



Indiana Department of Environmental Management
Protecting Hoosiers and Our Environment Since 1986



Office of Air Quality

AERMOD SO₂ Performance Study

Kali Frost

IDEM

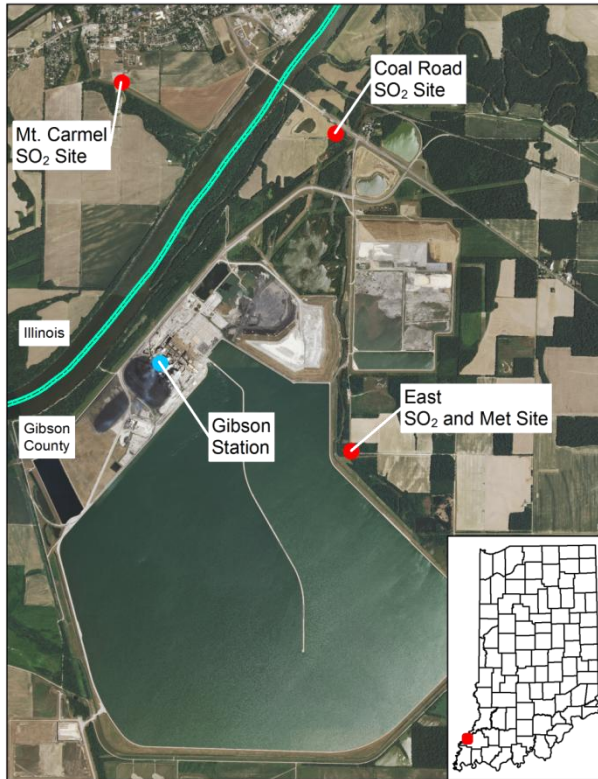
Region 5 Air Toxics Meeting

October 23, 2013



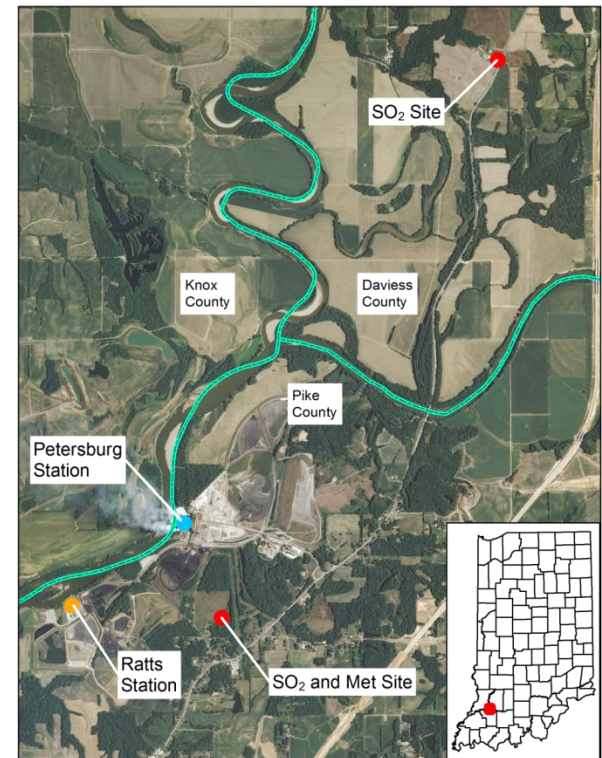
Site Description

