

Columbia Gorge Air Quality Project



Project Website
www.gorgeair.org

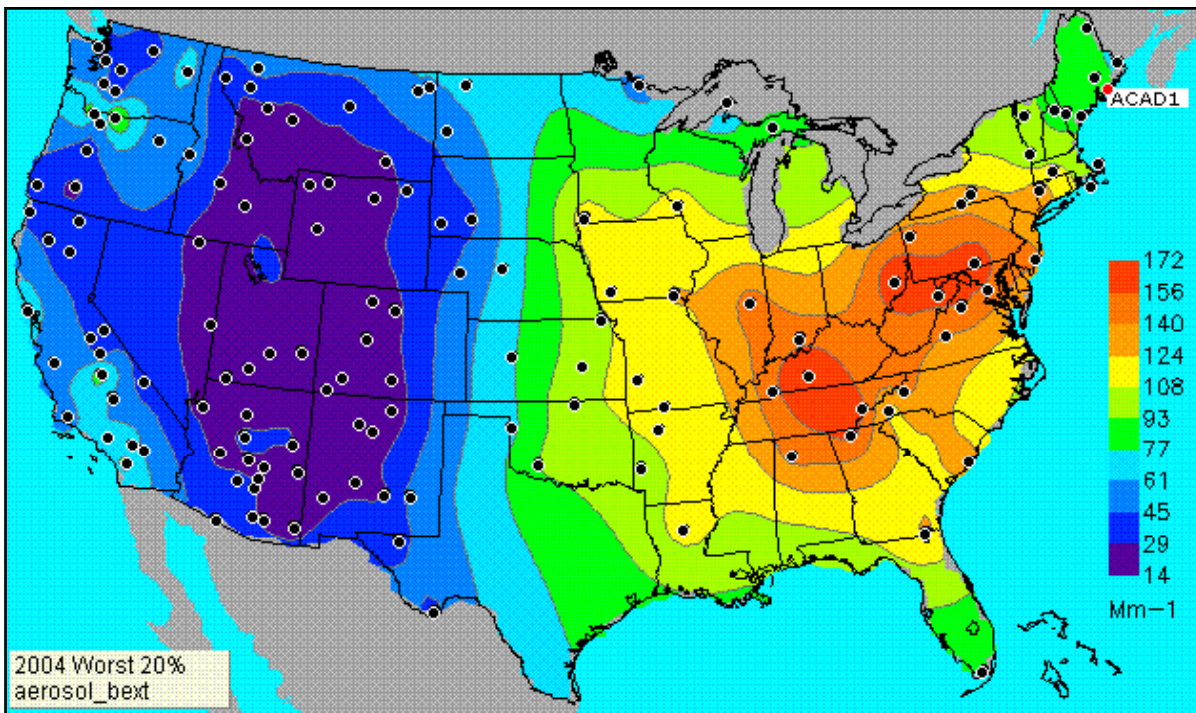
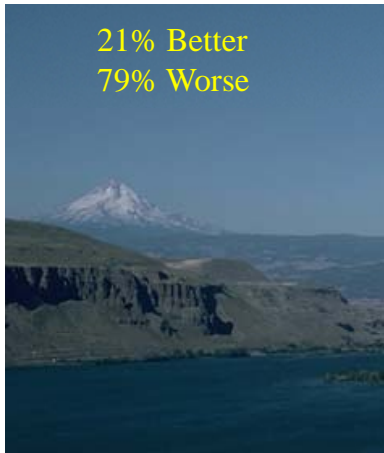
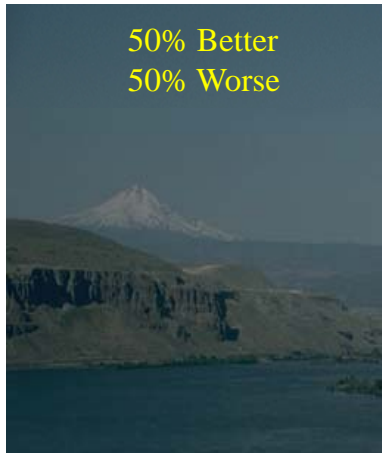


