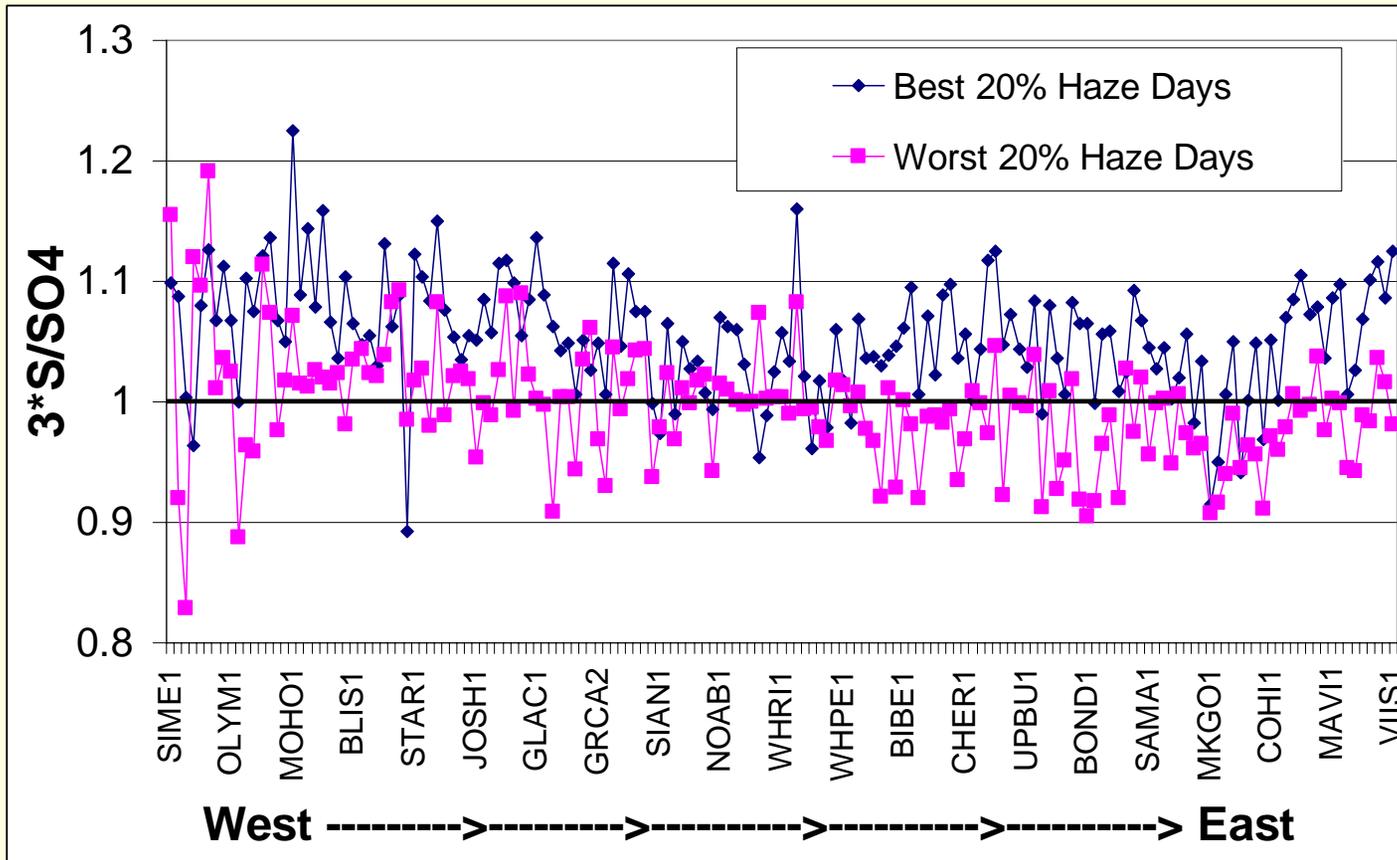


Substituting Sulfate for Sulfur

Impact on the RHR metrics and control strategies

