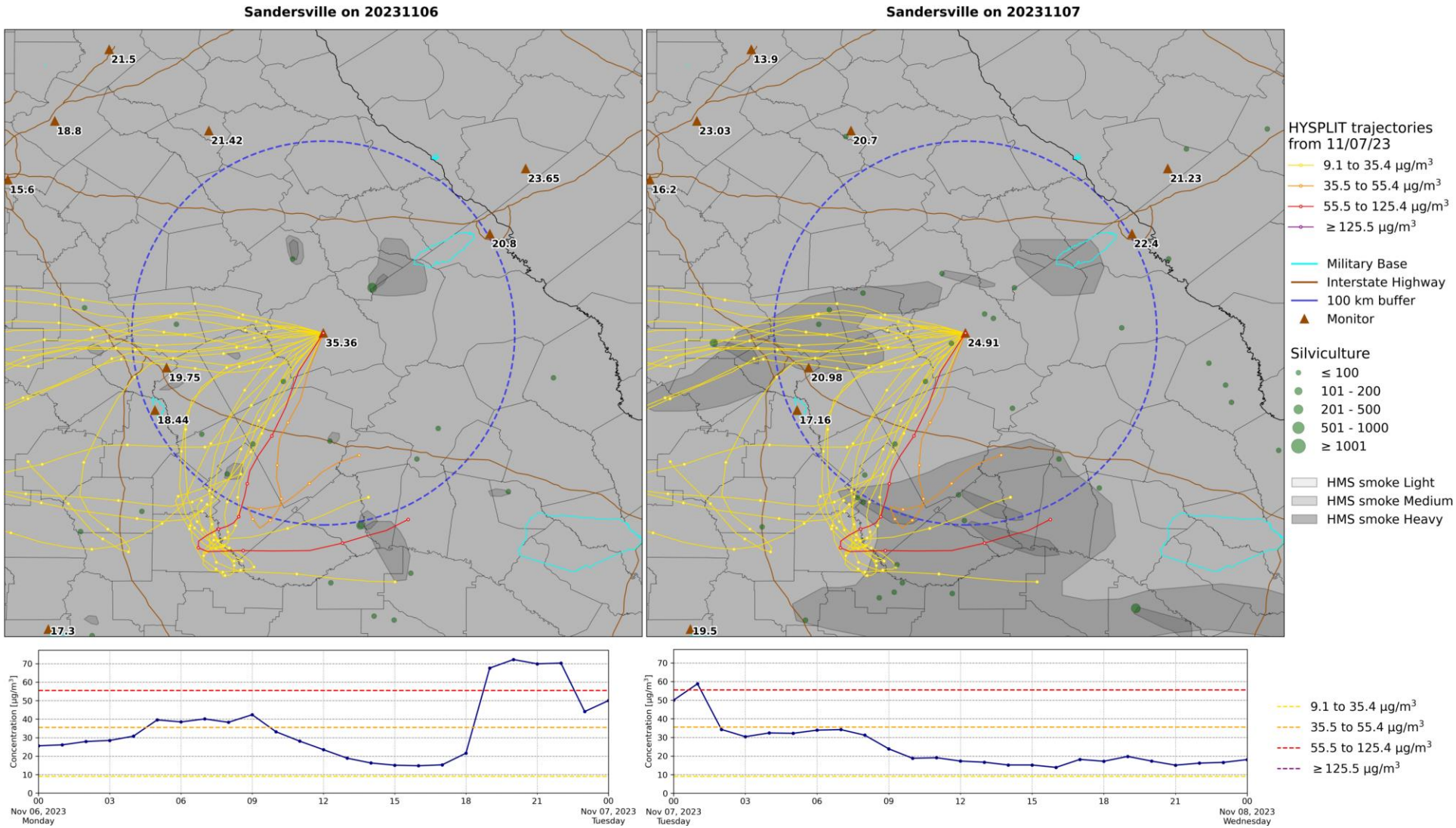

Figure 44A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 6, 2023. The top right map contains the same information for November 7, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 7, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

