

Ron Evans, Phil Dickerson
 Office of Air Quality Planning and Standards, US EPA, Research Triangle Park, NC

Amara Holder, Karoline Barkjohn, Andrea Clements
 Office of Research and Development, US EPA, Research Triangle Park, NC

Sim Larkin, US Forest Service, Seattle WA
 Stuart Illson, University of Washington, Seattle WA



AirNow Fire & Smoke Map
ASIC May 13, 2022
fire.airnow.gov

AirNow Fire & Smoke Map: Background

- Two primary goals:
 - Provide additional PM_{2.5} air quality information for the public to use to protect their health during fire and smoke events in near real time
 - Provide greater spatial coverage where permanent monitors do not exist
- Give the public the ability to see air quality information from permanent monitors and sensors in a consistent, scientifically based format
- This consistent “apples to apples” format is important because:
 - As sensor use increases so does the potential for conflicting information and public confusion
 - Sensor websites display data differently and at different time scales than AirNow and state websites
 - Private sector AQIs differ from the US AQI



AirNow Fire & Smoke Map: Public Impact

- Released in August 2020
- Heavy usage
 - Over 23 million page views since initial release
 - 7.5 million in 2020 fire season
 - Over 13 million in 2021, 10% viewed on AirNow app
 - Over 400,000 on one day
 - Definite tie to wildfire in urban areas
 - Many significant wildfires during Fall 2021 were not near urban areas so usage not as high when wildfires near urban areas
 - Heavy use when wildfires in urban areas, during January 2022 wildfire in Colorado usage increased from 2,000 to 58,000 in a day
 - Significant increase in number of sensors
 - Roughly 7,500 for initial release
 - About 13,000 currently



