

Department of Environmental Quality

A Rainwater Collection Network (RCN) for Determining PFAS/GenX in Rainwater Samples

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North Carolina Division of Air Quality
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National Environmental Monitoring Conference (NEMC)

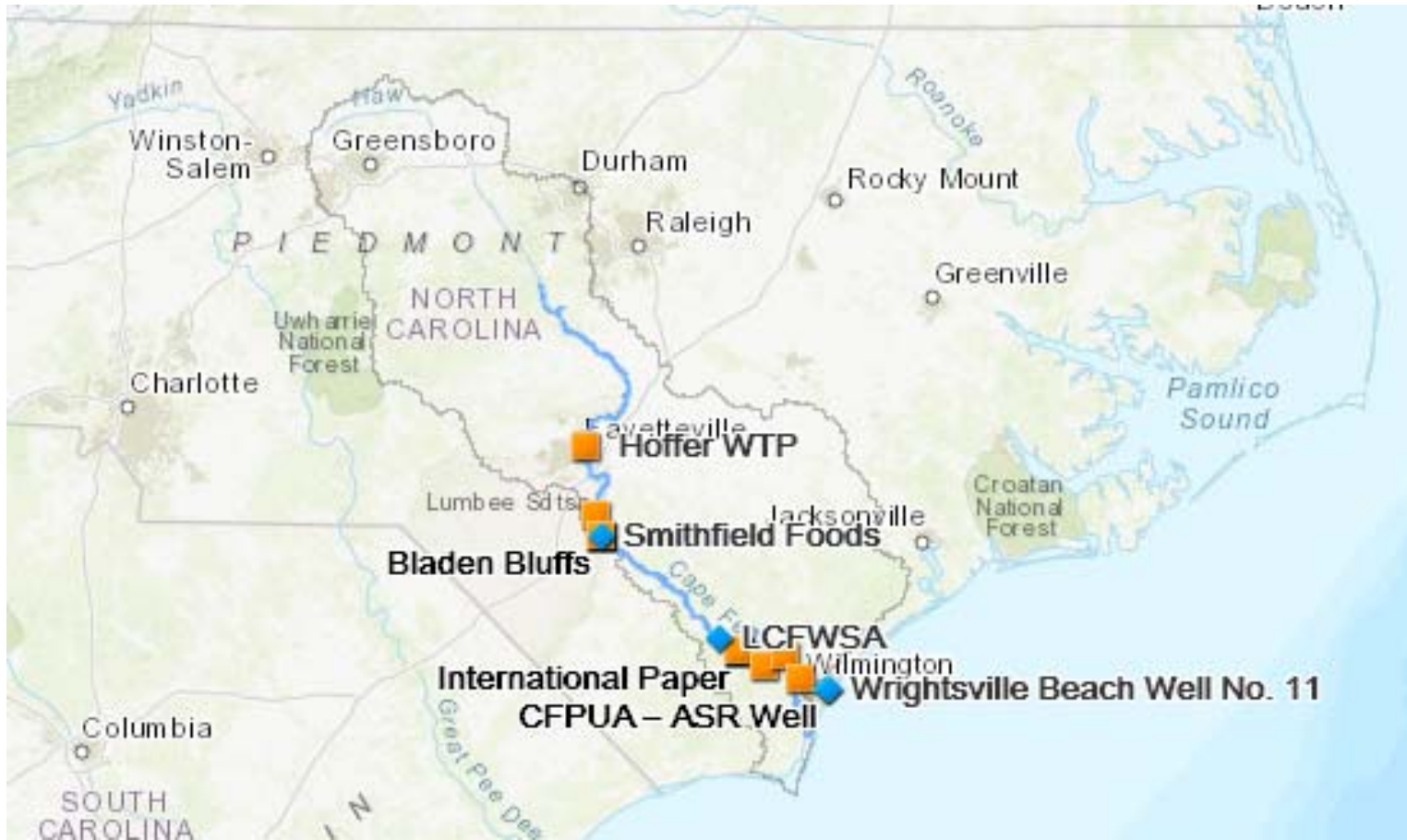