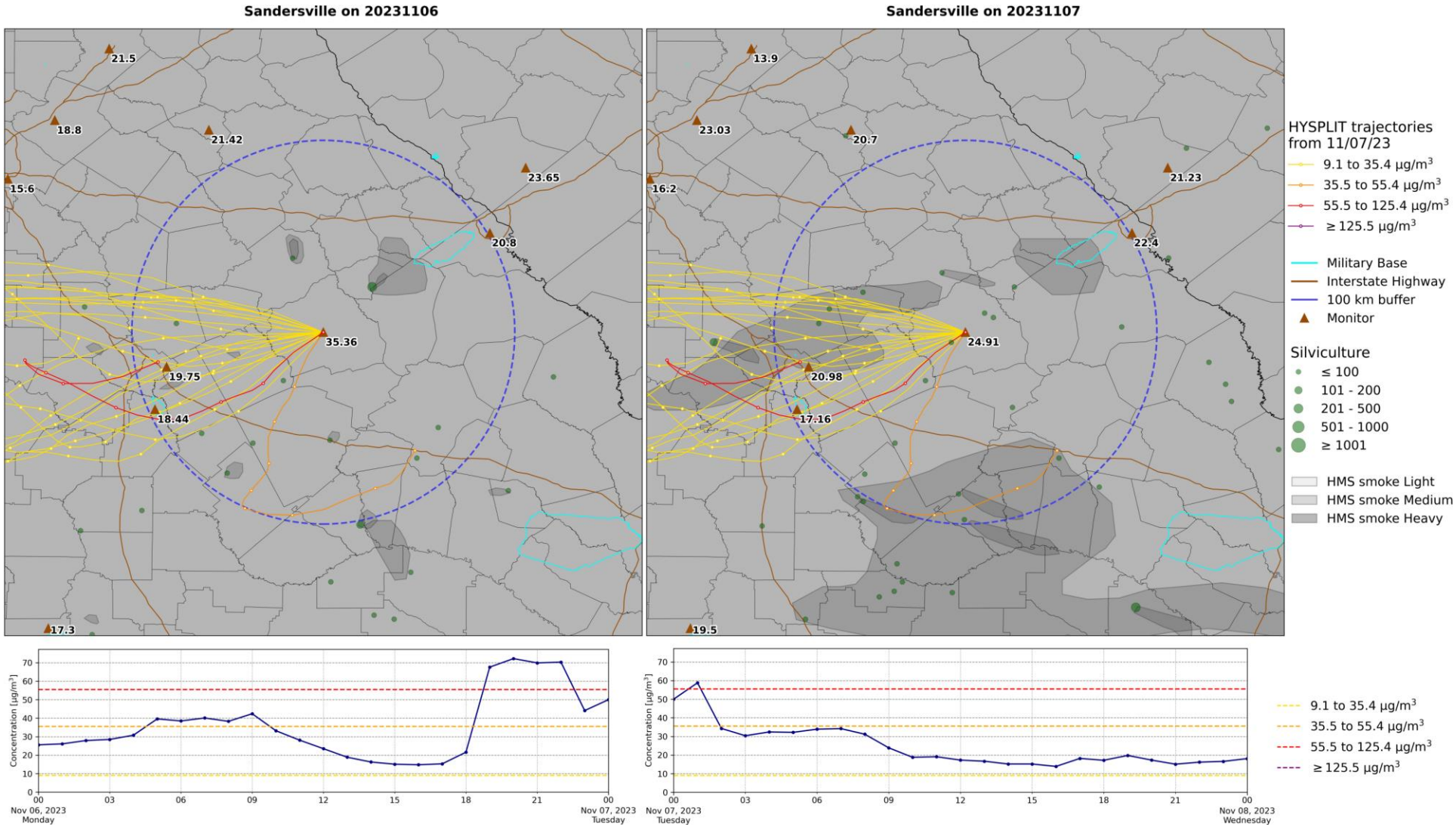

Figure 44B. The same as Figure 44A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