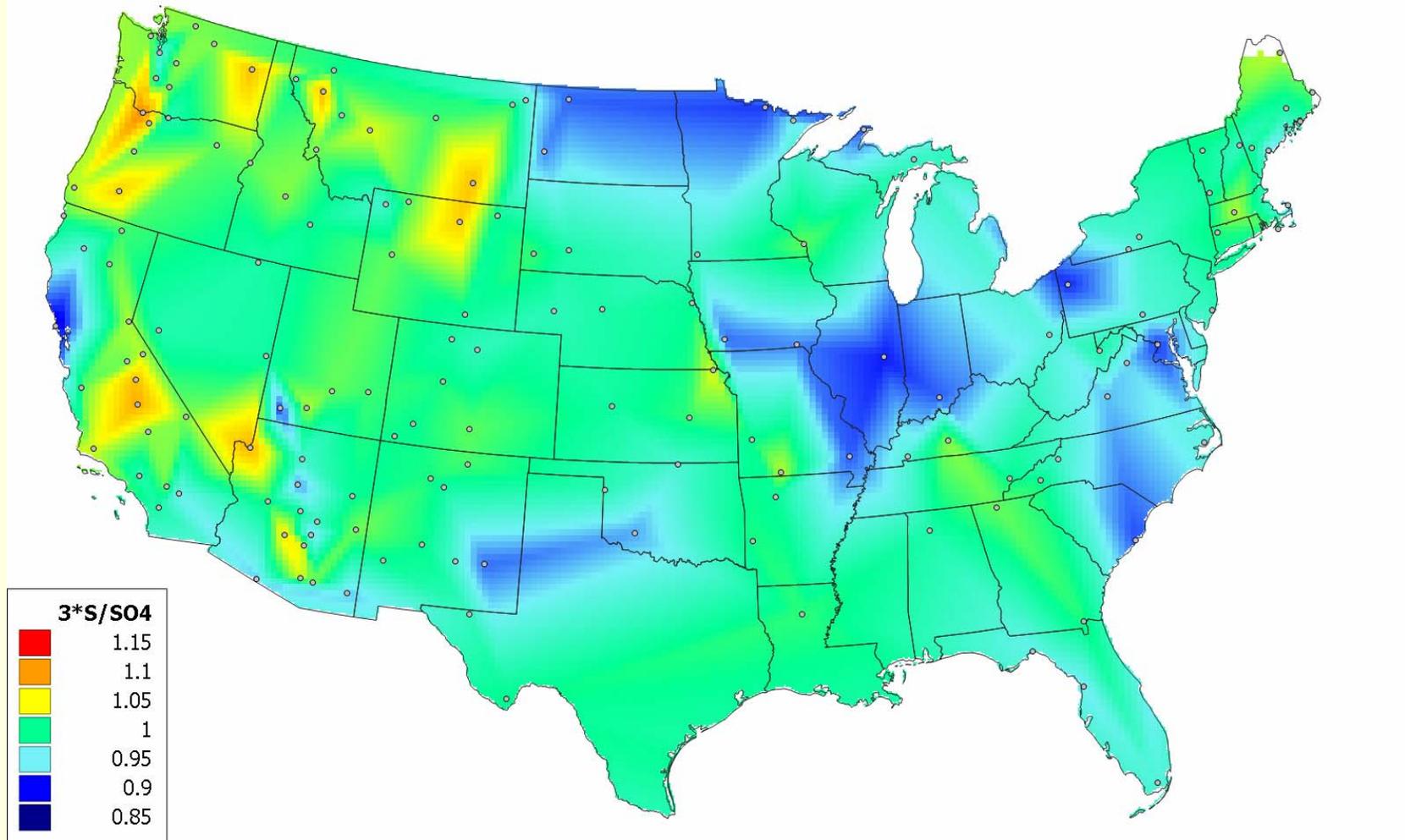
Presented at the 2006 IMPROVE Steering Committee Meeting by B.A. Schichtel