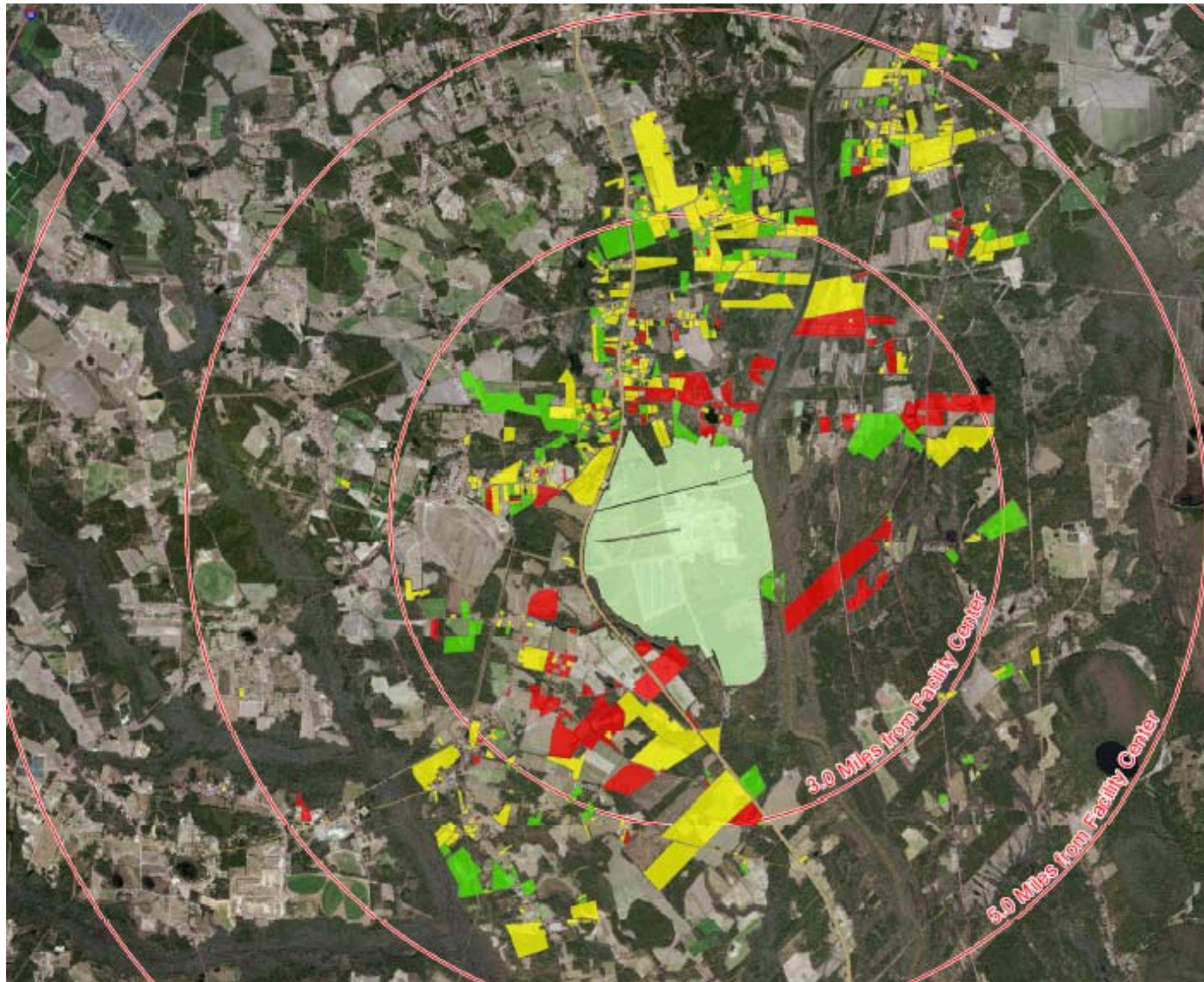
Emerging Compounds – GenX Timeline to RCN

- **Early-mid 2017:** **Focus on surface water issues**
- **Mid 2017:** **Groundwater issues discovered**
- **Mid-late 2017:** **Air emission contributions**
- **2018 – 2020+:** **Stack testing**
 Rain Water collection and analysis