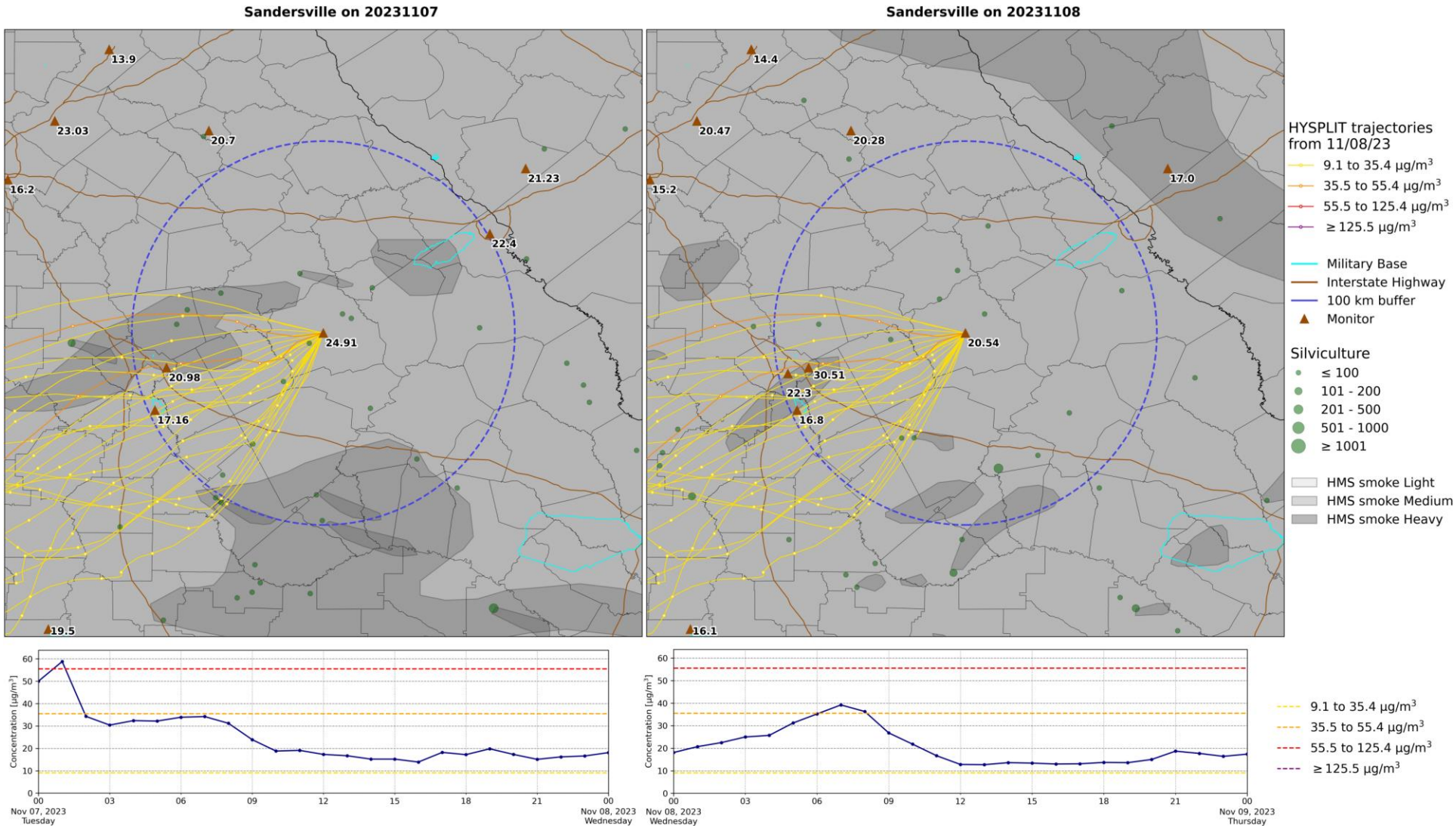

Figure 45A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 7, 2023. The top right map contains the same information for November 8, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 8, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

