

Fresno Pesticide Monitoring

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B: Central California Environmental Justice Network (CCEJN)

C: AJWA Analytical Laboratories



Project Motivation

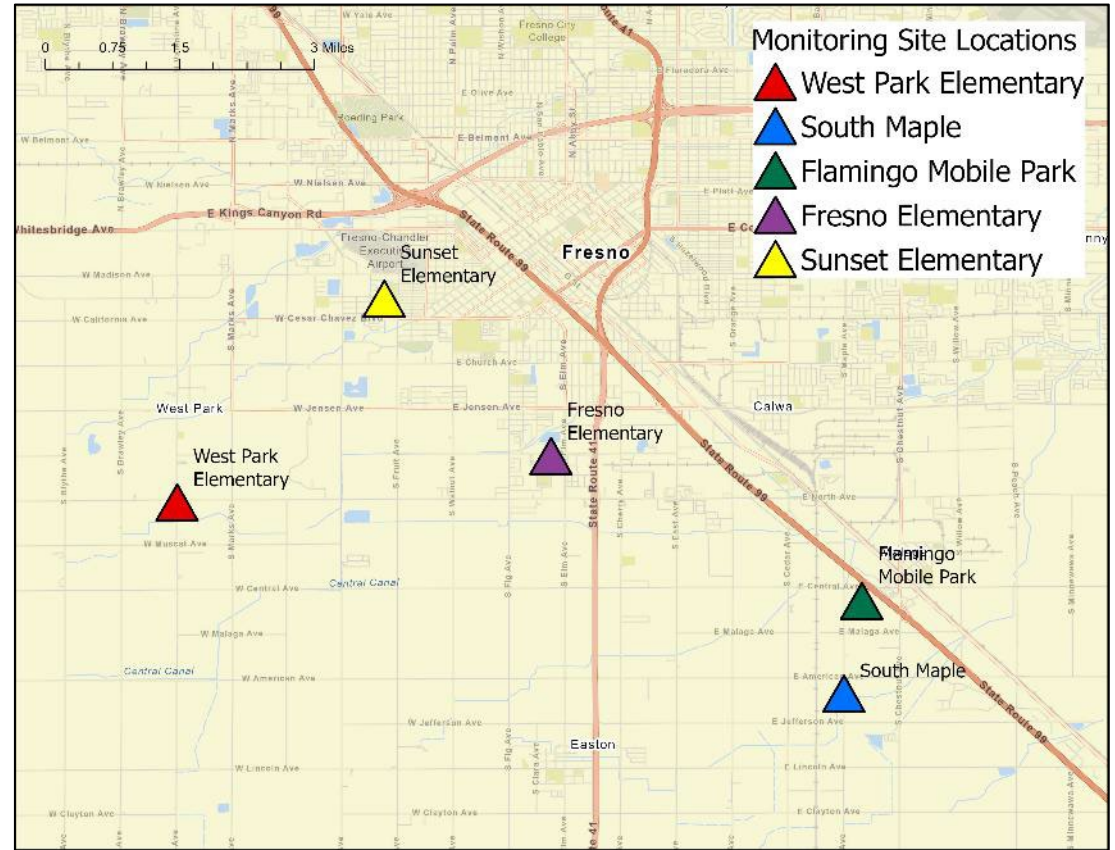
- Pesticides are frequently applied near populated areas but concentrations in the air are not often monitored
- Exposure to pesticides in the air can result in a series of adverse health outcomes including¹:
 - Cancer
 - Respiratory disorders
 - Neurological disorders
 - Reproductive syndromes
- We do not fully understand when and why pesticide exposure may occur



Pesticide Monitoring Locations

- Five pesticide monitoring stations were set up across South Fresno from Nov 2024 through May 2025
 - Focus within the AB617 South Central Fresno Community
 - Closer to the urban center and in neighborhoods close to fields
- Sampling sites are located between one and six miles apart

Locations of Pesticide Sampling Stations within Fresno



Equipment Setup

- Collected 48-hour samples of three different types of pesticides over six months during November 2024 - May 2025
- Measurements included several known toxic compounds:
 - 1,3-Dichloropropene (1,3-D), or Telone
 - Methyl Isothiocyanate (MITC)
 - Chloropicrin
- We will focus on 1,3-D in subsequent slides

