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January 2025 Wildfires in Southern California are attributable to Anthropogenic Global Warming

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Starting January 7, 2025, devastating wildfires have swept through the Los Angeles metropolitan area and nearby regions. By January 10, the fires had caused ten deaths, destroyed thousands of structures, displaced nearly 180,000 residents, and scorched approximately 30,000 acres. This study employs the extended ClimaMeter (climameter.org <http://climameter.org/>) protocol to explore the potential role of climate change in exacerbating the severity of this event. Specifically, we examine whether climate change has modified the atmospheric conditions, represented by the mean sea level pressure, that contribute to wildfire occurrence, represented by the fire weather index, by analyzing historical and current weather patterns similar to those observed during the fires. Our methodology integrates both reanalysis datasets and high-resolution regional climate models to assess observed changes and project future fire risk scenarios. The results indicate a significant increase in the fire weather index across much of California and surrounding regions, which suggests that this event can be ascribed to human-driven climate change. The models show a similar signal in the present climate and project increases in fire weather hazard in the future.