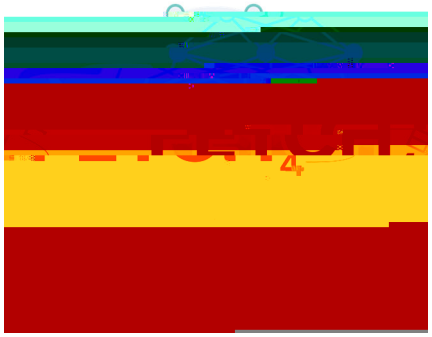
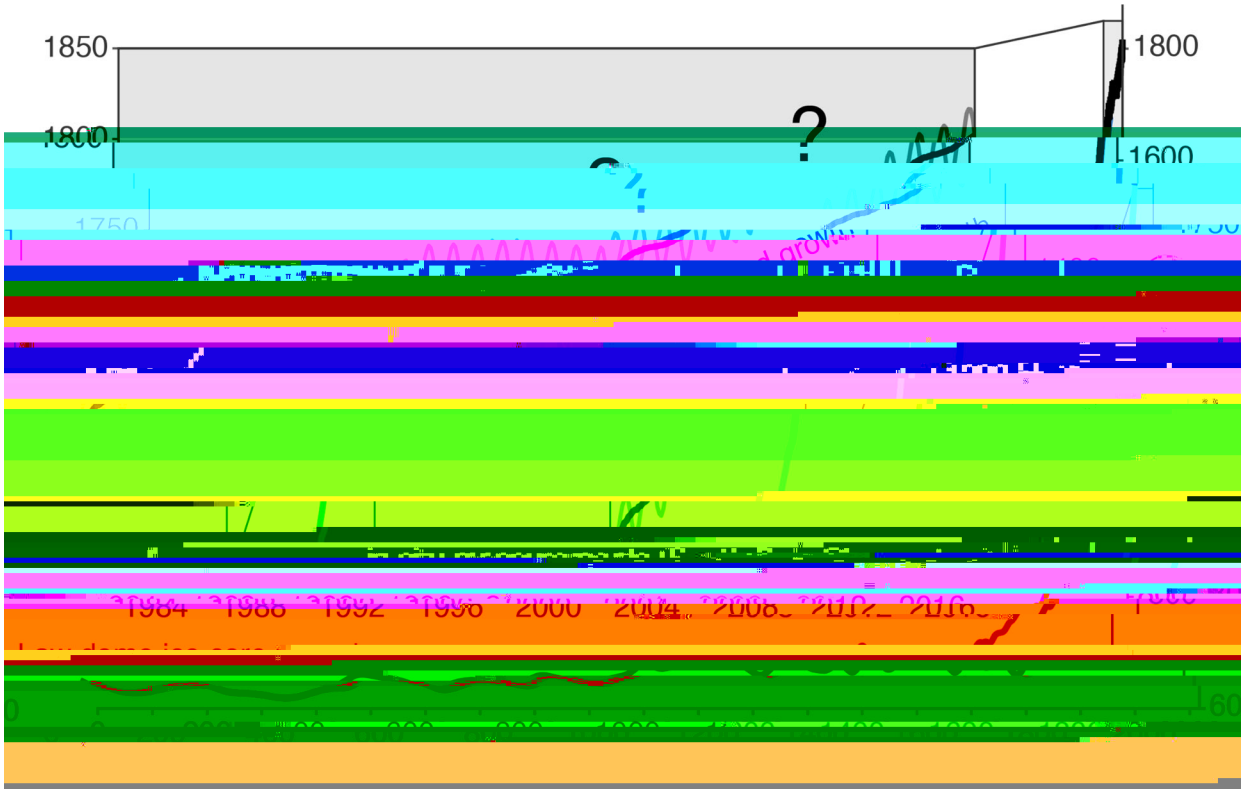
Earth and Environmental Sciences receives support for these gaps, the FETCH



4 team will collect data from both Greenland ice cores and air samples from stations around the world and measure their unique chemical fingerprints. Their goal is to single out individual aspects of the methane cycle, such as those coming from fossil fuel emissions, and identify both their sources and sinks. Using what they learn, the team will develop and sharpen the capability of global climate models to account for methane. Scientists hope that by creating more efficient models, which will be accelerated by machine learning, they can better interpret these chemical fingerprints and more efficiently capture the methane feedback mechanism in global climate models.

Through VESRI, Schmidt Futures, a philanthropic initiative of Eric and Wendy Schmidt, seeks to help coordinate hundreds of climate and data scientists across the globe and at various institutions to identify solutions for pressing complex scientific and computational problems in climate science. By addressing current, foundational knowledge gaps in climate data, VESRI aims to establish baseline measurements of methane, investigate the carbon cycle, and build accessible emulators to help decision makers around the world access the most accurate climate system data.

"We are pleased to support these highly innovative scientists and interdisciplinary climate modeling initiatives as Schmidt Futures deepens its commitment to climate science," says Stuart Feldman, Chief Science Officer at Schmidt Futures. "We aim to empower decision makers, scientists, and stakeholders worldwide with invaluable insights to inform evidence based decision making, advance mitigation efforts, and strengthen our resilience to the impacts of climate change. VESRI is set to significantly enhance the accuracy and reliability of major climate models while fostering global cooperation and accessibility to vital climate data."



Observations of atmospheric methane over the past 2,000 years. Ice core measurements from Law Dome are shown in blue and direct atmospheric observations from the South Pole in black. Figure adapted from Turner et al., PNAS (2019; https://doi.org/10.1073/pnas.1814297116).