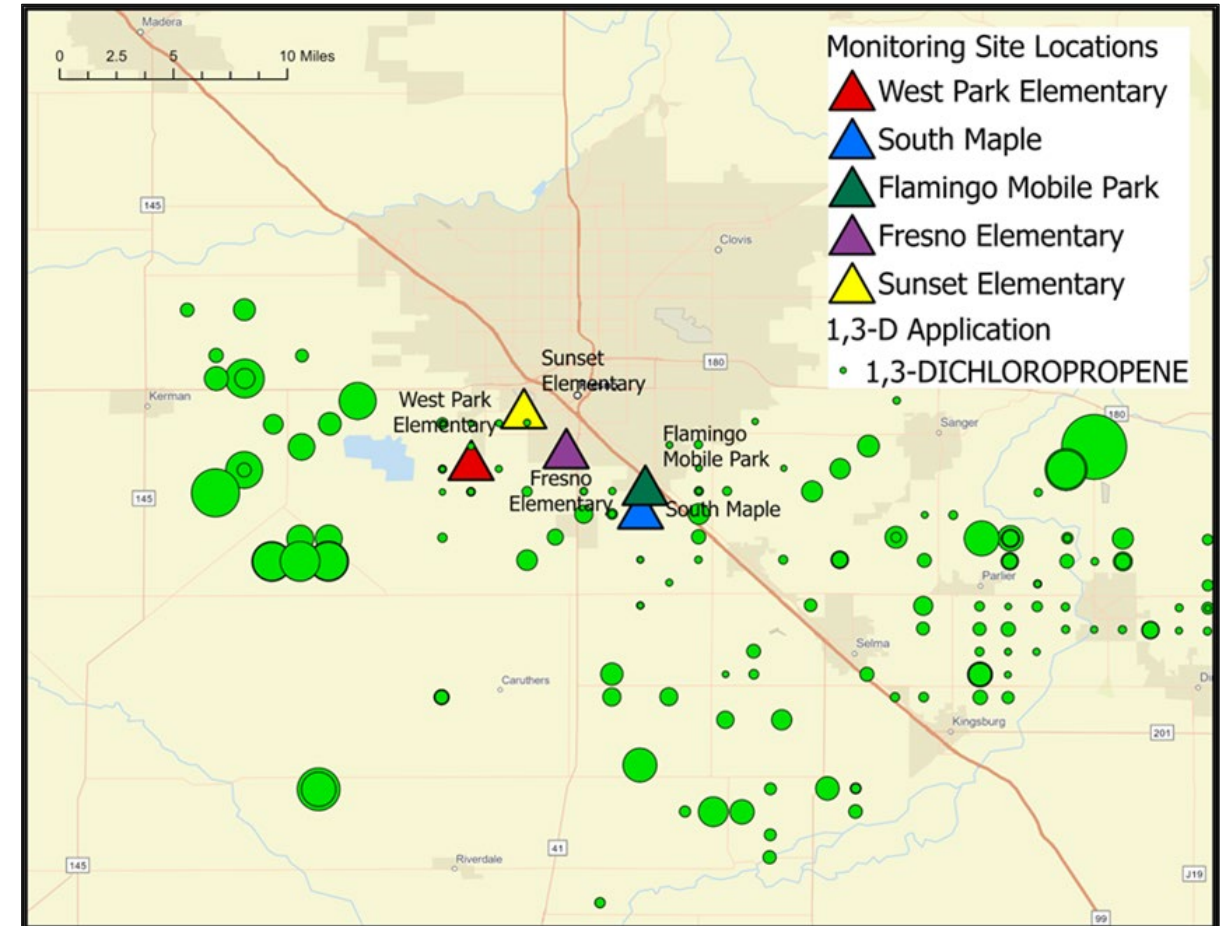
Pesticide Monitoring Equipment Setup within Fresno



