



Air Quality Forecasters Workshop

AirNow Updates

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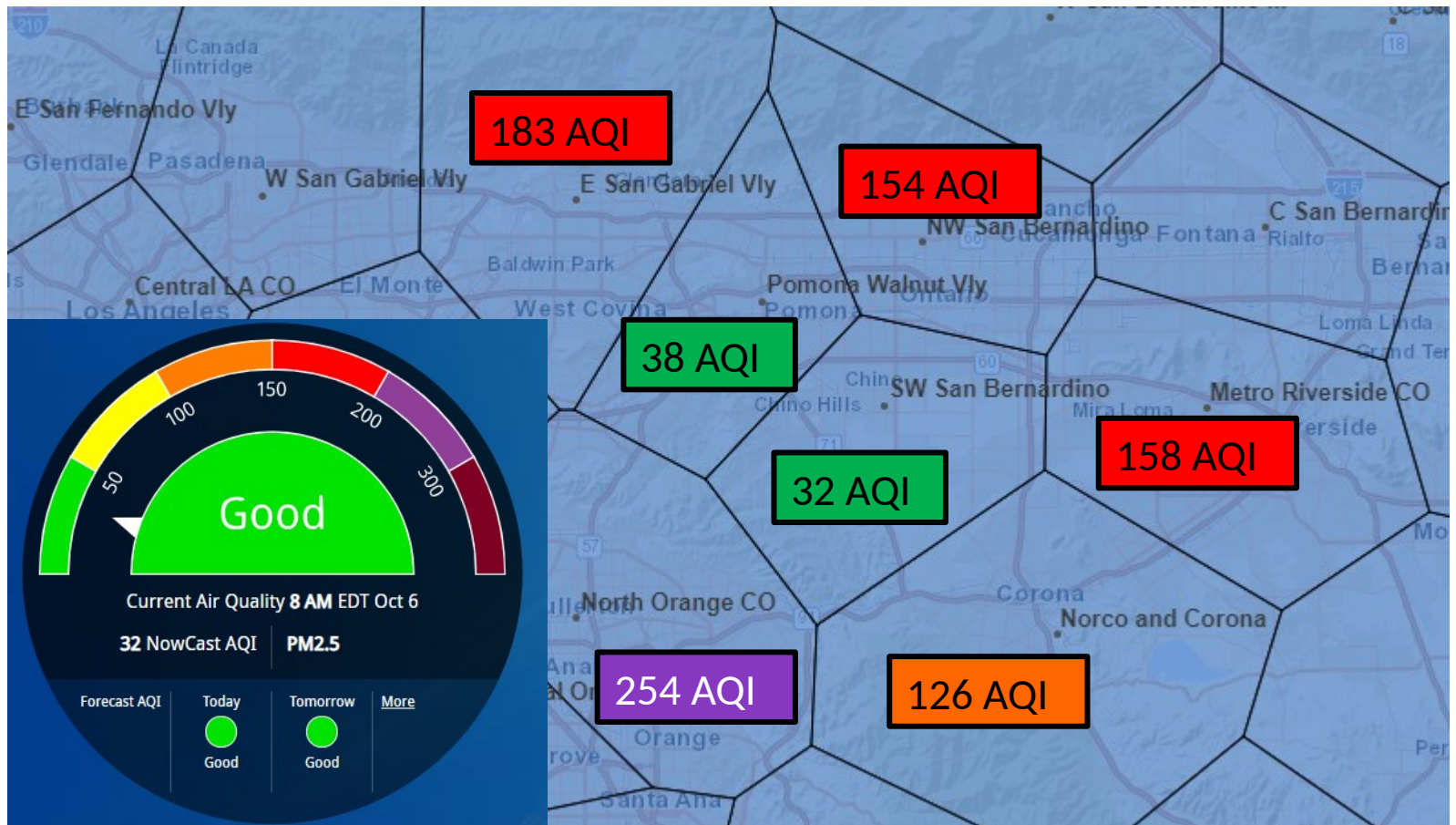
Briefing Overview

- AirNow Updates Overview
- Proposed Changes to Reporting Areas
 - Background on Reporting Areas
 - What's Not So Great for Observations
 - What's Not So Great for Forecasting
 - So Now What?
- Updates for Forecasting Submittal
- Other Items Coming Up (Very Brief)
- Questions / Discussion

Reporting Areas: Background

- A Reporting Area in AirNow is a discrete geographic area in AirNow
- They are used for both reporting Observations and for making Forecasts
- This system originally served AirNow and its stakeholders well, but is showing its age
- It is a key part of AirNow's infrastructure and almost all AirNow's products reflect this, at least somewhere

