

## 1. Overview

### Introduction

- Dust sources such as the Great Salt Lake and Sevier Dry Lake can be harmful to human health
- Sr isotope ratios may be used to fingerprint playa dust from source to sink

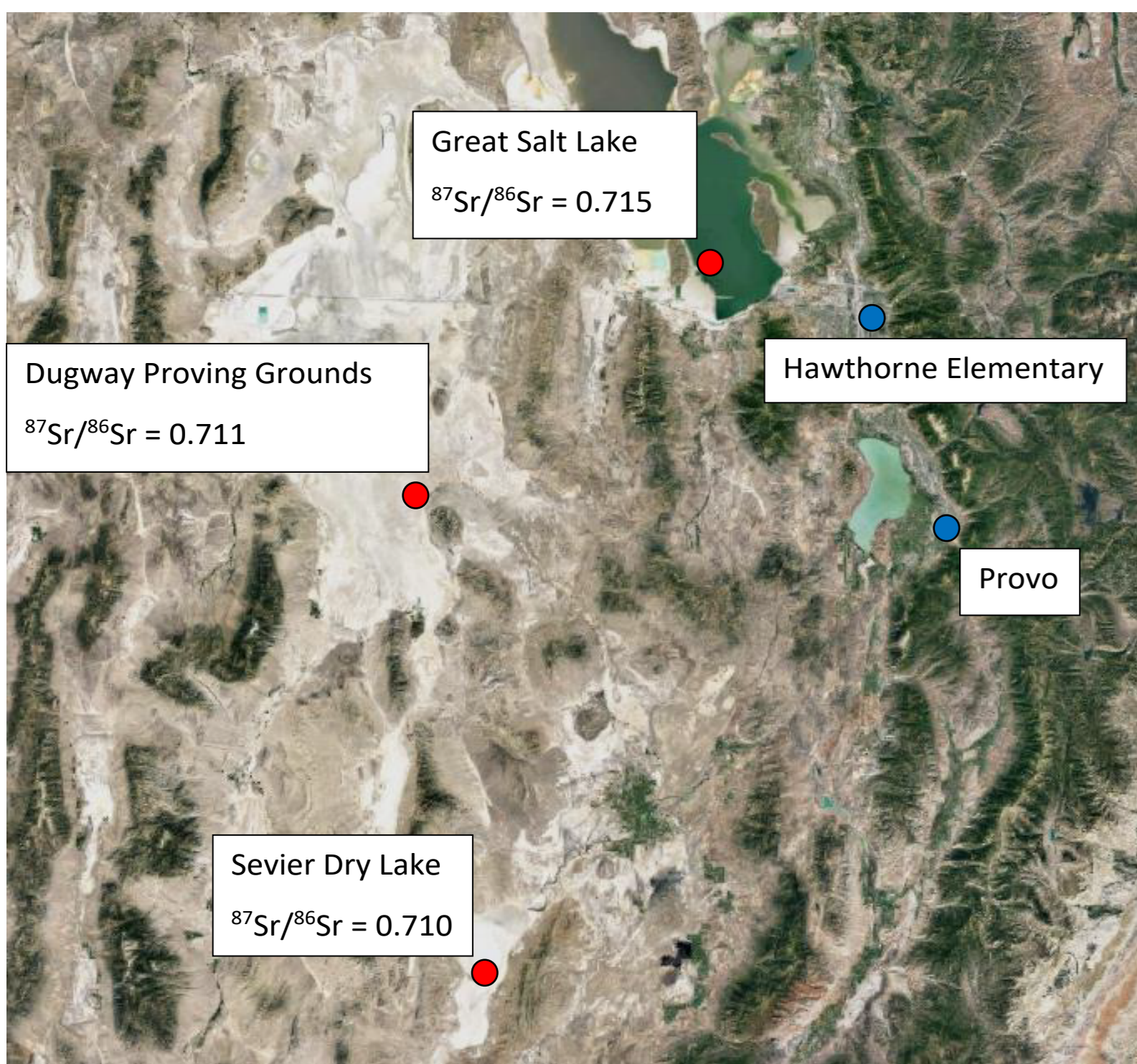
### Methods

- PM 2.5, PM 10, and total suspended particles (TSP) were collected biweekly using MiniVol auto-samplers
- Historic PM 10 provided by Utah Department of Air Quality (UDAQ) were collected daily
- Filters were analyzed for  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios and trace element concentrations
- Backward trajectory models were made using NOAA HYSPLIT model

