



## **Attribution of Haze Report (Phase I)**

# **Geographic Attribution for the Implementation of the Regional Haze Rule**

*Draft*  
**December 14, 2004**

### ***Table of Contents***

#### **Executive Summary**

#### **Chapter 1. Introduction**

- WRAP Overview and Problem Statement
- Two Phased Approach of the AoH Project and purpose of Phase I
- WRAP Region, Members, and Federal Areas Covered by the RHR
- Tribal Lands and Tribal Class I Areas in the West
- This approach uses emissions, modeling, and monitoring data, and no single approach is perfect, but together can support conclusions
- How this will process ultimately support development of SIPs and TIPs

#### **Chapter 2. Overview of WRAP Analytical Approach**

##### **2.1. Emissions**

- 2.1.1. Stationary Point Source Emissions
- 2.1.2. Area Source Emissions
- 2.1.3. Mobile Source Emissions
- 2.1.4. Dust Emissions from Paved and Unpaved Roads
- 2.1.5. Fugitive Dust
- 2.1.6. Fire Emissions
- 2.1.7. Biogenic Emissions
- 2.1.8. Ammonia Emissions
- 2.1.9. Emissions from Outside the WRAP Region
- 2.1.10. Emissions Assessment

## 2.2. Ambient Monitoring

### 2.2.1. IMPROVE Monitoring Network

### 2.2.2. Meteorological Monitoring

### 2.2.3. Monitoring Uncertainties

## 2.3. Modeling

### 2.3.1. Processing of Emissions inventories in SMOKE

### 2.3.2. MM5 meteorological processing

### 2.3.3. CMAQ

### 2.3.4. Model Performance Results

### 2.3.5. Model Uncertainties

### 2.3.6. Back Trajectory Model

## 2.4. Attribution Assessment Methods

### 2.4.1. Integration of Emissions, Ambient Monitoring, and Modeling Data

### 2.4.2. Tagged Species Source Attribution Method

### 2.4.3. Trajectory Regression Attribution Method

### 2.4.4. Method for Grouping of Sites into Regions with Similar Results

## **Chapter 3. Regional Attributions and Assessments**

### 3.1. Source Attribution Results for WRAP Regions

#### 3.1.1. Regional Attributions

#### 3.1.2. Results for Selected Sites (representative of regions)

#### 3.1.3. Results for Sites with Unique Qualities and Characteristics

#### 3.1.4. State Contributions Attributed to Individual Class I Areas

### 3.2. Regional Assessments

#### 3.2.1. Fire Assessment (includes assessment of natural and manmade fire impacts)

#### 3.2.2. Carbon Assessment

#### 3.2.3. Windblown Dust Assessment

### 3.3. Other Regional Issues

## **Chapter 4. Recommendations for Phase II**

### 4.1. Deficiencies Identified in Phase I

### 4.2. Modifications to 2002 “Interim” Emissions

### 4.3. Recommendations for Modeling Results

### 4.4. Recommendations for COHA Results

### 4.5. Description of what results are reasonable to expect from Phase II