



# How sensors are and can be used in Indian Country

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Quapaw Nation

Regulations and Performance Standards

Air Sensors International Conference

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Background of  
Air Quality  
Monitoring in  
Indian  
Country

Need for  
Sensors in  
Indian  
Country

Tribal Case  
Study

Other uses in  
Indian  
Country

Questions

# Agenda for Presentation

# Background of Air Quality Monitoring in Indian Country



Tribal Authority Rule



Monitoring under the Clean Air Act



Capacity Building Measures



Tribal Trainings and Partnership Groups

# Need for Sensors in Indian Country



LOW-COST,  
RELIABILITY



SCREENING  
TOOL



EMERGENCY  
RESPONSE  
PREPARATION  
AND ACTION



PUBLIC  
OUTREACH AND  
CITIZEN  
SCIENCE



# Tribal Case Study – Quapaw Nation

Aeroqual S500

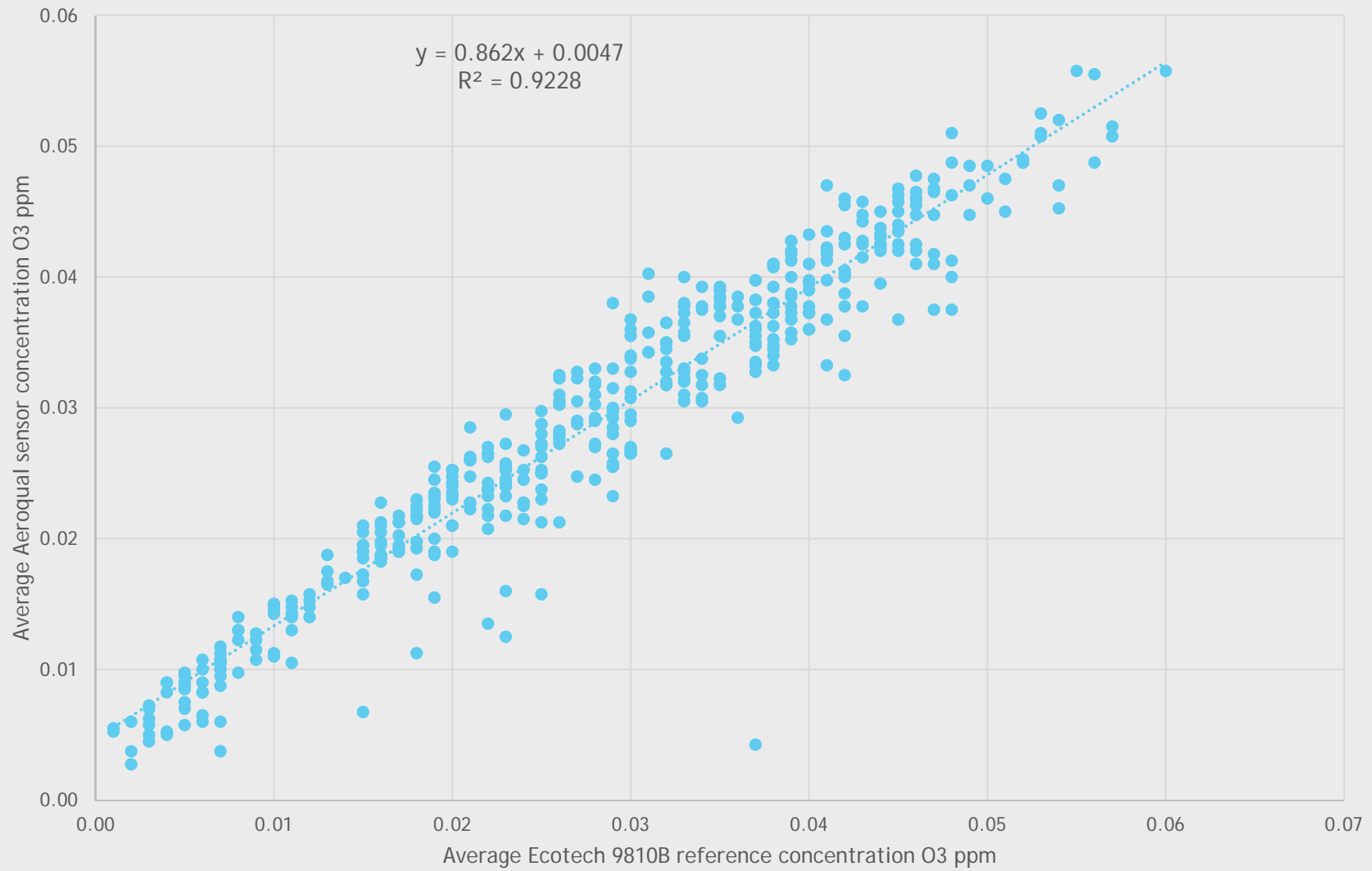
Good reliability,  
ease of use

Correlations  
( $R^2 =$  above 70)

5



### 1 Hour Averaged O3 Correlation



# Considerations and Technical Challenges

- ▶ Equipment issues from harsh conditions
- ▶ Data loss from infrequent site visits
- ▶ High humidity can cause variation and drift
- ▶ Collocation of sensors before and after monitoring
- ▶ Air Sensor Toolbox for Citizen Scientists for latest information

(<https://www.epa.gov/air-sensor-toolbox>)



Leech Lake  
Band of  
Ojibwe

Cherokee  
Nation

Colville  
Tribe

Long-Term  
Sensor  
Study



Other uses in Indian Country



# Questions?



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