Theme 1 Connections of Atmospheric Composition and Chemistry to Weather and Climate

1254	1	Keynote		Clara	Orbe	ECS	Overview of Large-Scale Tropospheric Transport in the Chemistry Climate Modeling Initiative (CCMI) Models
1046	1	Keynote		Marta	Abalos	ECS	New Insights on the Impact of Ozone Depleting Substances and the Antarctic Ozone Hole on the Brewer-Dobson Circulation
1336	1	Keynote		Hans	Schlager	-	First Airborne Measurements of SO2, H2SO4 , NO, HNO3, and NOy in the Asian Summer Monsoon Anticyclone between 12 and 20 Km
1258	1	Oral		Gabriel	Chiodo	-	The Importance of the Ozone Layer for the Response of the Climate System to Natural and Anthropogenic Forcings
1493	1	Oral		Seungmok	Paik	ECS	Divergent Hydrological Responses to Volcanic Eruptions in CMIP5 Multi-Models
1156	1	Oral		Leonie	Bernet	ECS	Stratospheric Ozone Recovery at Mid-Latitudes: Improved Ground-Based Time Series and Trend Estimations
1180	1	Oral		William	Ball	-	Evidence for a Continuous Decline in Lower Stratospheric Ozone Offsetting Ozone Layer Recovery
1442	1	Oral		Alina	Fiehn	-	Importance of Seasonally Resolved Oceanic Emissions for Bromoform Delivery to the Stratosphere through the Asian Monsoon
1507	1	Oral		Tianjun	Zhou	-	Anthropogenic Aerosols Reduced Global Land Monsoon Precipitation

					1			Aerosol observations and analysis
1454	1	1	1	B	Kevin R.	Leavor	ECS	A Global Perspective of SAGE III ISS Aerosol Observations
1541	1	1	2	F	Hazel	Vernier	-	Chemical Composition of Aerosols in the Upper Troposphere and Lower Stratosphere over India
1484	1	1	3	C	Ranjit	Kumar	-	Characterization of Atmospheric Soot Particles using Aethalometer and SEM-EDX
1204	1	1	4	A	Ram	P R Sinha	-	Development of Balloon-Borne Impactor Payload for Profiling Free Tropospheric Aerosol Size Distribution
1021	1	1	5	D	Muhammad Z	Shahid	ECS	Modelling and Remote-Sensing based Analysis of a Dense Haze Event over Northeastern Pakistan
1495	1	1	6	B	Jonathon S.	Wright	-	Links between the Large-Scale Circulation and Daily Air Quality Variations over Central-Eastern China during Winter
1501	1	1	7	E	Andrea	Stenke	-	Composition of the Asian Tropopause Aerosol Layer Simulated with a Coupled Aerosol-Chemistry-Climate Model: Enhanced H2SO4-H2O Droplets, HNO3-H2SO4-H2O T
1062	1	1	8	C	Pradeep	Kumar	ECS	Seasonal Variations of Atmospheric Aerosols and its Association with the Optical Properties of Aerosols in Varanasi at Middle Indo-Gangetic Plain
1011	1	1	9	F	Kanika	Taneja	-	Impact of an Extreme Weather Event on Aerosol Optical and Radiative Properties in India
1019	1	1	10	D	Imran	Shahid	-	Variability of Particulate Matter Concentrations during Dense Winter Fog Period in Northeastern Pakistan
1446	1	1	11	A	Lakhima	Chutia	ECS	Composition of Aerosols in the Upper Troposphere over Indian Subcontinent
1356	1	1	12	E	Rashada Akte	Nahida	-	Polycyclic Aromatic Hydrocarbons in Atmospheric Fine Particulate Matters in Dhaka, Bangladesh: Sources Characterization and Potential Health Impact
1093	1	1	13	B	Vikas	Goel	ECS	Chemical Processing of Dust in an Urban Environment (New Delhi)
1361	1	1	14	F	Chandra Mou	Pavuluri	-	High Abundance of Non-Fossil Derived Organics in Fine Aerosols in the Eastern Mediterranean Troposphere
1223	1	1	15	C	Mingfu	Cai	ECS	The Size Resolved Cloud Condensation Nuclei (CCN) Activity and its Prediction based on Aerosol Hygroscopicity and Composition in the Pearl Delta River (PRD) Region
1432	1	1	16	B	Masatomo	Fujiwara	-	Measurements of Cloud Particles and Sea Salt Aerosols at Tarawa (1.35N, 172.92E), Kiribati using Balloon-Borne Cloud Particle Sensor (CPS) under the SOWER Camp
1504	1	1	17	E	Anita	Lakhani	-	Chemical Characteristics, Source Apportionment and Health Risk Assessment on Human Exposed to Heavy Metals in PM10 at a Traffic Site
1061	1	1	18	C	Arti	Choudhary	ECS	Estimate the Influence of Aerosols Optical Properties its Radiative Effects and Seasonal Variability in Megacity Delhi, India
1357	1	1	19	D	Tanzina Tul	Karim	-	Source Apportionment Study with PMF Model and Health Risk Assessment of Volatile Organic Compounds (VOCs) at Atmospheric Fine Particulate Matters (PM2.5) in D
1350	1	1	20	D	Chong	Shen	-	The Impacts of Aerosol on Precipitation in the Pearl River Delta Region
1301	1	1	21	F	Alan	Robock	-	Impacts of Stratospheric Sulfate Geoengineering on PM2.5

					2			Volcanic emissions and analysis
1116	1	2	1	B	Timofei	Sukhodolov	ECS	Influence of Volcanic SO2 Emissions on the Climate and Ozone Layer Evolution during Early 21st Century.
1482	1	2	2	D	Hans	Brenna	ECS	Atmospheric, Climatic and Environmental Effects of the Super-Size Los Chocoyos Eruption 84 Kyrs Ago
1487	1	2	3	C	Andrea	Stenke	-	Impacts of Mt. Pinatubo Volcanic Aerosol on the Tropical Stratosphere in Chemistry-Climate Model Simulations using CCMI and CMIP6 Aerosol Data
1525	1	2	4	F	Jean-Paul	Vernier	-	VolRes: Volcano Response Plan to Be Prepared for the Next Large Volcanic Eruption

					3			Stratospheric ozone
1296	1	3	1	D	Janusz	Jaroslawski	-	Signs of the Total Ozone Recovery based on the Satellite (MSR) Data for the Period 1979-2017
1427	1	3	2	B	Catherine	Wilka	ECS	The Influence of Heterogeneous Chemistry on Volcanic Sulfate Aerosols on Ozone Depletion and Recovery
1341	1	3	3	E	Ray (H.J.)	Wang	-	Preliminary Validation Results of SAGE III-ISS Ozone Data
1353	1	3	4	C	Alessandro	Damiani	-	Contribution of Energetic Particle Precipitation to Natural Ozone Variability in Antarctica
1516	1	3	5	F	Sean	Davis	-	Assessment of the Robustness of Recent Lower Stratospheric Ozone Trends and their Reproduction by Models
1527	1	3	6	D	Martyn	Chipperfield	-	Stratospheric Ozone: Ongoing Depletion or Recovery?
1381	1	3	7	A	James	Keeble	ECS	Diagnosing the radiative and chemical contributions to future changes in tropical column ozone with the UM-UKCA chemistry–climate model
1338	1	3	8	E	Sophie	Godin-Beekm	-	Ozone Trends in the Lower Stratosphere from Long-Term Lidar and Satellite Records
1471	1	3	9	B	Annika	Seppala	-	Polar Ozone Response to Energetic Particle Precipitation over Decadal Time Scales
1439	1	3	10	F	Irina	Petropavlovsk	-	Is Stratospheric Ozone Recovering as We Expect? Results of the SPARC LOTUS Analyses.
1483	1	3	11	C	Michael	Pitts	-	The SPARC Polar Stratospheric Cloud Initiative (PSCi)
1217	1	3	12	B	Michelle L	Santee	-	Ozone Mini-Hole Representation in Satellite Data and Reanalyses
1262	1	3	13	E	Peter	Braesicke	-	The Warming of the Antarctic Peninsula: Is the Ozone Hole to Blame?
1240	1	3	14	C	Marta	Abalos	-	Response of Stratospheric Transport and Mixing to Sudden Stratospheric Warmings in WACCM: Impacts on Arctic Ozone