Pesticide Application within Fresno Varies Spatially

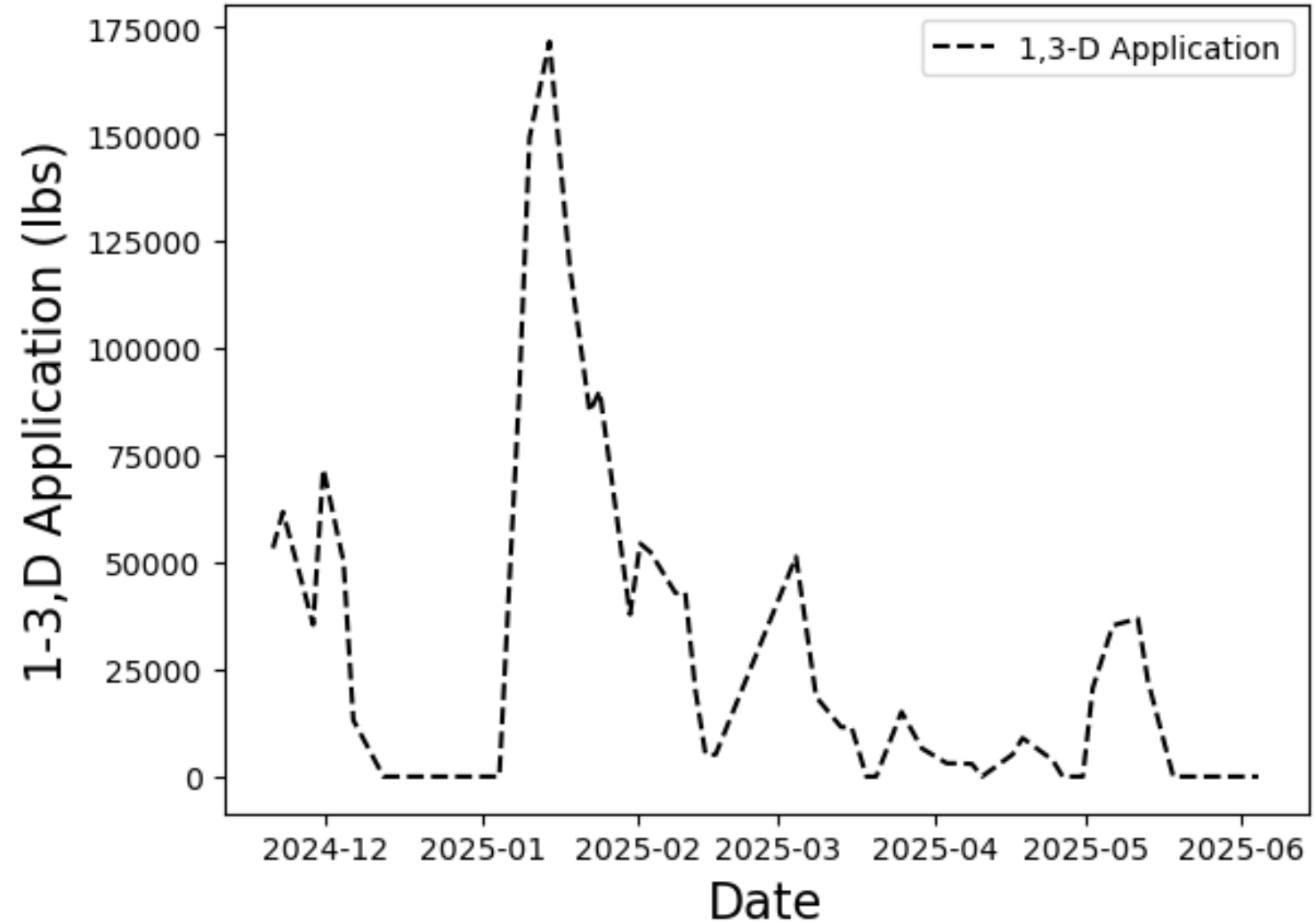
- 1,3-D applications most occur in Southeast and Southwest Fresno
 - Application data from pesticide use reports (PURs) for Fresno County
- From November 2024 through June 2025, over 75,000 pounds of 1,3-D were applied within four miles of one of our monitoring sites

Pesticide Sampling Sites and 1,3-D Applications within Fresno



Pesticide Application Within Fresno Varies Seasonally

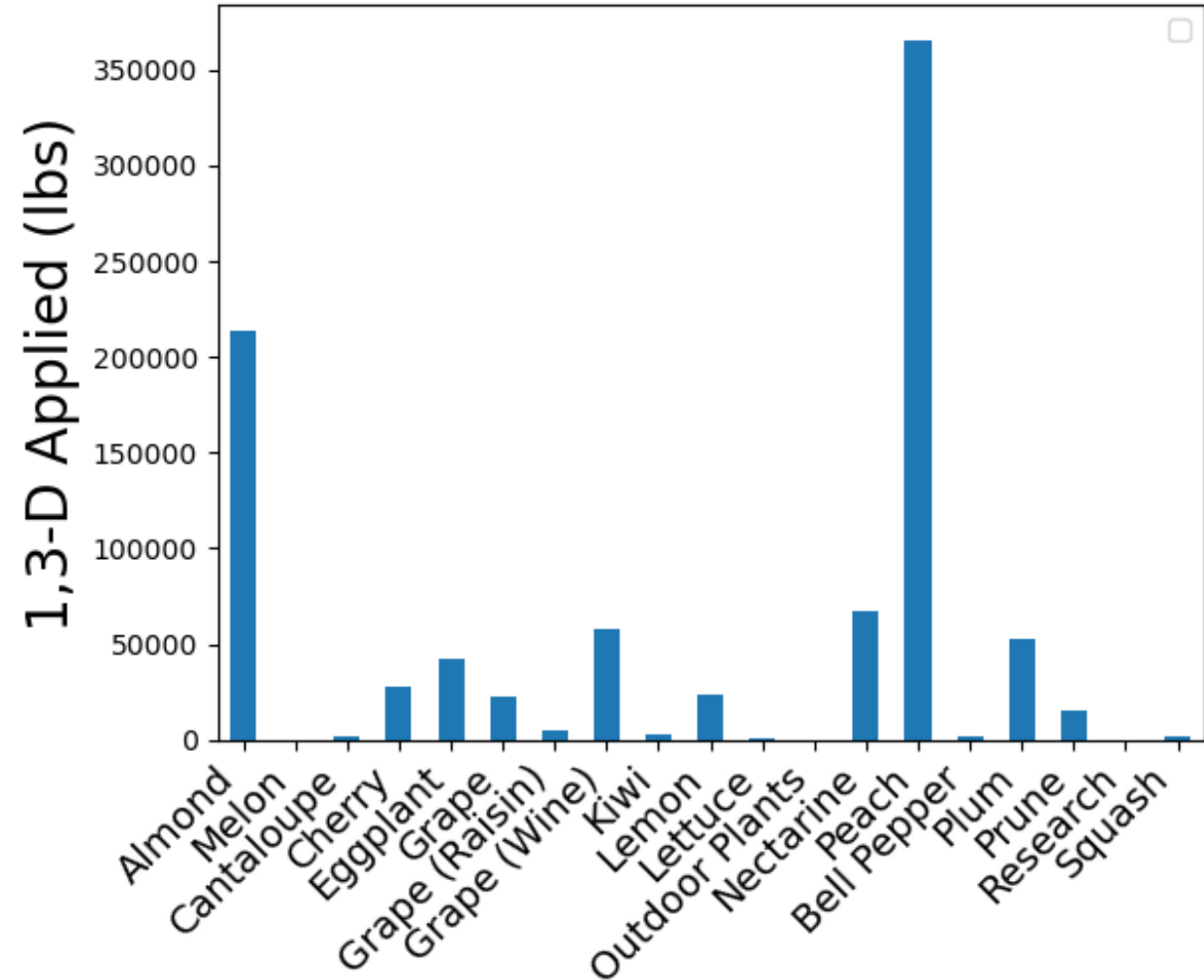
- 94% of applications occur on weekdays
- Greatest 1,3-D applications occur from January through early February
- 1,3-D use is prohibited during December, but we still observe high concentrations for the first half of the month



