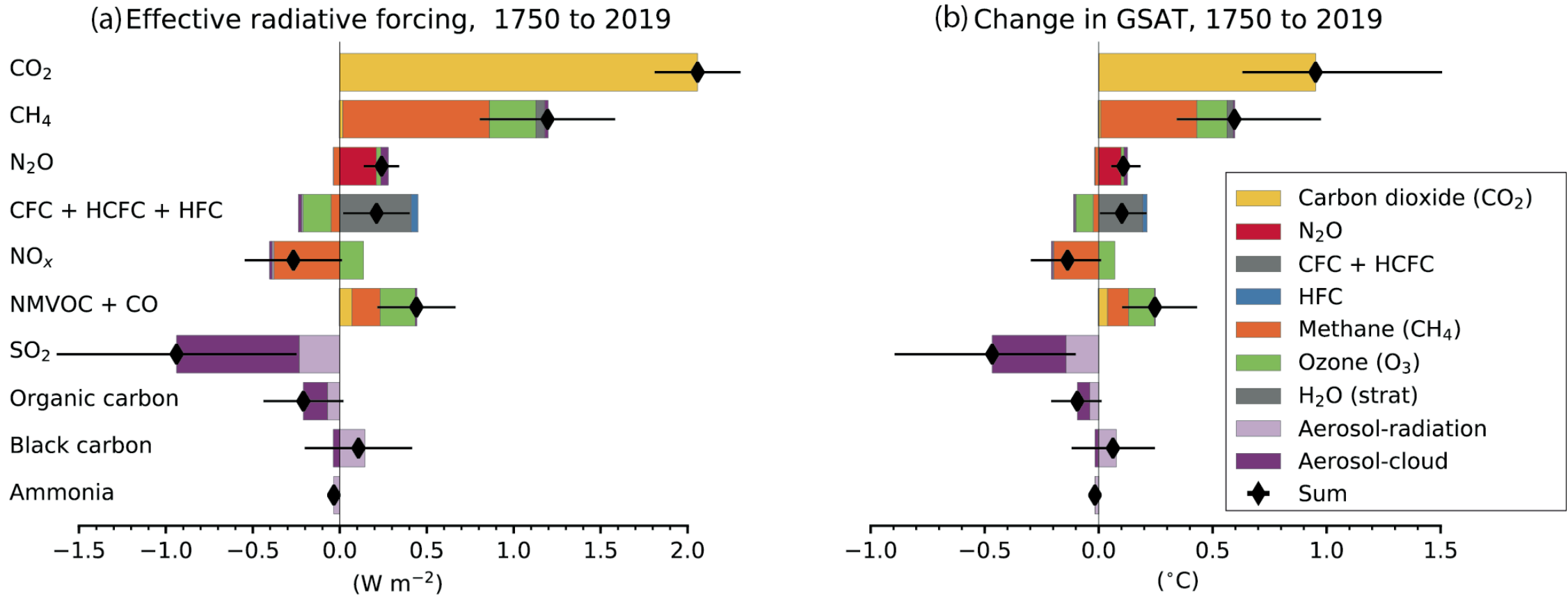


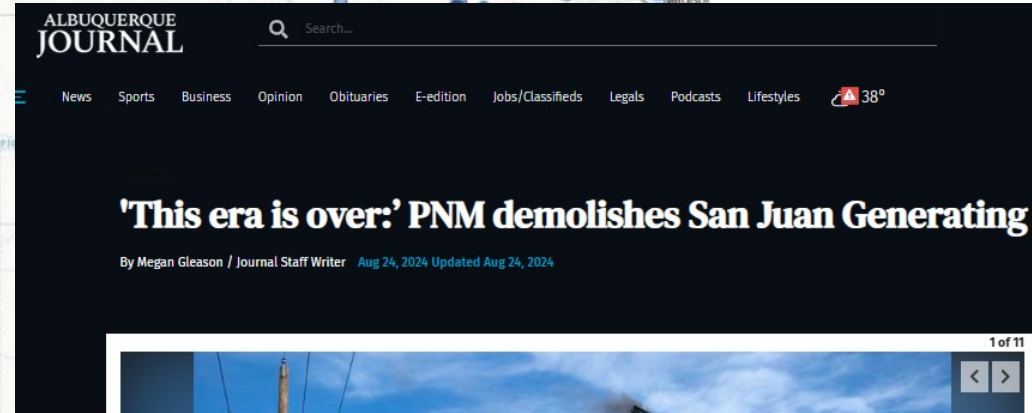
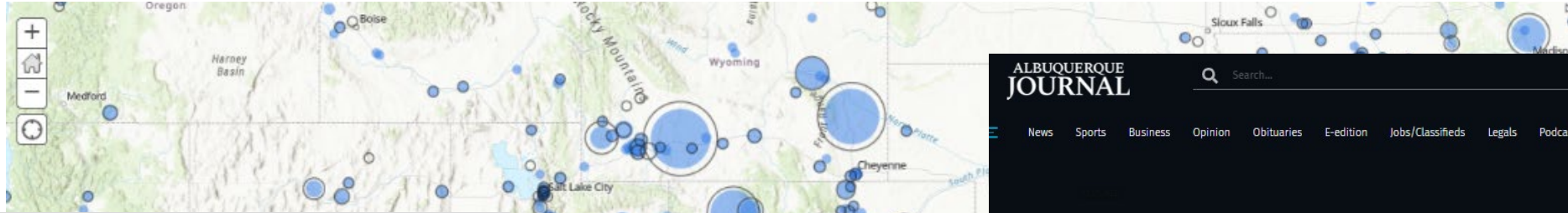