**Private Well Sampling Results
near Chemours:**

GenX: NC health goal = 140 ppt

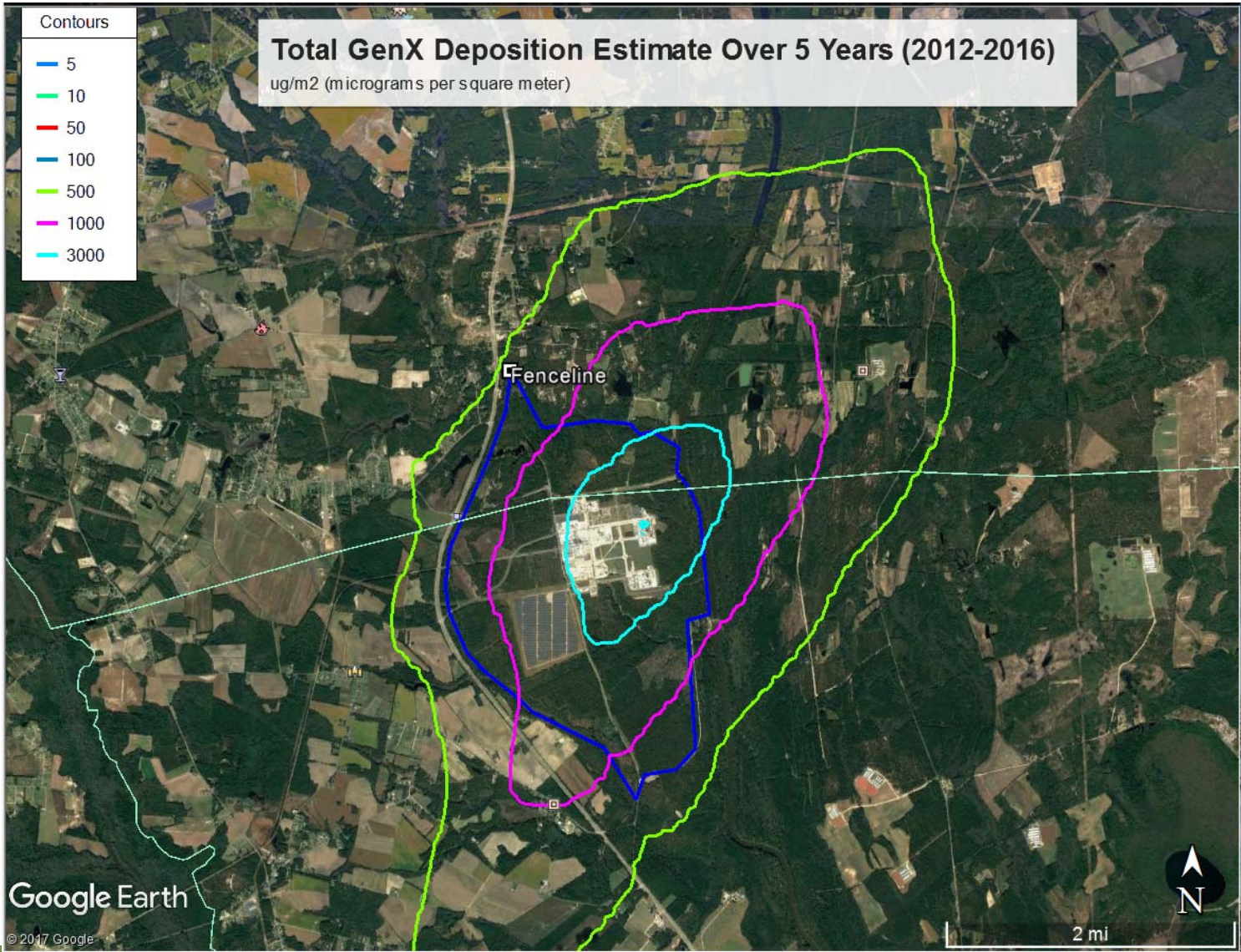
Red = > 140 ppt

Yellow = 10 –140 ppt

Green = non-detected

No color = not tested





- **GenX emissions data**
 - **Started with only estimates**