1,3-D is Applied to a Variety of Different Crops

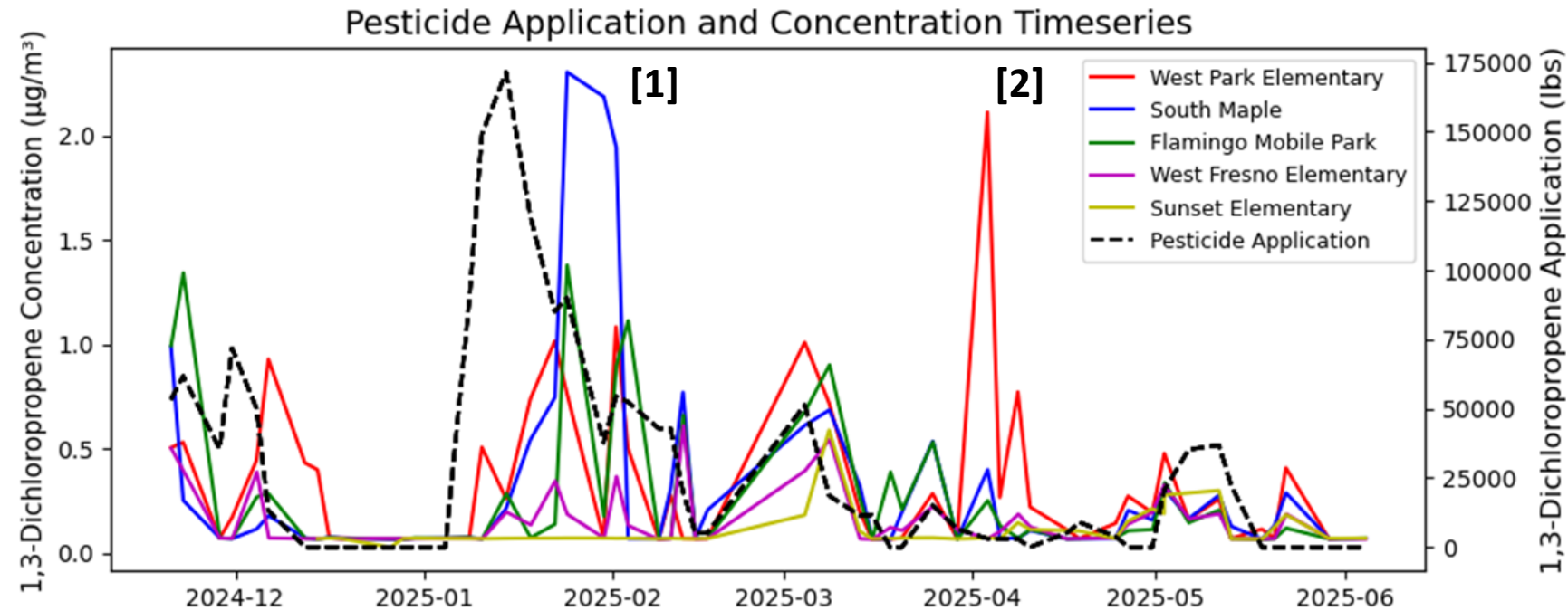
- 1,3-D application varies seasonally with agricultural cycles for different crops
- Almonds and peaches account for the majority of 1,3-D applications