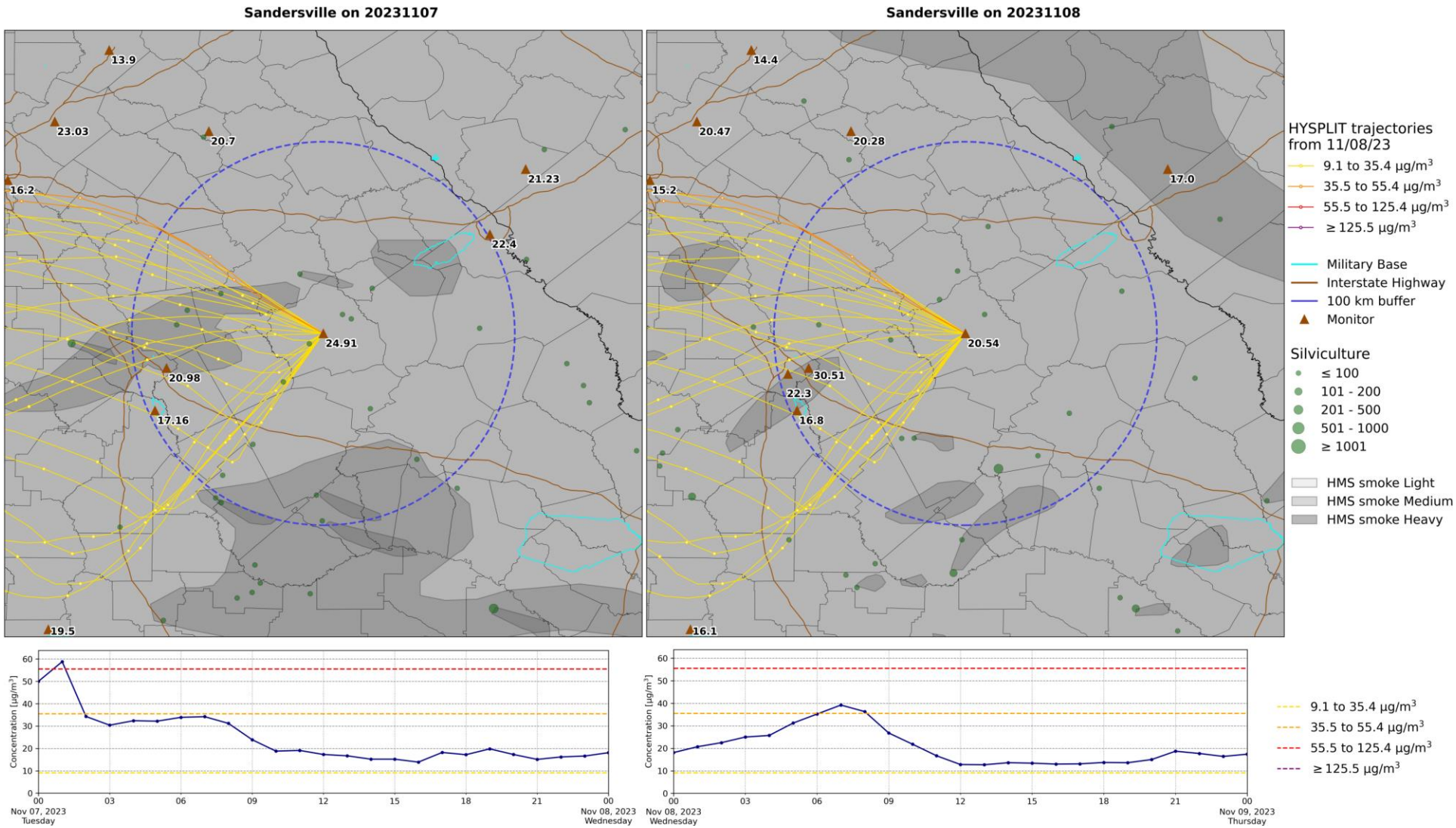

Figure 45B. The same as Figure 45A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

