



Ozone Traceability, Surface Monitoring Impacts, and Potential Implementation Issues in the United States

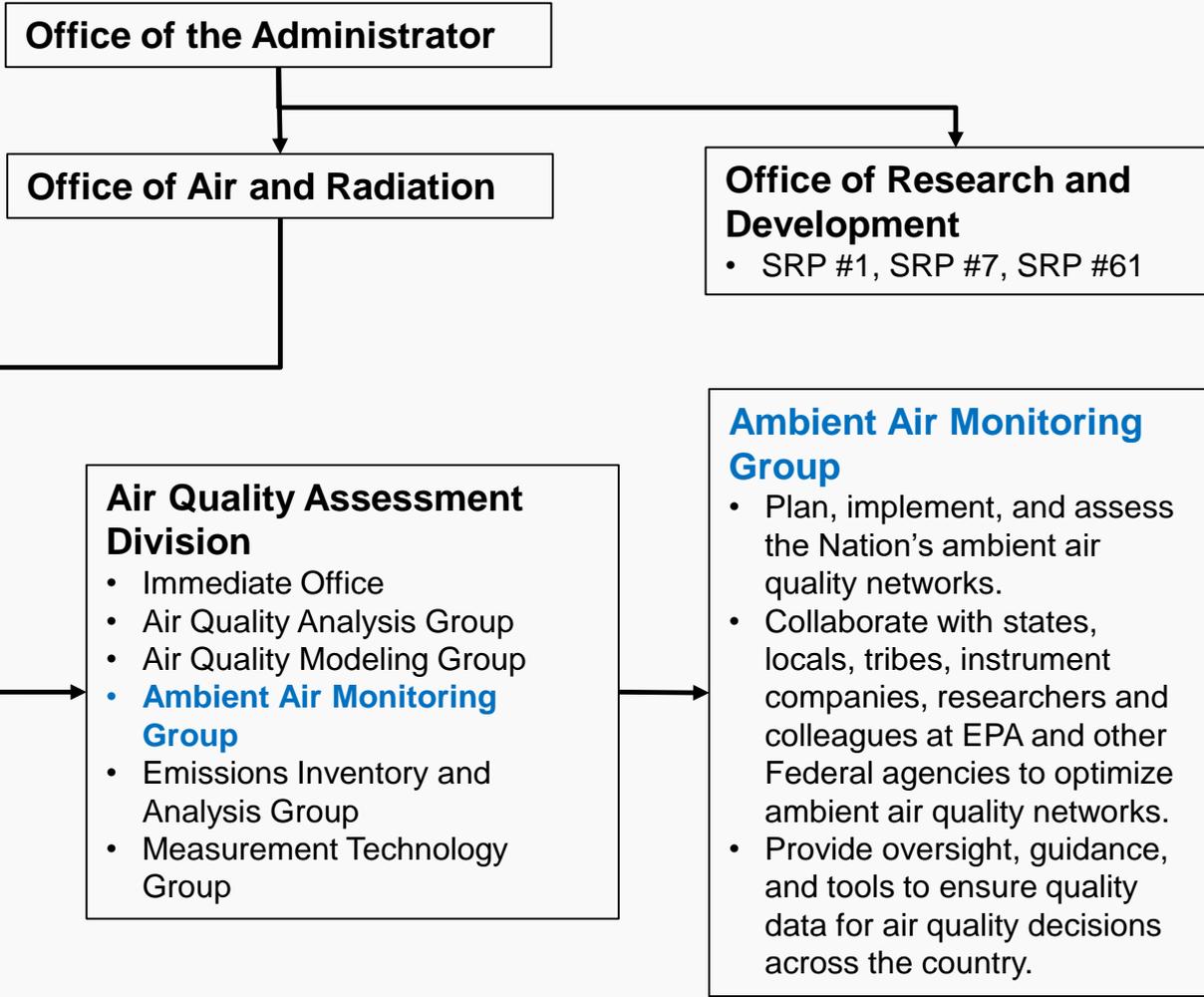
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Accurate Monitoring of Surface Ozone
Virtual Workshop