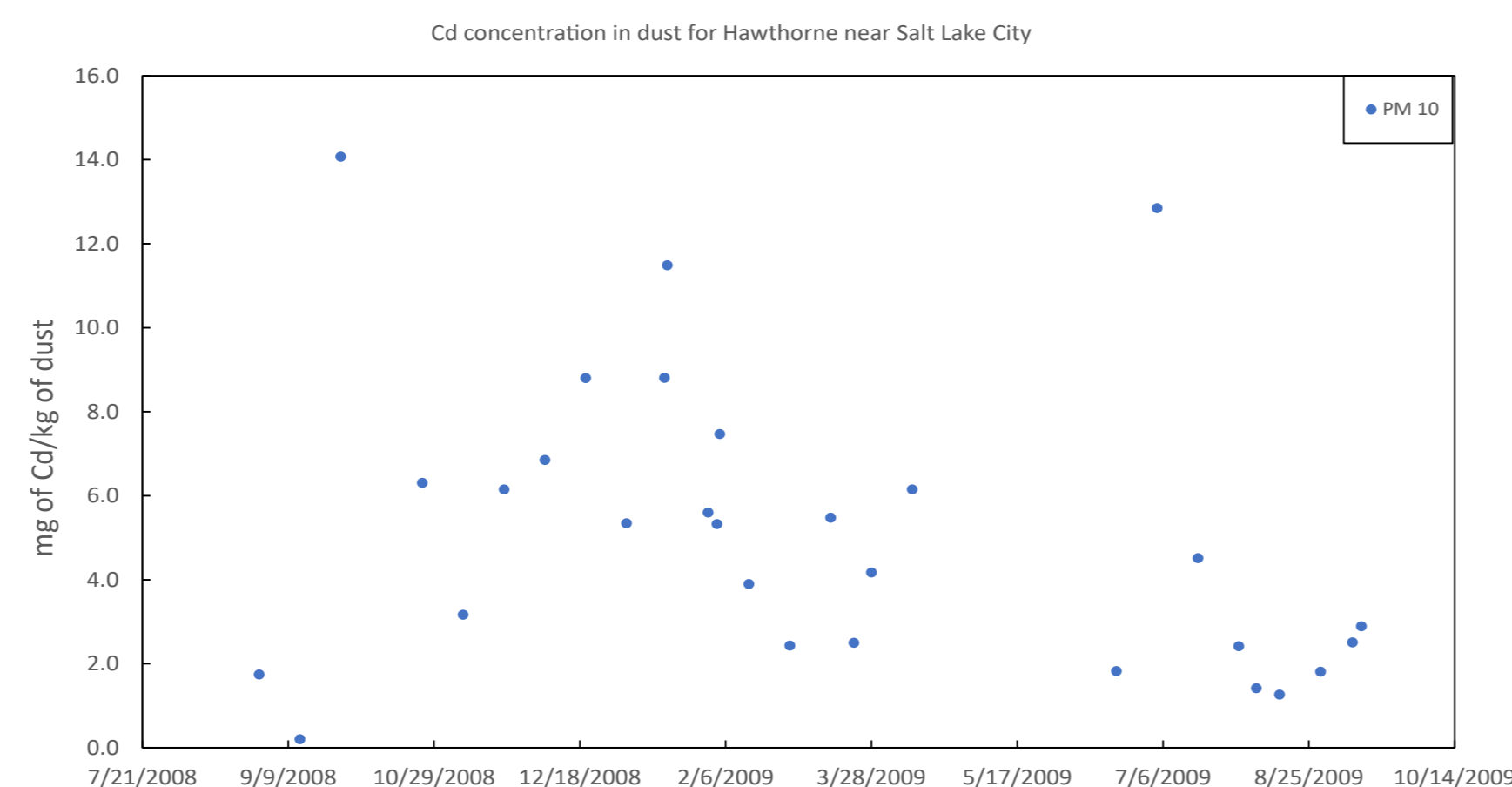