Special Smoke Statement Issued for Your Location

Location
Conditions
Icons

Smoke Statement Notification

Smoke Plume

Smoke Statement Boundary Box

Permanent Air Quality Monitor

Low-Cost Sensor

Temporary Air Quality Monitor

Satellite Detect

Large Fire

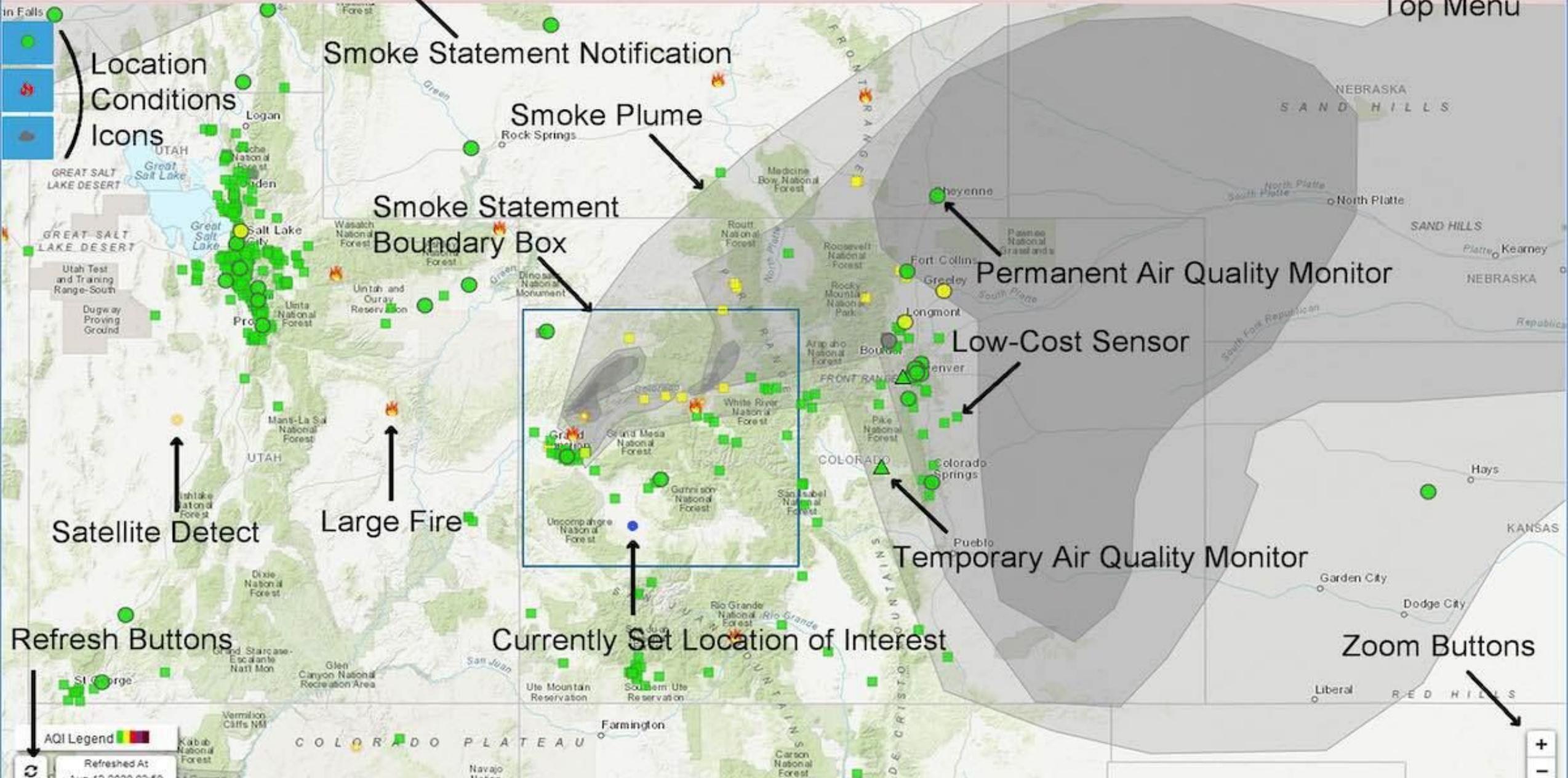
Currently Set Location of Interest

Zoom Buttons

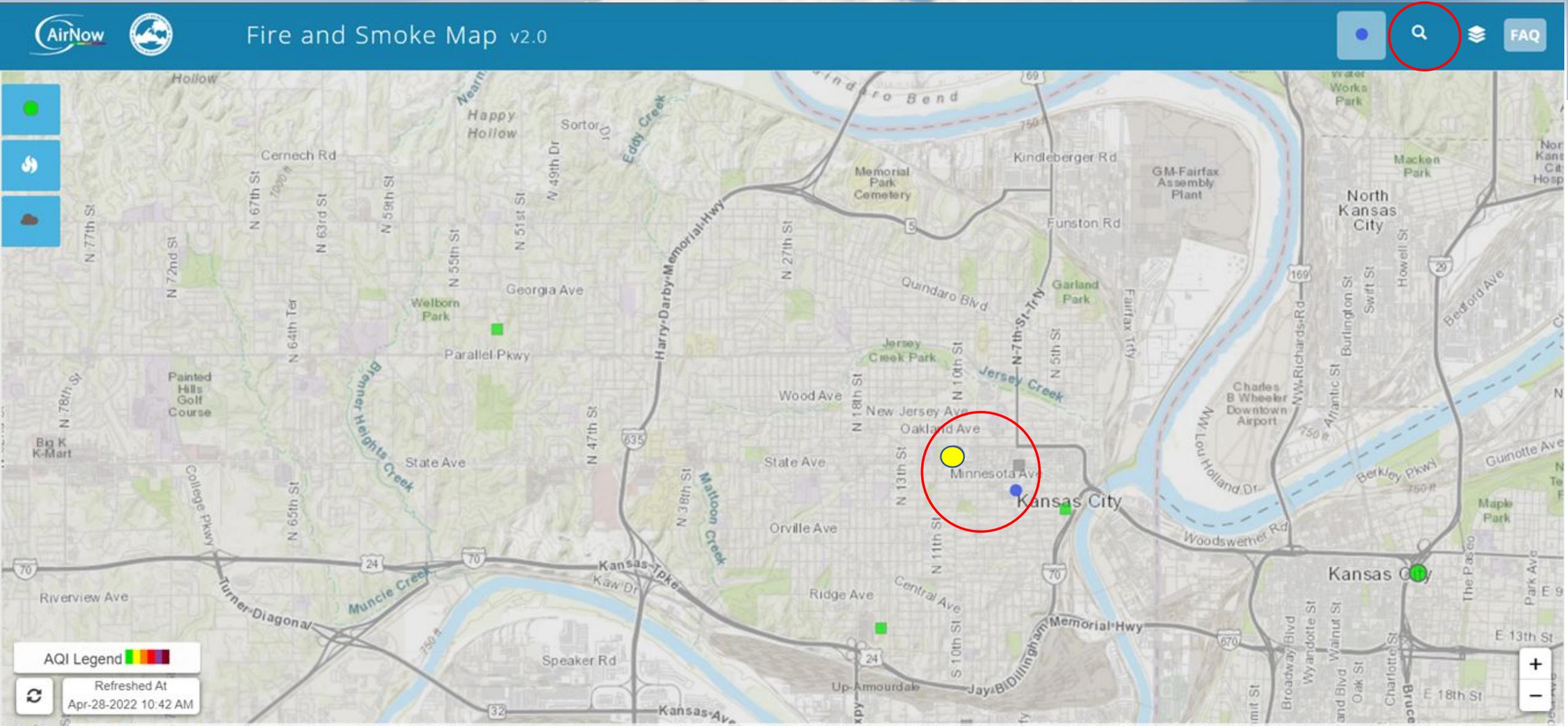
Refresh Buttons

AQI Legend

Refreshed At



AirNow Fire & Smoke Map: Picking a location



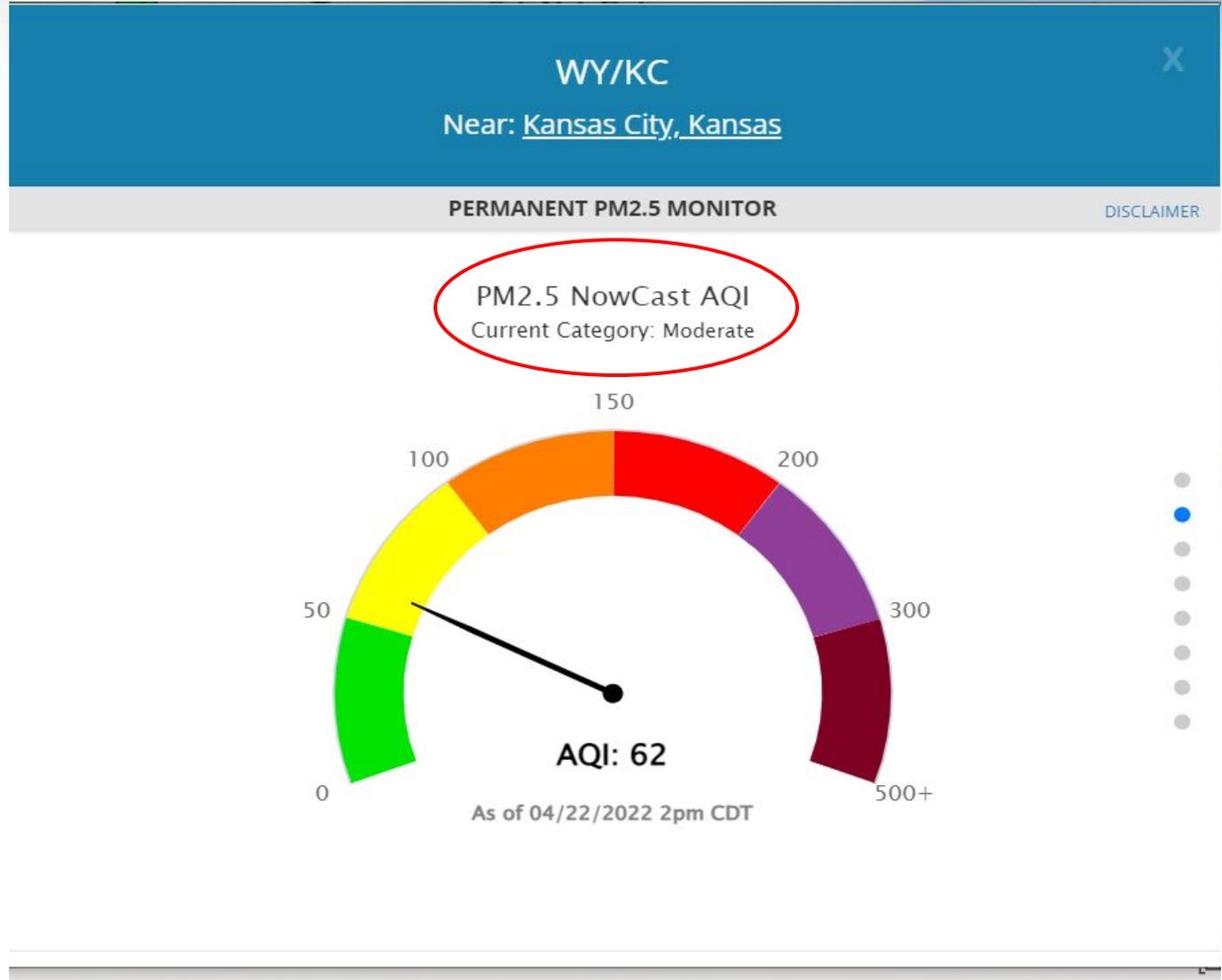
Popups: At a glance

- Once you click on a monitor or sensor you get a series of popups, the first showing a quick summary
- Each of the bottom elements can be clicked to get to that individual popup

The screenshot displays a popup window for the WY/KC monitor. The header is blue with the text 'WY/KC' and a close button 'X'. Below the header, it says 'Near: [Kansas City, Kansas](#)'. A grey bar contains 'PERMANENT PM2.5 MONITOR' and a 'DISCLAIMER' link. The main content area has a yellow background with the word 'MODERATE' in large letters, followed by 'PM2.5 NowCast AQI: 62' and 'As of 04/22/2022 2pm CDT' with a 'HISTORY' button. Below this is a health advisory: 'Unusually sensitive people reduce outdoor activity; go inside if symptoms.' At the bottom, there are three interactive elements: 'Current' with a gauge icon, 'Trend' with a downward arrow icon, and 'Actions' with a checkmark and an 'X' icon. A vertical ellipsis menu is on the right side of the popup.