7 October 2020

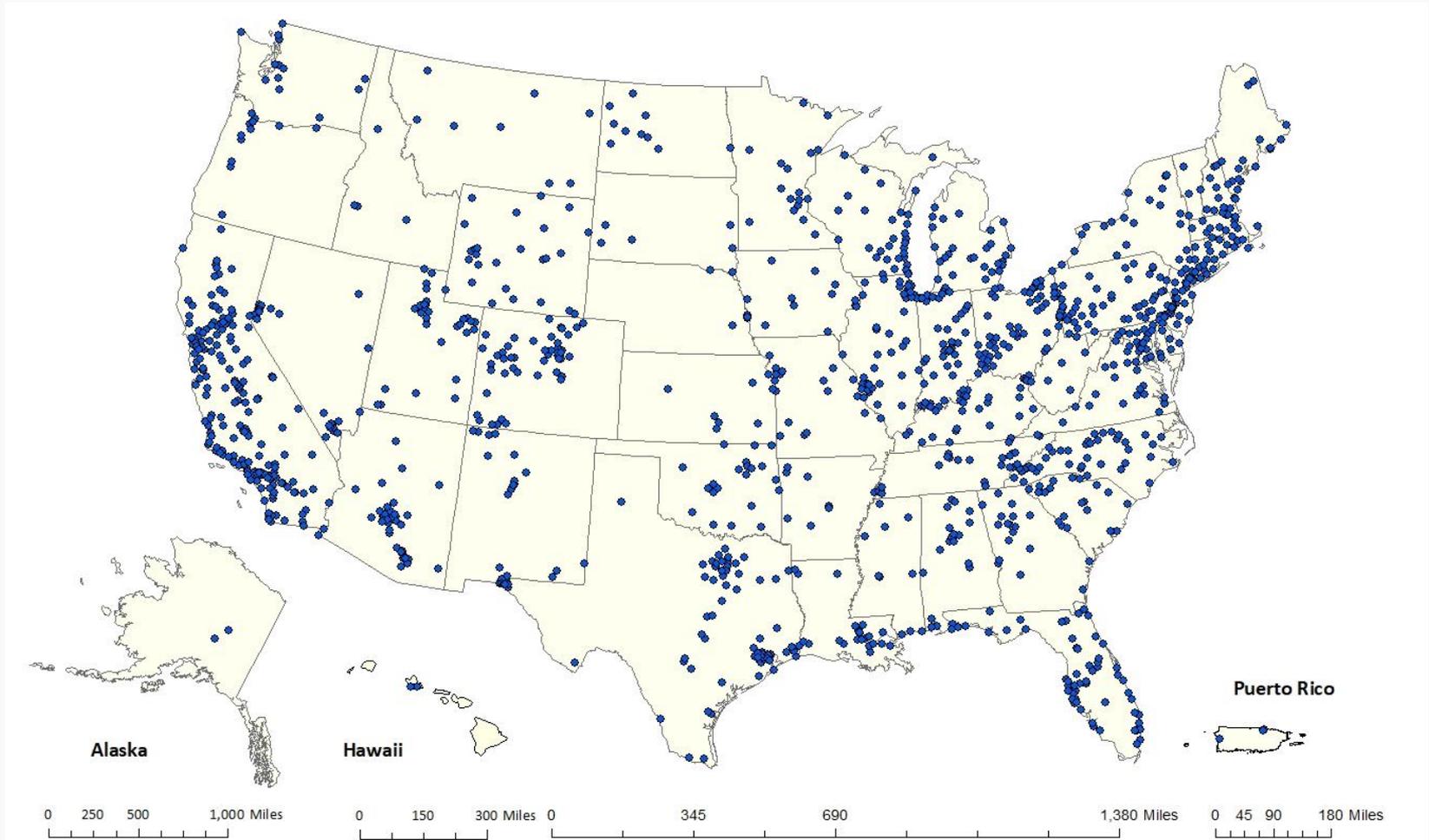


EPA at Research Triangle Park, North Carolina (Photo by Michael Slimak, EPA)





U.S. Ozone Network (About 1,200 Monitors)



