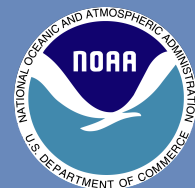
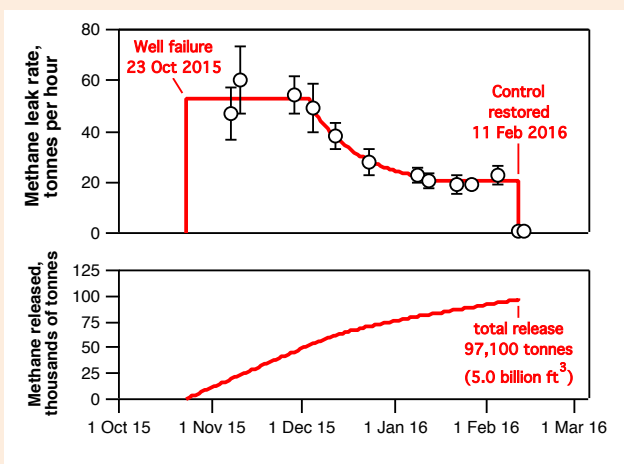


NOAA Co-Led Study of the Aliso Canyon Well Blowout: Largest Methane Leak in U.S. History



Crisis Quickly Launched a Scientific Partnership

- On 23 October 2015, a well blowout occurred at the Southern California Gas Company's Aliso Canyon underground storage facility near Los Angeles.
- Scientists at NOAA quickly teamed with colleagues at Scientific Aviation, the University of California, and the California Energy Commission to assess the atmospheric impacts of the leak.
- They began airborne and ground measurements two weeks after the blowout to quantify the leak rate of methane, a powerful greenhouse gas.
- Their 13 research flights and ground data gave an unprecedented "end-to-end" benchmark of the total amount of methane that had leaked: **97,100 metric tons, the largest methane leak in US history.**



Conley et al., *Science*, doi:10.1126/science.aaf2348 (2016)

Significance

- Climate impacts:** The Aliso Canyon blowout hampers California's efforts to meet its greenhouse-gas emission reduction targets for the year.
- Air quality impacts:** This research gives California's air quality and health officials a basis to estimate population exposure to other leaked chemicals, such as benzene and sulfur-containing odorants.
- Societal value:** Airborne chemical sampling provides rapid, accurate assessments of chemical releases to the atmosphere, such as from the 2015 Aliso Canyon blowout and the 2010 Deepwater Horizon oil spill. Such information helps to:
 - quantify population exposure to toxic chemicals;
 - formulate optimal well control intervention strategies;
 - quantify the effectiveness of deliberate control measures during the crisis;
 - assess climate and air quality impacts of large unintended releases.

Methane is a potent greenhouse gas, second only to carbon dioxide as a driver of climate change.

At its peak, the methane leaking from the Aliso Canyon well could have filled a balloon the size of the Rose Bowl *each day*.

Payoffs of this Research

- Independent, timely determination of the size of accidental releases related to oil and gas activities
- Basis for assessments of implications for climate, air quality, and human health