Figure ES-1. Spatial and Seasonal Pattern Map from the VIEWS Website. This data represents the 20% Worst Days for 2004 as represented by aerosol_bext. The underlying data is gathered from IMPROVE monitors and reported through the VIEWS website at the following web address: <http://vista.cira.colostate.edu/views/Web/AnnualSummary/ContourMaps.aspx>

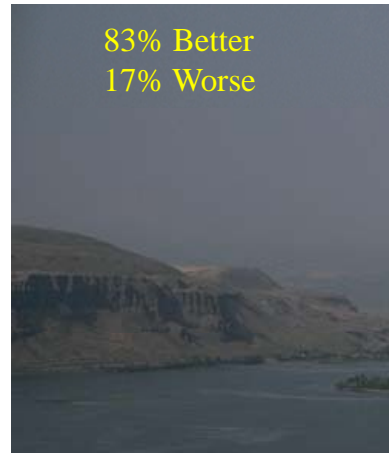
Air Quality in the Scenic Area



Pm2.5
3.6ug/m3



Pm2.5
6.8ug/m3



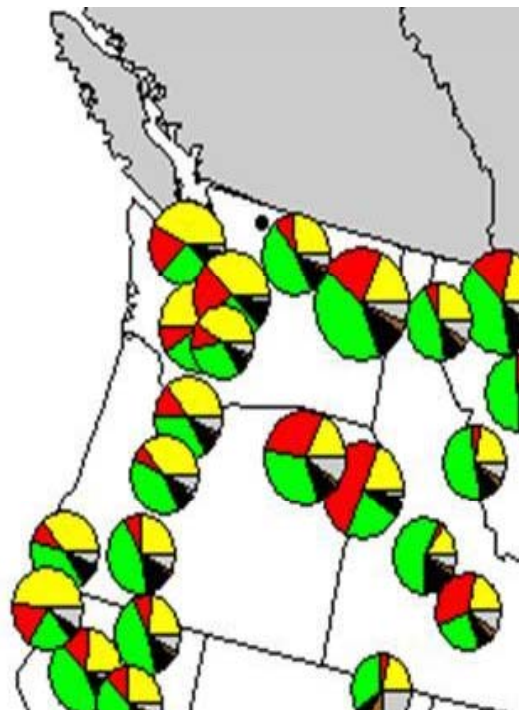
Pm2.5
14.7ug/m3

EPA Pm2.5 Human Health Standard is 35ug/m3

Northwest regional haze on days when visibility is the worst. 2000-2004

2000-2004 Baseline Average
20% Worst Days
IMPROVE Aerosol Extinction (Mm-1)

-  Ammonium Sulfate
-  Ammonium Nitrate
-  Organic Material
-  Elemental Carbon
-  Soil
-  Coarse Material



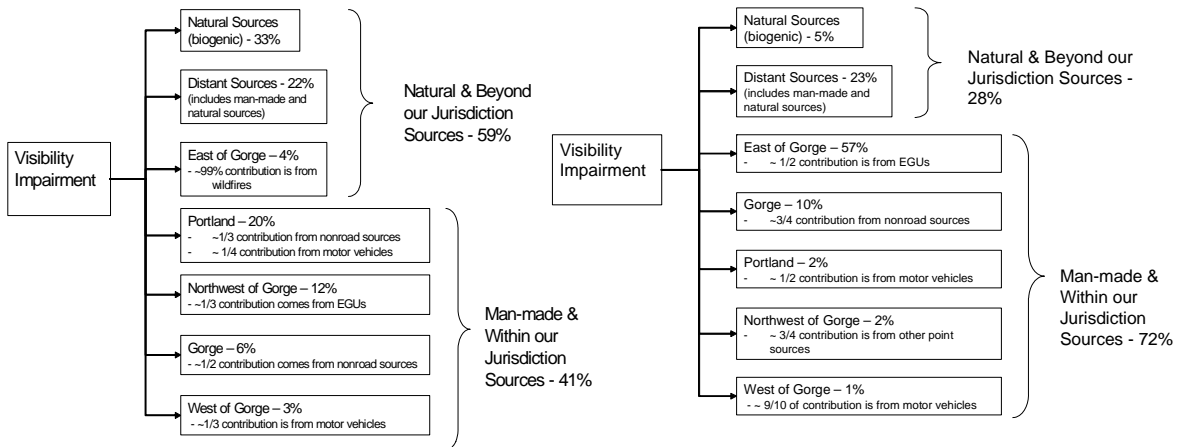


Columbia Gorge Air Study and Strategy Report

Overview of Haze Contributors - 2004

August 2004 – Contributing Sources to Haze at Mt. Zion (western end)