Gibson Generating Station



3,145 MW generating capacity

Petersburg & Ratts Generating Stations



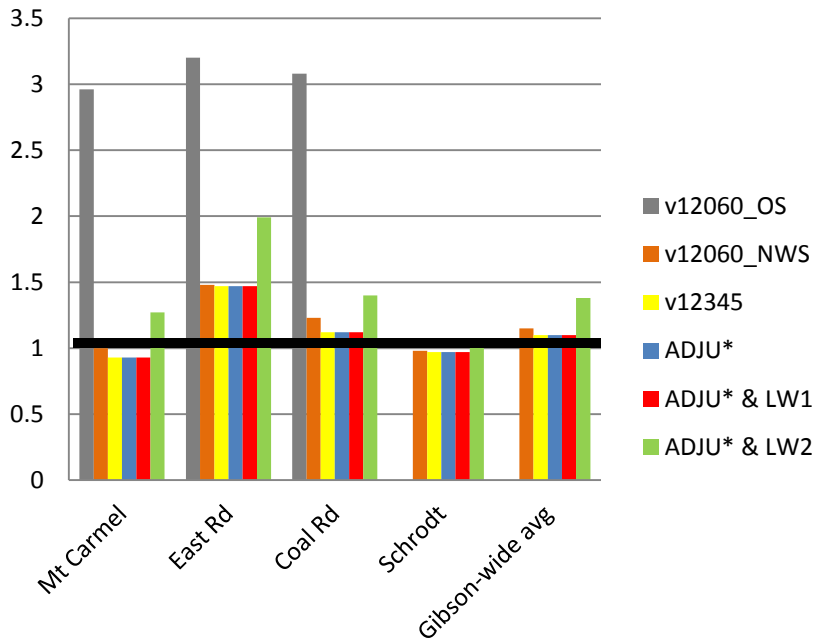
Petersburg - 1,760 MW
Ratts - 250 MW



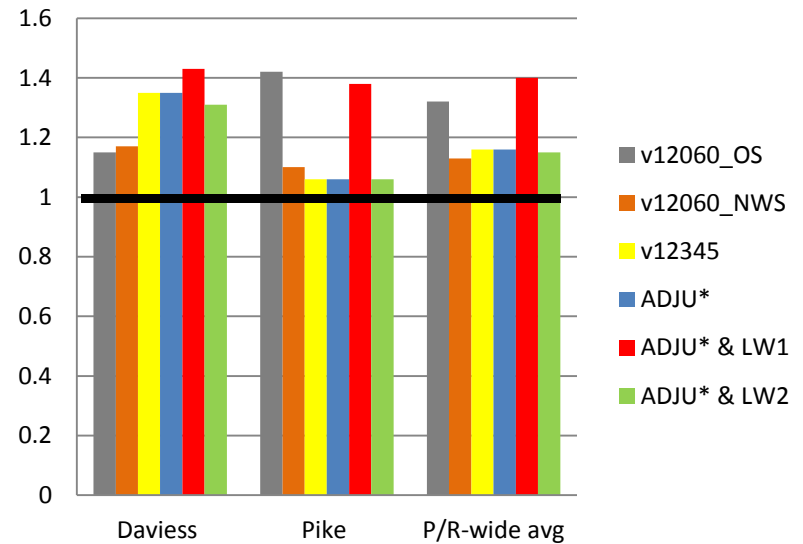
Design Value (DV)

- DV ratio - model design value/monitor design value
- Ideal value of 1.0
- Acceptable range from 0.5-2.0