 - **Required stack tests**
 - **Method development**
 - **First of its kind measurements**

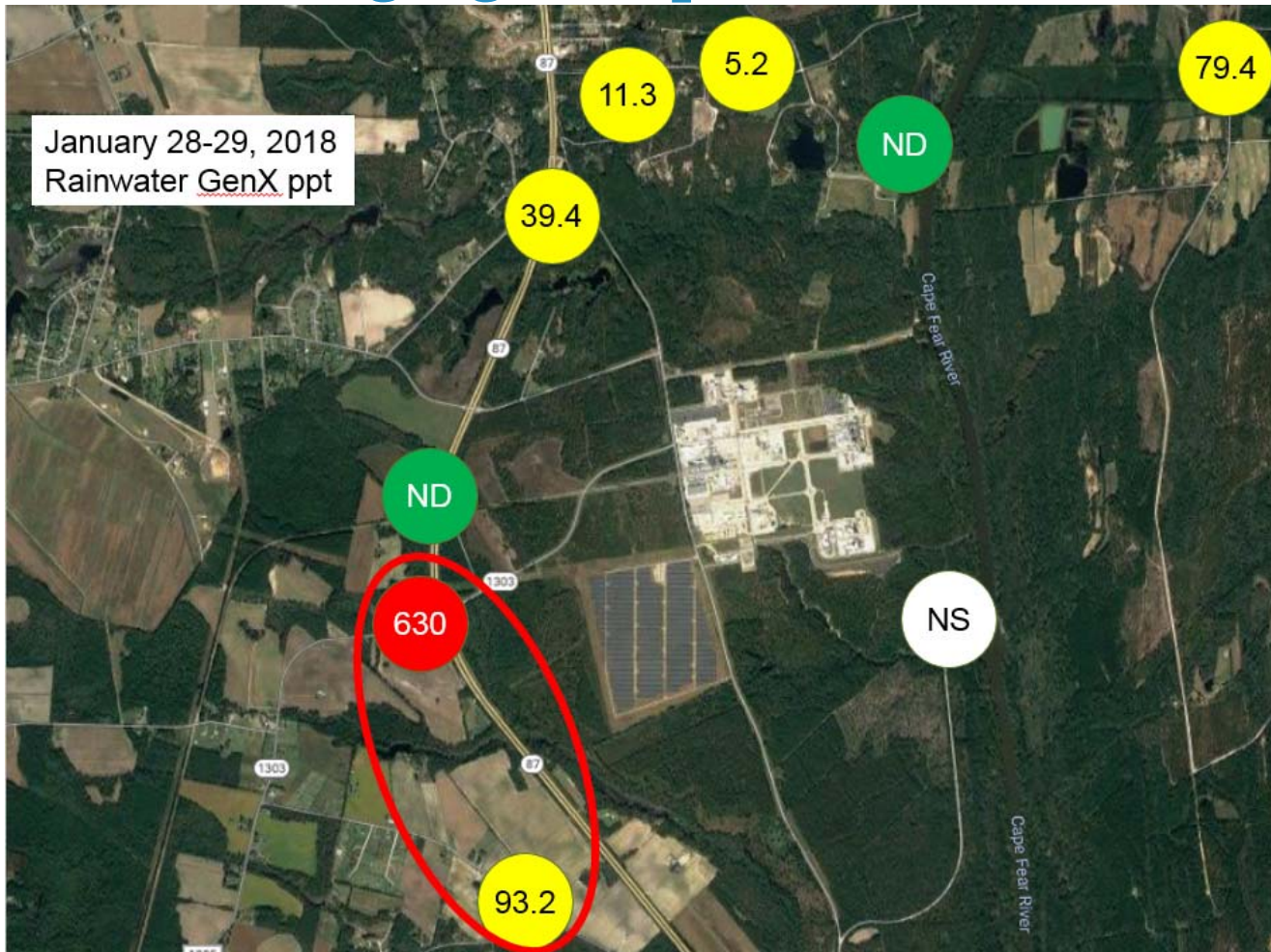
“Stack Testing” (GenX) has been conducted on various facility sources beginning in January 2018 and continuing into 2020/2021.



