



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Prescribed Fires and Air Quality in Georgia

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Georgia EPD - Air Protection Branch

**Southern Integrated Prescribed Fire
Information System (SIPFIS) Workshop**
Atlanta, GA
August 8, 2017



EXCEEDANCE REPORTS

- **GA EPD writes detailed reports for every exceedance of the NAAQS (O_3 , $PM_{2.5}$, SO_2 , Pb).**
 - **INITIAL REPORT**
 - Must be completed within 2 business days after the exceedance.
 - **FINAL REPORT**
 - Submitted after all relevant information has been collected. This could be days, weeks, or months.
- **Reports include discussions on meteorology, emissions, and air quality.**
 - Wind rose, pollution rose, time series plots, location of emission sources, precursor analysis, HYSPLIT back trajectories, satellite images, etc...

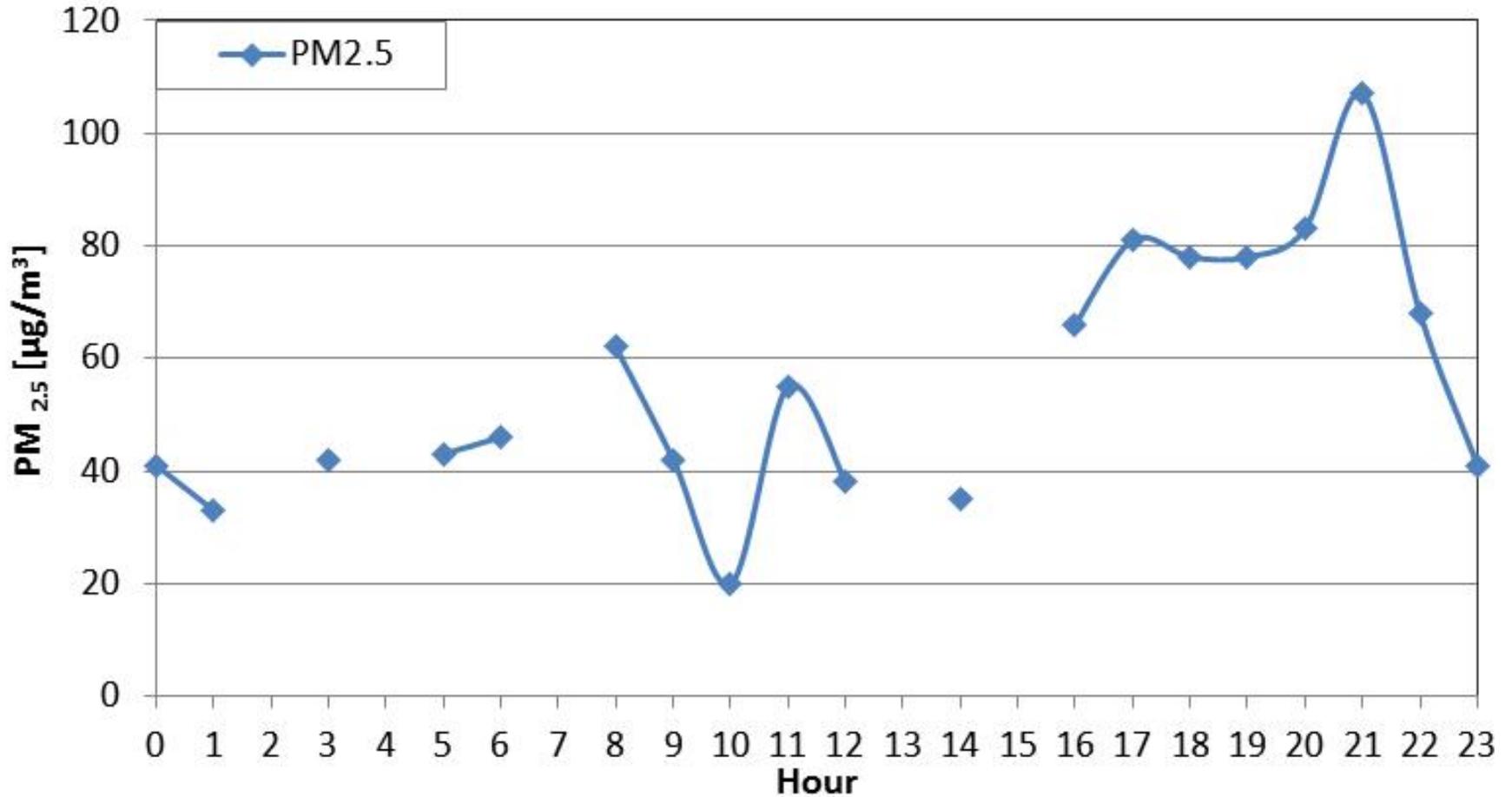


PM_{2.5} EXCEEDANCES

- **Most exceedances of the PM_{2.5} NAAQS in Georgia are related to prescribed fires or wildfires.**
 - “Exceedance” of the NAAQS
 - 24-hour PM_{2.5} measurement > 35 µg/m³
 - “Violation” of the NAAQS
 - Annual arithmetic mean, averaged over 3 years > 12.0 µg/m³
 - 98th percentile of 24-hour daily average, averaged over 3 years > 35 µg/m³