U.S. EPA Office of Air Quality Planning and Standards



SRP in EPA's Laboratory; Research Triangle Park, North Carolina

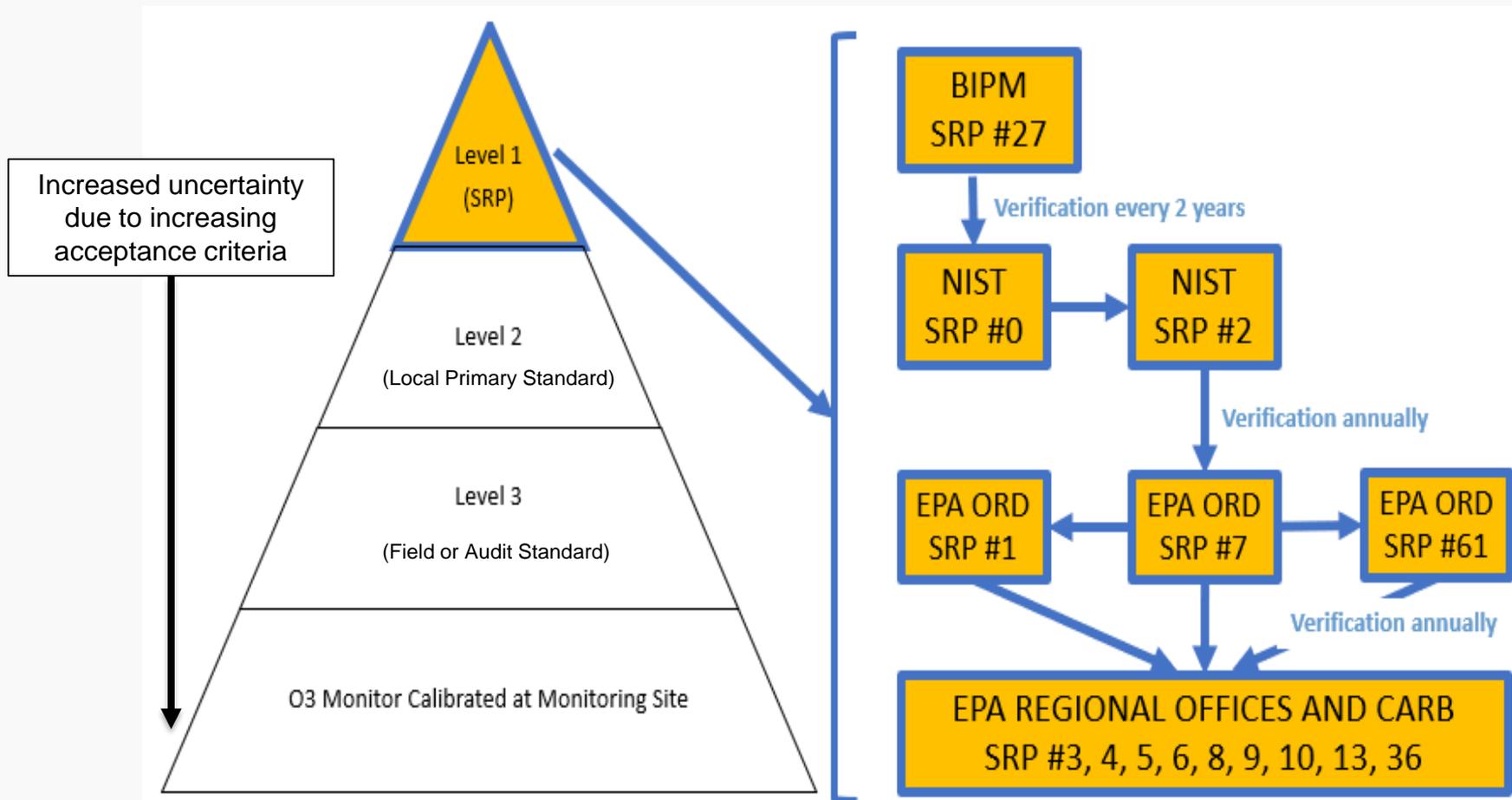


Ozone Traceability

- To establish and maintain traceability, ozone monitors are compared through a hierarchy of standards to a National Institute of Standards and Technology (NIST)-made ozone Standard Reference Photometer (SRP).
- The process of using NIST-traceable standards to verify ozone concentrations is implemented for all ozone analyzers used to compare to the National Ambient Air Quality Standards (NAAQS).
- There are 12 SRPs within EPA's network (3 at EPA and 9 at various EPA regional laboratories and the California Air Resources Board (CARB)).