Sulfur/Sulfate on Best & Worst Haze Days

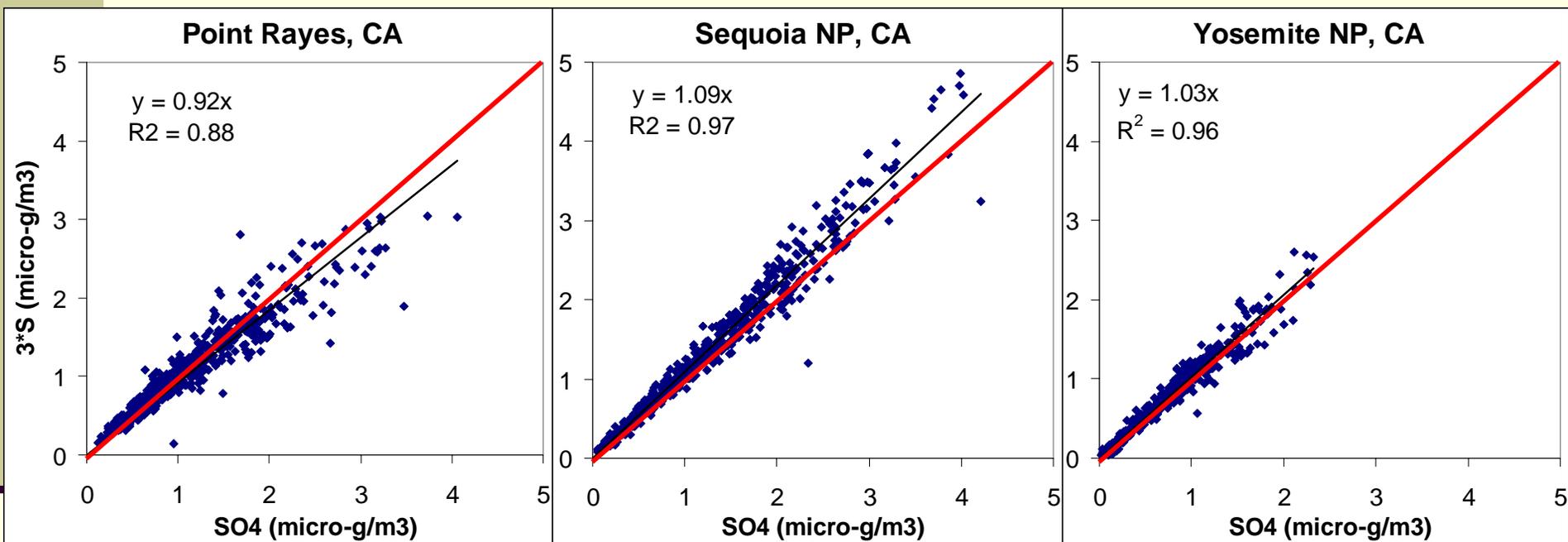


- Average $3 \cdot S / SO_4$ on worst 20% haze days = 1
- Average $3 \cdot S / SO_4$ on best 20% haze days = 1.05

