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Abstract

Accurate surface-level ozone monitoring is important for maintaining human health. In previous research, a Thermo Environmental 49C ozone analyzer was used as a comparison standard to calibrate an Aeroqual S900 ozone sensor modified by PurpleAir (PA) in western Colorado. When comparing ozone readings between these two ozone sensors, a significant drop in correlation and PA concentration is observed with increasing temperature. The purpose of this project is to create a numerical temperature-dependent model generated from real data that mimics the PA sensor’s behavior. In addition, other variables (relative humidity (RH), particulate matter (PM), adsorption, etcetera) will be tested for significance and potentially implemented in this model.