Popups: EPA AQI Dial

- The AirNow dial provides a familiar point of reference
- The Fire & Smoke Map is only presenting air quality for a single pollutant, PM_{2.5}
- Information about other pollutants, most typically ozone, can be found at AirNow.gov



Popups: Trends

- If data is available, nearby sensor measurements are used to provide short term trend information for a selected monitor or sensor

WY/KC X
Near: [Kansas City, Kansas](#)

PERMANENT PM2.5 MONITOR DISCLAIMER

PM2.5 Trend



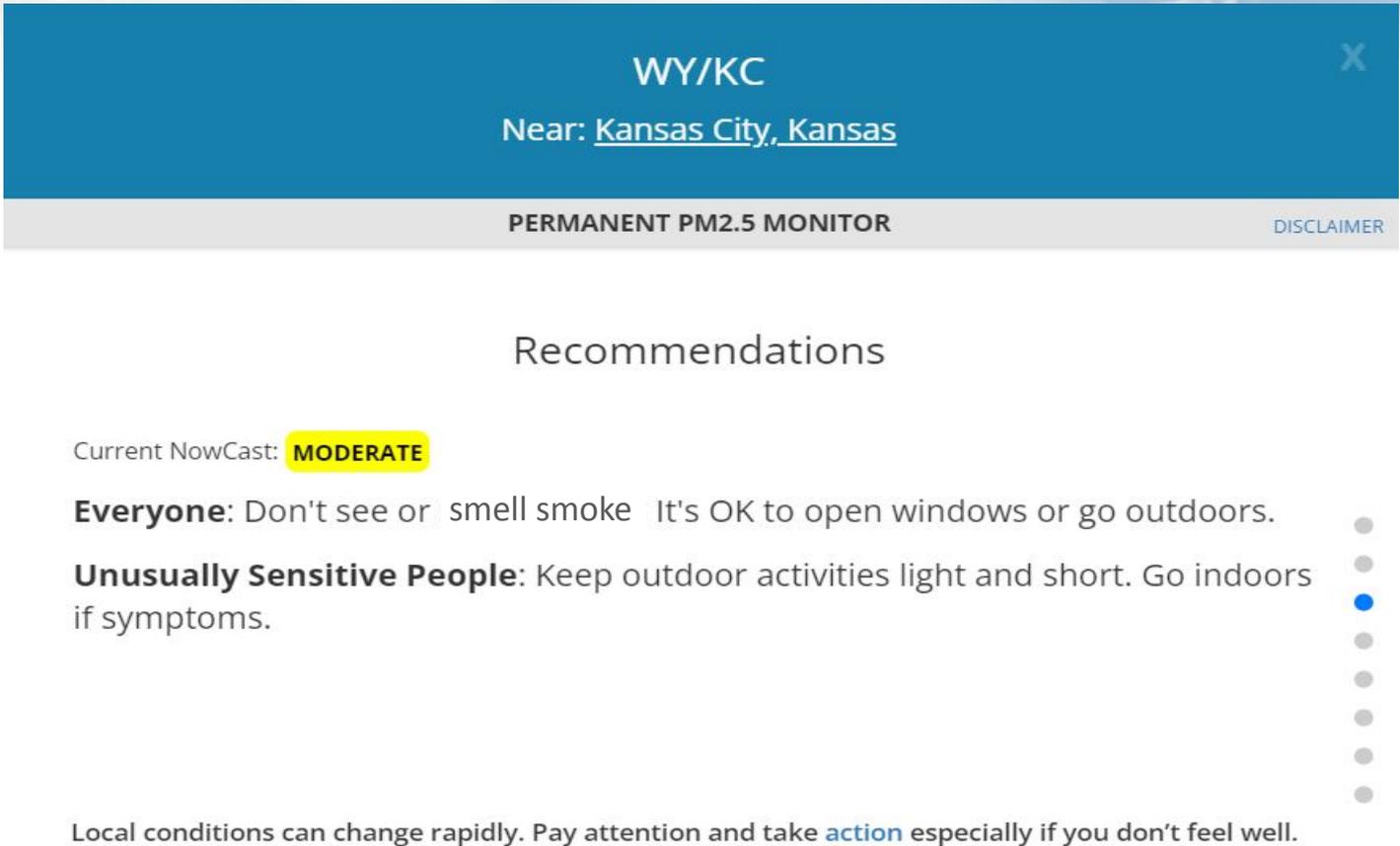
decreasing

Short-Term Trend: Nearby low-cost sensor measurements over the last 30 minutes indicate **PM2.5 concentrations decreasing** toward the **GOOD** range.



Popups: Recommendations (Actions)

- Provide the public quick and clear of actions they could take given the air quality
- Now refining the language slightly for upcoming Version 3 of the map



WY/KC X

Near: [Kansas City, Kansas](#)

PERMANENT PM2.5 MONITOR DISCLAIMER

Recommendations

Current NowCast: **MODERATE**

Everyone: Don't see or smell smoke. It's OK to open windows or go outdoors.