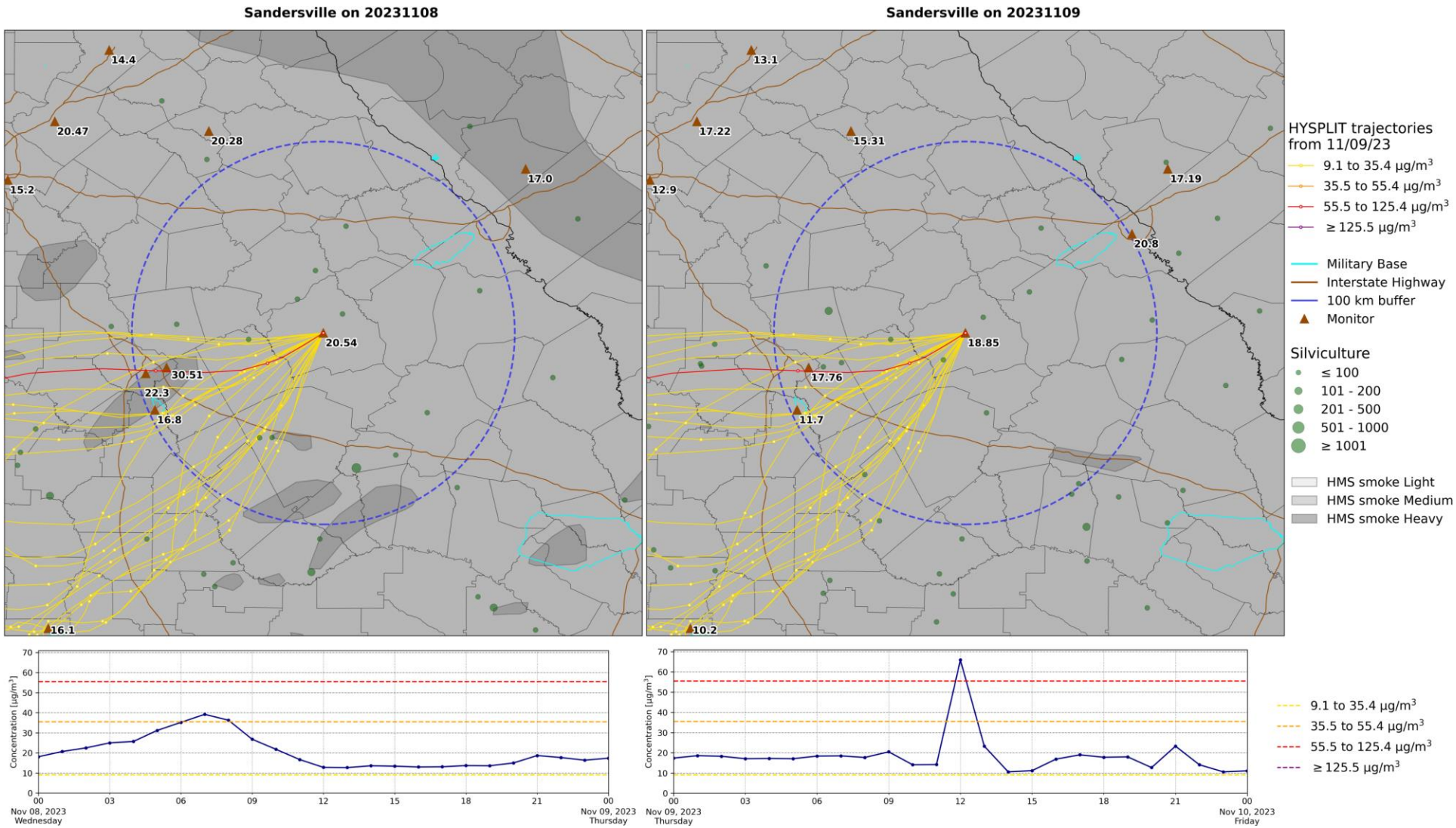

Figure 46A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 8, 2023. The top right map contains the same information for November 9, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 9, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