1399	1	3	15	F	Michael C	Pitts	-	Reference PSC Data Record and Climatology based on CALIOP, MLS, and MIPAS Observations
1211	1	3	16	D	Farahnaz	Khosrawi	-	Arctic Winter 2009/2010, 2010/2011 and 2015/2016 in Comparison: Denitrification and Polar Stratospheric Cloud Formation
1144	1	3	17	A	Hao-Jhe	Hong	-	Intraseasonal Ozone-Circulation Relationships in the Arctic Stratosphere
1078	1	3	18	E	Madhu	Vazhathottath	-	North Atlantic Oscillations in Total Ozone Detected by Chemistry-Climate Model and Reanalysis
1057	1	3	19	B	Jiankai	Zhang	ECS	Stratospheric Ozone Loss over the Eurasian Continent Induced by the Polar Vortex Shift
1036	1	3	20	F	Xie	Fei	-	A Connection from Arctic Stratospheric Ozone to El Nino-Southern Oscillation
1108	1	3	21	C	Karthika	Gangadharan	-	Diurnal and Seasonal Variability of Total Column Ozone Over Cochin - A Comparative Study of Microtop II Ozonometer Measurements with Reanalysis and Satellite Obs

					4			Dynamics and long range transport
1514	1	4	1	E	Federico	Fierli	-	Are CCMIs Reproducing the Main Features of the Asian Anticyclone ? What We Can Learn from the StratoClim 2017 Campaign
1054	1	4	2	B	Silvia	Bucci	ECS	Convective Sources and Transport Patterns into the Stratosphere during the 2017 StratoClim Campaign
1069	1	4	3	F	Lei	Wang	-	Large Impacts, Past and Future, of Ozone Depleting Substances on Brewer-Dobson Circulation Trends: A Multi-Model Assessment
1368	1	4	4	C	Myung-Il	Jung	ECS	Southern Hemisphere Atmospheric General Circulation Changes in CCMI Models
1059	1	4	5	A	Ravindra Babu	Saginela	ECS	Tropical Tropopause Layer (TTL) Variability during the Balloon Measurement Campaigns of the Asian Tropopause Aerosol Layer (BATAL) over Indian Region
1042	1	4	6	D	Disha	Sharma	ECS	Tracking the Influence of Long Range Transport of Dust Aerosols on their Chemical Characteristics Observed in the North-West Indo Gangetic Plains.
1127	1	4	7	B	S. Y.	Aslanoglu	ECS	A 9-Year Three-Dimensional Desert Dust Transport Evaluation over Anatolia with CALIPSO Derived Product
1265	1	4	8	E	Makoto	Deushi	-	Impact of Ozone on Tropical Tropospheric Circulation Change after a Stratospheric Sudden Warming Event
1152	1	4	9	C	Paul	Konopka	-	Impact of Mixing on the Composition of Air in the Upper Troposphere and Lower Stratosphere (UTLS): A Lagrangian View
1157	1	4	10	F	Andrea	Schneidereit	-	Boreal Planetary Wave Transport of Zonally Asymmetric Ozone during the Polar Healing Phase
1257	1	4	11	D	Mohamadou	Diallo	-	Impact of the El Nino Southern Oscillation (ENSO) on the Structure of the Brewer-Dobson Circulation in the Lower Stratosphere
1151	1	4	12	B	Marta	Abalos	ECS	Future Trends in Stratosphere-to-Troposphere Transport in CCMI Models
1369	1	4	13	E	Zibing	Yuan	-	Impact of Large-Scale Synoptic Circulation Pattern on Ozone Forming Mechanism in Shanghai, China
1510	1	4	14	C	Shunsuke	Noguchi	ECS	Potential Influence of Elevated Stratopause Events on the Lower Atmospheric Circulation
1472	1	4	15	F	Fumio	Hasebe	-	CUBE/Biak: Observations of Dynamics and Chemistry Affecting the Air on its Ascent in the Tropical Lower Stratosphere
1270	1	4	16	D	Robert	Damadeo	-	The Impact of Sampling Corrections on Derived Long-Term Ozone Trends
1346	1	4	17	A	Hideharu	Akiyoshi	-	Dynamical Analysis in the Southern Hemisphere Associated with a Three-Week Total Ozone Reduction over the Southern Tip of South America in November 2009

					5			Trace gas observations and analysis
1182	1	5	1	A	Shankar	Bhattarai	ECS	CubeSat with Cylindrical Langmuir Probes to Characterize Ionosphere and Thermosphere Plasma
1499	1	5	2	D	Zia	Ul-Haq	-	Anthropogenic Emissions and Satellite Inferred Tropospheric Formaldehyde Trends, Seasonality and Anomalies over South Asian Region
1104	1	5	3	B	Nidhi	Tripathi	ECS	First PTR-TOF-MS Based Measurement of Volatile Organic Compounds (VOCs) in New Delhi: Implication to Regional Atmospheric Chemistry and Climate during Winter-
1435	1	5	4	E	Masato	Shiotani	-	Systematic Biases owing to a Response Time Issue of Ozonesondes
1511	1	5	5	C	Puneet K	Verma	ECS	Potential Source Contributions and Cancer Risk Assessment of Atmospheric Polycyclic Aromatic Hydrocarbons (PAHs) and Nitro-PAHs over a Traffic Indo-Gangetic Site
1164	1	5	6	F	Jianchun	Bian	-	Sounding Water Vapor, Ozone, and Particles during the ASM
1111	1	5	7	D	Ralph	Lehmann	-	Model Calculations of the Contribution of Tropospheric SO2 and DMS (Dimethyl Sulfide) to the Stratospheric Sulfur Budget
1237	1	5	8	B	Aman	Gupta	ECS	The Impact of Model Numerics on Trace Gas Transport in the Stratosphere: A Dynamical Core Benchmark Test Using the Age of Air
1425	1	5	9	E	Rolf	Mueller	-	The Maintenance of Elevated Active Chlorine Levels in the Antarctic Lower Stratosphere through HCl Null Cycles
1485	1	5	10	C	Ryan, S.	Williams	ECS	Seasonality and Geographical Variability of Tropospheric Ozone (O3), Stratospheric Influence and Recent Trends
1272	1	5	11	F	Eric	Ray	-	Disentangling Interannual Stratospheric Transport Variability Impacts on Surface Trace Gas Concentrations
1530	1	5	12	D	Qing	Liang	-	The Impact of Stratosphere-Troposphere Exchange on Atmospheric Nitrous Oxide (N2O) and its Isotopic Budget in the Troposphere
1529	1	5	13	A	Jean-Paul	Vernier	-	Assessing the Transport of Asian Pollution into the Stratosphere through Balloon-Borne and Satellite Observations together with the GEOS-Chem Chemical Transport Mo
1519	1	5	14	E	David W.	Tarasick	-	Tropospheric Ozone Assessment Report: Tropospheric Ozone Observations - How Well Do We Know Tropospheric Ozone Changes?