Climate Radiative Forcing (IPCC AR6)



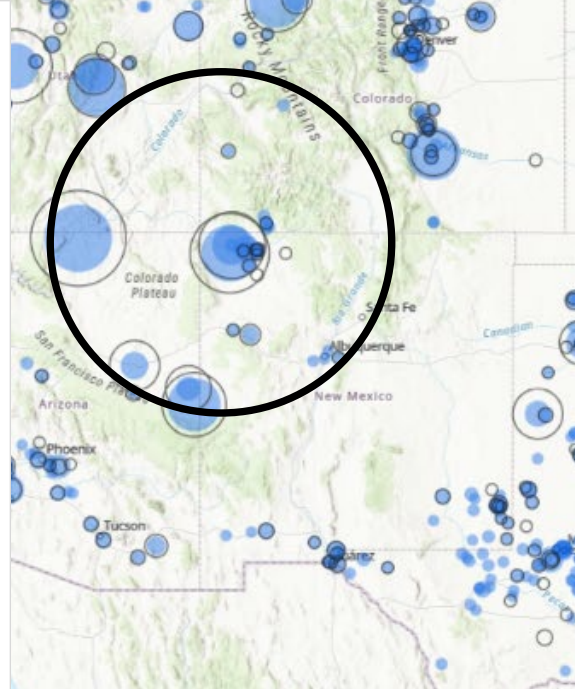
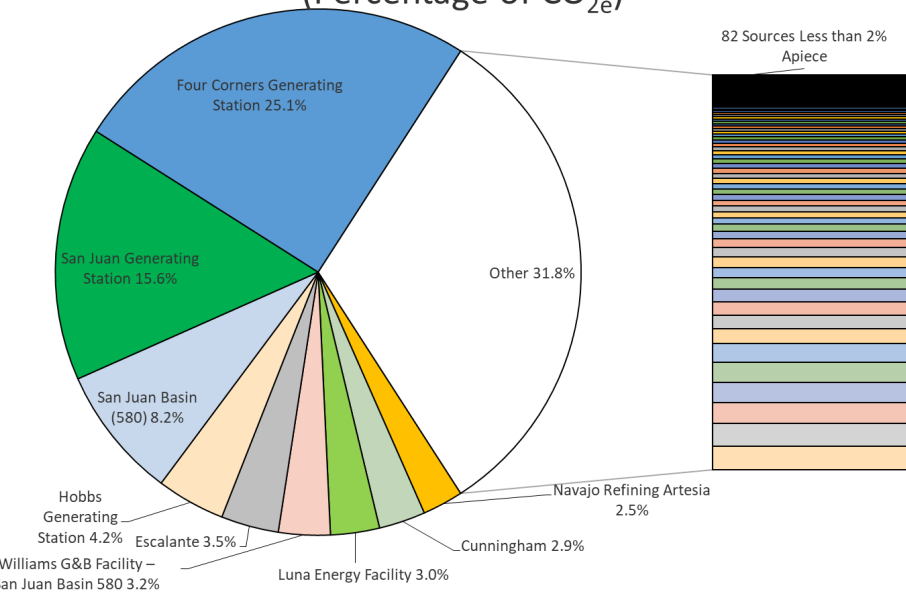
➤ ~3 W/m² added to the earth system