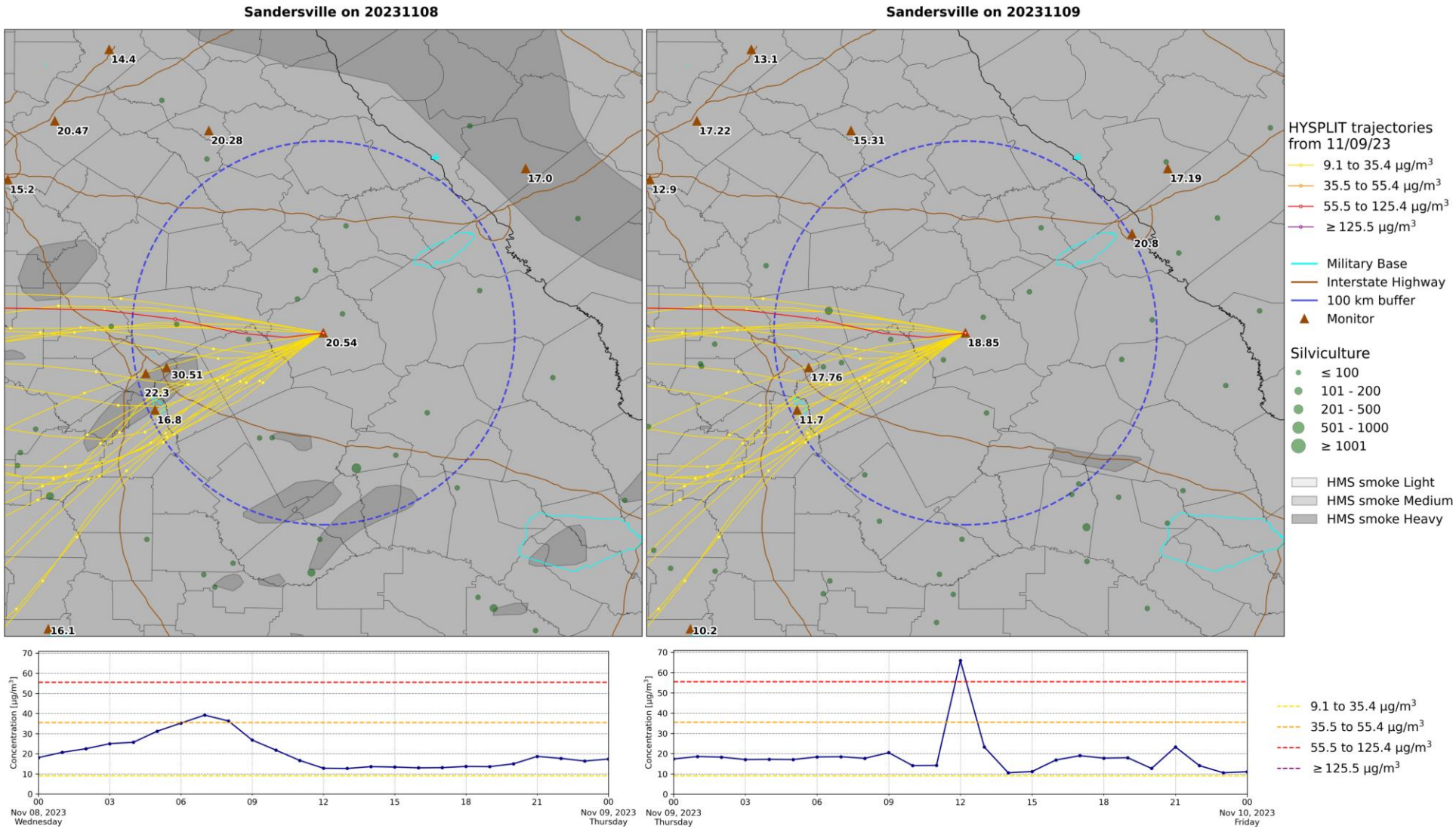

Figure 46B. The same as Figure 46A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.

