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Corrigendum to "The Emissions Model Intercomparison Project (Emissions-MIP): quantifying model sensitivity to emission characteristics" published in Atmos. Chem. Phys., 23, 14779–14799, 2023

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In two instances in our article, we quote results from a study on emission plume heights from oil sands processing facilities (Akingunola et al., 2018) and mention plume heights ranging from $\sim$ 500 to $\sim$ 1500 m. However, we have recently confirmed that this is incorrect due to an erroneous figure in the referenced paper (Mark Gordon, personal communication, 2025). The corrected plume height range is approximately 200 to 1000 m from the surface. This correction does not alter our numerical findings or conclusions but provides a slightly different context.

The two corrected sections of text are reproduced below (italicized parts have changed).

- *Section 1*. While many regional atmospheric models incorporate plume rise parameterizations, a study on plume rise of SO_2 emissions emitted by flare stacks in the Athabasca oil sands found that the commonly used Briggs plume rise algorithm (Briggs, 1982) underpredicted the plume heights of these sources *(Akingunola et al., 2018), which ranged from $\sim$ 200 to $\sim$ 1000 m from the surface*.

– *Section 2.3.1*. According to the AeroCom protocol, emissions from industrial facilities and power plants should be injected evenly at a height of 100 to 300 m above the surface, and emissions from international shipping are injected into the lowest model layer (Dentener et al., 2006). No recommendation on assumptions for effective emission injection height was provided as part of CMIP6. However, the height of plume rise has been measured to exceed these assumed heights by *400 to 700 m*, as was the case for SO_2 emissions emitted by flare stacks in the Athabasca oil sands (Akingunola et al., 2018; Gordon et al., 2018). *We note, however, that stack exit temperatures for these oil sands processing facilities are generally hotter than those at facilities such as coal-fired power plants, likely resulting in higher plume rise for oil sands facilities.*