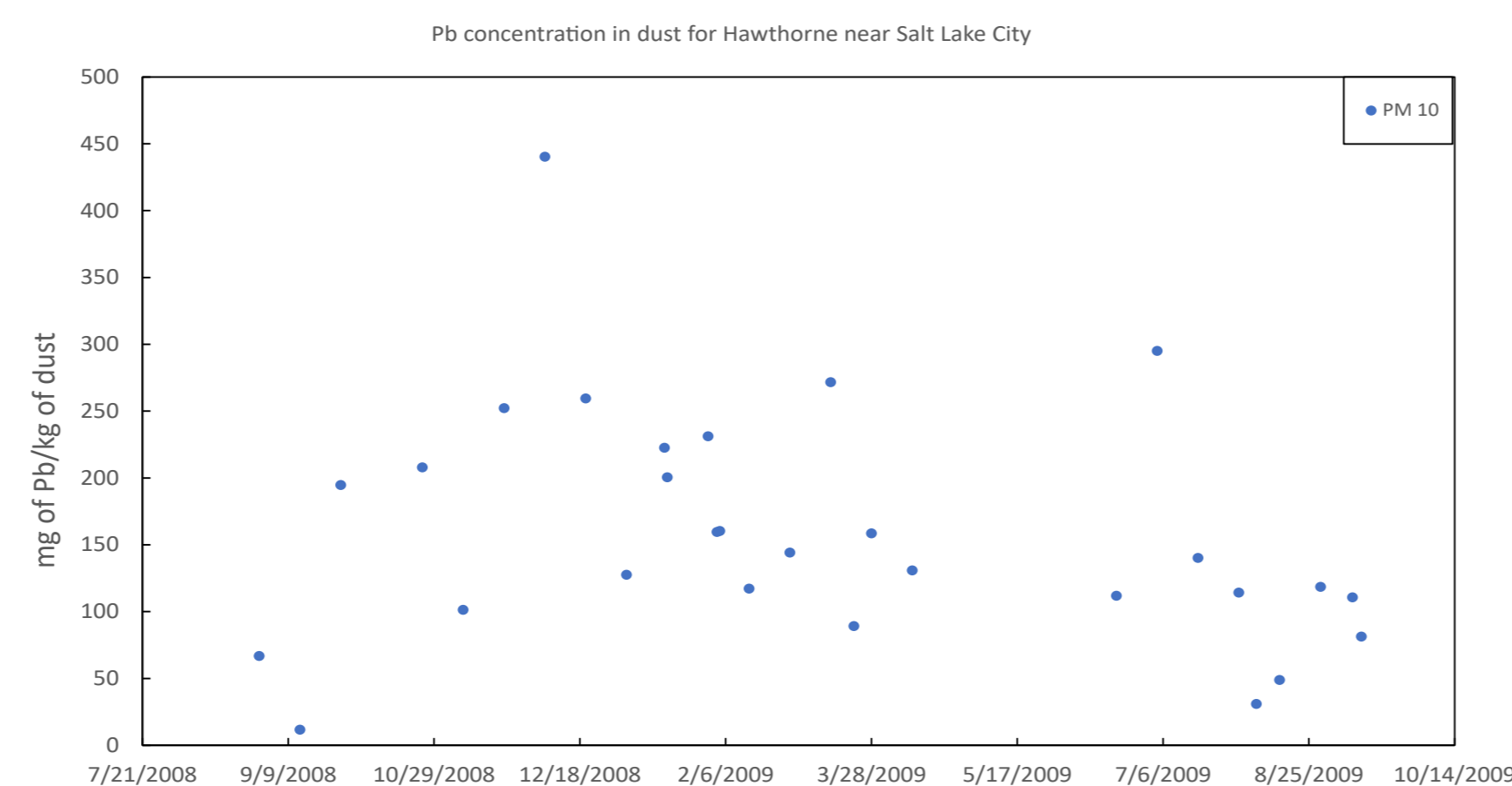