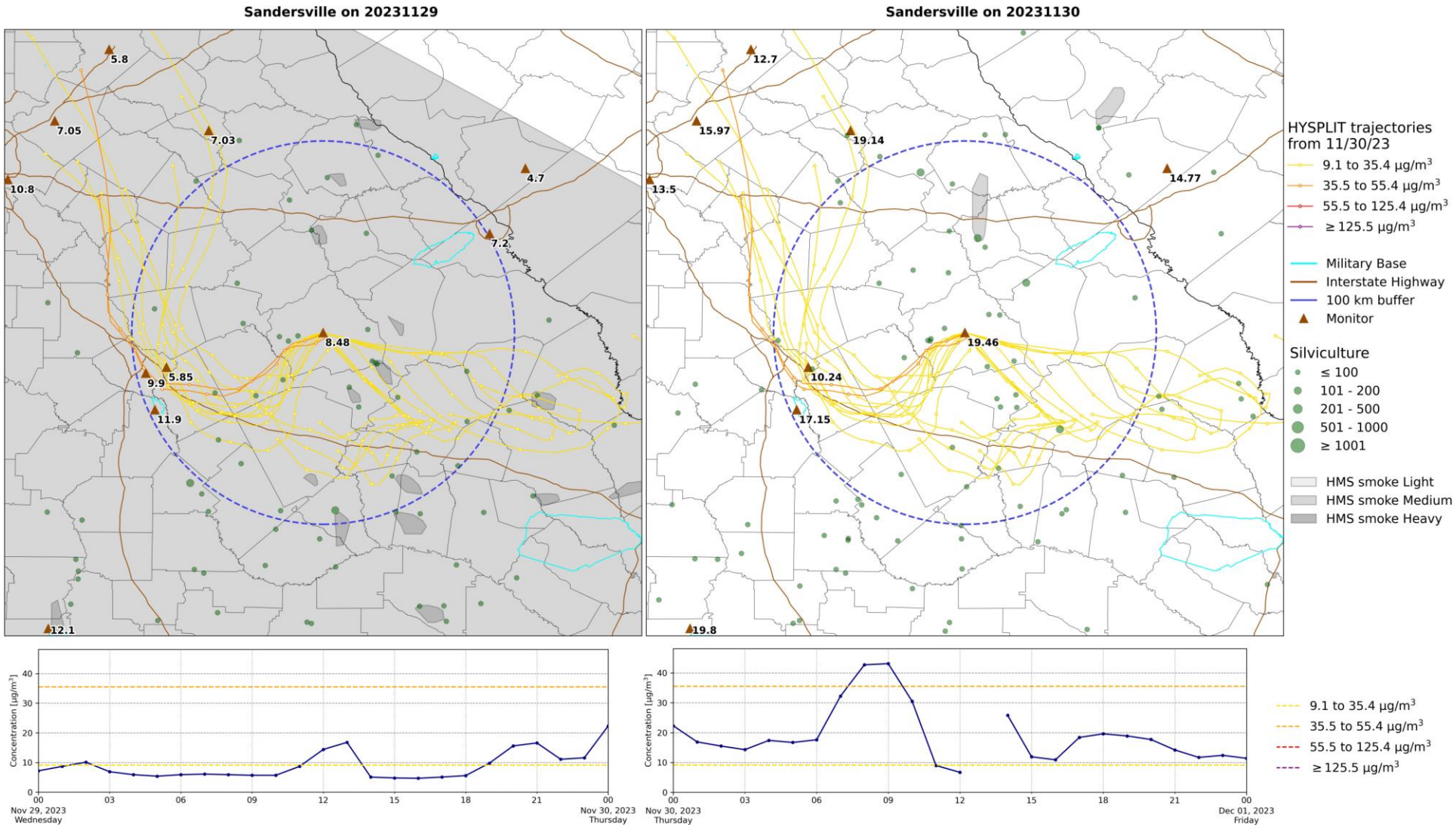

Figure 47A. The top left map contains burn permits issued, HMS smoke plumes, and 24-hour $PM_{2.5}$ concentrations at the Sandersville $PM_{2.5}$ monitor on November 29, 2023. The top right map contains the same information for November 30, 2023. Both maps contain HYSPLIT back trajectories (released at 100 m, 24-hour duration) from the Sandersville $PM_{2.5}$ monitor on November 30, 2023. HYSPLIT markers are spaced in 3-hour intervals. In the time series plots, the blue solid line shows hourly observations from the FEM monitor. The dashed lines correspond to the AQI breakpoints for $PM_{2.5}$ concentrations.