					6			Asian monsoon
1300	1	6	1	B	Laura	Pan	-	Atmospheric Composition and the Asian Monsoon (ACAM): A Joint Activity of SPARC and IGAC
1154	1	6	2	F	Michelle L	Santee	-	Characterizing the Climatological Composition and Intraseasonal and Interannual Variability of the Asian Summer Monsoon Anticyclone Using Aura Microwave Limb Sour
1412	1	6	3	C	Emma	Leedham Elvi	-	Aircraft-Based Observations of Transport Tracers and Ozone-Depleting Substances in and above the Asian Monsoon
1376	1	6	4	A	Tatsuo	Onishi	-	Transport of Aerosols and Trace Gases into the Upper Troposphere during the Peak Asian Monsoon Period in Summer 2017
1012	1	6	5	D	Xue	Wu	ECS	Equatorward Dispersion of a High-Latitude Volcanic Plume and its relation to the Asian Summer Monsoon: A Case Study of the Sarychev Eruption in 2009
1130	1	6	6	B	Simone	Brunamonti	ECS	UTLS Structure and Tracer Distributions in the Asian Summer Monsoon Anticyclone Inferred from Balloon Measurements during StratoClim 2016-2017
1271	1	6	7	E	Mian	Chin	-	Natural and Anthropogenic Aerosols in the UTLS in Recent Decade: Sources and the Role of Monsoon Transport
1477	1	6	8	C	Yi	Liu	-	Stratosphere and Troposphere Exchange Experiment over Asian Summer Monsoon Project (STEAM)
1430	1	6	9	C	Bernard	Legras	-	Confinement of Air in the Asian Monsoon Anticyclone and Pathways of Convective Air to the Stratosphere during Summer Season

					7			UTLS
1339	1	7	1	E	Peter	Hoor	-	An Overview of OCTAV-UTLS (Observed Composition Trends and Variability in the UTLS), a SPARC Activity

1153	1	7	2	B	Ulrike	Langematz	-	Future Changes in the Stratosphere-to-Troposphere Ozone Mass Flux
1159	1	7	3	F	Peter	Hoor	-	Mixing and Transport in the UTLS: Results from the Wave-Driven Isentropic Exchange (WISE) Mission
1178	1	7	4	C	Yoichi	Inai	-	Seasonal Characteristics of Chemical and Dynamical Transports into the Extratropical Upper Troposphere/Lower Stratosphere
1457	1	7	5	A	Haosen	Xi	-	Stratosphere-Troposphere Exchange of Ozone and Carbon Monoxide over the Northern Pacific Ocean in Northern Winter using Two Chemical Reanalysis Data Sets
1455	1	7	6	D	Joern	Ungermann	-	A Case Study of Water Vapor In-Mixing into the LS from SparcGLORIA Measurements Acquired during the WISE Campaign
1243	1	7	7	B	Xiaoyang	Chen	-	Impact of Photochemical and Meteorological Processes within Boundary Layer and Stratosphere-Troposphere Exchange on Vertical Ozone
1239	1	7	8	E	Hongyue	Wangh	-	Impact of Stratosphere-to-Troposphere Exchange on Surface Ozone in Eastern China from the Valley between the South Asia High and the Subtropical Pacific High.
1177	1	7	9	C	Qian	Li	-	Distribution and Variation of Surface Emitted Air Pollutants in UTLS under the Control of Asian Summer Monsoon
1033	1	7	10	B	Tao	Wang	ECS	Quantify Laminar Cirrus Ice and its Contribution to the Total Water Budget in the Tropical Tropopause Layer

						8		Climate analyses
1549	1	8	1	B	Antara	Banerjee	ECS	Stratospheric Water Vapor: an Important Climate Feedback
1311	1	8	2	F	Ram	P R Sinha	-	Ubiquity of Quasi-Aerosol Layers in the Free Troposphere and its Regional Climate Response
1491	1	8	3	C	Sampa	Das	-	An Investigation of the Summer 2017 North American Wildfires and their Influence on the Upper Troposphere and Lower Stratosphere
1039	1	8	4	A	Xuan	Ma	ECS	An Advanced Impact of Arctic Stratospheric Ozone Changes on Spring Precipitation in China
1539	1	8	5	D	Kane	Stone	ECS	Using Stratospheric Ozone to Predict Northern Hemisphere Surface Temperatures
1199	1	8	6	B	Katharina	Meraner	ECS	How Useful is a Linearized Ozone Scheme for Global Climate Modelling?
1261	1	8	7	E	William J	Collins	-	Climate Impacts of a Short-Lived Climate Forcer Mitigation Scenario
1522	1	8	8	C	Dmitry V.	Kulyamin	-	Modeling of the Energetic Particles Precipitation Influence on Atmospheric Ozone, Circulation and Surface Climate
1302	1	8	9	F	Pao K.	Wang	-	How Deep Convective Storms Influence Global Climate: Cross-Tropopause Transport of H2O
1309	1	8	10	D	Wenshou	Tian	-	The Relationship between Lower-Stratospheric Ozone at Southern High Latitudes and Sea Surface Temperature in the East Asian Marginal Seas in Austral Spring
1087	1	8	11	A	Franziska I.	Frank	ECS	Atmospheric Methane and its Isotopic Composition in a Changing Climate: A Modeling Study
1385	1	8	12	E	Michaela	Hegglin	-	ESA Climate Change Initiative: Long-Term Changes in Atmospheric Water Vapour
1282	1	8	13	B	Amanda C.	Maycock	-	On the Structure of Greenhouse Gas Radiative Forcing Kernels
1402	1	8	14	F	David A	Plummer	-	Comparing the Stratosphere in Specified Dynamics (Nudged) and Free-Running Simulations from the Chemistry Climate Model Initiative Model Intercomparison
1409	1	8	15	C	Feng	Li	-	Effects of Greenhouse Gas Increase and Stratospheric Ozone Depletion on Brewer-Dobson Circulation in 1960-2010
1419	1	8	16	B	Gabriel	Chiodo	-	Is Interactive Ozone Chemistry Important to Represent Stratospheric Temperature Variability in Earth System Models?
1489	1	8	17	E	Birgit	Hassler	-	CMIP Model Evaluation with the Earth System Model Evaluation Tool (ESMValTool)

Theme 2 Climate Prediction from Weeks to Decades

1259	2	Keynote		Amy H.	Butler	-	Stratosphere-Troposphere Coupling Processes on S2S and Longer Timescales
1190	2	Keynote		Daniela	Domeisen	-	Weather and Climate Prediction from Weeks to Decades: Where Do We Stand?
1274	2	Oral		Shunsuke	Noguchi	ECS	Impact of Satellite Observations on Forecasting Sudden Stratospheric Warmings
1480	2	Oral		Alexey	Karpechko	-	Predictability of Sudden Stratospheric Warmings in Sub-Seasonal Forecast Models
1169	2	Oral		Tobias	Spiegl	-	The Solar Cycle Signal in Northern Hemisphere Winter in Ensemble Simulations with a Comprehensive Decadal Prediction System
1058	2	Oral		Lei	Wang	-	Empirical Seasonal Forecast of Winter NAO and Surface Climate
1053	2	Oral		Nicholas J.	Byrne	ECS	Seasonal Persistence of Circulation Anomalies in the Southern Hemisphere Stratosphere, and Its Implications for the Troposphere
1367	2	Oral		Eun-Pa	Lim	-	Impacts and Predictability of Southern Hemisphere Stratosphere-Troposphere Coupling

			1					S2S prediction
1540	2	1	1	B	Yvan J.	Orsolini	-	Subseasonal-to-Seasonal Forecasts with the Norwegian Climate Prediction Model
1407	2	1	2	E	Craig	Long	-	Influence of Sudden Stratospheric Warmings upon Sub-Seasonal Forecasts
1422	2	1	3	C	Yvan J.	Orsolini	-	Duration and Decay of Polar Stratospheric Vortex Events in the ECMWF Seasonal Forecast Model
1408	2	1	4	F	Craig	Long	-	Sudden Stratospheric Warming Monitoring at NOAA/Climate Prediction Center
1537	2	1	5	D	Steven	Pawson	-	The Stratospheric Warming of 2018 in Context of the Earth System
1423	2	1	6	A	Judith	Berner	-	Regime-dependent Predictability in Sub-seasonal Forecasts
1030	2	1	7	E	Chen	Schwartz	-	Relative Roles of the MJO and Stratospheric Variability in North Atlantic Climate Patterns during Boreal Winter
1248	2	1	8	B	Yueyue	Yu	ECS	On the Linkage among Anomalously Strong Stratospheric Mass Circulation, Stratospheric Sudden Warming, and Cold Weather Events
1366	2	1	9	F	Eun-Pa	Lim	-	S2S Forecast Skill for Southern Hemisphere Early Spring Vortex Variability
1461	2	1	10	C	Chiara	Cagnazzo	-	Stratospheric Variability and Stratosphere-Troposphere Coupling in High versus Low Resolution Simulations within the H2020 PRIMAVERA Project
1490	2	1	11	A	Yuna	Lim	-	MJO Prediction Skill of the Subseasonal-to-Seasonal Prediction Models
1025	2	1	12	D	Chaim I	Garfinkel	-	The Influence of the Madden Julian Oscillation and the Quasi-Biennial Oscillation on the Boreal Winter Arctic Stratosphere in S2S Subseasonal Forecast Models
1072	2	1	13	B	Robert W.	Lee	ECS	ENSO Modulation of MJO Teleconnection to the North Atlantic & Europe and Implications for Subseasonal Predictability
1488	2	1	14	E	Yuna	Lim	-	Influence of the QBO on MJO Prediction Skill in the S2S Models