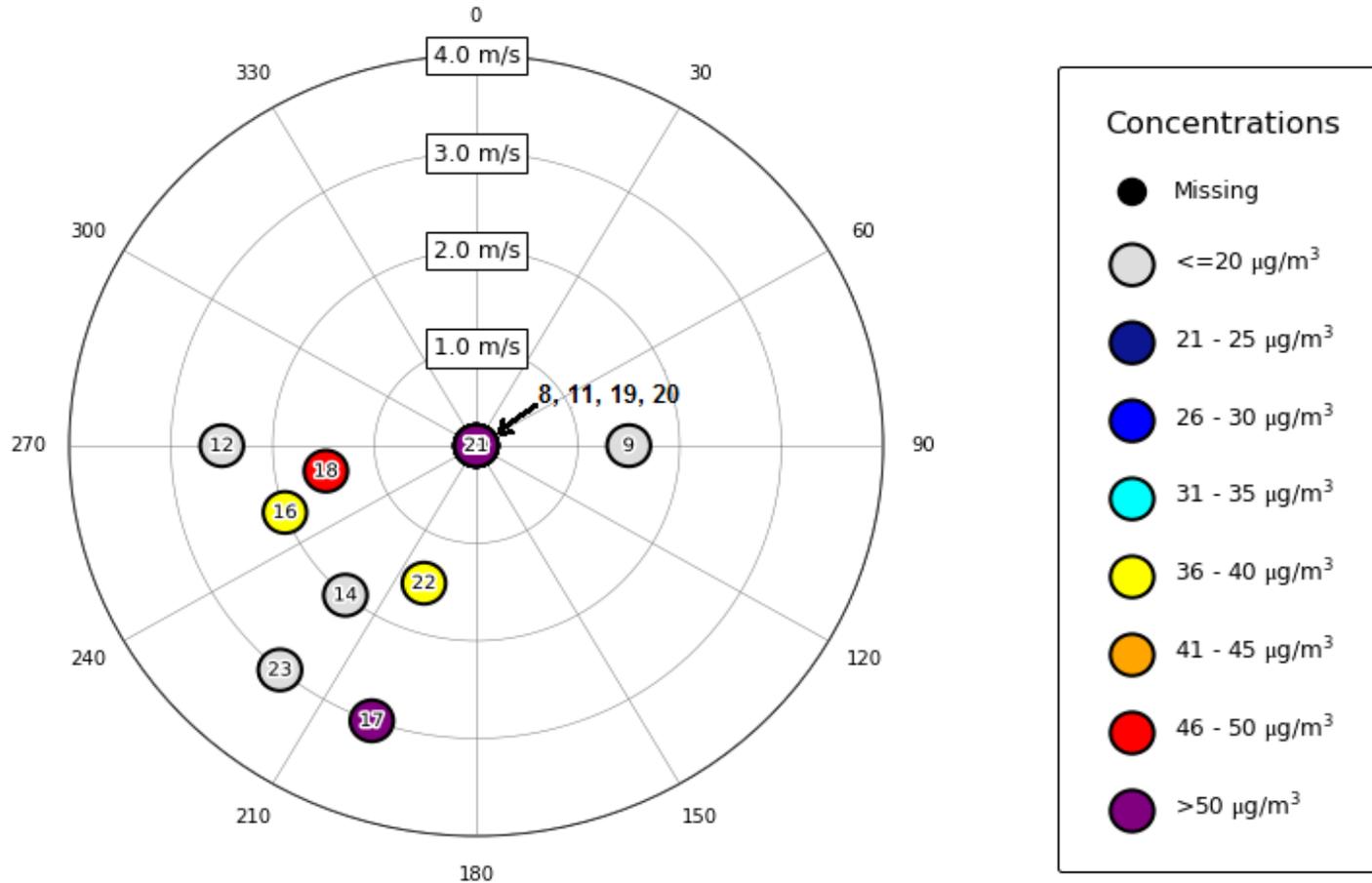


ALBANY ON MARCH 17, 2017