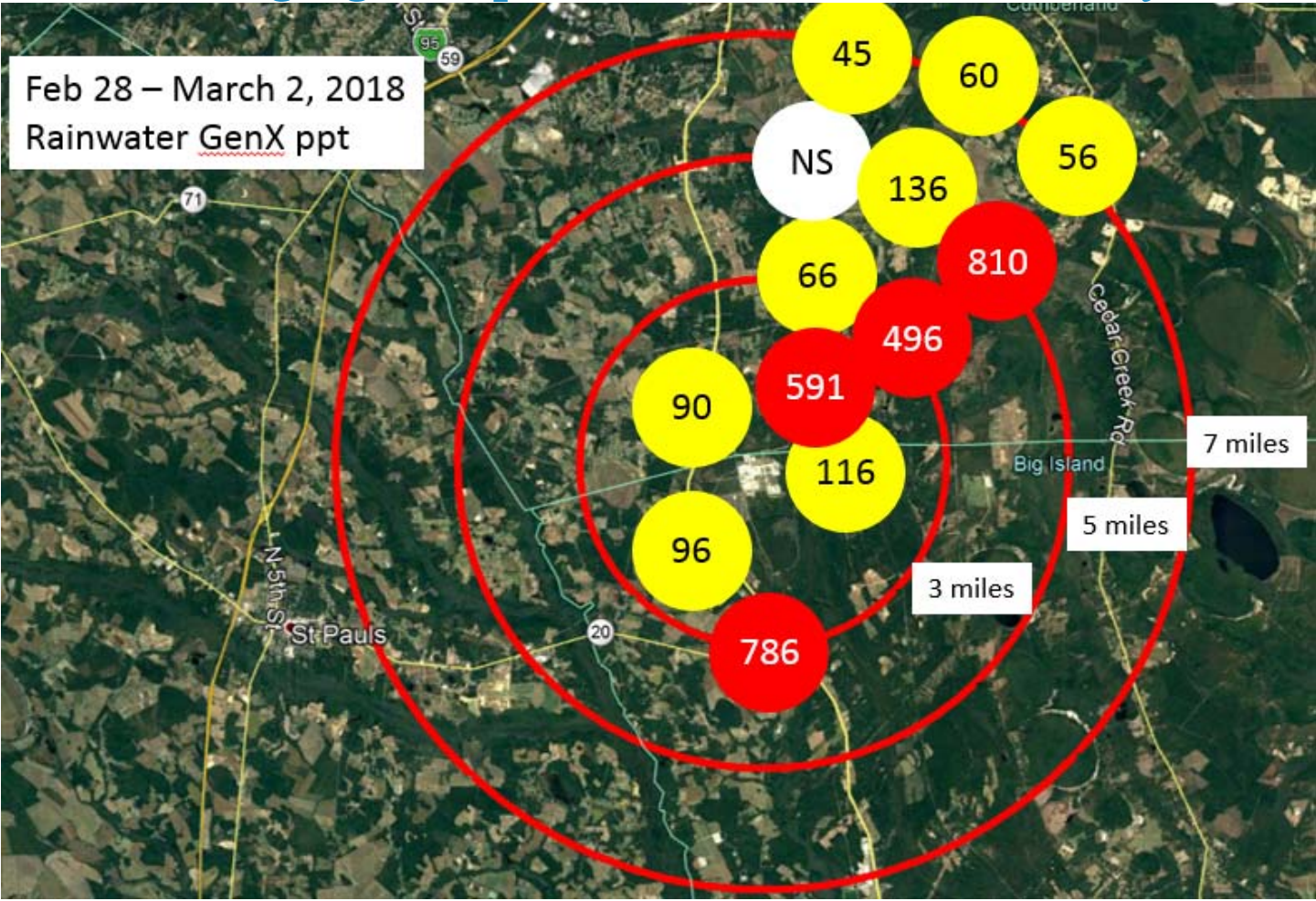
Chemours 2016 emissions estimates as originally reported to DAQ	Chemours revised 2016 emissions estimates as of October 2017	Latest calculations of annual emissions, including stack test measurements
3 lb/yr	594 lb/yr	2302.7 lb/yr