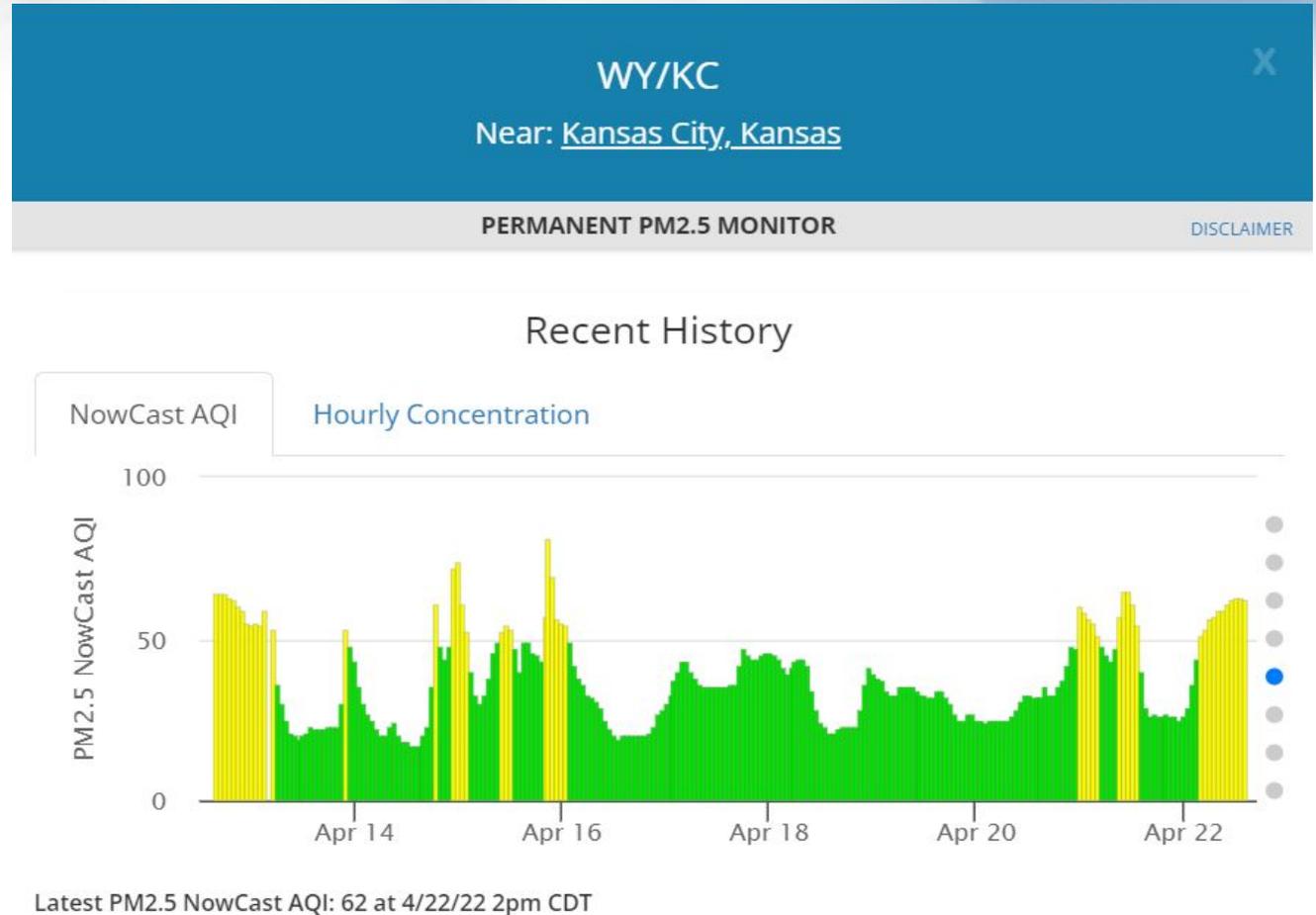
Unusually Sensitive People: Keep outdoor activities light and short. Go indoors if symptoms.

Local conditions can change rapidly. Pay attention and take [action](#) especially if you don't feel well.