			2					Seasonal prediction
1165	2	2	1	C	Nicholas	Tyrrell	ECS	Atmospheric Circulation Response to Anomalous Siberian Forcing in Autumn 2016 and its Long-range Predictability.
1235	2	2	2	D	Cory A.	Barton	ECS	Optimization of Gravity Wave Source Parameters to Improve Seasonal Forecasts of the Quasi-Biennial Oscillation in a Stratosphere-Resolving Numerical Weather Predic
1247	2	2	3	D	Masakazu	Taguchi	-	Seasonal Winter Forecasts of the Northern Stratosphere and Troposphere: Results from JMA Seasonal Hindcast Experiments
1251	2	2	4	F	Hong-Li	Ren	-	Dynamics and Predictability of 2016 Extreme Indian Ocean Dipole Event
1486	2	2	5	E	Timothy N	Stockdale	-	Prediction of the Quasi-Biennial Oscillation (QBO) with a Multi-Model Ensemble of QBO-Resolving Models
1321	2	2	6	F	Yanqiu	Gao	-	A Study of the Impact of Initialization on ENSO Predictability based on Ensemble Coupled Data Assimilation
1329	2	2	7	C	Stephen I.	Thomson	ECS	Atmospheric Response to SST Anomalies. Background-State Dependence, Teleconnections and Local Effects in Winter and Summer
1055	2	2	8	A	Dim	Coumou	-	Long-Lead Empirical Forecasts of the Indian Summer Monsoon Rainfall based on Causal Precursors
1076	2	2	9	D	Joshua	Ngaina	ECS	Predictability of Seasonal Rainfall over the Greater Horn of Africa
1092	2	2	10	B	Anastasia	Makhnykina	ECS	Seasonal Changes in Soil CO2 Emission in the Forest Ecosystems of Central Siberia
1222	2	2	11	E	Xuefeng	Cui	-	Impacts of Climate Seasonal Prediction on Agriculture: Comparison between India and China
1393	2	2	12	C	Folmer	Krikken	ECS	Global Empirical System for Probabilistic Seasonal Climate and Fire Risk Forecasts
1203	2	2	13	F	Chaofan	Li	-	Skillful Seasonal Prediction of Yangtze River Valley Summer Rainfall
1441	2	2	14	D	Zoe E	Gillett	ECS	Modelling the Influence of the Antarctic Ozone Hole on Southern Hemisphere Surface Climate Variability

			3					Decadal prediction
1049	2	3	1	C	Anthony Bany	Ndah	ECS	A Novel Perspective on the Sun-Ocean Time-Lag and Proposed Mechanism for Bottom-Up (Ocean-Atmosphere) Climate Forcing: Implications for Decadal Climate Predi
1466	2	3	2	B	Stergios	Misios	-	Observed and Modelled Influences of the 11-Yr Solar Cycle on the Walker Circulation
1280	2	3	3	C	Cheng	Sun	-	North Atlantic Oscillation Implicated as a Predictor of Northern Hemisphere Multidecadal Climate Variability

			4					Extremes and others
1328	2	4	1	E	Jaeyoung	Hwang	-	Future Change of Northern Hemisphere Blocking in CESM Large Ensemble Simulations
1198	2	4	2	C	Gabriele	Messori	ECS	Dynamical Systems Proxies of Atmospheric Predictability and Mid-Latitude Extremes
1492	2	4	3	F	Xuan-Tien	Nguyen-Vinh	-	Evaluation of the Global Weather Research and Forecasting (WRF) Model, Focusing on Summer Mid- and High-Latitude Upper Troposphere and Lower Stratosphere Ter
1286	2	4	4	D	Dhrubajyoti	Samanta	ECS	The Double ITCZ Bias in GCMs: Causes and Implications for Future Rainfall Projections
1547	2	4	5	A	James	Anstey	-	Uncertainty of Regional Climate Change Projections Associated with Atmospheric Blocking Events
1244	2	4	6	E	Abebaw	Alemu	-	Estimating Coefficients of Z-R Relationship for Bahir Dar City by using Blue Nile Weather Radar Data
1506	2	4	7	B	Inna	Polichtchouk	ECS	Sensitivity of the Lower Tropical Stratosphere to Vertical Resolution in NWP Models

1551	2	4	8	C	Annelize	Van Niekerk	ECS	The Circulation Response to Resolved Versus Parametrized Orographic Drag over Complex Mountain Terrains

Theme 3 Role of Atmospheric Dynamics for Climate Variability and Change

1318	3	Keynote		Hisashi	Nakamura	-	Modulations of the East Asian Winter Monsoon by the Western Pacific (WP) Pattern: Its Dynamics and Remote Influence from the Tropics
1434	3	Keynote		Joowan	Kim	-	Dynamical Processes in the Tropical UTLS: Observational Evidences and Issues in Numerical Models
1016	3	Oral		Wanying	Kang	ECS	The Teleconnection between the Madden-Julian Oscillation (MJO) and the Sudden Stratospheric Warmings (SSW)
1219	3	Oral		Sean	Davis	-	Tropical Expansion: Comparison of "Upper" and "Lower" Metrics
1115	3	Oral		Marlene	Kretschmer	ECS	Using Causal Discovery Algorithms to Evaluate Arctic-Stratosphere Linkages in CMIP5 Models
1202	3	Oral		Kunihiko	Kodera	-	Role of Downward Propagating Planetary Waves in European Severe Cold Snap during a Recovery Phase of the SSW in February 2018
1074	3	Oral		Talia	Tamarin-Brod	ECS	A Dynamical Perspective on Temperature Variability, Extremes and Their Response to Climate Change
1380	3	Oral		Lena	Schoon	ECS	A Novel Method for the Extraction of Local Gravity Wave Parameters: Description, Validation and Application

			1					Phenomena in the mesosphere and lower-thermosphere (MLT) region
1047	3	1	1	F	Sivakandan	Mani	ECS	The Predominant Occurrence Altitudes of Middle Atmospheric Temperature Inversions and Mesopause over the low Latitude Indian Sector
1051	3	1	2	F	Priyanka	Ghosh	ECS	Vertical Coupling from the Lower Atmosphere to the Ionosphere: Observations Inferred from Indian MST Radar, GPS Radiosonde, Ionosonde and SABER/TIMED Instrum
1048	3	1	3	B	Mani	Sivakandan	ECS	Long-Term Variation of OH Peak Emission Altitude and Volume Emission Rate over Indian Low Latitudes
1088	3	1	4	A	Som Kumar	Sharma	-	Investigations on Stratospheric-Mesospheric Temperature Climatology in the Northern and Southern Hemispheres
1295	3	1	5	D	Christoph	Zülicke	-	Coupling of Stratospheric Warmings with Mesospheric Coolings
1275	3	1	6	B	Koki	Iwao	-	Climatological Features of Planetary Waves in the Middle Atmosphere during the Northern Hemisphere Winter
1438	3	1	7	E	Ryosuke	Yasui	-	In-Situ Gravity Wave Generation by Shear Instability in the MLT Region