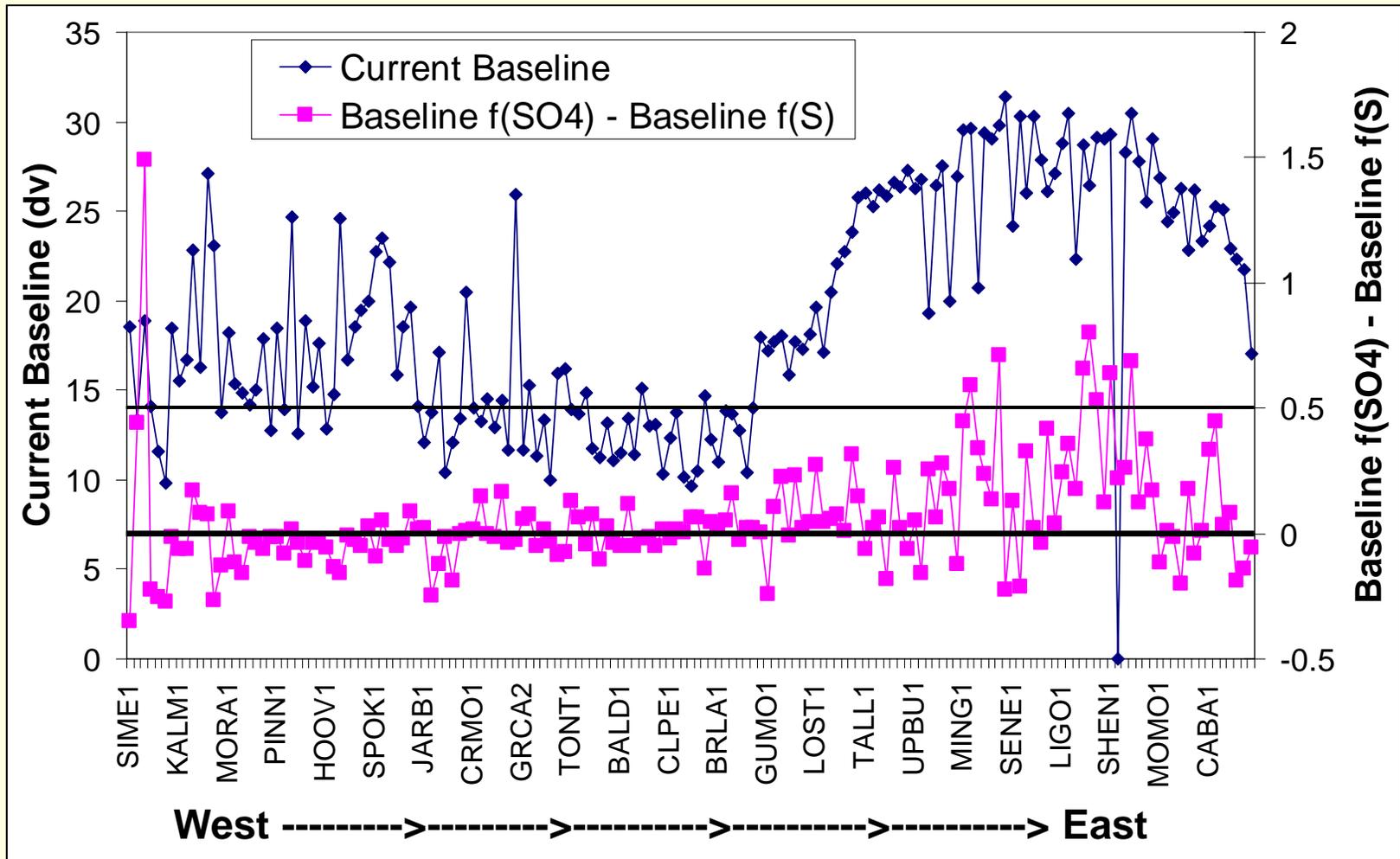
Worst Haze Days $3*S/SO_4$