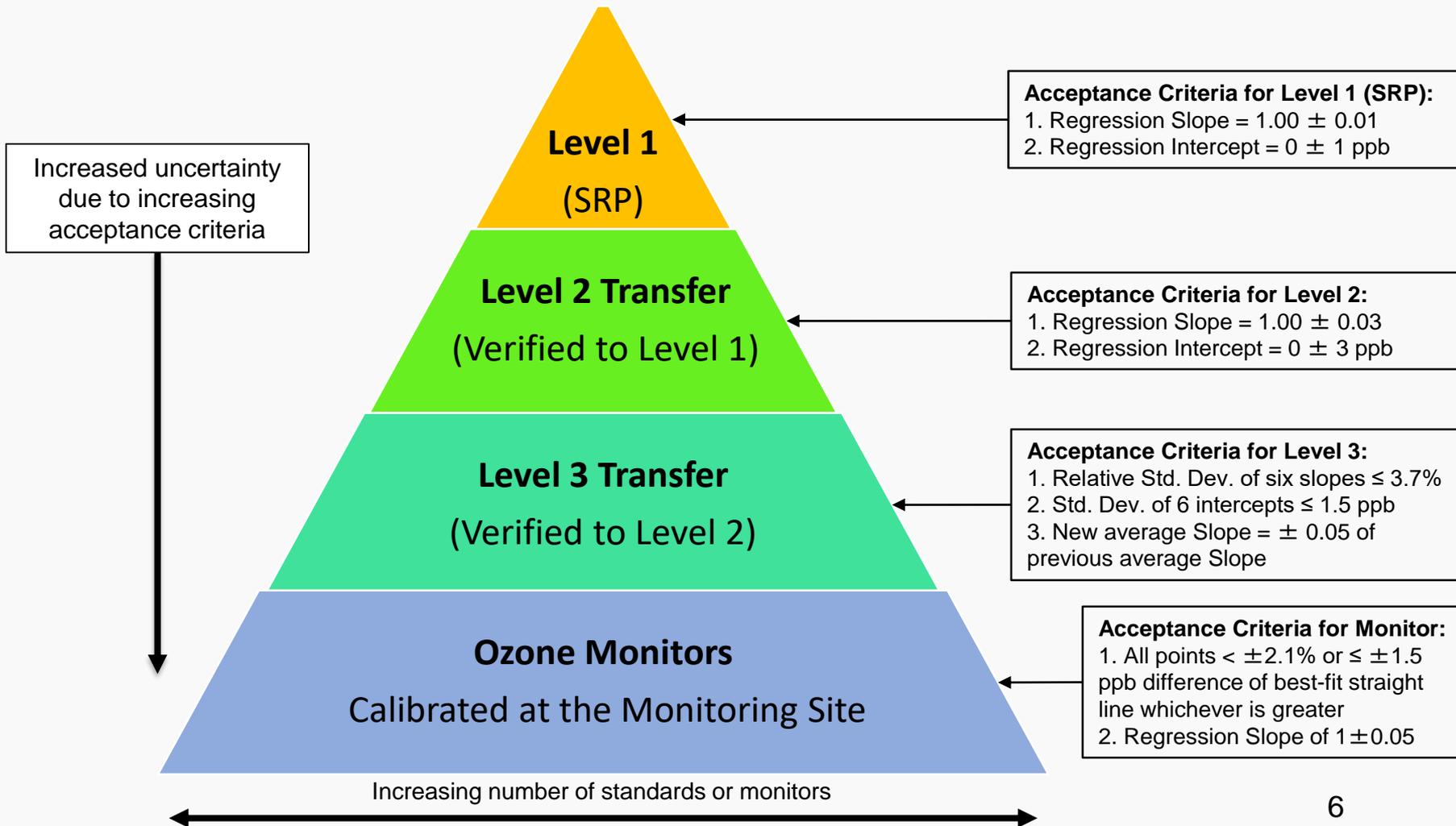


Ozone Traceability





Ozone Traceability





Potential Surface Monitoring Impacts

- At the U.S. NAAQS of 70 ppb, an increase of 1.23% is 0.86 ppb.
- Retroactive adjustment of historical data not recommended.
- Actual impact on concentrations is unclear since ozone transfer standards and ozone monitor verifications or calibrations may not always be changed or adjusted unless they fall outside of the acceptance criteria.
- The 1.23% change may result in some verification or calibration failures, but not at all monitors.



Potential Implementation Issues

- Recommend that the EPA and CARB SRPs be modified simultaneously versus a phased approach.
- Under normal operations, working through the ozone standard traceability scheme, it may take 2 years or more to implement across the entire monitoring network.
- If EPA required an accelerated implementation, it may take 1 year or more to implement across the entire monitoring network.
 - An implementation plan would need to be developed that includes clear guidance and firm milestones.
- The implementation progress would need to be tracked and any impact on exceedances of the ozone NAAQS would need to be determined.
- The absorption cross-section value given in The Code of Federal Regulations (CFR), 40 CFR part 50, appendix D, would need revision.



Summary

- Recommend that SRPs be modified simultaneously versus a phased approach.
- Retroactive adjustment of historical data is not recommended.
- The actual impact of the change on ozone concentrations is unclear.
- Implementation guidance and timelines need to be developed.
- The implementation progress would need to be tracked and any impact on exceedances of the ozone NAAQS would need to be determined.
- Rulemaking will be required to update the absorption cross-section value given in 40 CFR, part 50 Appendix D.