			2					Influences of solar activity variations and volcanic eruptions
1498	3	2	1	E	Ziniu	Xiao	-	Preferred Solar Signal Transfer in the Asian-Pacific Sector
1343	3	2	2	B	Kevin	DallaSanta	ECS	The Circulation Response to Volcanic Eruptions: The Key Roles of Stratospheric Warming and Eddy Interactions
1256	3	2	3	F	Wenjuan	Huo	ECS	Modulation of Solar Activity on Tropical Pacific SST Anomalies by the Wintertime AO-Like Variability
1017	3	2	4	C	Dhruba	Banerjee	ECS	A Study of Tropical Cyclones over India (Bay of Bengal and Arabian Sea) and Solar Influence on It
1553	3	2	5	A	Hauke	Schmidt	-	Polar Vortex Responses to Solar, Volcanic and ENSO Forcing in a Large Ensemble of Historical Simulations
1308	3	2	6	D	Tao	Wang	-	Influence of Low-Frequency Solar Forcing on the East Asian Winter Monsoon based on HadCM3 and Observations

			3					Equatorial quasi-biennial oscillation (QBO) and its remote influences
1414	3	3	1	B	James	Anstey	-	Teleconnections of the Quasi-Biennial Oscillation (QBO) in a Multi-Model Ensemble of QBO-Resolving Models
1158	3	3	2	E	Jadwiga	Richter	-	Quasi-Biennial Oscillation in a Warming Climate, Part 1: Overview & Metrics
1200	3	3	3	C	Neal	Butchart	-	Quasi-Biennial Oscillation in a Warming Climate, Part 2: Response of the QBO Drivers
1232	3	3	4	F	Hiroaki	Naoe	-	The Extratropical Response to the Quasi-Biennial Oscillation (QBO) in the NH Winter in QBOi Experiments
1513	3	3	5	D	R. K.	Scott	-	Polar-Tropical Coupling in the Winter Stratosphere
1395	3	3	6	B	Hua	Lu	-	On the Role of Rossby Wave Breaking in Quasi-Biennial Modulation of the Stratospheric Polar Vortex
1207	3	3	7	E	Martin	Andrews	-	Robustness of Observed and Simulated Teleconnections between the Stratospheric Quasi-Biennial Oscillation and Boreal Winter Atmospheric Circulation
1283	3	3	8	C	Pu	Lin	ECS	The Development of the Eddy Momentum Flux Divergence during the 2015/2016 Quasi-Biennial Oscillation Disruption
1206	3	3	9	F	Yousuke	Yamashita	-	Two Possible Pathways of the Southern Hemisphere Polar Vortex Response to the QBO from Winter to Early Summer
1313	3	3	10	D	Peter	Hitchcock	-	Non-Radiative Dissipation of Stratospheric Kelvin Waves

			4					Gravity waves
1267	3	4	1	C	Petr	Pisoft	-	Localized Gravity Wave Forcing in the Lower Stratosphere - Role of the East Asian and North Pacific Hotspot
1315	3	4	2	A	Ji-Hee	Yoo	-	Characteristics and Sources of Inertia-Gravity Waves Revealed in Operational Radiosonde at Jang Bogo Station (JBS), Antarctica
1469	3	4	3	D	Tracy	Moffat-Griffin	-	Radiosonde Observations of Gravity Waves in the Stratosphere Close to 60S
1389	3	4	4	B	Kathrin	Baumgarten	ECS	Seasonal and Short Term Variability of Atmospheric Waves at Mid-Latitudes Derived from Ground-Based Observations and Reanalysis Data
1163	3	4	5	E	Yukari	Sumi	-	Frontal Structure and Gravity Waves Observed during Stratospheric Sudden Warming Events
1040	3	4	6	C	Rui	Yang	ECS	Simulation of a Torrential Rainstorm and Stratospheric Gravity Wave Analysis
1450	3	4	7	F	Peter	Preusse	-	Propagation of Mesoscale Gravity Waves above the Scandinavian Mountains as Observed by GLORIA and AIRS
1221	3	4	8	A	Ling	Wang	-	High Resolution Numerical Simulations of Gravity Wave Encounters with the Tropopause
1290	3	4	9	A	Andreas	Doernbrack	-	Gravity Waves Excited during a Minor Sudden Stratospheric Warming
1107	3	4	10	D	Ulrich	Achatz	-	Beyond Traditional Limits of Gravity-Wave Parameterizations: Unbalanced Mean Flows
1531	3	4	11	C	Riwal	Plougonven	-	On Constraints and Uncertainties for Gravity Wave Parameterizations
1155	3	4	12	F	Gergely	Boeloeni	-	Towards a Transient Gravity Wave Drag Parametrization in Atmospheric Models
1172	3	4	13	D	Hella	Garny	-	Role of Parametrized Gravity Wave Drag for the Stratospheric Circulation and Transport

			5					Stratospheric sudden warmings (SSWs)

1279	3	5	1	B	Byeong-Gwon	Song	ECS	Three-Dimensional Structure of Planetary and Gravity Wave Forcing during the Evolution of the January 2009 Stratospheric Sudden Warming
1473	3	5	2	A	Paul A.	Newman	-	Impact of the February 2018 Major Stratospheric Sudden Warming on Global Ozone
1227	3	5	3	C	Yayoi	Harada	-	A WN2-Type Major Sudden Stratospheric Warming Event in February 2018
1018	3	5	4	F	Ming	Bao	-	Classifying the Tropospheric Precursor Patterns of Sudden Stratospheric Warmings
1028	3	5	5	D	Martin	Jucker	-	Using Precursors for Statistical SSW Prediction
1465	3	5	6	B	Kazuhira	Hoshi	ECS	Characterizing Influences of the Arctic Sea Ice Loss on Weak Stratospheric Polar Vortex Events
1168	3	5	7	E	Olivia	Martius	-	Rossby Wave Propagation into the Northern Hemisphere Stratosphere: The Role of Zonal Phase Speed
1264	3	5	8	C	Patrick	Martineau	ECS	Lower-Stratospheric Control of the Frequency of Sudden Stratospheric Warming Events
1544	3	5	9	D	Noboru	Nakamura	-	Wave Activity Budget and the Onset of Sudden Stratospheric Warming
1122	3	5	10	A	Froila M.	Palmeiro	-	Assessing Sudden Stratospheric Warming Variability in the EC-EARTH Climate Model
1002	3	5	11	E	Pavel	Vargin	-	Lower troposphere impact of stratospheric perturbations in historical simulations of INM climate model
1114	3	5	12	B	Froila M.	Palmeiro	-	On How Turbulent Mountain Stress Influences Sudden Stratospheric Warming Ocurrence in WACCM

			6					Polar vortex variations and the Brewer-Dobson circulation (BDC)
1070	3	6	1	C	Jinlong	Huang	ECS	Preconditioning of Arctic Stratospheric Polar Vortex Shift Events
1233	3	6	2	F	Xiaoqing	Lan	-	The Modulation Effects of Pacific Decadal Oscillation on Relation between Arctic Oscillation and Mid-High Latitude Climate and Evolution of Weak Polar Vortex Events in
1354	3	6	3	E	Yuta	Ando	-	Detection of a Climatological Short Break in the Polar Night Jet in Early Winter and its Relation to Cooling over Siberia
1494	3	6	4	B	Luke	Hatfield	ECS	Low-Frequency Variability of the Winter Polar Vortex in a Simple Model of the Seasonally Evolving Stratosphere
1552	3	6	5	F	Annelize	Van Niekerk	ECS	The Modulation of Stationary Waves, and their Response to Climate Change, by Parameterized Orographic Drag
1326	3	6	6	C	Chaim	Garfinkel	-	Rossby Waves in the Stratosphere: The Effect of Mean Flow on the Accuracy of Quasi-Geostrophic Solutions
1330	3	6	7	A	Kazuaki	Nishii	-	Midlatitude Oceanic Fronts and the Stratospheric Polar Vortex
1288	3	6	8	D	Soichiro	Hirano	-	Primary Contribution of the Australian High to Climatology of the Stratospheric Momentum Budget during the Austral Spring
1141	3	6	9	B	Inna	Polichtchouk	ECS	Sensitivity of the Brewer-Dobson Circulation and Polar Vortex Variability to Parametrized Nonorographic Gravity-Wave Drag in a High-Resolution Atmospheric Model
1208	3	6	10	E	Steven	Hardiman	-	The Influence of Dynamical Variability on the Observed Brewer-Dobson Circulation
1126	3	6	11	C	Andreas	Chrysanthou	ECS	The Transient Evolution of the Stratospheric Residual Circulation Response to Climate Change
1268	3	6	12	F	Petr	Pisoft	-	Changing Spatial Structure of the Brewer-Dobson Circulation in CCMI Simulations - Is There a Role for the Wave Driving?
1467	3	6	13	D	Sanjay K.	Mehta	-	The Fine Scale Structure of the Annual Cycle in Stratospheric Temperatures Observed from GPS Radio Occultation
1249	3	6	14	A	Toshiki	Iwasaki	-	Three-Dimensional Structure of Mass-Weighted Isentropic Time Mean Meridional Circulations

