The Tropospheric Ozone Research Act of 2026

(Sheldon Whitehouse-R.I.; Brian Schatz-HI)

The **Tropospheric Ozone Research Act** would fund a three-year scientific research program on the warming effects of tropospheric ozone. Unlike the beneficial stratospheric ozone layer that protects the Earth from UV radiation, tropospheric ozone is found near the Earth's surface and is a major air pollutant and potent greenhouse gas. Tropospheric ozone causes an estimated 500,000 premature deaths and up to 26% losses in crop yields globally per year. Tropospheric ozone is also the third-largest driver of climate change after carbon dioxide and methane.

Unlike other greenhouse gases, tropospheric ozone is not directly emitted. Instead, it is formed in chemical reactions between ozone precursors, primarily methane, nitrogen oxides (NOx), carbon monoxide, and volatile organic compounds. The interactions between precursors that create ozone are deeply complex—depending on localized atmospheric conditions or topography, reducing one precursor alone could paradoxically *increase* ozone formation.

Because tropospheric ozone is a short-lived greenhouse gas with only a weeks-long lifespan, reductions in tropospheric ozone and its precursors—particularly methane, itself a powerful greenhouse gas—can significantly reduce near-term temperatures.

New research is needed to improve scientific understanding of the warming impacts of tropospheric ozone and inform future climate strategies that maximize near-term temperature reductions from cutting tropospheric ozone.

If enacted, the **Tropospheric Ozone Research Act** would:

Create a $10 million per year competitive grant program for scientific research on the climate impacts of tropospheric ozone, including:

- To improve understanding of the global, regional, localized, and seasonal temperature impacts of tropospheric ozone;
- To better assess the crop loss, forest productivity, and ecosystem productivity impacts of tropospheric ozone;
- To improve data collection and update climate models to better incorporate tropospheric ozone;
- To assess the warming or near-term temperature reduction impacts of tropospheric ozone across a range of future modeled greenhouse gas and air pollutant emissions scenarios.

Direct EPA to publish a summary report identifying key findings, assessing the costs and benefits of mitigating tropospheric ozone precursors, and providing policy recommendations on tropospheric ozone reduction strategies and future research needs.