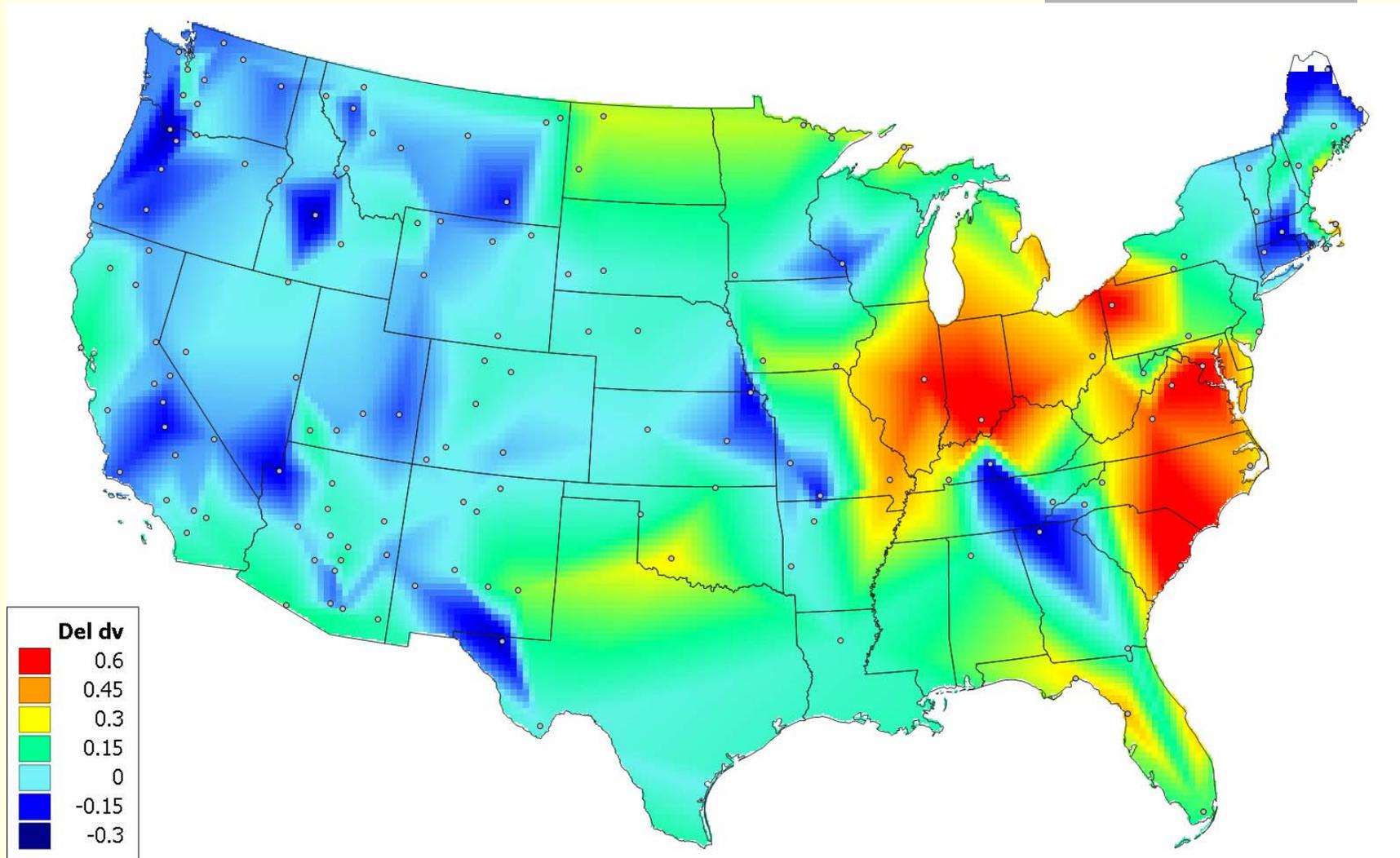
Sulfur vs Sulfate at Three California Sites