			7					Stratospheric influences on tropospheric weather and climate
1188	3	7	1	A	Harry H.	Hendon	-	Compounding Tropical and Stratospheric Forcing of the Record Low Antarctic Sea-Ice in 2016
1316	3	7	2	D	Wen	Zhou	-	Role of the Stratospheric Polar Vortex and Tropospheric Blocking in Winter 2016
1184	3	7	3	B	Sandro	Lubis	ECS	Understanding the Stratospheric Influence on the Troposphere through Finite-Amplitude Wave Activity Theory
1146	3	7	4	E	Hitoshi	Mukougawa	-	Dynamics and Predictability of Downward Propagating Stratospheric Planetary Waves Observed in March 2007
1022	3	7	5	C	Ian	White	ECS	The Downward Influence of Sudden Stratospheric Warmings: Insight using an Idealised Moist GCM
1535	3	7	6	F	Reik	Donner	-	Stratosphere-Troposphere Coupling in the Northern Hemisphere Analyzed with Climate Network Measures
1191	3	7	7	A	Daniela	Domeisen	-	The Predictability of Polar Jet Oscillation Events and their Surface Impacts
1500	3	7	8	B	Peter	Hitchcock	-	The Downward Influence of Uncertainty in the Northern Hemisphere Stratospheric Polar Vortex Response to Climate Change
1331	3	7	9	D	Elisa	Manzini	-	Nonlinear Response of the Stratosphere and the North Atlantic-European Climate to Global Warming
1171	3	7	10	C	Janice	Scheffler	ECS	Stratosphere-Troposphere Coupling in Ensemble Simulations with Fast Stratospheric Ozone Chemistry
1322	3	7	11	F	Guangyu	Liu	-	Relationships between Antarctic Ozone Hole and Dynamical Fields
1462	3	7	12	D	Chiara	Cagnazzo	-	Stratosphere Resolving CMIP5 Models Simulate Different Changes in the Southern Hemisphere
1014	3	7	13	B	Ke	Wei	-	The Effect of a Well-Resolved Stratosphere on East Asian Winter Climate
1555	3	7	14	E	Frank M.	Selten	-	The Climate in a World without Ozone

			8					Annular mode variability and extra-tropical cyclones
1068	3	8	1	B	Lina	Boljka	ECS	On the Coupling between Baroclinic and Barotropic Annular Modes
1433	3	8	2	F	Aditi	Sheshadri	ECS	Propagating Annular Modes
1197	3	8	3	C	Gabriele	Messori	ECS	Low-Frequency Variability of Wintertime Euro-Atlantic Planetary Wave Breaking
1026	3	8	4	A	Yu	Nie	-	On the Roles of Upper- versus Lower-level Thermal Forcing in Shifting the Eddy-Driven Jet
1444	3	8	5	D	Min-Gyu	Seong	-	A Bayesian Attribution Analysis of Global and Regional Changes in Extreme Temperatures during 1951-2010
1405	3	8	6	B	Jaeyeon	Lee	ECS	Characteristics of East Asian Extratropical Cyclones in CMIP5 Climate Models
1451	3	8	7	E	Akira	Kuwano-Yoshi	-	Long-Term Changes in Explosive Cyclone Activity over the Midwinter North Pacific
1428	3	8	8	C	Luke L. B.	Davis	ECS	The Influence of Thermal Damping Timescales on Climate Variability and the Extratropical Circulation
1269	3	8	9	F	Robin	Pilch Kedziersk	ECS	Baroclinic Life-Cycles from GPS Radio-Occultation Measurements

						9		Stratosphere-troposphere exchange (STE) and upper troposphere-lower-stratosphere (UTLS) proceses
1440	3	9	1	E	Kohei	Yoshida	-	What Causes Disagreement of Upwelling in the TTL among CMIP5 Models?
1037	3	9	2	C	Yan	Xia	ECS	Impacts of Tropical Tropopause Warming on the Stratospheric Water Vapor
1112	3	9	3	F	Robert	Boschi	ECS	Identifying the Major Sources of Hindu Kush Himalayan Air and Moisture using a Lagrangian Approach
1245	3	9	4	D	Peter	Haynes	-	Seasonal and Interannual Variations in Upwelling and Temperatures in the Tropical UTLS
1310	3	9	5	A	Takeshi	Horinouchi	-	Dynamical UTLS Control on Summertime Precipitation from Weather to Climate
1089	3	9	6	E	Reona	Satoh	-	Intraseasonal Variability of Cloud Amount in Middle Latitude during Boreal Winter
1103	3	9	7	B	Frauke R.L.	Fritsch	ECS	On the Derivation of Mean Age of Air and Spectra from Ideal and Realistic Tracers
1123	3	9	8	F	Marianna	Linz	ECS	Non-Gaussian Tracer Distributions from Horizontal Advection
1085	3	9	9	C	Liu	Ting	-	Influence of the Boreal Autumn SAM on Winter Precipitation over Land in the Northern Hemisphere
1550	3	9	10	A	Julie	Arblaster	-	Precipitation Response to Ozone Depletion in the Southern Hemisphere
1133	3	9	11	D	Jilong	Chen	-	Decadal Shifts of Summer Heavy Rainfall in Southern China
1009	3	3	12	B	Furqon	Alfahmi	ECS	The Impact of Curvature Coastline to Rainfall Offshore over Maritime Continent
1400	3	9	13	E	Zhun	Guo	-	Impact of Horizontal Resolutions and Topography on the Simulation of Summer Rainfall over Southeast China
1084	3	9	14	C	Salauddin	Mohammad	ECS	Monsoon Variability and Stratosphere-Troposphere Exchange (STE) of Ozone over Costa-Rica (10N, 83.4W)
1364	3	9	15	F	Roberta	D'Agostino	ECS	Moisture Budget Decomposition and Mechanisms behind Monsoon Response in the Mid-Holocene and Future Climate Scenario

						10		Hadley circulation, El Nino-Southern Oscillation (ENSO) and Pacific Decadal Oscillation (PDO)
1095	3	10	1	A	In-Hong	Park	-	Understanding the Indo-Pacific Warm Pool Expansion: Seasonal Changes
1447	3	10	2	E	Yuki	Ishida	-	The Leading Mode of NH Interannual Tropopause Height Variability and its Relationship with ENSO
1077	3	10	3	F	Seoyeon	Kim	ECS	Southern Hemisphere Zonal-Mean Circulation Changes from Last Glacial Maximum (LGM) to Future Climate
1119	3	10	4	C	Bianca	Mezzina	ECS	Separating ENSO and NAO Signatures in the North Atlantic
1179	3	10	5	A	Bo	Wu	-	Atmospheric Dynamic and Thermodynamic Processes Driving the Western North Pacific Anomalous Anticyclone during El Nino
1377	3	10	6	D	Daniela	Matei	-	InterDec: The Potential of Seasonal-to-Decadal-Scale Inter-Regional Linkages to Advance Climate Predictions
1102	3	10	7	B	Lea	Svendsen	ECS	Pacific Contribution to the Early 20th Century Warming in the Arctic
1349	3	10	8	E	Yu	Kosaka	-	Global Temperature Fluctuations due to Tropical Pacific Decadal Variability and their Uncertainty
1038	3	10	9	E	Lixia	Zhang	-	ENSO Transition from La Nina to El Nino Drives Prolonged Spring Summer Drought over North China
1224	3	10	10	F	Chiaki	Kobayashi	-	Formation of Tropospheric Zonal Mean Anomalies Associated with ENSO