1,3-D Application within Fresno County from Nov 2024-Jun 2025



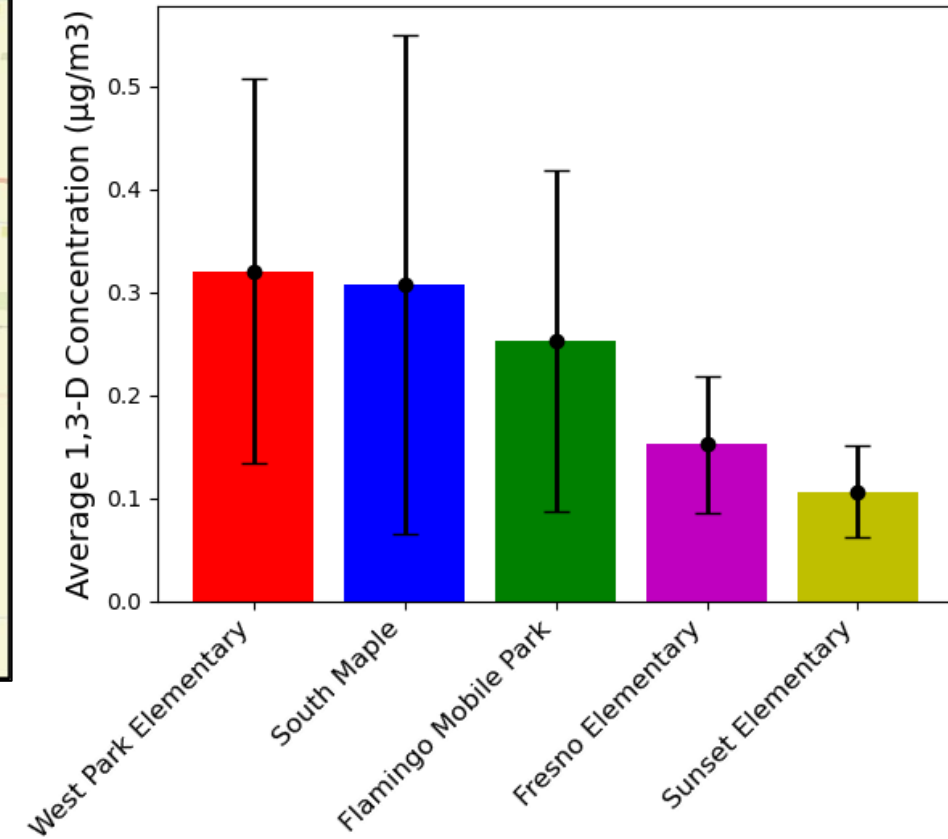
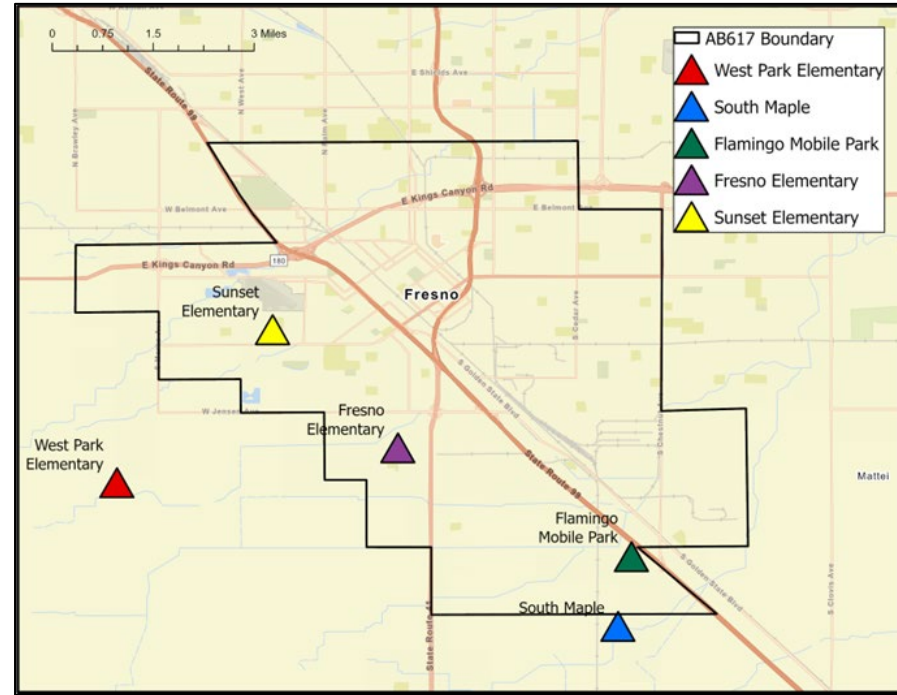
1,3-D Concentrations Change Over Time

- High 1,3-D concentrations tend to follow periods of elevated 1,3-D application [1]
- Occasionally 1,3-D spikes occur without recorded applications [2]