Draft updated Version 3 language

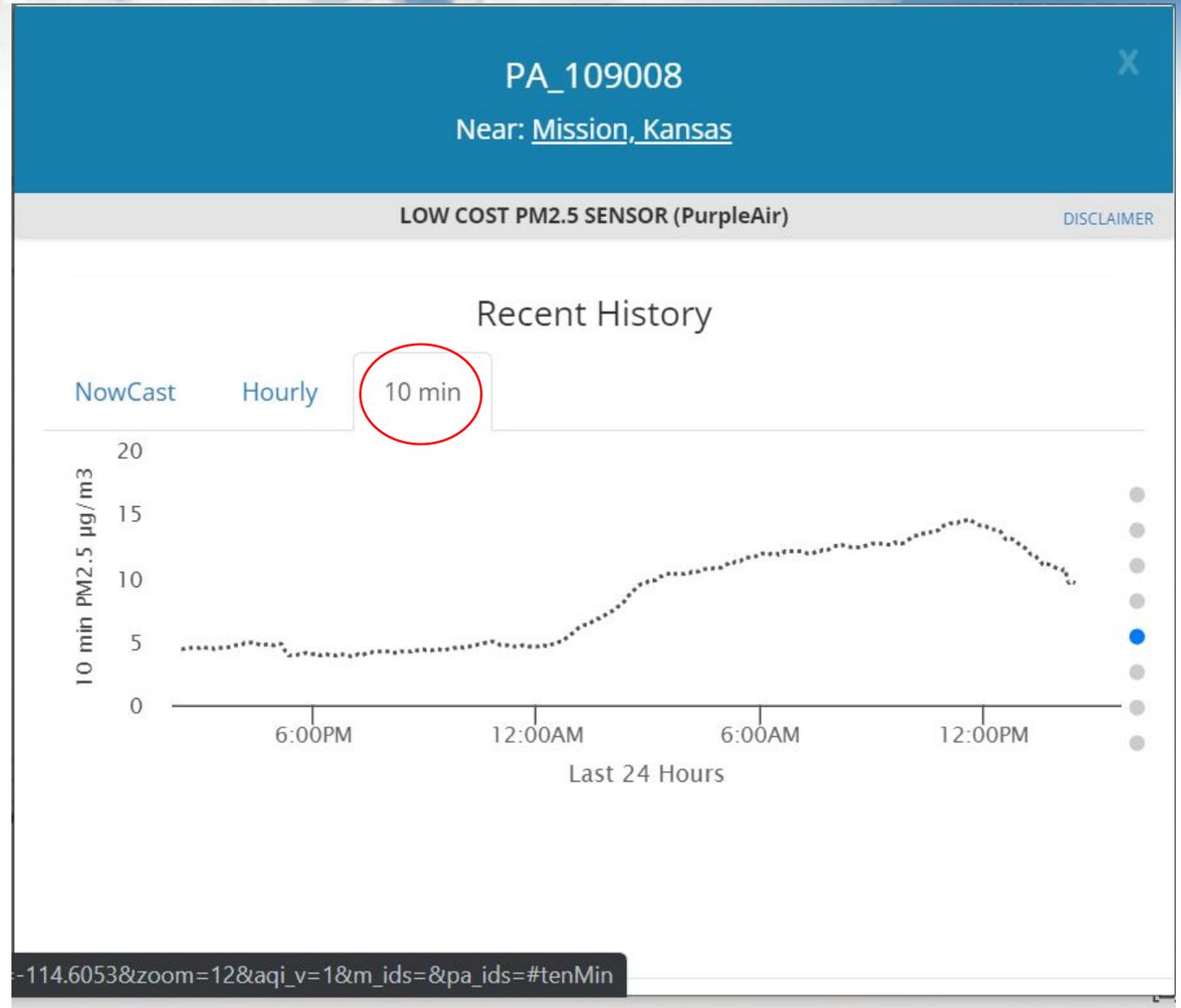
Popup: Recent history

- In addition to the current air quality and recent trends, we also provide a snapshot of the air quality over the past week for permanent and temporary monitors
- Note that historical data are not stored on the Fire and Smoke Map



Popups: Recent History (extra for sensors)

- For sensors, we also provide a graph of the 10-minute data for the last 24 hours