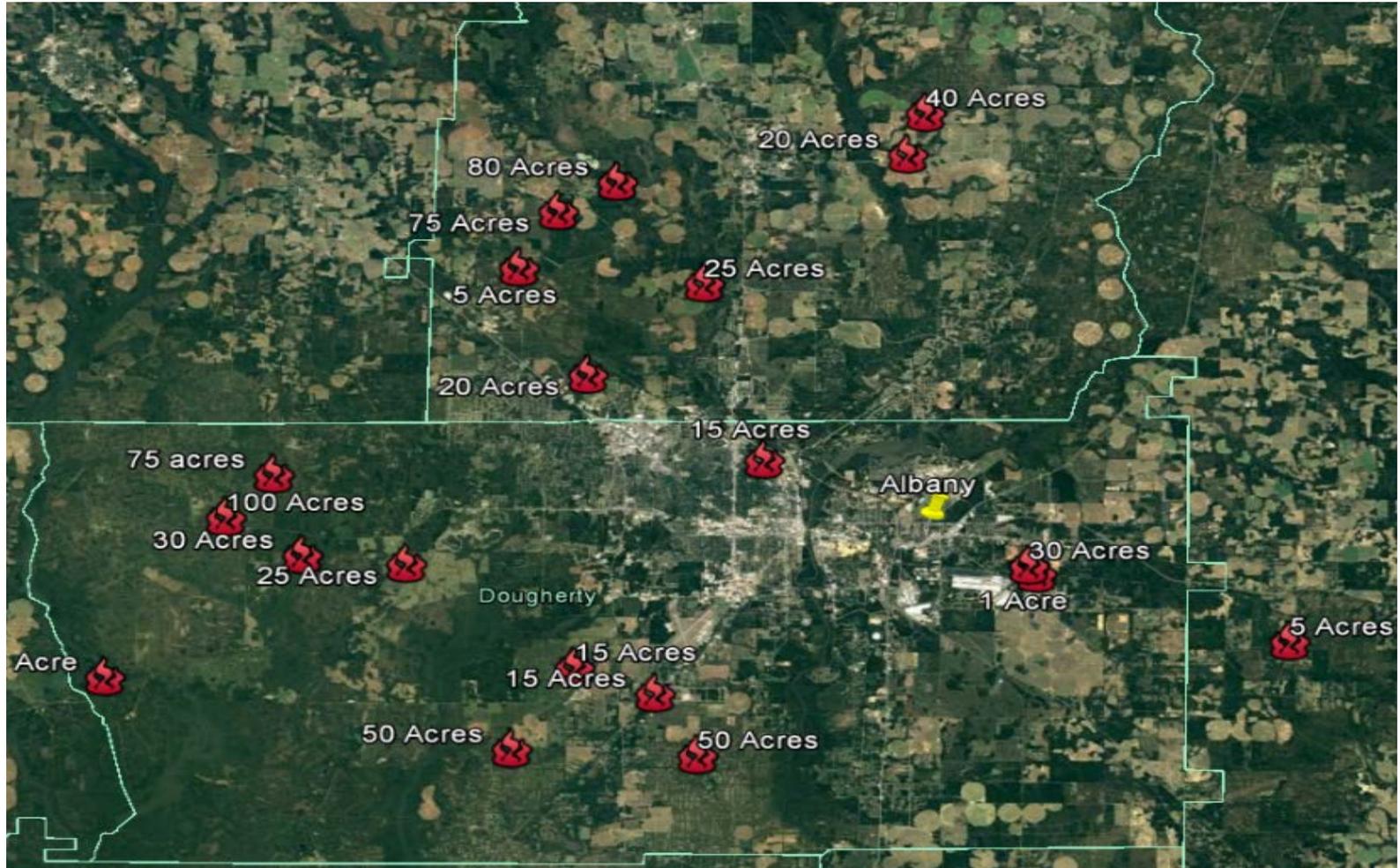


WIND SPEED AND WIND