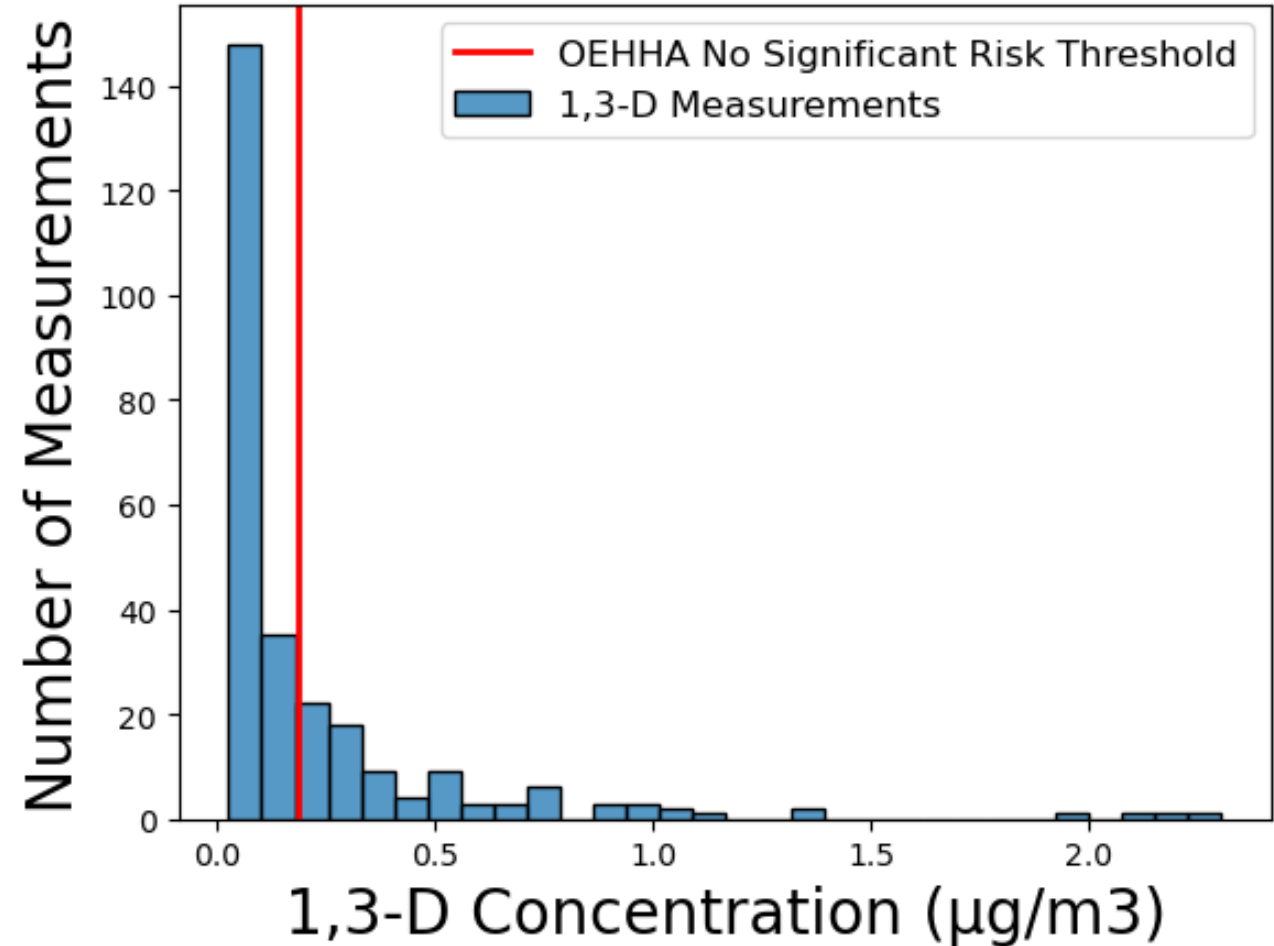
1,3-D Concentrations Vary Between Monitoring Sites

- 1,3-D is highest at monitoring sites closest to pesticide application
- Average pesticide concentrations are significantly different between nearby monitoring sites