November 2004 – Contributing Sources to Haze at Wishram (eastern end)



- Because haze comes from so many places, no single action can “fix” the haze problem in the Gorge.
- There are strategies that can help make meaningful improvements (such as emission controls on PGE Boardman).
- There are other strategies that can help make small but meaningful improvements.
- Haze reduction will come over time as many different strategies across the region act together to reduce emissions.
- Something is being done now, or will soon be done, about each of the significantly contributing source categories.

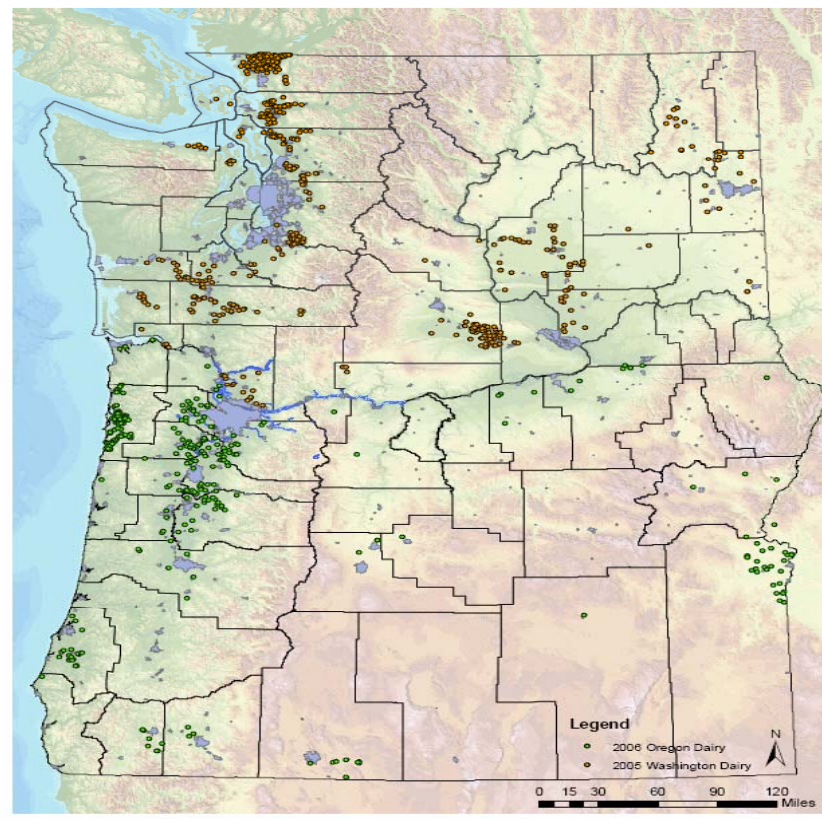


Columbia Gorge Air Quality Strategy Report

Regional Ammonia:

- Gorge visibility study points to importance of regional ammonia in the formation of haze. Ammonia plays a key role in haze chemistry. Combines with NO_x and SO₂ to form light scattering particles (sulfates and nitrates).
- The agencies’ computer analysis of test scenarios estimated the effect of total regional confined animal feeding operation (CAFO) ammonia with the exception of one day, ranges from 0 to 5.4 dv. This highlights the importance of total regional ammonia in haze formation.
- There are many sources of ammonia, including agricultural fertilizer use, transportation, and regional animal feeding operations, including dairies.
- **More work needs to be done** to better understand and estimate ammonia emissions from all sources, including general agriculture and CAFOs.

Regional Dairy Locations



Columbia Gorge Air Quality Strategy Report

Diaries:

- Oregon Dairy Task Force convened in January to evaluate dairy emissions and explore options for reducing those emissions. Report in July 2008.
www.deq.state.or.us/aq/dairy/index.htm
- DEQ and SWCAA hope Task Force will recommend an emission reduction approach. Agencies would also like to explore potential for bi-state collaborative project for reducing ammonia at Oregon and Washington dairies (other sources).
- Beyond the Dairy Task Force, other sources of regional ammonia should be evaluated as part of future federal Regional Haze work.