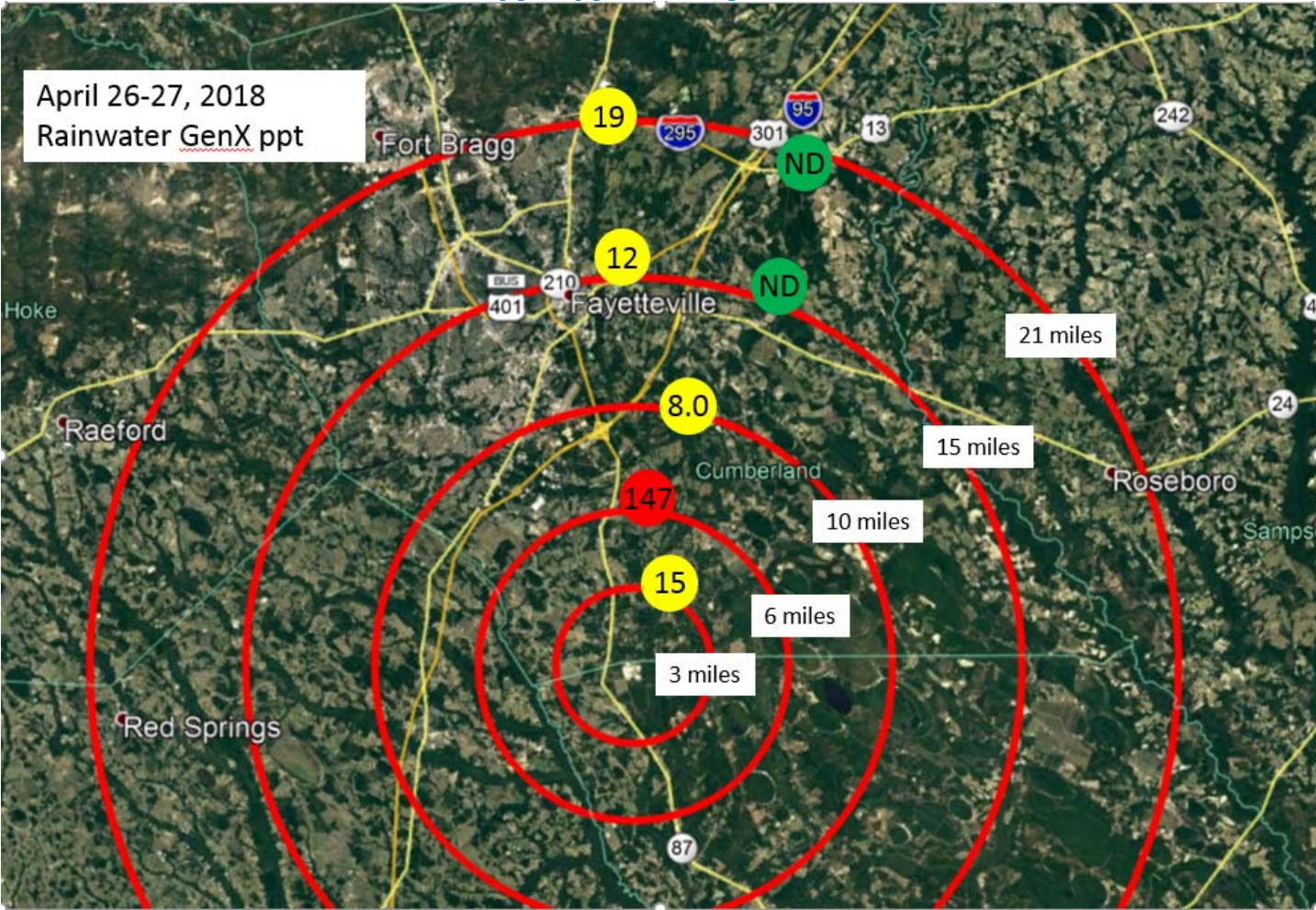
Emerging Compounds – GenX Case History



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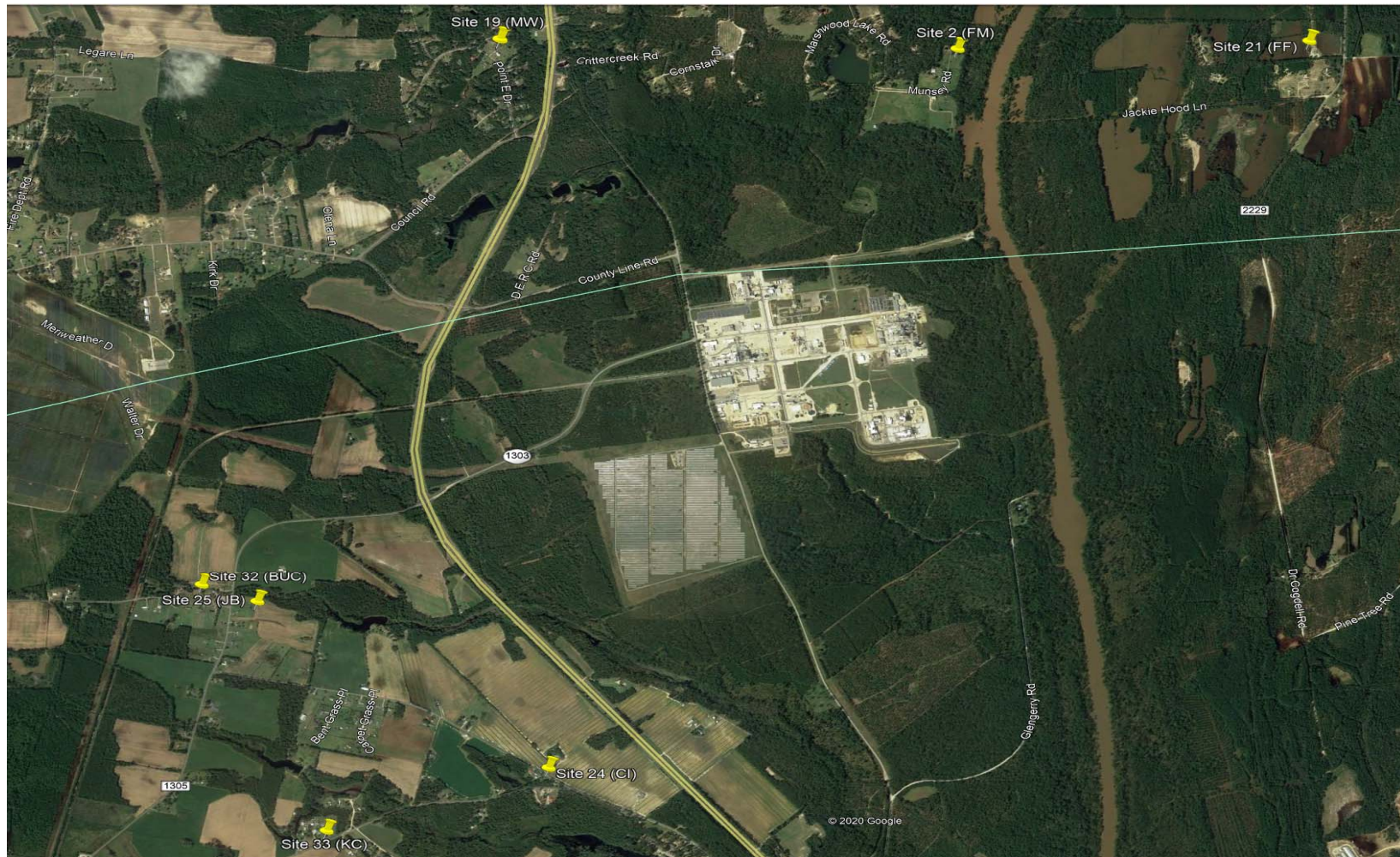


These initial “rain event” sampling periods established a link between the emissions of GenX, the deposition through wet deposition, and contributions to GenX in the groundwater nearfield to the facility.

