

# Joint Polar Satellite System

## Improve your indoor air quality with a Corsi-Rosenthal Box

Climate change and widespread droughts are causing an increase in wildfire frequency and severity. In the summer of 2023, NOAA satellites monitored over 400 fires burning across Canada after scorching temperatures and dry weather triggered an early and intense start to the wildfire season. Data from JPSS satellites were used to map the fires and track their development. The Visible Infrared Radiometer Suite (VIIRS) instrument measures the infrared and visible part of the spectrum and helps scientists track wildfires, especially in remote regions. Smoke from the Canadian wildfires traveled down to the United States causing problems with air pollution.

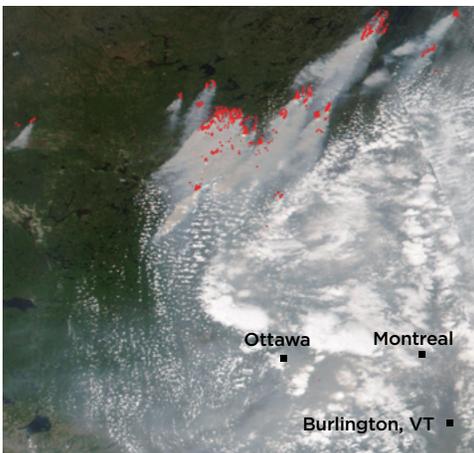
During wildfire events, smoke can enter your home even if your windows and doors remain closed. This can lead to respiratory issues, itchy eyes, and illness. If you're concerned about your indoor air quality due to wildfire smoke in your area an easy-to-make Corsi-Rosenthal Box can help clean your air. These homemade air filters can also help remove virus particles.

### You will need:

- Scissors or utility knife
- Duct tape
- 4 MERV 13 or higher 20" x 20" air filters
- A box fan
- Cardboard or the box the fan came in

### To assemble:

1. Duct tape the air filters together to make a cube. Make sure the arrows marked on the edge of the filters are facing the inside of your cube.
2. Cut out the bottom of the box your fan came in (or another sheet of cardboard) to fit on the bottom of your cube.
3. Tape the cardboard to the bottom of your cube.
4. Place your fan on the top of the cube so that the air is blowing up and the cord is going down through the cube.
5. Tape the fan onto the cube.
6. Use extra cardboard to block any gaps between your fan and your box.



This JPSS-1/NOAA-20 image from June 6, 2023, shows smoke from wildfires in Canada moving down to the United States. The red dots indicate active fires.



Kevin Fryar, LEO NOAA acting deputy director, helps a student assemble a Corsi-Rosenthal air filter.



The finished assembly.



#### JOINT POLAR SATELLITE SYSTEM (JPSS)

The Joint Polar Satellite System (JPSS) is a collaborative program between the National Oceanic and Atmospheric Administration (NOAA) and its acquisition agent, the National Aeronautics and Space Administration (NASA).

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