

Session 1, Monday, 27 September 2021, 15 – 18 utc

Conveners: Stefanie Kremser, Landon Rieger

Meeting & session welcome and information

Stratospheric Aerosol Observations

Juan Carlos Antuña Marrero: SSIRC stratospheric aerosols lidar data rescue

Nina Mateshvili: Stratospheric aerosol abundance retrieved from the twilight sky brightness measurements

Felix Wrana: Satellite observations of volcanic eruptions leading to smaller average stratospheric aerosol sizes

Ghassan Taha: OMPS LP measurements of the aerosol extinction in the upper troposphere/ lower stratosphere

Christine Pohl: Stratospheric aerosol size distributions from SCIAMACHY limb observations and their comparison to ECHAM5-HAM simulations after the Sarychev eruption

Topic Discussion & Mini Break

Recent volcanic eruptions and fire events

Isabelle Taylor: IASI observations of the 2019 Raikoke eruption

Johannes deLeeuw: The 2019 Raikoke volcanic eruption: Evaluating dispersion model simulations of the sulfur dioxide plume using satellite measurements

Corinna Kloss: Global stratospheric influence of recent extreme events

Pasquale Sellitto: Radiative impacts of recent major volcanic eruptions and fires

Christoph Brühl: Radiative forcing by stratospheric aerosol for the period 2018 to 2020 using a chemistry climate model and volcanic and forest fire emission estimates based on vertically resolved satellite observations

Hyundeok Choi: A Smoke-filled Vortex in the Stratosphere from the 2019/2020 Australian Bushfire: View from the Space

Topic Discussion & Mini Break

The role of volcanic ash

Georgiy Stenichkov: What is the role of volcanic ash in the long-term evolution of volcanic clouds?

Yunquian Zhu: Persisting volcanic ash particles impact stratospheric SO₂ lifetime and aerosol optical properties

Topic Discussion

Open discussion (plenary or breakout rooms)

Session 2, Tuesday, 28 September 2021, 13 – 16 utc

Conveners: Corinna Kloss, Fred Stroh

Session welcome and information

Link between volcanic eruptions and Asian summer monsoon

Suvarna Fadnavis: The role of tropical volcanic eruptions in exacerbating Indian droughts

Discussion

The Asian Tropopause Aerosol Layer (ATAL)

Jean-Paul Vernier: A decade of research on the Asian Tropopause Aerosol Layer

Pasquale Sellitto: Global modeling studies of composition and decadal trends of the Asian Tropopause Aerosol Layer

Corinna Kloss: Asian Tropopause Aerosol Layer prior to and in the 1990s

Topic Discussion & Mini Break

Precursors of Stratospheric Aerosol: Carbonyl Sulfide

Chenxi Qiu: Study on Stratospheric Carbonyl Sulfide Transport and Chemistry using ‘Age of Air’

Sinikka Lennartz: Monthly marine emissions of OCS and CS₂ (2000-2019)

Marc von Hobe: DMS to OCS conversion in the atmosphere: perspectives from new laboratory experiments

Sophie Baartman: Measurements of carbonyl sulfide isotopes

Chen Davidson: Tropospheric carbonyl sulfide mass-balance based on direct measurements of sulfur isotopes

Topic Discussion & Mini Break

Precursors of Stratospheric Aerosol: UTLS Observations and non-sulfur aerosol/precursors

Marcel Zauner-Wieczorek: Airborne measurements of trace gases relevant for particle formation in the free troposphere and lower stratosphere during CAFE-EU/BLUESKY campaign

Fred Stroh: The FunMass-CARIBIC instrument: Airborne CIMS measurements of trace species (SO₂, ...) in the global UTLS.

Yaowei Li: Composition Dependence of Stratospheric Aerosol Shortwave Radiative Forcing

Topic Discussion & Mini Break

Open discussion (plenary or breakout rooms)

Session 3, Wednesday, 29 September 2021, 15 – 18 utc

Conveners: Anja Schmidt, Lauren Marshall

Session welcome and information

Stratospheric aerosol enhancement after volcanic eruptions: process understanding and response to injection parameters

Matthew Toohey: What controls the lifetime of stratospheric volcanic aerosol?

Ilaria Quaglia: Interactive Stratospheric Aerosol models response to different amount and height injection of SO₂ during volcanic eruption

Sandro Vattioni: Aerosol-CCM SOCOL-AERv2: recent improvements and applications to small volcanic eruptions and geoengineering

Topic Discussion & Mini Break

Stratospheric aerosol enhancement after volcanic eruptions: radiative forcing

Jennifer Schallock: Radiative forcing by stratospheric aerosol from 1990 to 2020 using a chemistry climate model and a volcanic emission inventory based on vertically resolved satellite observations

Lauren Marshall: Unknown Eruption Source Parameters Cause Large Uncertainty in Historical Volcanic Radiative Forcing Reconstructions

Zhihong Zhuo: Model comparison of stratospheric aerosol forcing of tropical and extratropical volcanic eruptions

Ben Black: Reckoning with the rocky relationship between eruption size and climate response: towards a Volcano-Climate Index (VCI)

Topic Discussion & Mini Break

Stratospheric Aerosol Modelling: Climate impact and feedback

Elizaveta Malinina: Climate variability following large volcanic eruptions based on CMIP6 models

Valentina Laquila: Impacts of the Pinatubo eruption on the NASA GEOS subseasonal-to-seasonal (S2S) forecasts

Alan Robock: Winter warming from tropical volcanic eruptions

Thomas Aubry: Climate change modulates the stratospheric volcanic sulfate aerosol lifecycle and radiative forcing from tropical eruptions

Herman Fuglestad: Modelling the atmospheric impacts of high-latitude explosive volcanic eruptions

Sandra Wallis: Simulating the impact of a strong tropical volcanic eruption on the middle atmosphere with the UA-ICON model

Daniele Visioni: Identifying the sources of uncertainty in climate model simulations of stratospheric aerosol injections with the G6sulfur Geoengineering Model Intercomparison Project (GeoMIP) simulations

Topic Discussion & Mini Break

Open discussion (plenary or breakout rooms)