						11		Atmosphere-ocean coupling and teleconnection
1096	3	11	1	E	Dim	Coumou	-	Occurrence of North Atlantic SST and Atmospheric Circulation Patterns in a Changing Climate
1073	3	11	2	B	Robert W.	Lee	ECS	Impact of Gulf Stream SST Biases on the Global Atmospheric Circulation
1067	3	11	3	F	Tine	Nilsen	ECS	Northern North Atlantic Oceanic Conditions as an Important Driving Factor for Forest Fire Activity in Northern Scandinavia
1294	3	11	4	C	Annika	Reintges	ECS	Variability and Teleconnections in Wind-Driven Hindcasts with the Kiel Climate Model
1360	3	11	5	A	Annika	Reintges	-	Reducing Climate Model Systematic Error in the Tropical Atlantic Sector by Enhancing Atmospheric Resolution: Implications for Seasonal to Interannual Variability and Pr
1213	3	11	6	D	Mehdi Pasha	Karami	-	The Variability of the North Atlantic Subpolar Gyre and its Global Impact
1263	3	11	7	B	Patrick	Martineau	ECS	Role of the Atlantic Ocean in Modulating North-American and European Weather Extremes on Decadal Timescales
1411	3	11	8	E	Bunmei	Taguchi	-	Influence of Extra-Tropical Oceanic Variability on the Interannual-to-Decadal Variability of the Midlatitude Atmosphere
1370	3	11	9	D	Juergen	Bader	-	Global Temperature Modes Shed Light on the Holocene Temperature Conundrum
1118	3	11	10	F	Stefanie	Talento Costa	ECS	Influence of Extratropical Thermal Forcings on the Asian Monsoons

						12		Arctic sea-ice loss and teleconnection
1324	3	12	1	B	Russell	Blackport	-	Atmospheric Circulation Response to Arctic Sea Ice Loss
1176	3	12	2	E	Torben	Koenigk	-	Siberian Cooling Trends and the Linkage to Arctic Sea Ice Loss
1305	3	12	3	C	Russell	Blackport	ECS	Cold Winters in Mid-Latitudes Coincident with But Not Caused by Reduced Arctic Sea Ice
1453	3	12	4	F	Hye-Jin	Kim	ECS	Is Recent Eurasian Winter Cooling Caused by Arctic Amplification?
1456	3	12	5	D	Yongqi	Gao	-	Intensified Linkage between the Arctic Warming and the Eurasian Cooling
1436	3	12	6	B	Chang-Hyun	Park	ECS	A Causal Relationship between Barents-Kara Sea Ice Concentration and Wintertime Surface Air Temperature Variability in East Asia
1392	3	12	7	E	Evangelos	Tyrlis	-	The Key Role of Blocking in Arctic Sea Ice Loss and Cold Spells over Central Asia in Autumn 2016
1192	3	12	8	C	Masato	Mori	-	Quantification of Influence of Arctic Sea-Ice Decline and Natural Variability to Recent Eurasian Cooling
1460	3	12	9	F	Jinro	Ukita	-	Long-Term Change in Stationary Eddy Heat Flux Related to Arctic-Midlatitude Climate Linkage
1401	3	12	10	D	Dim	Coumou	-	The Influence of Arctic Amplification on Mid-Latitude Summer Circulation
1242	3	12	11	A	Irina	Rudeva	-	The Interaction between the Polar, Midlatitude and Tropical Regions.

						13		Teleconnections and regional climate variations
1137	3	13	1	F	Lei	Song	ECS	Relative Contributions of Synoptic and Intraseasonal Variations to Strong Cold Events over Eastern China
1090	3	13	2	C	Hyeong-Oh	Cho	ECS	Springtime Extratropical Cyclones in Northeast Asia and their Impacts on Long-Term Precipitation Trends

1255	3	13	3	A	Deming	Zhao	-	Role of Land Use and Cover Changes in Regional Climate Studies over East Asia
1410	3	13	4	D	Igor I.	Zveryaev	-	Soil Moisture Variability in European Russia and its Links to Regional Climate During Summer #
1097	3	13	5	B	Kieran M R	Hunt	ECS	Vertical Structure of Western Disturbances in the Subtropical Jetstream and Mechanisms Associated with Extreme Rainfall in South Asia
1193	3	13	6	E	Shion	Sekizawa	-	Interannual Variability of Australian Summer Monsoon and its Remote Influence on Wintertime East Asian Climate
1098	3	13	7	C	Kieran M R	Hunt	ECS	Future Projections of Western Disturbances: A CMIP5 Multi-Model Assessment
1045	3	13	8	F	Kai	Kornhuber	ECS	Increasing Probability of Simultaneous Mid-Latitudinal Heat Waves due to a Quasi-Stationary Wave 7 Teleconnection Favored by Heterogeneous Surface Warming
1307	3	13	9	D	Lin	Wang	-	Multidecadal Fluctuation of the Wintertime Arctic Oscillation Pattern and its Implication

Theme 4 Atmospheric Impacts and Interactions Related to Tropical Processes

1394	4	Keynote		Garfinkel	Chaim	-	Connections between Tropical Convection and the Tropical Stratosphere
1201	4	Keynote		Takatoshi	Sakazaki	ECS	Tropospheric Response to Downward Propagating Tide from the Stratosphere
1306	4	Oral		Shigeo	Yoden	-	A Series of Numerical Experiments on Stratosphere-Troposphere Two-Way Dynamical Coupling in the Tropics through Organizations of Moist Convective Systems
1505	4	Oral		George N	Kiladis	-	Associations between Stratospheric Wave Activity and Tropical Convection in Various Reanalysis Datasets
1129	4	Oral		Laura	Holt	ECS	Evaluation of Resolved Equatorial Waves and Wave-Driving of the QBO in the QBOi Models
1476	4	Oral		Sergey	Khaykin	-	Cross-Tropopause Transport of Water in the Asian Summer Monsoon from Airborne and Satellite Observations
1512	4	Oral		Amit K	Pandit	ECS	Long-Term Records of Cirrus Cloud Properties for Climate Understanding
1031	4	Oral		Wen	Chen	-	Modulation of the QBO on the Impact of ENSO on the South Asian High in the Following Summer

			1					UTLS, inclding TTL and Asian monsoon
1034	4	1	1	B	Vivek	Panwar	-	Temperature Trends and Long Term Variations in the UTLS Region and its Association with Convection over Indian and Adjacent Region
1478	4	1	2	A	Riwal	Plougonven	-	Impact of Equatorial and Gravity Waves on the Structure and Evolution of Tropical Tropopause Layer Cirrus Clouds
1561	4	1	3	A	Kirstin	Krueger	-	The South Asian Summer Monsoon Anticyclone in Reanalysis
1458	4	1	4	F	Erik	Johansson	ECS	How Does Cloud Overlap Affect the Radiative Heating in the Tropical Upper Troposphere / Lower Stratosphere?
1174	4	1	5	D	Yoichi	Inai	-	Long-Term Variation in the Mixing Fraction of Tropospheric and Stratospheric Air Masses in the Upper Tropical Tropopause Layer
1238	4	1	6	B	Kai-Wei	Chang	ECS	Evolution of Tropical Tropopause Temperature Induced by Convective and Stratiform Latent Heating
1150	4	1	7	E	I.A.	Dion	-	Diurnal Cycle of Ice Water Content Impacted by Deep Convection in the Tropical Upper Troposphere with an Emphasis over the Maritime Continent
1120	4	1	8	C	Ahana	K. K.	ECS	Turbulence Parameter Estimation from Concurrent Measurements of Radar and Radiosonde
1082	4	1	9	F	Suneeth	Kuniyil Viswar	ECS	Role of Zonal Circulation in the Exchange of Minor Constituents between the Upper Troposphere and Lower Stratosphere
1502	4	1	10	D	Florian	Ladstaedter	-	Tropical Temperature and Tropopause Trends from Vertically High-Resolved Observations
1099	4	1	11	A	Vanmathi	Annamalai	-	Relationship between Tropical Tropopause and Tropical Easterly Jet Streams over the Indian Monsoon Region
1459	4	1	12	E	Emmanuel D.	Riviere	-	Estimation of Hydration by Stratospheric Overshoots during TRO-Pico, Brazil: Mesoscale Simulations of Observational Cases
1145	4	1	13	B	Arata	Amemiya	ECS	Characterizing the Quasi-Biweekly Variability of the Anticyclone in the Upper Troposphere and Lower Stratosphere over the Asian Summer Monsoon Region
1390	4	1	14	F	Xiaolu	Yan	ECS	El Nino Southern Oscillation Influence on the Asian Summer Monsoon Anticyclone
1094	4	1	15	C	Saleem	Ali	-	Occurrence of the Cirrus Clouds and its Effect on the Thermal Structure of the Tropical Tropopause Layer (TTL)
1429	4	1	16	B		Noersomadi	-	The Influence of Madden Julian Oscillation to the Tropical Tropopause Inversion Layer as Revealed by COSMIC GPS-RO