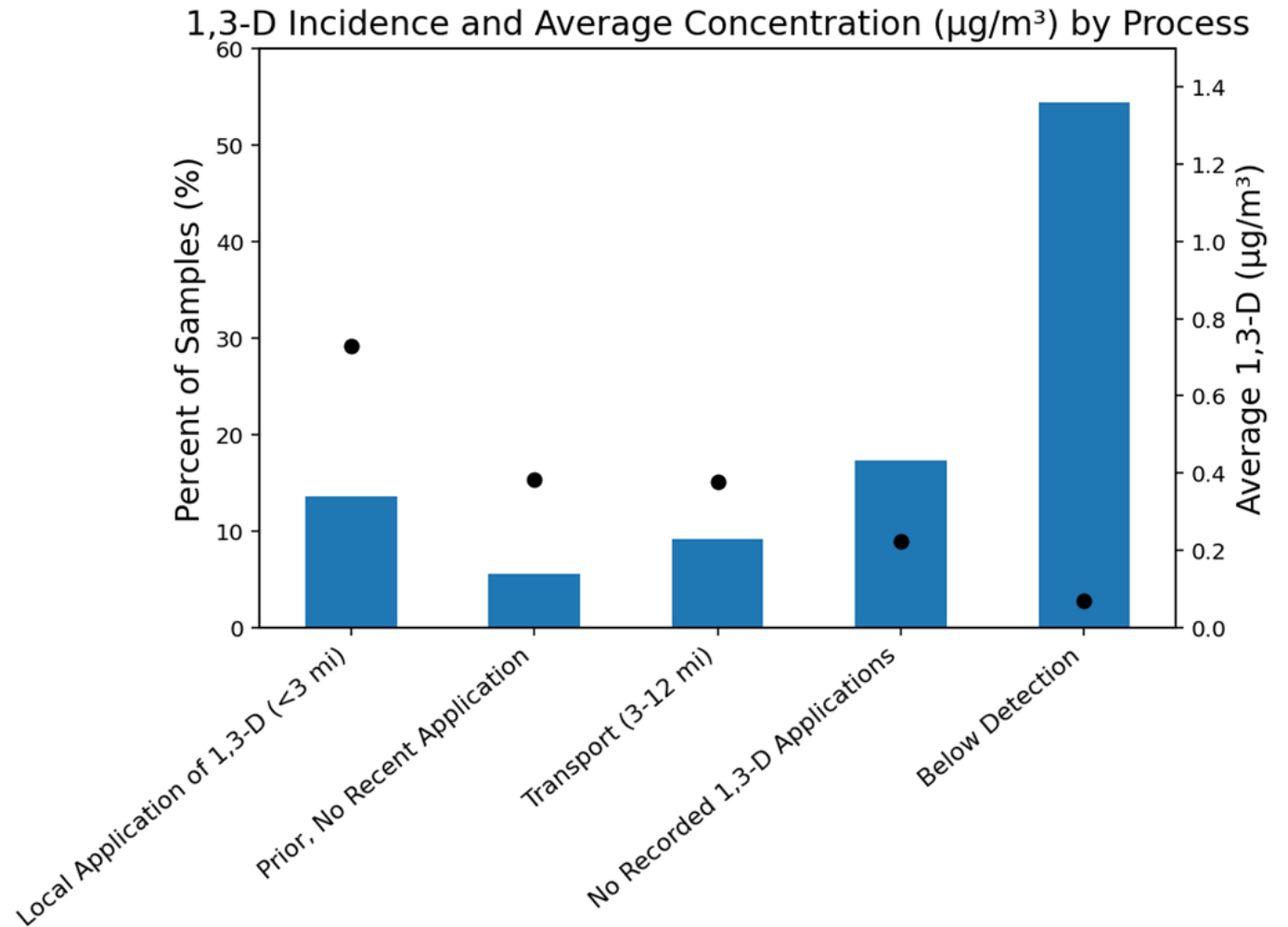
What are we finding?

- Most reported concentrations below the method detection limit
- One third of our 1,3-D measurements are above OEHHA's daily 'No Significant Risk' threshold
 - 0.185 $\mu\text{g}/\text{m}^3$
- Assuming no additional exposure for the remainder of the year, **average** concentrations are below OEHHA's daily 'No Significant Risk' level



What are we finding?

- Local 1,3-D applications cause the majority of measured 1,3-D mass
- Transport and emissions from previously applied 1,3-D contribute to pesticide exposure
- Some contribution from applications without corresponding records





How do our concentrations compare to reported DPR values?