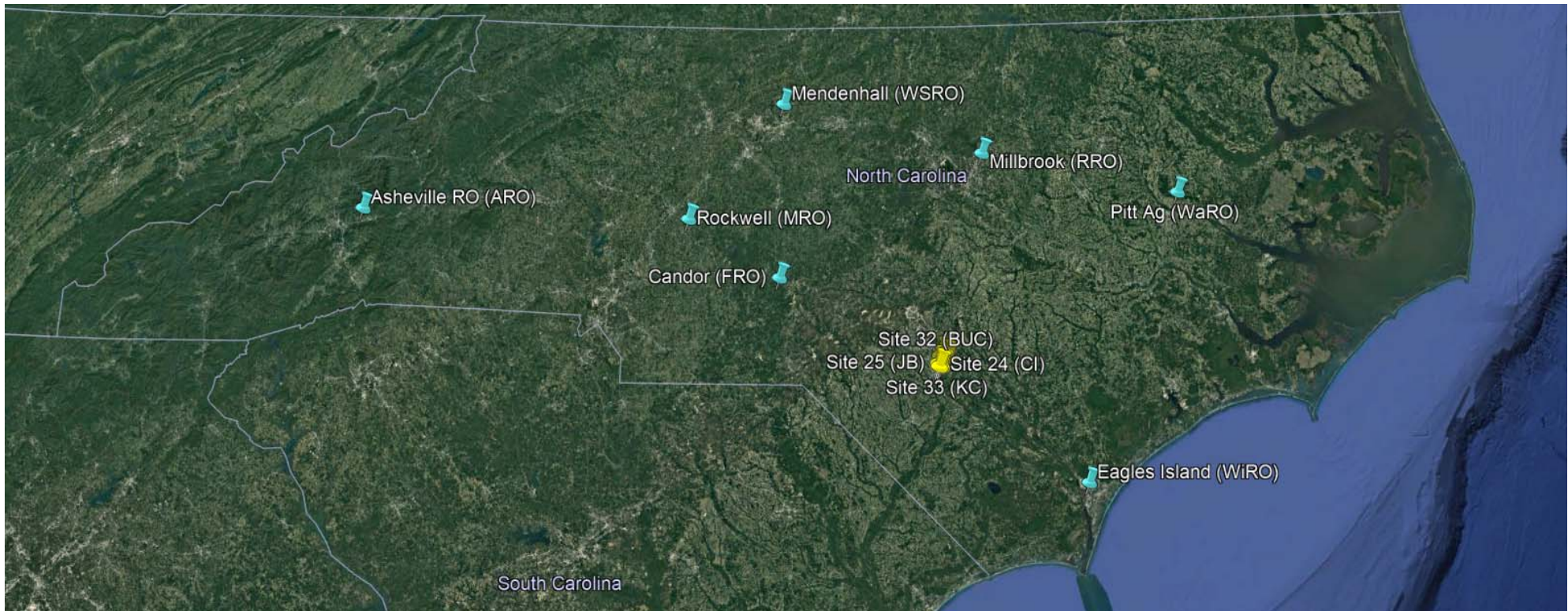
Sustained sampling was necessary to determine the effects on deposition of control measures that the facility was required to implement.



Rainwater Collection Network (RCN)



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Site Equipment

ETI NOAH IV Rain Gauge



NCON Bucket Sampler





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2018/2019 Data Summary for GenX Analyses

- Contract Laboratory Used EPA Method 537.1 Modified
(2020 - Division of Water Resources PFAS Lab to begin analyses)
- Rainwater samples Collected/Analyzed
 - 2018 - 359
 - 2019 - 797



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2018/2019 Data Summary for GenX Analyses

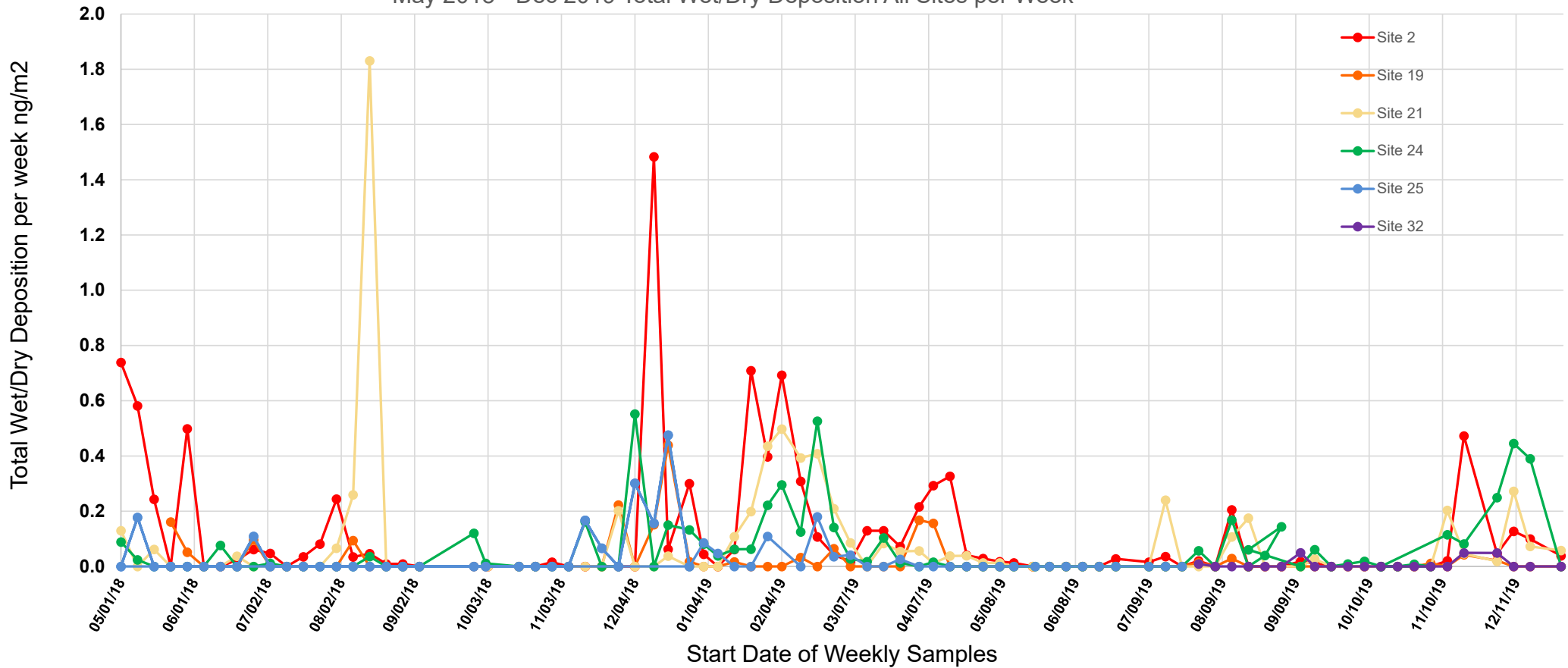
- 2018
 - 124 samples with detectable levels of GenX (All Chemours Area Sites)
 - 25 Greater than 140 ppt
 - 99 Above Detection limit (~7ppt) and less than 140ppt
- 2019
 - 150 samples with detectable levels of GenX (All Chemours Area Sites)
 - 16 Greater than 140 ppt
 - 134 Above Detection limit (~7ppt) and less than 140ppt