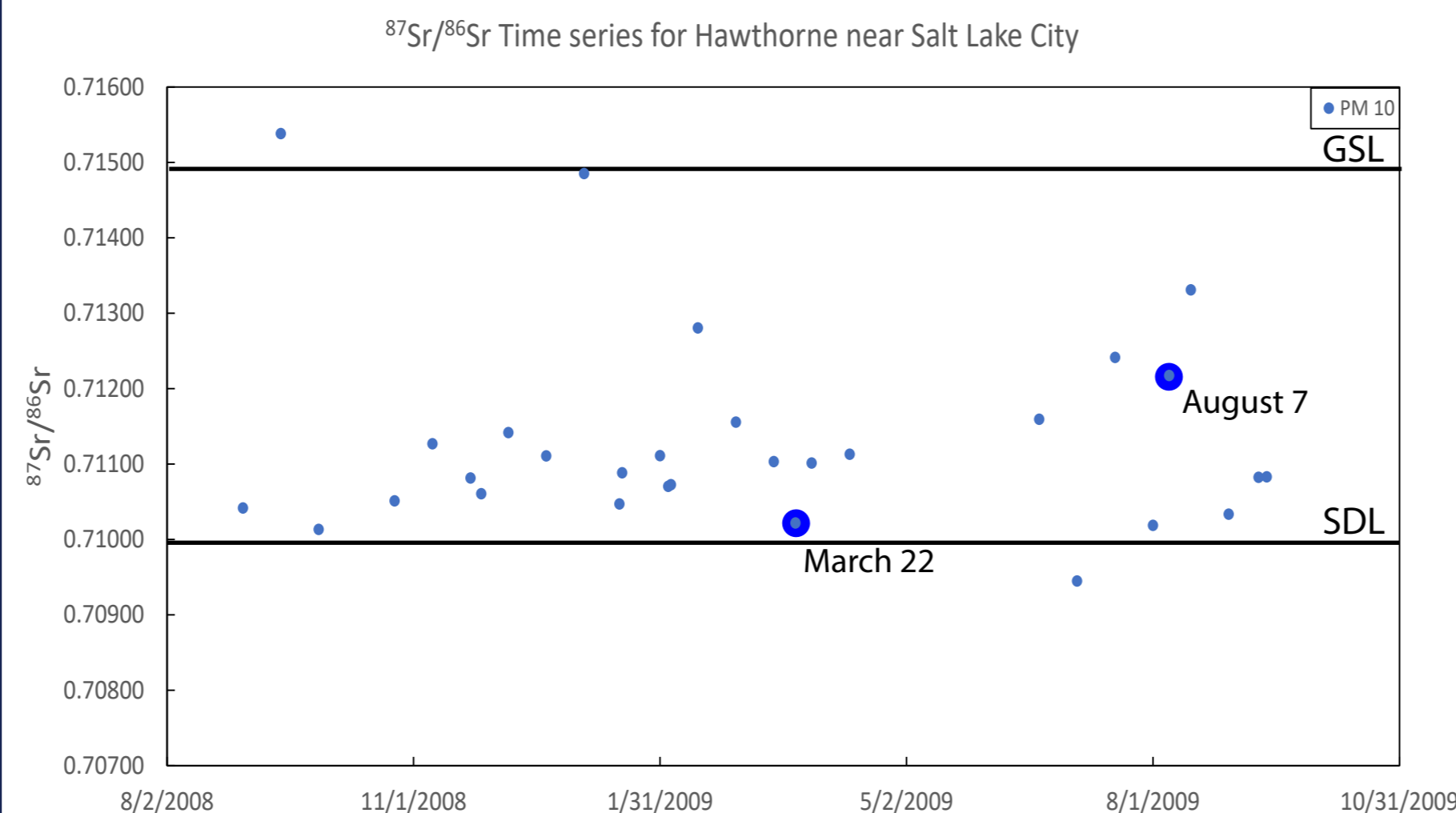
### Results