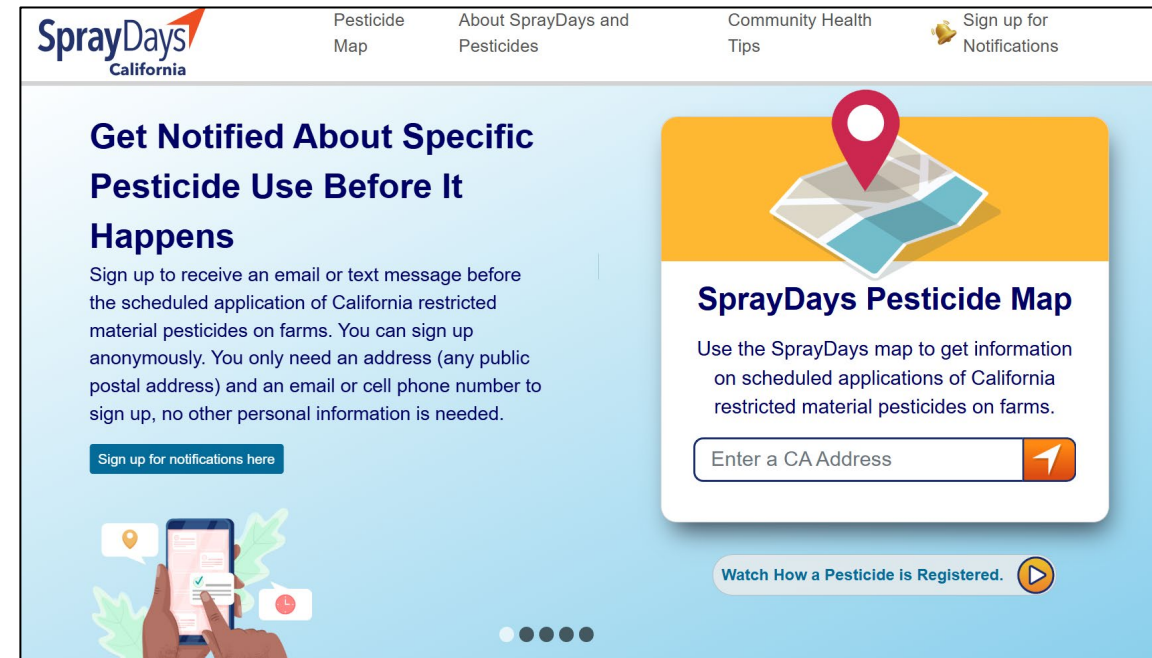


	This Study	DPR 2022 Parlier*	DPR 2022 Urban Statistics†
<i>Average 1,3-D (µg/m3)</i>	0.11-0.32	4.5	0.09

Note: All averages from this study are below DPR and OEHHA chronic and sub-chronic health thresholds

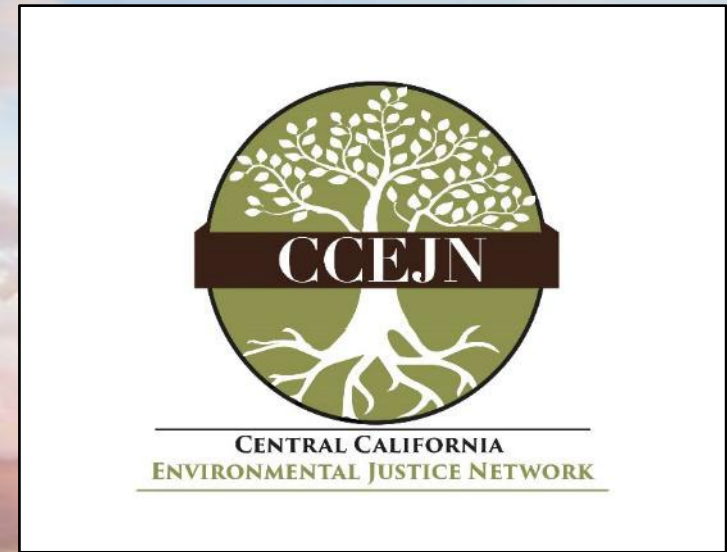
What can you do to reduce your pesticide exposure?

1. Sign up for pesticide application alerts ([SprayDays California](#))
 - a. Be especially aware of applications that are occurring locally
2. Increase indoor airflow when local pesticide application occurs
3. Where possible, reduce intense outdoor activity during and immediately after periods of pesticide application
4. Report unregistered pesticide applications to the Fresno Agriculture Commission (559-600-7510)



The screenshot shows the SprayDays California website. The navigation bar includes links for "Pesticide Map", "About SprayDays and Pesticides", "Community Health Tips", and "Sign up for Notifications". The main content area features a heading "Get Notified About Specific Pesticide Use Before It Happens" with a sub-heading "Sign up to receive an email or text message before the scheduled application of California restricted material pesticides on farms. You can sign up anonymously. You only need an address (any public postal address) and an email or cell phone number to sign up, no other personal information is needed." Below this is a "Sign up for notifications here" button. To the right is a "SprayDays Pesticide Map" section with a map icon and a text box that says "Use the SprayDays map to get information on scheduled applications of California restricted material pesticides on farms." Below the text box is an input field labeled "Enter a CA Address" with a search icon. At the bottom right, there is a "Watch How a Pesticide is Registered." button with a play icon. The website also features a "Sign up for notifications here" button and a "Watch How a Pesticide is Registered." button.

Questions?



This project is funded by violating responsible parties through the California Air Resources Board's supplemental environmental projects (SEP) program.

Sources

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[Final Regulatory Text, Proposition 65, No Significant Risk Level for 1,3-Dichloropropene \(Telone\) -](https://oehha.ca.gov/sites/default/files/media/downloads/cnr/13dnsrfinalregulatorytextrevised.pdf)
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[Initial Statement of Reasons: 1,3-Dichloropropene; Proposition 65 Safe Harbors](https://oehha.ca.gov/sites/default/files/media/downloads/cnr/13-dnsrlisor102221.pdf) - <https://oehha.ca.gov/sites/default/files/media/downloads/cnr/13-dnsrlisor102221.pdf>

[View Document - California Code of Regulations](https://govt.westlaw.com/calregs/Document/IBBC153FD512211EC828B000D3A7C4BC3?transitionType=Default&contextData=%28sc.Default%29) -
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[1,3-Dichloropropene Pesticides \(Fumigant\)](https://www.stanag.org/pdf/permit-conditions/2023/J-1,3-Dichloropropene_(Telone)-2023.pdf) - [https://www.stanag.org/pdf/permit-conditions/2023/J-1,3-Dichloropropene_\(Telone\)-2023.pdf](https://www.stanag.org/pdf/permit-conditions/2023/J-1,3-Dichloropropene_(Telone)-2023.pdf)