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2018-2019 Data Summary for GenX Analyses

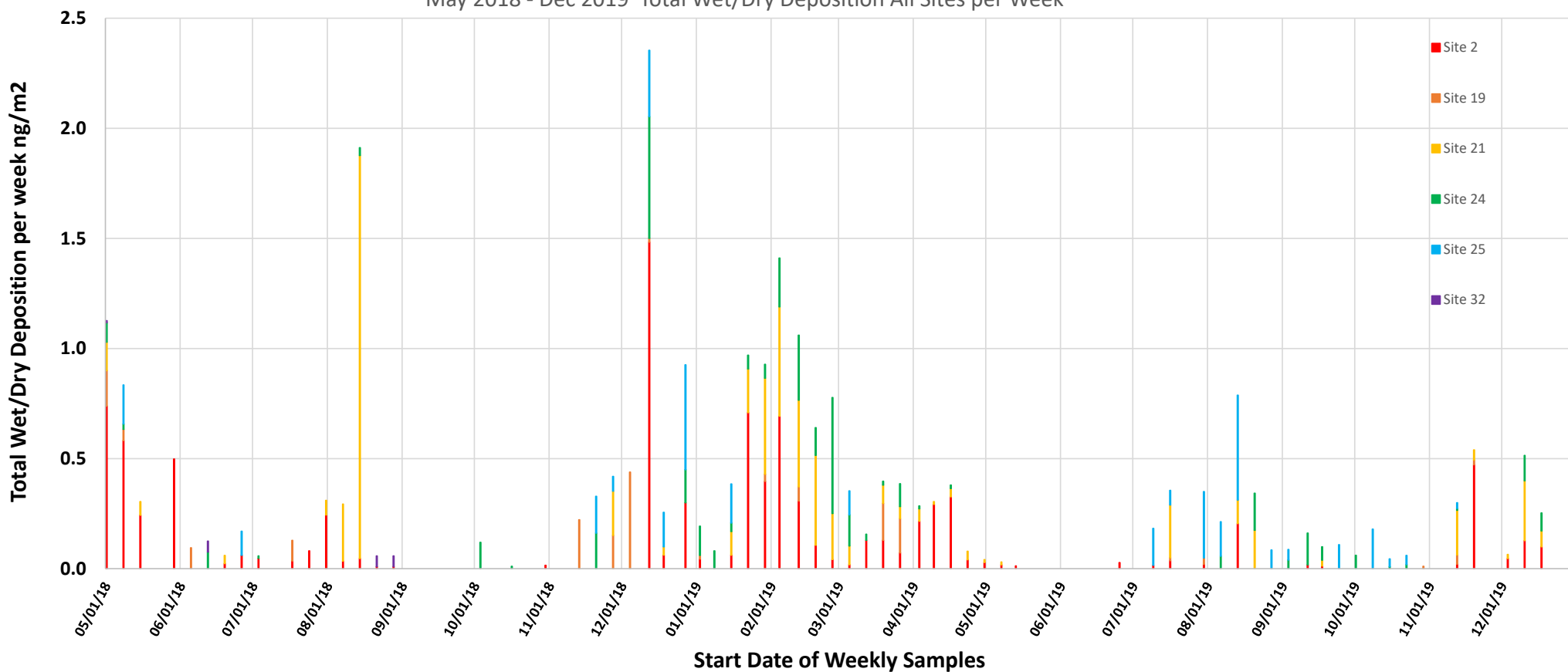
May 2018 - Dec 2019 Total Wet/Dry Deposition All Sites per Week



Rainwater Collection Network (RCN)

2018-2019 Data Summary for GenX Analyses

May 2018 - Dec 2019 Total Wet/Dry Deposition All Sites per Week



Websites for more information:

NC Department of Environmental Resources Gen X Investigation

- <https://deq.nc.gov/news/key-issues/genx-investigation>

NC Division of Air Quality Gen X Efforts

- <https://deq.nc.gov/news/key-issues/genx-investigation/air-quality-sampling>
- <https://files.nc.gov/ncdeq/GenX/Data/air-sampling/2020-01-22-Chemours-Weekly-Rainwater-summary-through-Dec-17-2019.pdf>



Contacts for More Information

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