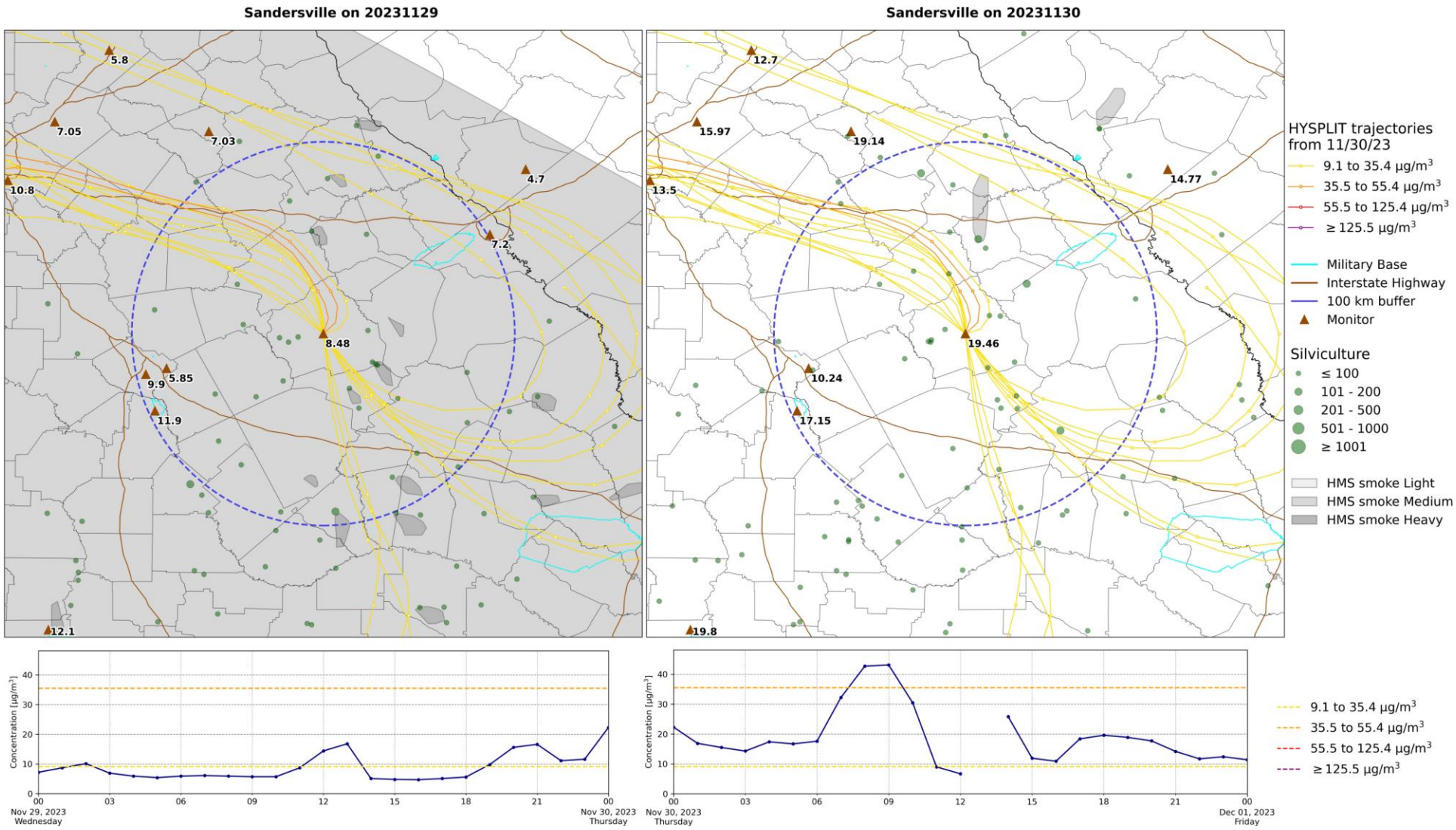

Figure 47B. The same as Figure 47A except HYSPLIT back trajectories are released at 500 m from the Sandersville $PM_{2.5}$ monitor.