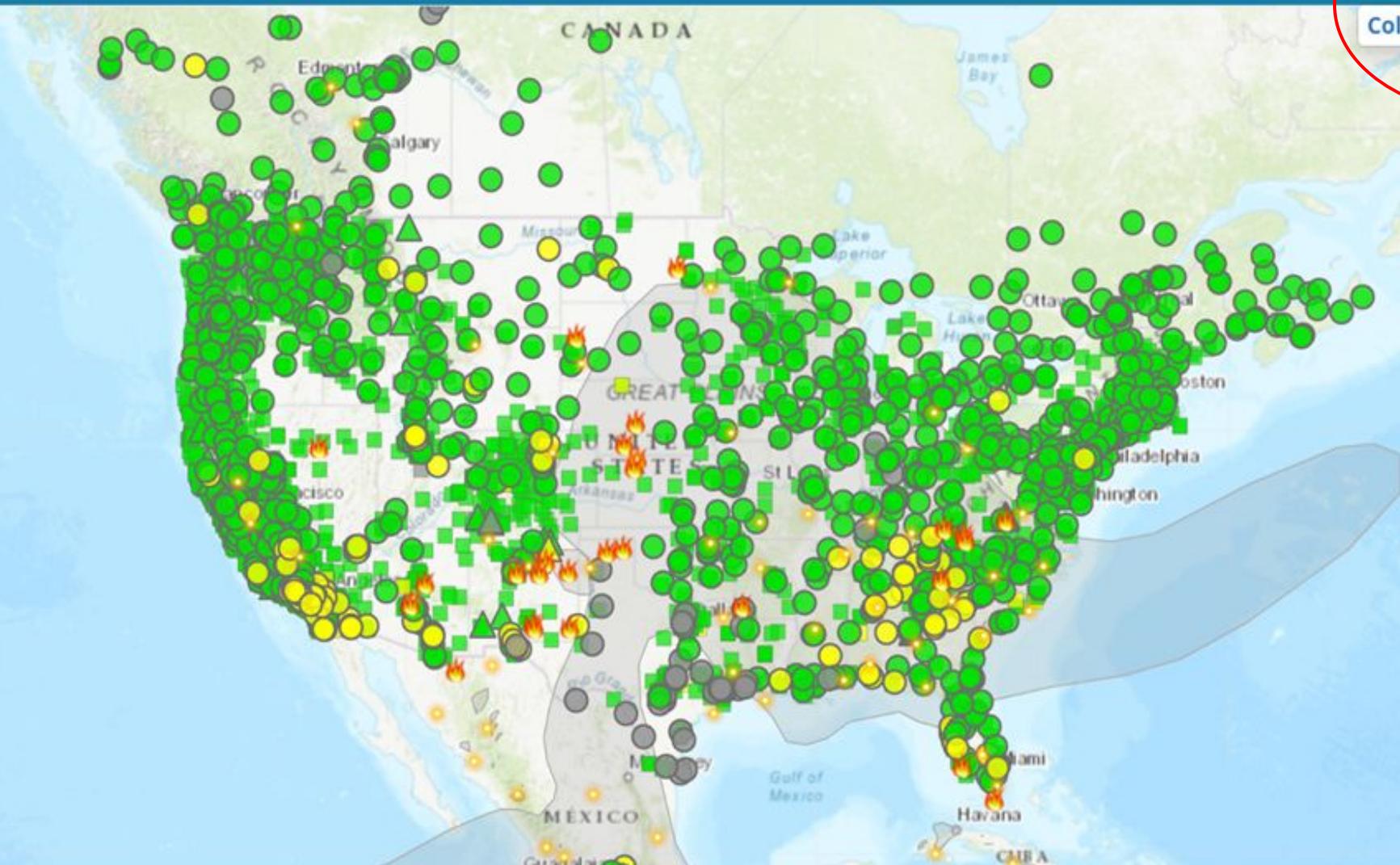
AirNow Fire & Smoke Map: Color Vision Assist to Version 2



