**Comparing *in-situ* ozone and particulate measurements between the Snake River plain, Idaho, and the Uintah Basin, Utah, during high-altitude balloon flights**

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Ground-to-stratosphere ozone measurements were made with a standard electro-chemical cell ozonesonde, along with particulate matter measurements using a Met One GT-526 particulate counter, in Utah’s Uintah Basin and Idaho’s Eastern Snake River Plain. Both regions are wide montane basins with mostly rural and agricultural demographics. The two major differences are latitude (approximately 43.8° N for Rexburg, Idaho, and approximately 40.3° for Roosevelt, Utah) and fossil fuel extraction (minimal in the Eastern Snake River Plain and extensive in the Uintah Basin). The ozone values will also be compared with data from satellites and against the closest NASA ground-based Pandora spectrometer located in Boulder, Colorado.

The instrumentation payload was also flown during the 2017 total solar eclipse with the ozonesonde launch timed to place the ozonesonde at the tropopause at the time of totality. This was done to measure the effect of photochemistry on the stratospheric ozone layer. No effect was detected.