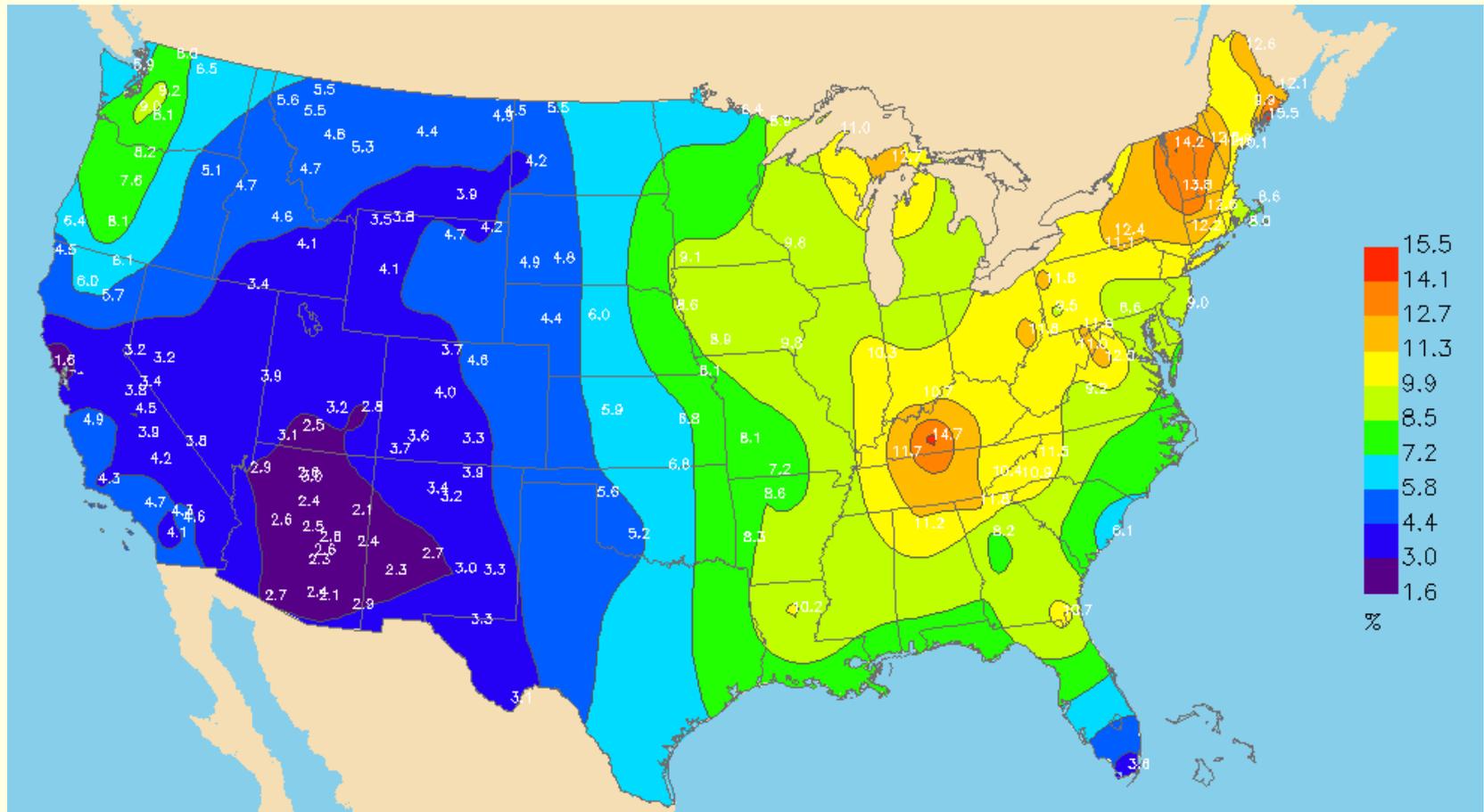
Impact of Sulfate Replacement on RHR Worst 20% Haze Metric