➤ Many of these species are monitored and/or need expanded characterization

EPA FLIGHT Annual CO₂ Emissions Changes Greater NM



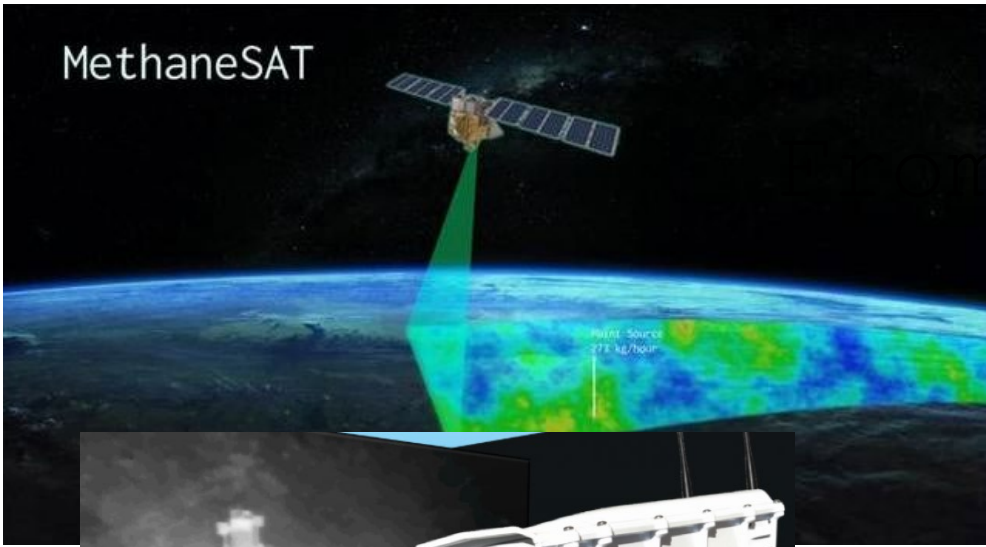
New Mexico Fraction of GHG Emissions 2019
(Percentage of CO_{2e})



Explosives take down the four smokestacks at the San Juan Generating Station, west of Farmington, on Saturday.
Eddie Moore/Journal

Changes in CO₂ Emissions from 2010 (Open Circles) – 2019 (Filled Circles)

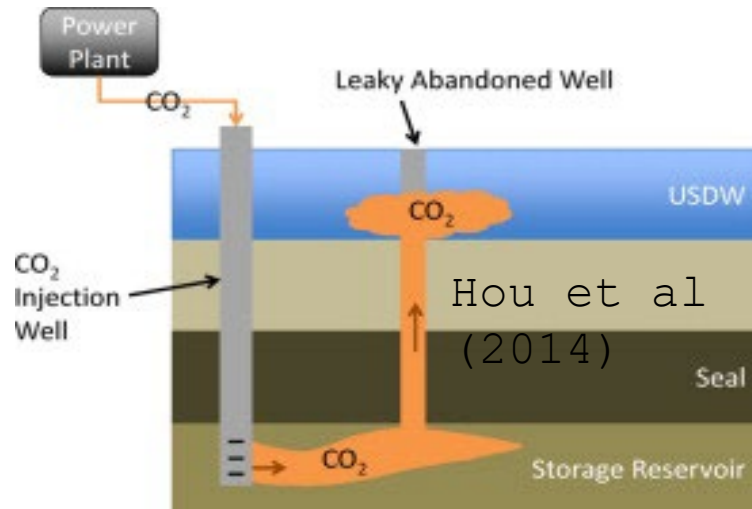
MethaneSAT



Monitoring Approaches: Satellites to the Subsurf



Eddy Covariance
(CST)



Soil Flux Measurements (LICOR)

B2 Konza Burns - MicroAeth Drone Flight (5 sec. avg.)