Reporting Areas: More Background

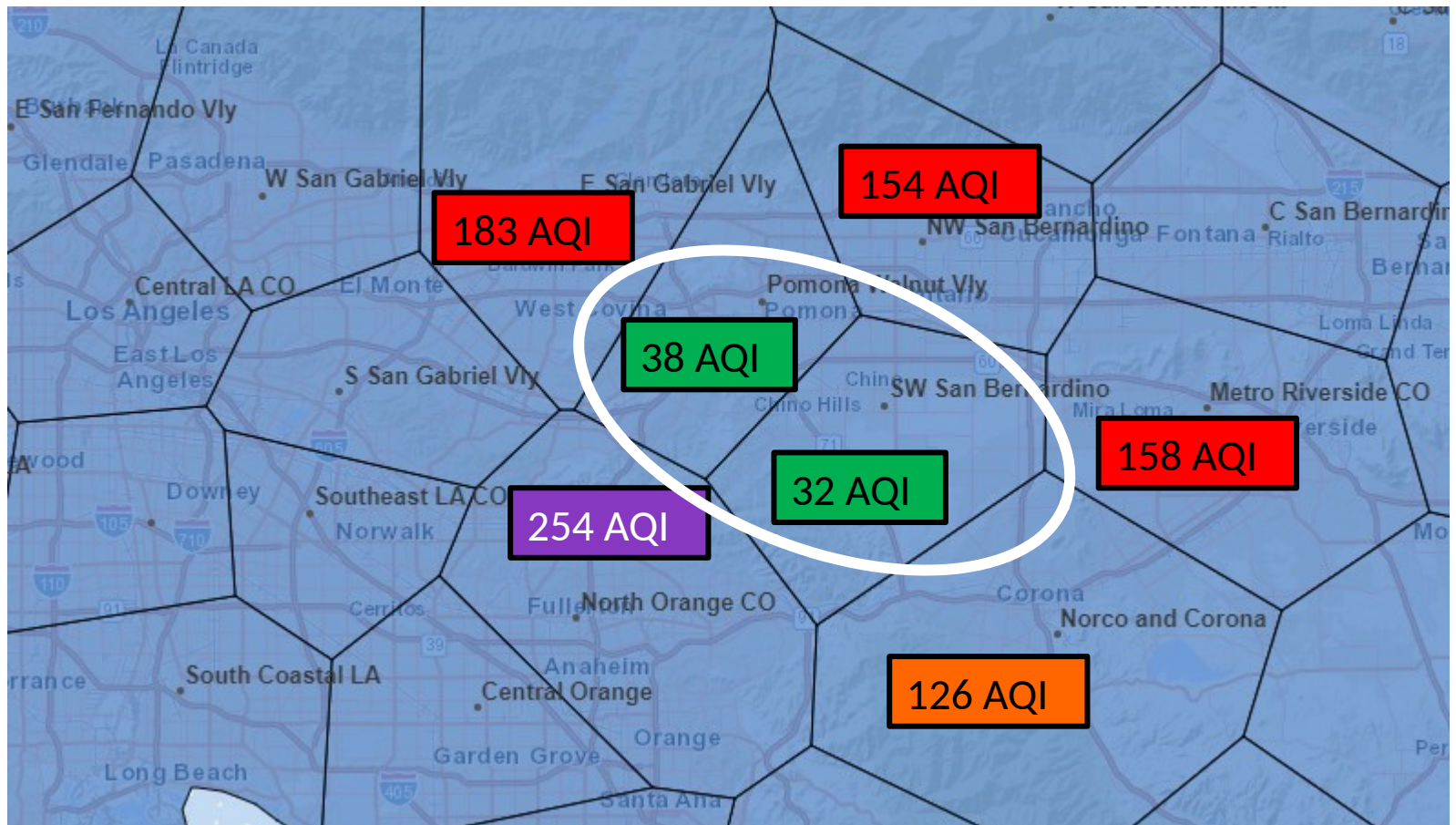


Reporting Areas: Observation Problems

Reporting Areas were originally created for reporting observations to the general public, but have developed these specific issues over time:

- Highest, not closest, monitor reports AQI, which is sometimes very misleading
- Monitoring sites can change and when not updated in the reporting area database, they can create misleading AQI reporting
- Reporting areas based on single-pollutant monitors can also create confusing results