Current Hazy Baseline – Proposed Baseline

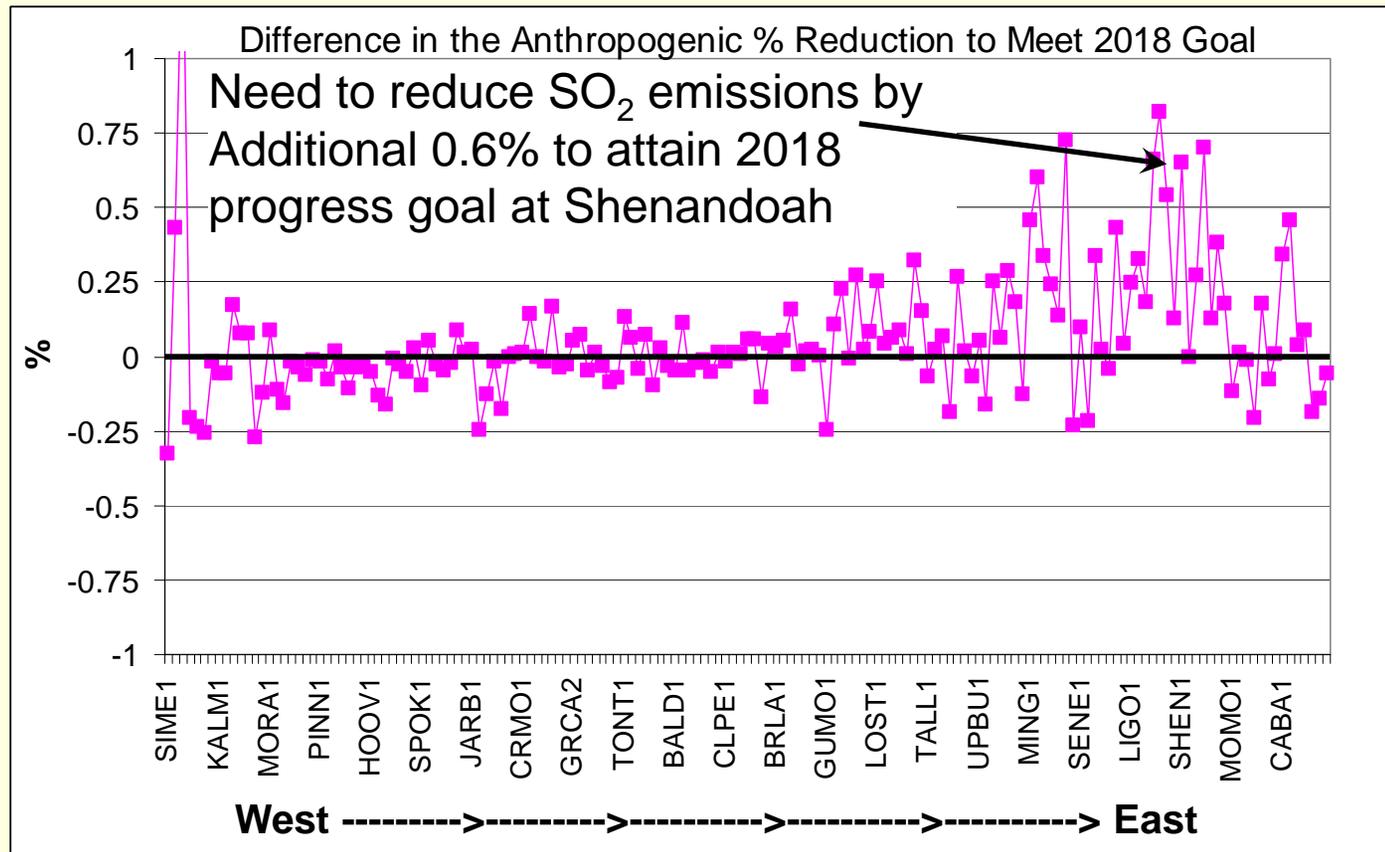


Ammonium Sulfate's contribution to Natural Background Light Extinction



- 2-15% of natural haze on the 20% haziest days is due to sulfate
- Sulfate replacement will have minimal impact on natural haze

Change in Control Strategy to Meet New 2018 Progress Goal



- To meet the **NEW** 2018 progress goal, anthropogenic contributions to be next need to be reduced by 0 to 0.8% more at 60 sites and 0 – 0.3% less at 50 sites.

Conclusion

Substituting sulfate for sulfur in the RHR will have little effect on control strategies to meet the 2018 progress goals – (I think)