DIRECTION





GFC PERMIT RECORDS





MODUS SATELLITE

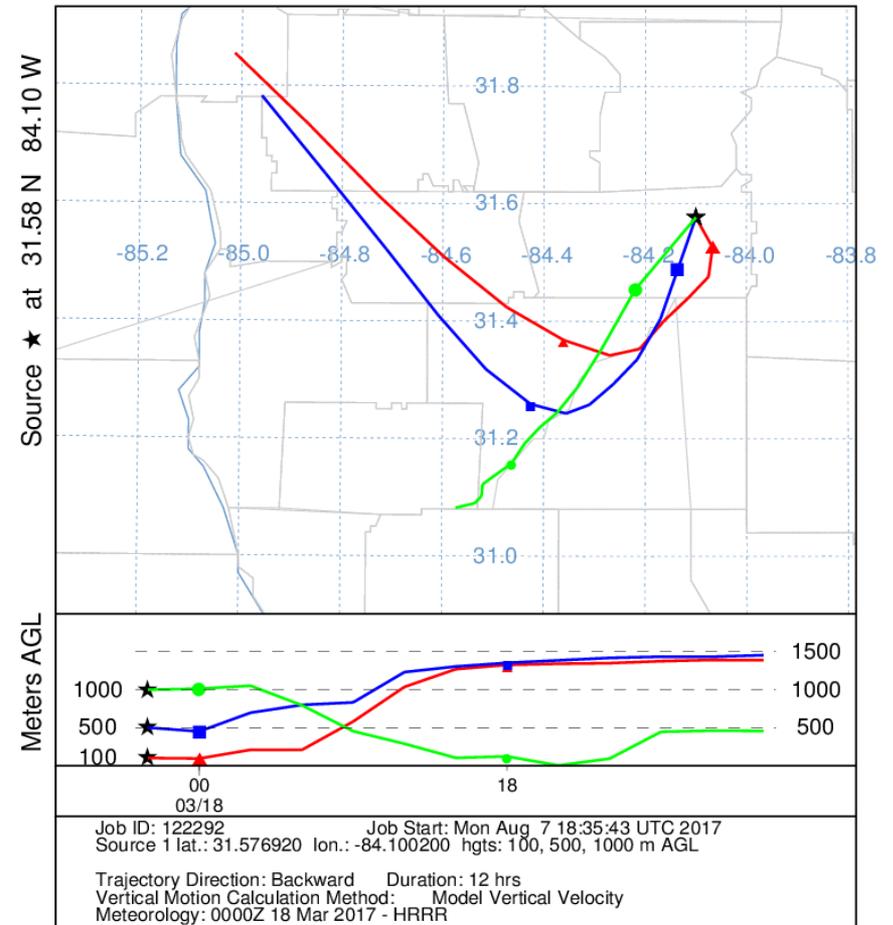
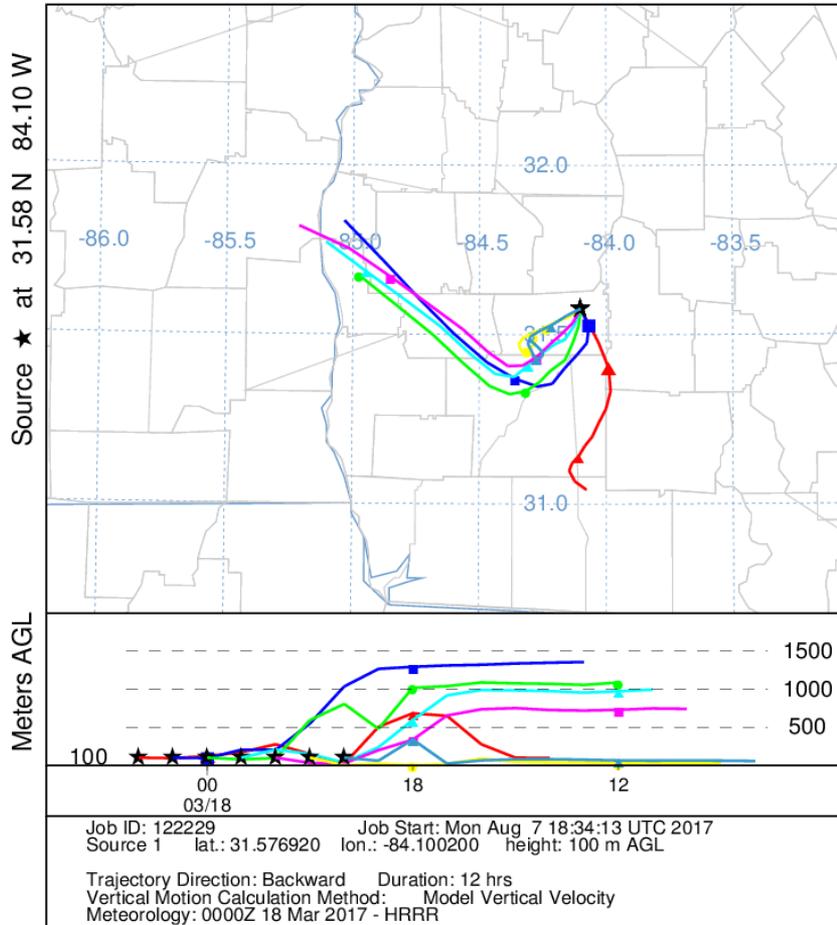




