

Our visualization, "Methane's Mosaic," employs concentric circles to illustrate yearly changes in methane levels from 2004 to 2023. Each circle represents a year, with colors denoting variations in methane concentration compared to the preceding year. Darker red shades signify larger differences, with a maximum value of 5.61 ppbv, while lighter yellow hues indicate minimal changes, reaching a minimum of 0.166 ppbv. Utilizing the "Average Methane, Mole Fraction in Air (Daytime/Ascending, AIRS-only) monthly 1 deg. @1000hPa [AIRS AIRS3STM v006] ppbv for 2002-Sep - 2023-Dec" dataset obtained from Giovanni<sup>1</sup>, our visualization contributes to the climate action goal by providing insights into shifts in atmospheric methane. Python was employed for creating concentric circles and color bars, while Inkscape facilitated design. GitHub served as our collaborative platform, housing Python, Jupyter Notebook, and Inkscape files. The Driven Data competition website provided essential resources, including data retrieval guidance. Additionally, chatGPT and generative AI played a role in crafting this summary and generating text for the visual.

<sup>1</sup> URL to Reproduce Results

[https://giovanni.gsfc.nasa.gov/giovanni/#service=InTs&seasons=years&starttime=2002-01-01T00%3A00%3A00Z&endtime=2023-12-31T23%3A59%3A59Z&data=AIRS3STM\\_006\\_CH4\\_VMR\\_A%28z%3D1000%29&dataKeyword=methane&portal=GIOVANNI&format=json](https://giovanni.gsfc.nasa.gov/giovanni/#service=InTs&seasons=years&starttime=2002-01-01T00%3A00%3A00Z&endtime=2023-12-31T23%3A59%3A59Z&data=AIRS3STM_006_CH4_VMR_A%28z%3D1000%29&dataKeyword=methane&portal=GIOVANNI&format=json)([https://giovanni.gsfc.nasa.gov/giovanni/#service=InTs&seasons=years&starttime=2002-01-01T00%3A00%3A00Z&endtime=2023-12-31T23%3A59%3A59Z&data=AIRS3STM\\_006\\_CH4\\_VMR\\_A%28z%3D1000%29&dataKeyword=methane&portal=GIOVANNI&format=json](https://giovanni.gsfc.nasa.gov/giovanni/#service=InTs&seasons=years&starttime=2002-01-01T00%3A00%3A00Z&endtime=2023-12-31T23%3A59%3A59Z&data=AIRS3STM_006_CH4_VMR_A%28z%3D1000%29&dataKeyword=methane&portal=GIOVANNI&format=json))