- 7 August 2009 dust event had a similar  $^{87}\text{Sr}/^{86}\text{Sr}$  to the Great Salt Lake
- 22 March 2009 event had a similar  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio to Sevier Dry Lake

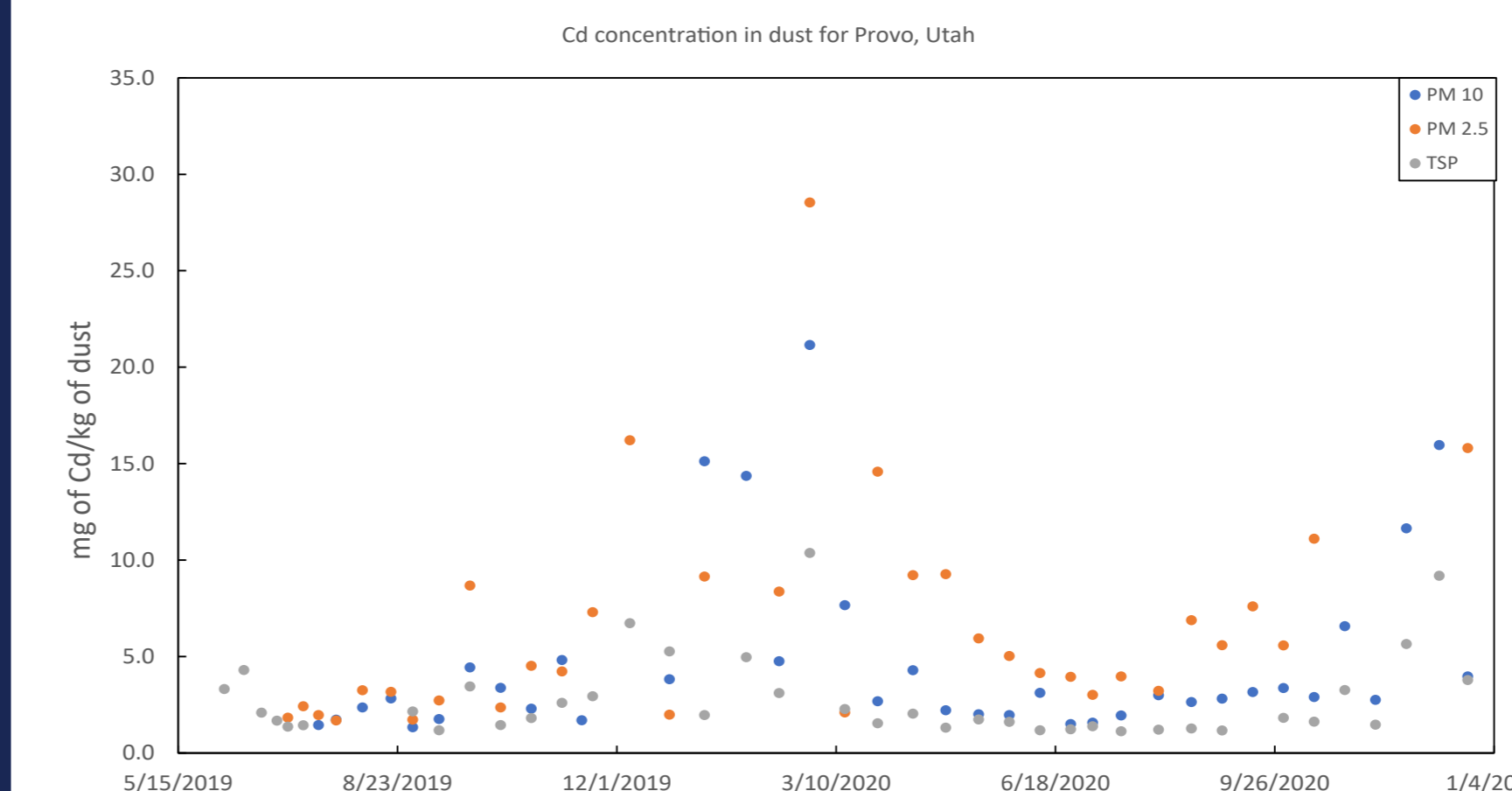