NMT

Drone

Microaeth

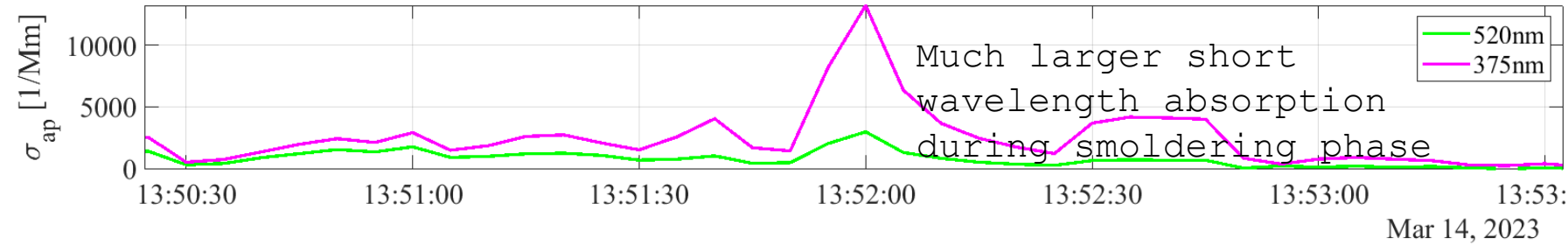
h

Light

Absorpti

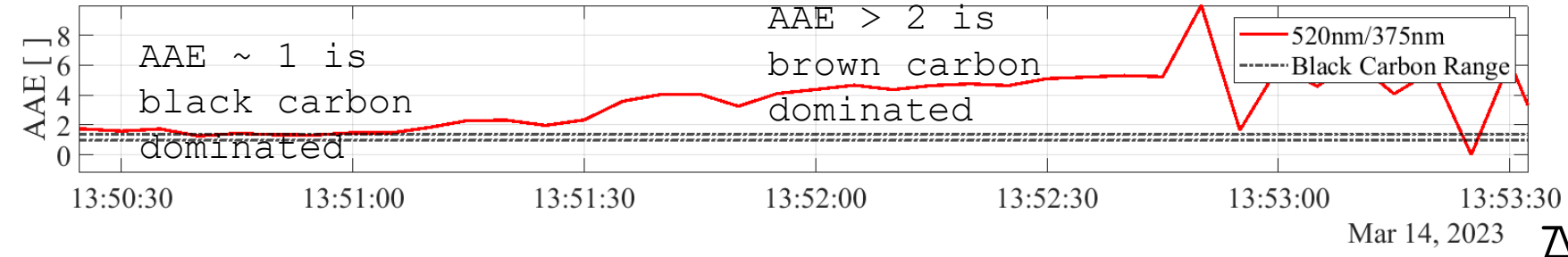
on

σ_{ap}

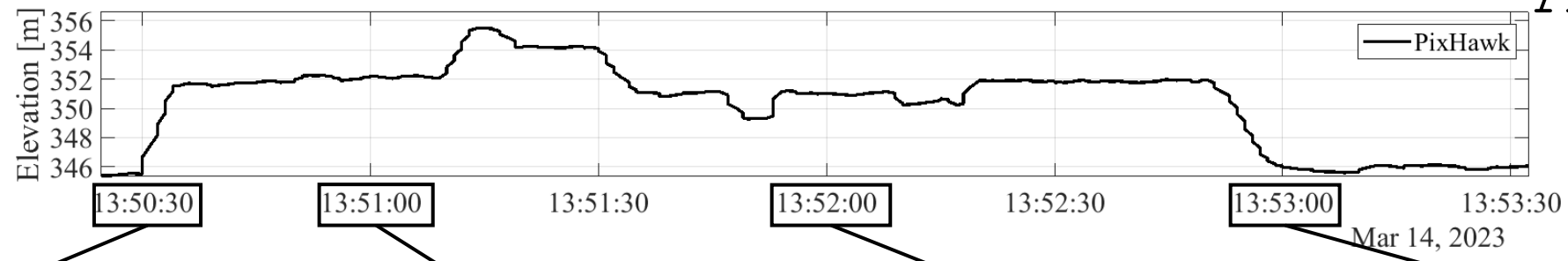


AAE

(wavelength dependence)



z (m)



Take off

Black carbon dominated (note intense flaming)

Brown carbon sampling (more smoldering conditions)

Landing (smoldering remnants)

PM_{2.5} Generation from Dust & Smoke (Satellite Obs. NASA, NWS)



On March 16, 2021, images acquired by the NASA/NOAA Suomi NPP satellite. Credit: NASA Earth Observations/NASA/NOAA

- Warmer, Drier Conditions
- Extreme Weather Events (Windstorms)
- Wildfire Events
- Encroaching Development

➤ We don't want to add to the burden with poor choices for mining, energy development