Fire and Smoke Map v2.0



ColorVision Assist

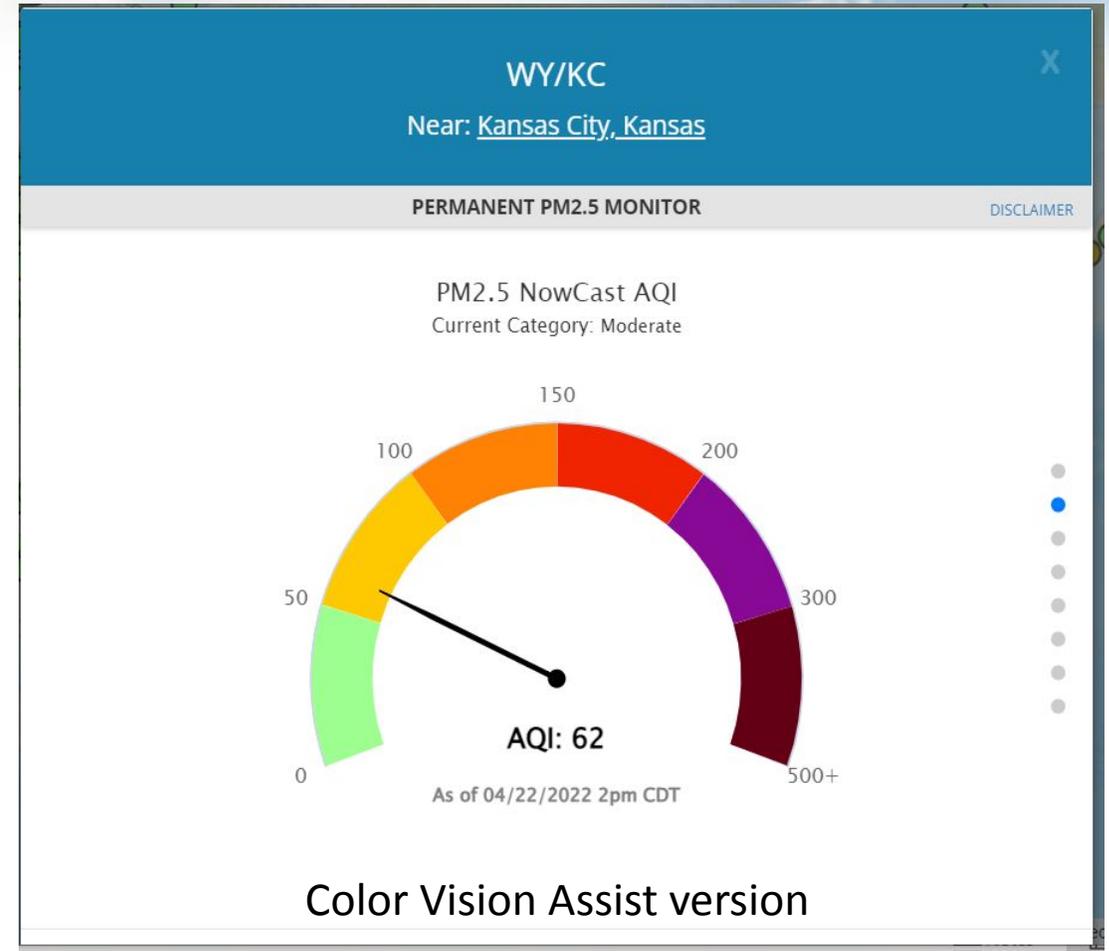
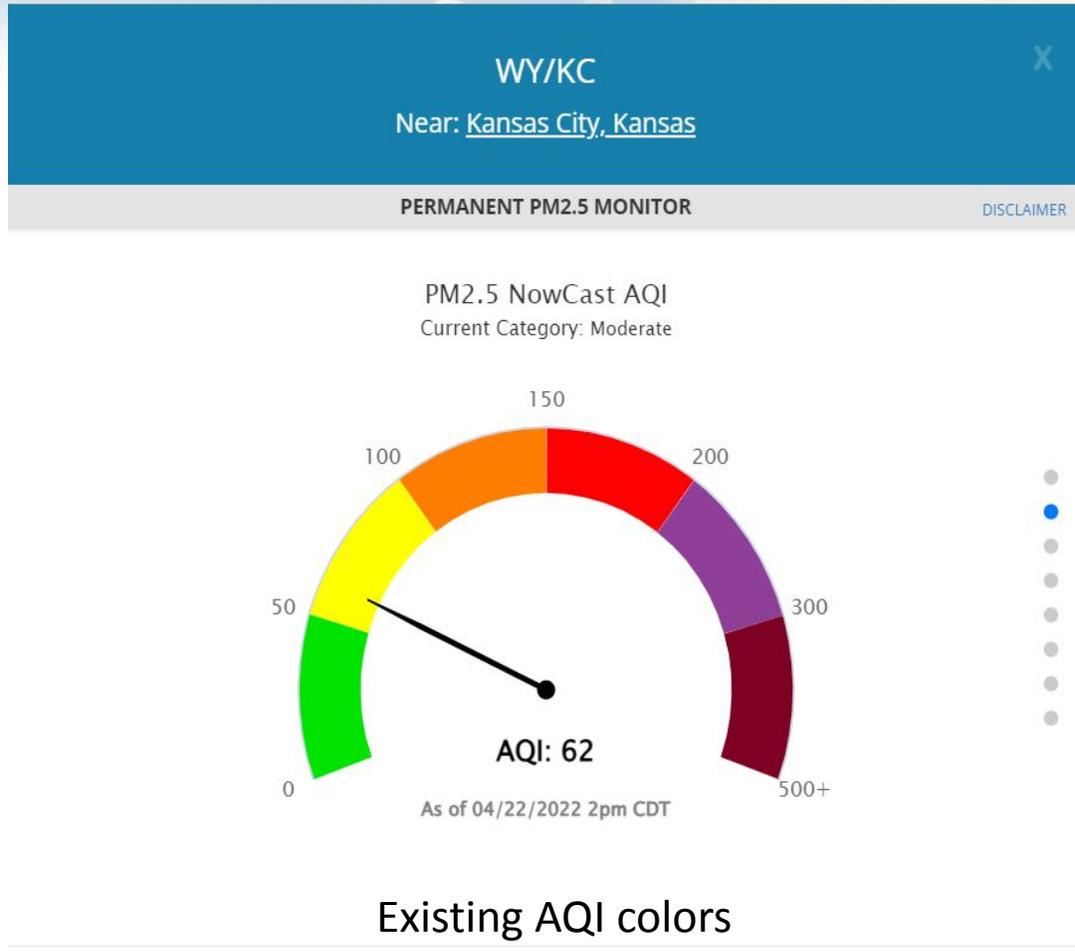


AQI Legend

Refreshed At
Apr-28-2022 1:22 PM



AirNow Fire & Smoke Map: color vision assist



Color scheme developed by South Coast Air Quality Management District

AirNow Fire and Smoke Map Team Acknowledgments

EPA Office of Air Quality Planning and Standards

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- Pete Lahm

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AirNow Fire & Smoke Map: Wrap-up

- A joint project between US Environmental Protection Agency and US Forest Service
- Version 2 was updated to include the color vision assist toggle last week and is live now
- Version 3 is planned for release during June 2022
- Questions & comments? firesmokemap@epa.gov
- Thanks for listening!
- Ron Evans, USEPA Office of Air and Radiation