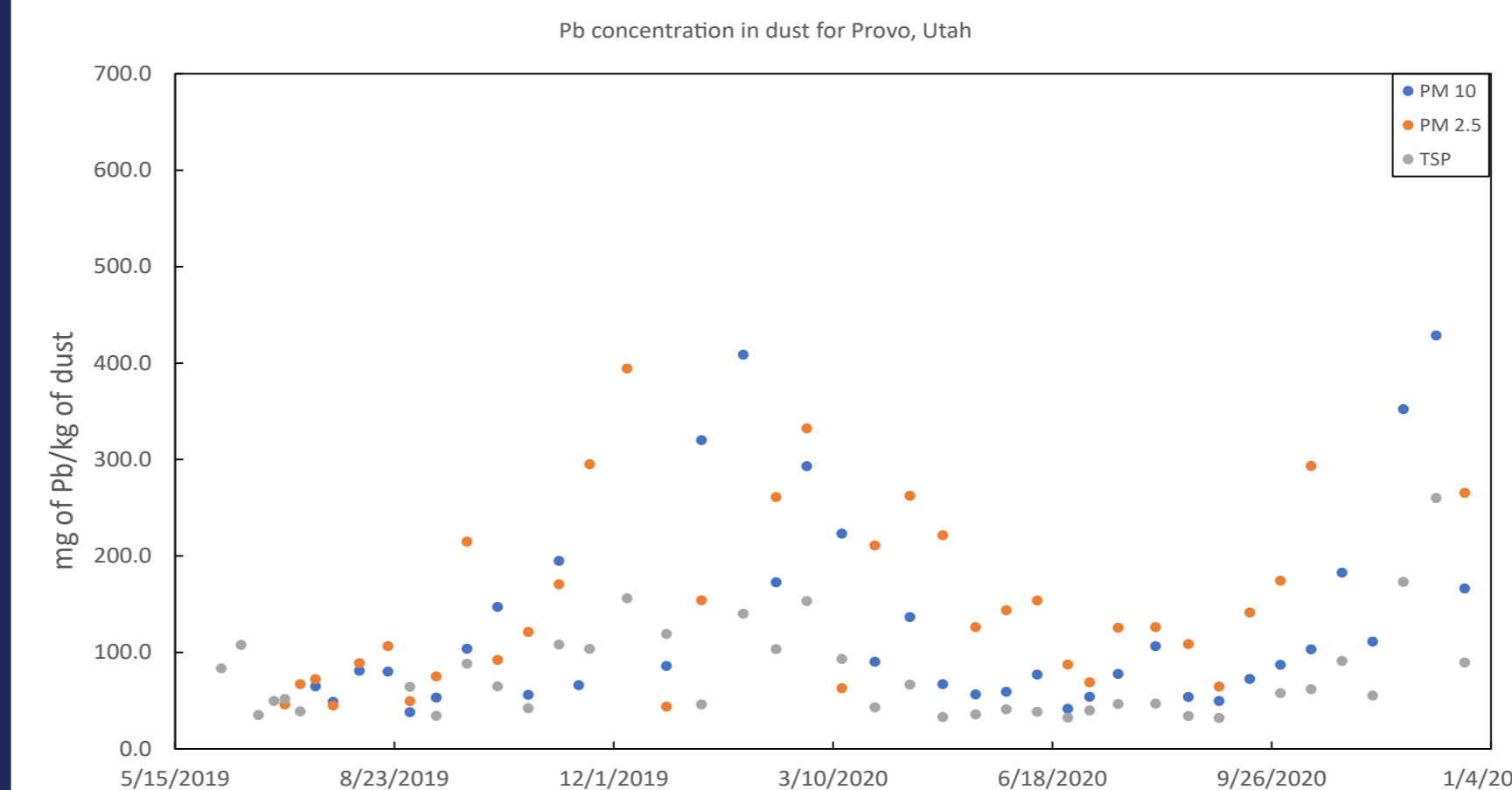
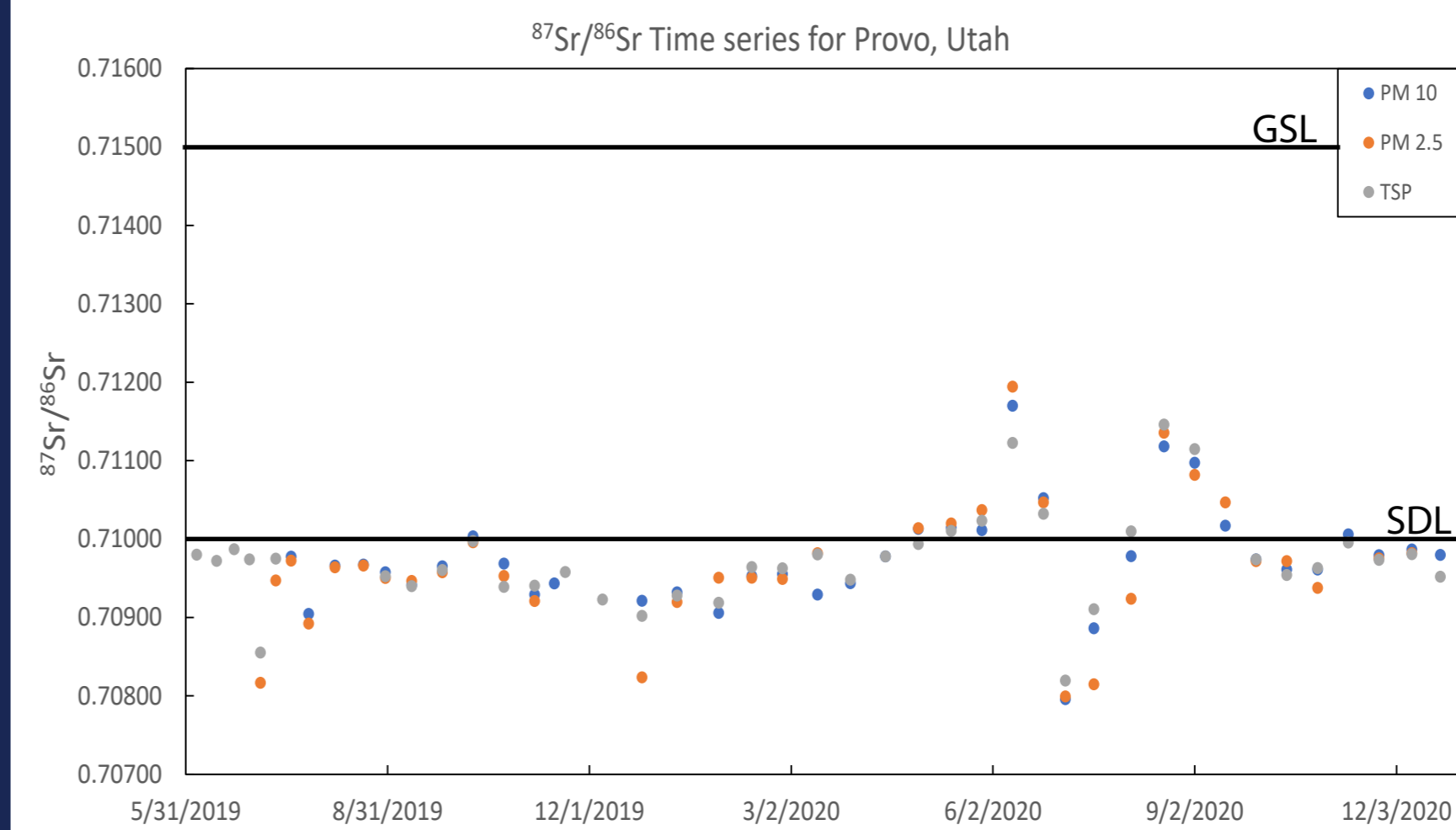
## 2. Area of Interest