HYSPLIT MODELING

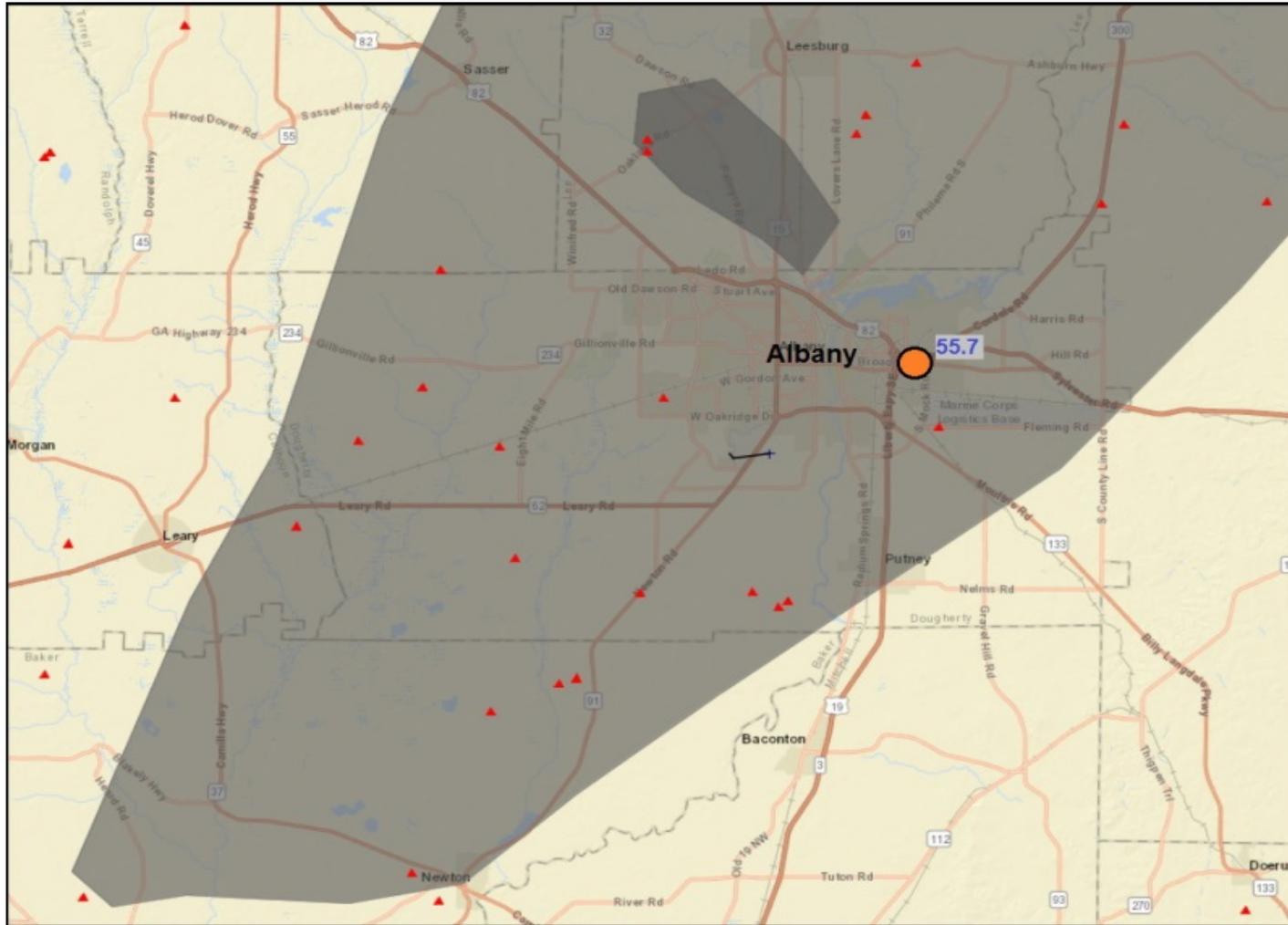
NOAA HYSPLIT MODEL
 Backward trajectories ending at 0200 UTC 18 Mar 17
 HRRR Meteorological Data

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0100 UTC 18 Mar 17
 HRRR Meteorological Data