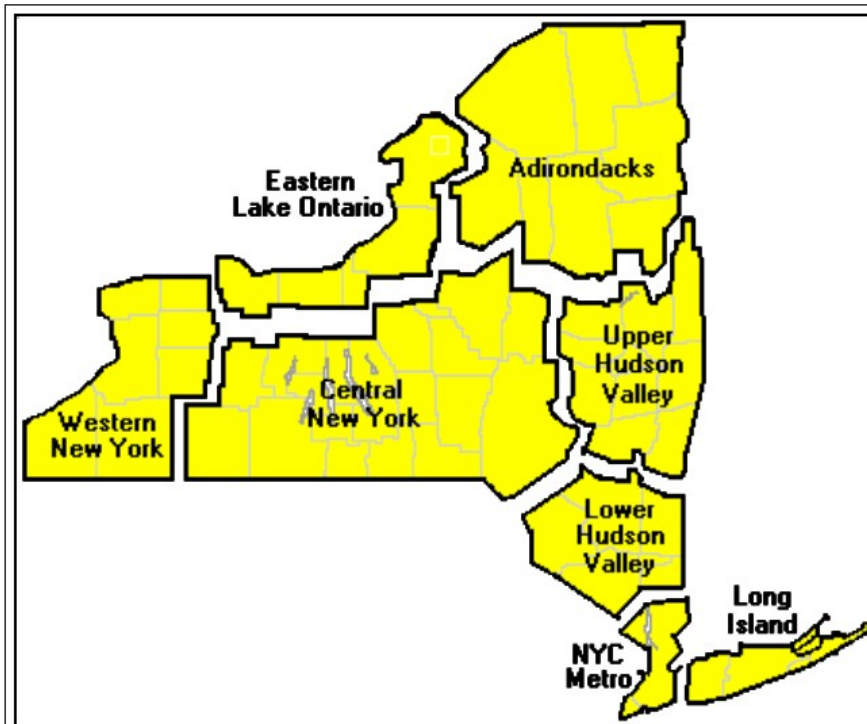
Observation Problem Breakdown



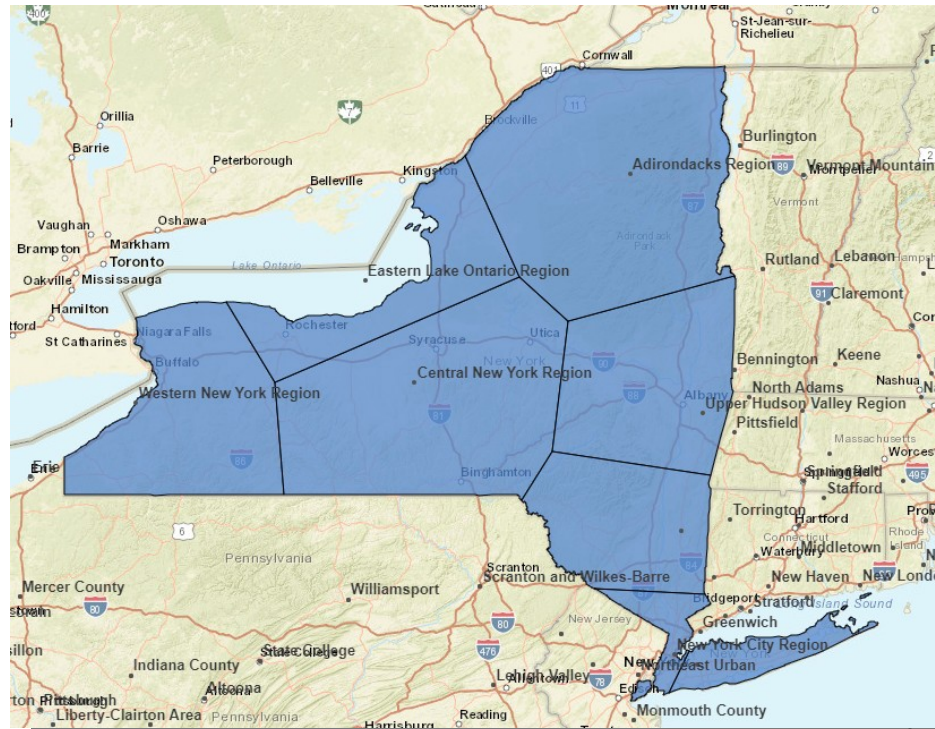
Forecasts: Spatial Problems

Center-point-based areas are can only approximate some desired forecast areas

Actual

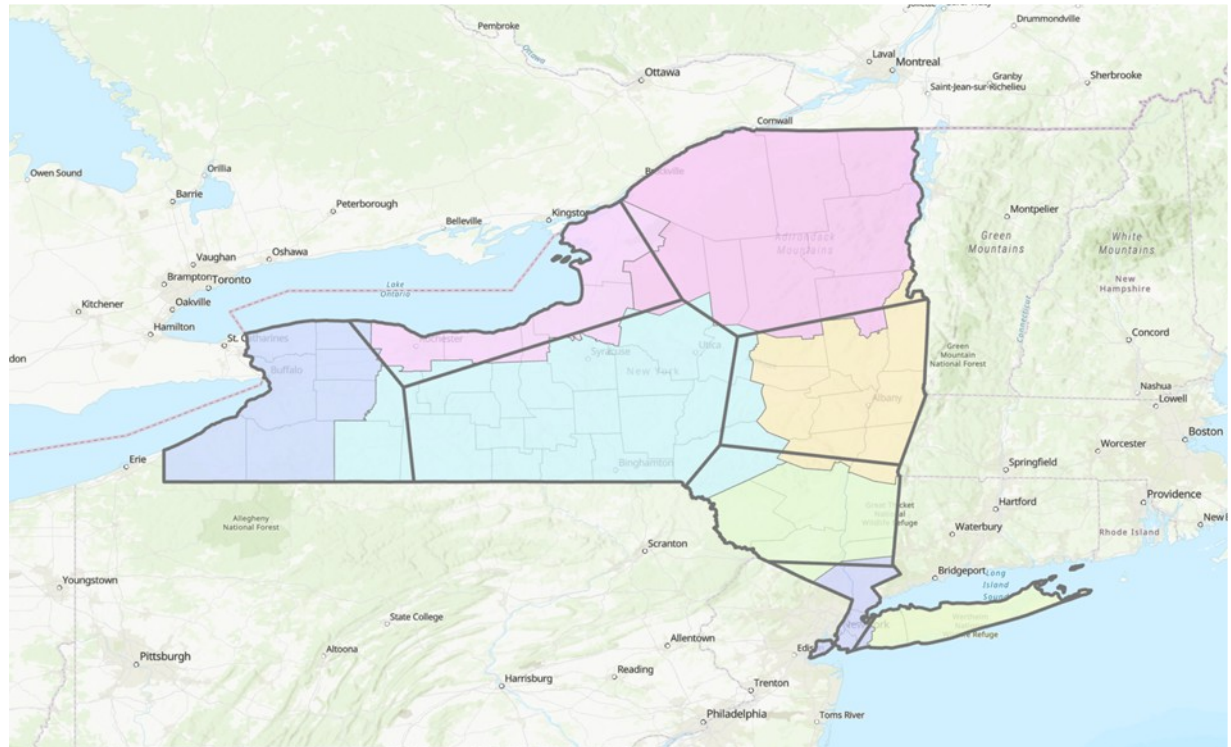


AirNow



Forecasts: Spatial Problems Overlay

- AirNow can only approximate what New York is trying to do. Around 15% of NY's forecast area is mismatched in AirNow.
- Some areas, like central New York, are particularly bad.
- New York is not the only agency trying to make the reporting areas match counties or geography.
- Other agencies in AirNow just accept the shortcomings.
- We can do better.



Reporting Area Problems: Summary

- Observation issues
 - Observations act in unexpected and misleading ways
 - Manual upkeep lags and creates user confusion
 - Observations may not be closest monitor– and are sometimes wildly different from closer monitors
- Forecast issues
 - States cannot define forecast areas in AirNow to match their own
 - Users see these differences, the issues they create, and complain

Ultimately, users lose trust in AirNow and agencies when they spot inconsistencies that we do not fix.

AirNow is Changing Reporting Areas

AirNow is redefining Reporting Areas as shapes, not areas around a point.
How will this affect air agencies?

- Short Answer– as little or as much as each individual air agency wants
- Long Answer
 - Agencies can send us shapefiles, use an AirNowTech tool to define their own, or possibly ask us to create
 - We can also recreate the existing Reporting Areas as shapes for agencies that are happy with things as they are
- Observations may be affected
 - Depending on what air agencies do, observations may be affected
 - Ultimately, this can simply become AirNow's problem
 - Solutions include separating reporting areas from observations completely, using nearest pollutant monitor (with distance limits), possibly others

Other Improvements Coming

- New Forecast Submittal System Planned
 - AirNow has reached out to 9 air agencies with diverse use cases
 - AirNow and AirNow developers will spec a new system based on this feedback
 - AirNow will refine these specs after making broader outreach to the forecasting community
 - Expect updates via AirNow Info Exchange Meetings
- Others?

Questions and Discussion

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