## 3a. Results - Hawthorne

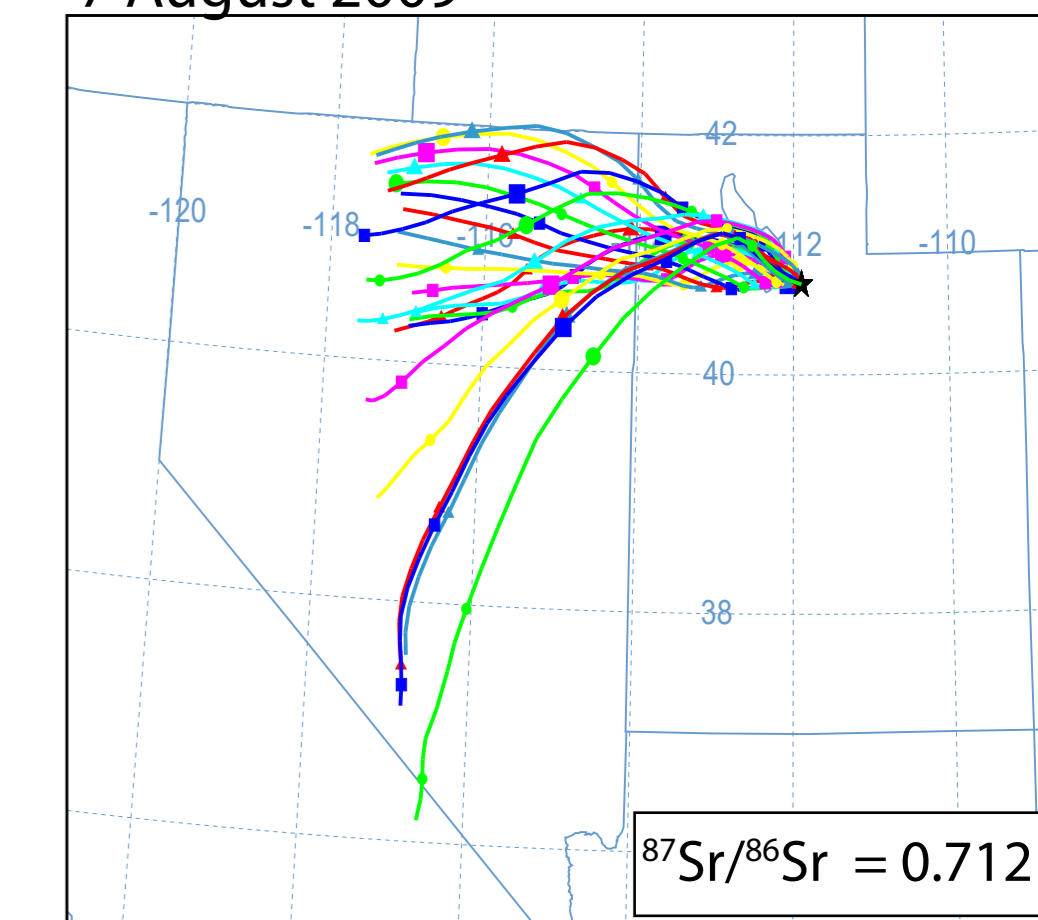


## 3b. Results - Provo



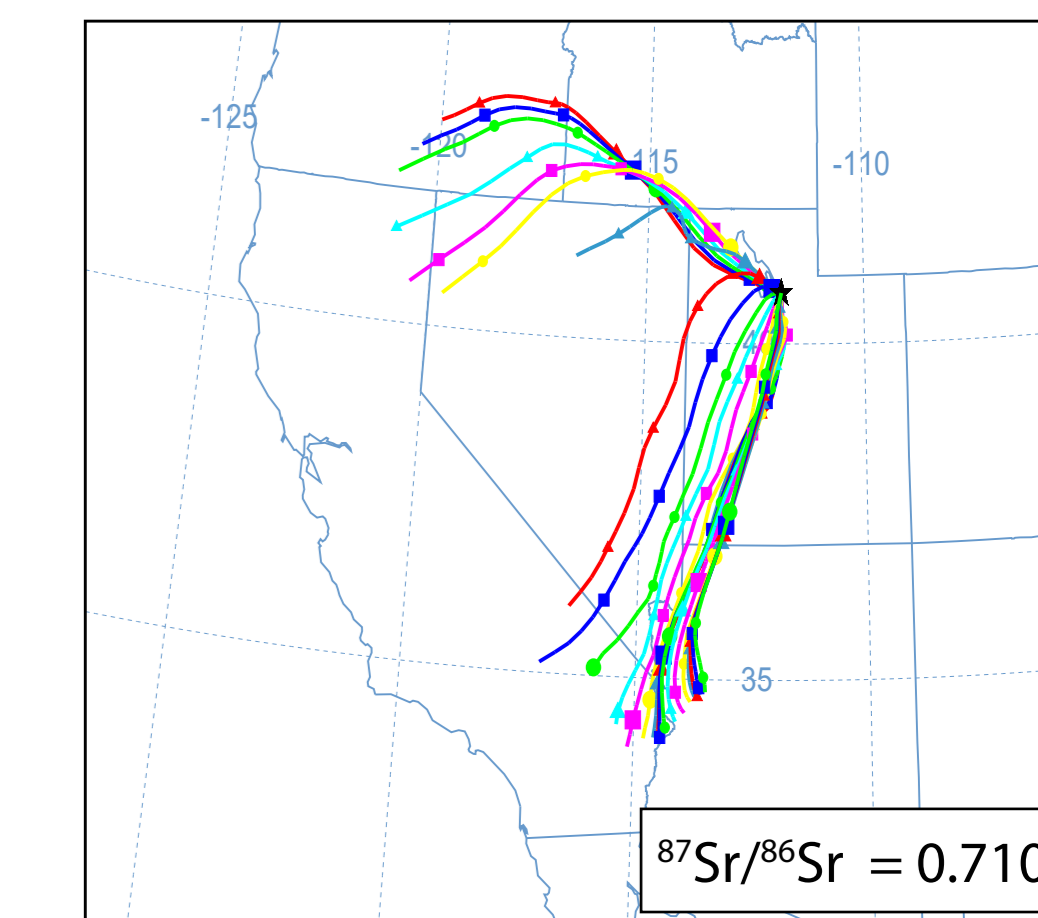
## 4. Discussion - Dust sources

### 7 August 2009



- Dust from west wind matches more closely to GSL

### 22 March 2009



- Dust from south wind matches more closely to SDL

## Acknowledgements

This project is funded a Utah Division of Air Quality Science for Solutions research grant titled: "Characterizing Air Quality Impacts from Exceptional Events along the Wasatch Front"