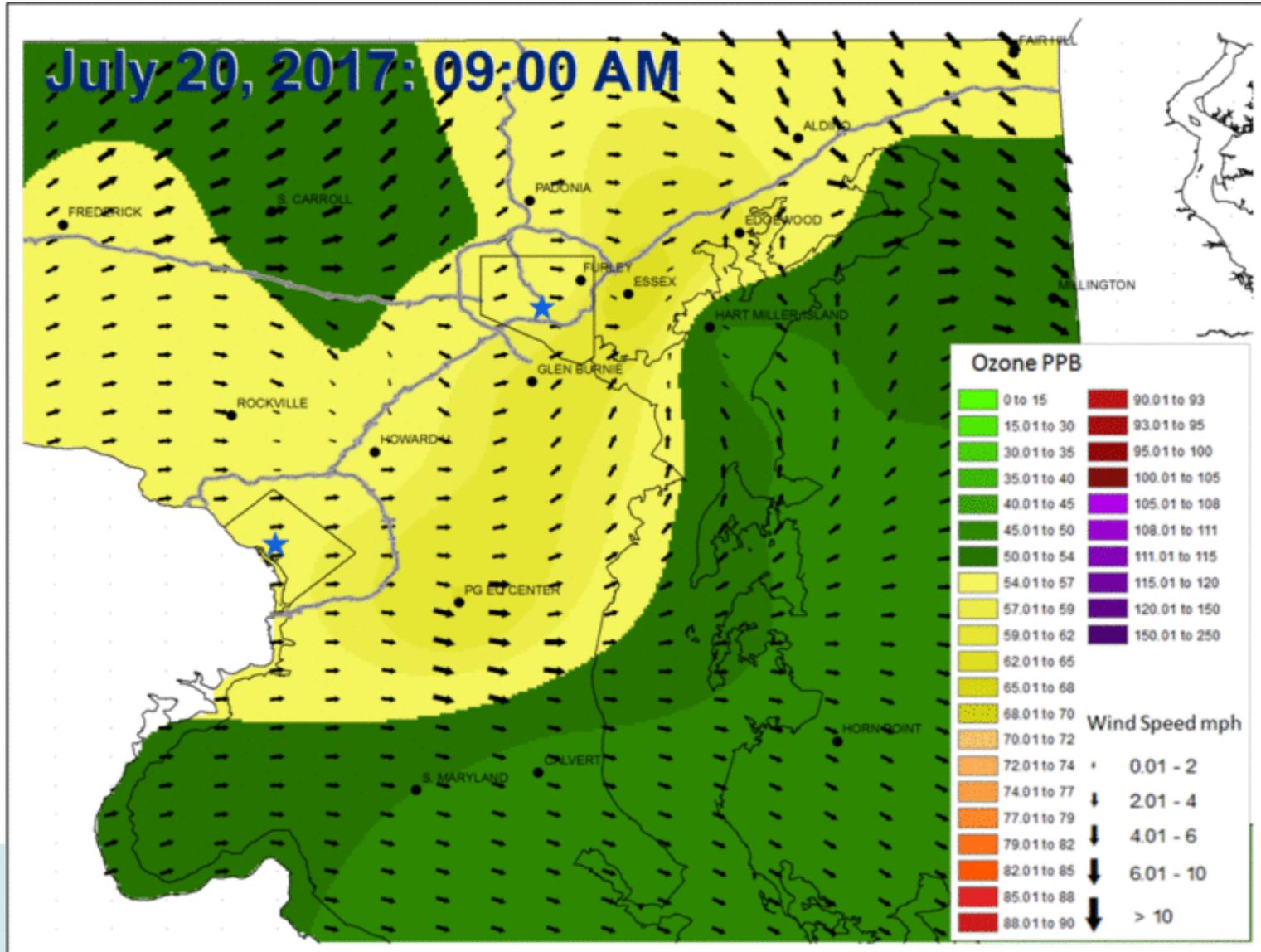


HAZARD MAPPING SYSTEM





5-MINUTE OZONE LOOP: JULY 20TH





EMISSION INVENTORIES

- **Fire emissions developed for EPA's National Emission Inventory (NEI)**
 - **GFC Permit Records**
 - Permitted burn area, date, location
 - Latitude and longitude > 100 acres
 - Fuel type and fuel conditions, start/end time, post-burn information such as actual burned area.
 - **Military Bases**
 - **Federal Land Managers**
- **GA EPD has detailed fire inventories for 2002, 2005, 2007, 2008, 2011, and 2014.**
- **GA EPD will develop fire inventories for every year going forward starting with 2015.**



AIR QUALITY PLANNING AND POLICY

- **Development of State Implementation Plans and designation recommendations.**
 - 2008 and 2015 Ozone NAAQS
 - 2012 PM_{2.5} NAAQS
 - Regional Haze Rule
- **Emissions control strategy development.**
- **Georgia's Rules for Air Quality Control.**
 - Should open burning rules be expanded?
 - Should open burning rules be relaxed?



CONTACT INFORMATION

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