Gibson DV Ratios



Pete/Ratts DV Ratios

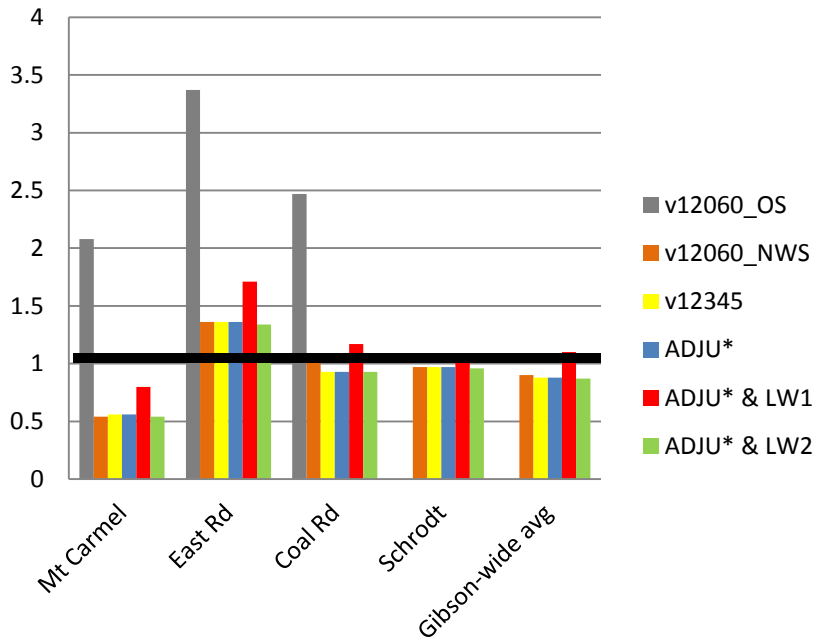




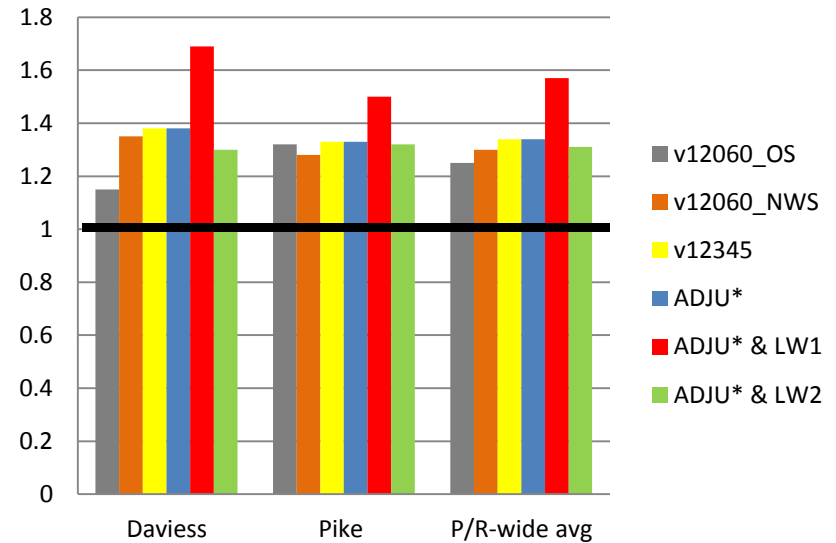
Robust Highest Concentration (RHC) Statistic

- RHC ratio - model RHC/monitor RHC
- Ideal value of 1.0
- Acceptable range from 0.5-2.0

Gibson RHC Ratios



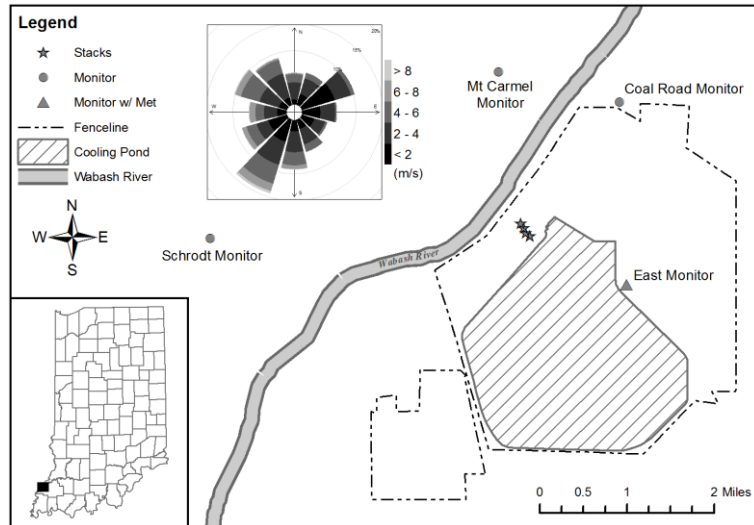
Pete/Ratts RHC Ratios



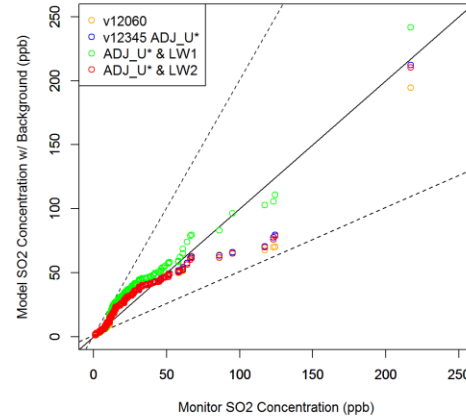


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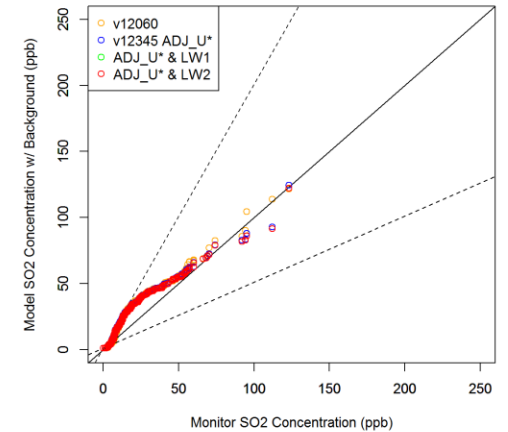
Gibson Q-Q Plots



