Global emissions of methane and carbon dioxide – the view from space

With the launch of several new satellites, scientists are increasingly able to monitor carbon dioxide and methane from space, creating a vast new record of greenhouse gas measurements in regions that were previously difficult to monitor. In this talk, we will first use satellite observations from GOSAT to evaluate how methane emissions are changing from two of the world's largest greenhouse gas emitters - China and the United States. We will then use NASA's OCO-2 satellite to evaluate how \( \text{CO}_2 \) sources and sinks are changing from year to year and how these changes correspond to variability in meteorology; a better understanding of interannual variability in \( \text{CO}_2 \) sources and sinks can help inform how these sources and sinks may change in the future due to a changing climate.

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