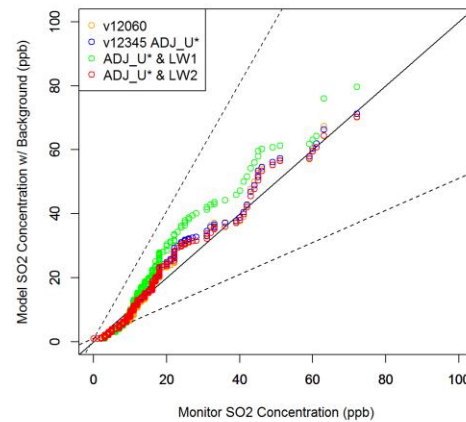
Q-Q Plot: Gibson - Mt Carmel with NWS Met



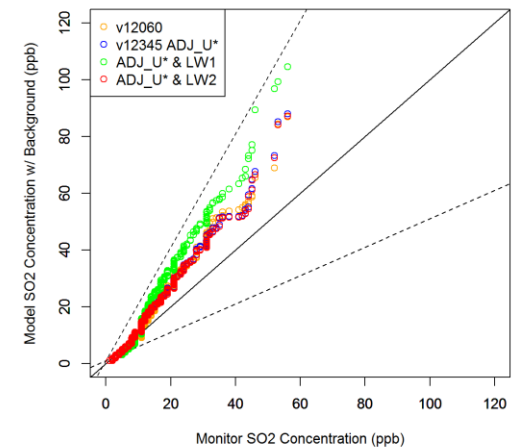
Q-Q Plot: Gibson - Coal Rd with NWS Met



Q-Q Plot: Gibson - Schrodts with NWS Met

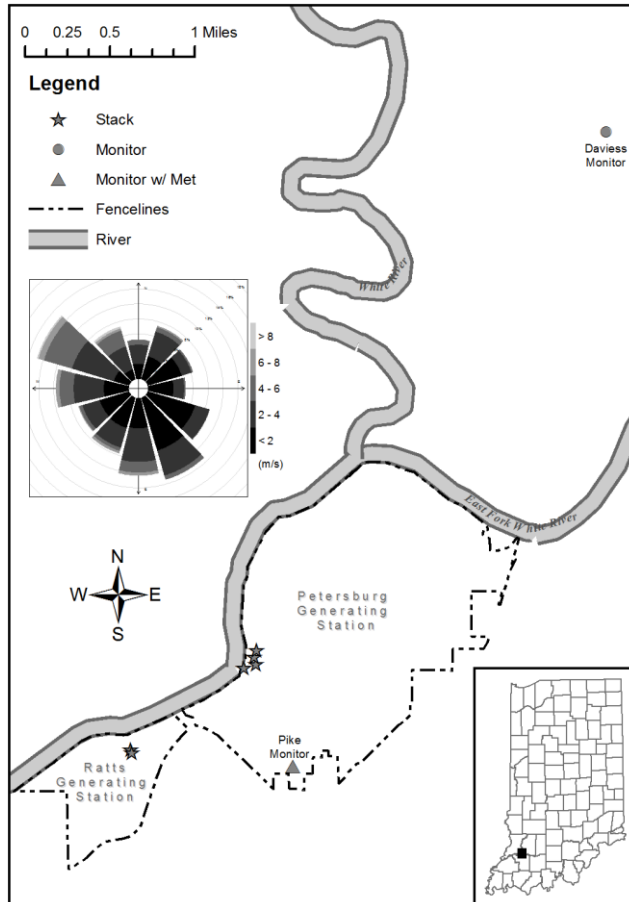


Q-Q Plot: Gibson - East Rd with NWS Met

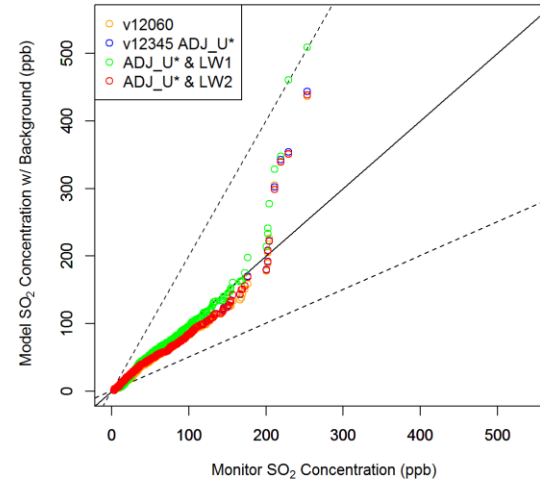




Petersburg/Ratts Q-Q Plots



Q-Q Plot: Pete/Ratts - Pike with NWS Met



Q-Q Plot: Pete/Ratts - Davies with NWS Met