			2					Strat dynamics, including QBO and SSW
1546	4	2	1	F	Jessica	Neu	-	Short-Term Trends in Stratospheric Circulation Driven by Seasonal Timing of the Quasi-Biennial Oscillation
1132	4	2	2	D	Nagio	Hirota	-	The Influences of El Nino and Arctic Sea-Ice on the QBO Disruption in February 2016
1403	4	2	3	C	Yuanpu	Li	ECS	The Trend of the Planetary Waves and Stratospheric Sudden Warming in the Northern Hemisphere Related to the Indian Ocean and Maritime Continent Warming
1032	4	2	4	E	Shingo	Watanabe	-	Hindcasts of the 2016 Disruption of the Stratospheric Quasibiennial Oscillation
1136	4	2	5	D	Tobias	Kerzenmache	-	Regional Teleconnections Revealed by Lagged Correlations between the Quasi-Biennial Oscillation and Ozone Concentrations
1253	4	2	6	E	Anne	Smith	-	Comparing Observed Equatorial Zonal Winds around the Stratopause with the QBOi Model Ensemble
1287	4	2	7	F	Min-Jee	Kang	-	Momentum Flux of Convective Gravity Waves Derived from an Offline Gravity Wave Parameterization: Impacts on the Large-Scale Flow Including the QBO
1284	4	2	8	A	Andrew C	Bushell	-	Coordinated Multi-Model Simulations of the Quasi-Biennial Oscillation
1379	4	2	9	B	Kylash	Rajendran	ECS	Evaluation of Seasonal Synchronization Tendencies of the QBO in the SPARC QBOi Project
1520	4	2	10	C	B. Helen	Burgess	ECS	Mixing and the Potential Vorticity Structure of the Quasi-Biennial Oscillation
1532	4	2	11	E	Riwal	Plougonven	-	Accuracy of Lower Stratospheric Winds in ECMWF Analyses and Forecasts, Assessed from Superpressure Balloon Trajectories
1015	4	2	12	F	Sourabh	Bal	ECS	Residual Mean Circulation during the Evolution of Sudden Stratospheric Warming
1246	4	2	13	A	Peter	Haynes	-	Robust Tropical Responses to Sudden Stratospheric Warmings
1166	4	2	14	B	Nicholas	Tyrrell	ECS	The Importance of the QBO Meridional Crculation for Modulating the Polar Vortex in Climate Models
1167	4	2	15	C	Nicholas	Tyrrell	ECS	Analyzing Teleconnections in the QBOi Dataset using Causal Effect Networks

			3					Upper-lower atmospheric dynamical coupling, including QBO-ENSO/MJO
1186	4	3	1	D	Harry H.	Hendon	-	Variations in Vertical Structure of the MJO Associated with the QBO
1138	4	3	2	E	Yoshio	Kawatani	-	ENSO Modulation of the QBO: Results from MIROC Models with and without Nonstationary Gravity Wave Parameterization
1183	4	3	3	A	Jack	Chen	-	Interaction between QBO and MJO Simulated by QBOi Models
1005	4	3	4	A	Matthew H.	Hitchman	-	Observational Studies of the Direct Influence of the Stratospheric QBO on Tropical Deep Convection, the Early Years (1961 - 2003)
1225	4	3	5	D	Yayoi	Harada	-	Relationship between the Boreal Summer Intra-Seasonal Oscillation and the Stratospheric Quasi-Biennial Oscillation
1443	4	3	6	B	Chiara	Cagnazzo	-	QBO and ENSO Relationships in Climate Models. Implications for Teleconnection Patterns and Predictability
1384	4	3	7	E	Lon L.	Hood	-	QBO/Solar Influence on the Madden-Julian Oscillation: Midlatitude Impacts
1291	4	3	8	C	Eriko	Nishimoto	ECS	Thorough Survey of Zonal-Mean Influence of the Stratospheric QBO on the Troposphere
1347	4	3	9	F	Hera	Kim	ECS	MJO-Induced Precipitation Change in East Asia and its Modulation by QBO

1121	4	3	10	D	Froila M.	Palmeiro	-	Dynamics of the ENSO Impact on the Tropical Upwelling
1292	4	3	11	A	Takenari	Kinoshita	-	On the Gravity Wave Activities based on Intensive Radiosonde Observations at Bengkulu during YMC-Sumatra 2017
1317	4	3	12	E	Nawo	Eguchi	-	Stratospheric Dynamical Impact on the Development of Tropical Cyclone
1344	4	3	13	C	Kevin	DallaSanta	ECS	Annular Modes in the Tropical Circulation
1348	4	3	14	D	Kunihiko	Kodera	-	Impact of the Tropical Lower Stratospheric Cooling on Deep Convective Activity during a Boreal Summer Monsoon

						4		O3, H2O transport,variability, trends
1236	4	4	1	D	Anne	Thompson	-	Variability and Trends in Free Tropospheric and Lower Stratospheric Ozone in the Tropics from SHADOZ
1162	4	4	2	F	Wuke	Wang	ECS	Decadal Variability of Tropical Tropopause Temperatures and Lower Stratospheric Water Vapour
1508	4	4	3	E	Michel	Grutter	-	Stratospheric Variability over a Sub-Tropical High Altitude Station in Central Mexico
1117	4	4	4	B	Jacob W	Smith	ECS	Determining Stratospheric Water Vapour Variability in a Global Climate Model
1181	4	4	5	F	Olga	Tweedy	ECS	The Impact of Tropical SSTs on Interannual Variability of Tropical Lower Stratospheric Ozone
1043	4	4	6	C	Mohamadou	Diallo	-	Response of Stratospheric Water Vapor and Ozone to the Unusual Timing of El Nino and QBO Disruption in 2015-2016
1052	4	4	7	C	Yuli	Zhang	ECS	Madden-Julian Oscillation in Wintertime Ozone in the Upper Troposphere and Lower Stratosphere
1518	4	4	8	D	Dale F.	Hurst	-	Anomalously Strong and Rapid Drying of the Tropical Lower Stratosphere in 2016: Connections to the QBO and ENSO
1140	4	4	9	B	Vinay	Kumar	ECS	Impact of QBO and ENSO on the Stratospheric Water Vapor from the Equator to Mid-Latitudes
1533	4	4	10	E	Susann	Tegtmeier	-	Widening of the Cold Point Tropopause and Implications for Stratospheric Composition
1109	4	4	11	F	Vered	Silverman	ECS	Radiative Effects of Ozone Waves on the Northern Hemisphere Polar Vortex and its Modulation by the QBO
1388	4	4	12	F	Mengchu	Tao	ECS	A Lagrangian Model Diagnosis of Stratospheric Contributions to Tropical Mid-Tropospheric Air

						5		Tropospheric dynamics, including precipitation
1148	4	5	1	E	Ken-Chung	Ko	-	The ENSO Effect on Summertime Submonthly Wave Patterns in the Western North Pacific
1050	4	5	2	C	Priyanka	Ghosh	ECS	Convection Generated High-Frequency Gravity Waves: Comparison between MST Radar Observations & WRF Simulation
1426	4	5	3	F	Ian	White	ECS	The Salience of Nonlinearities in the Boreal Winter Response to ENSO
1424	4	5	4	D	Judith	Berner	-	Improved ENSO Predictability in Coupled Climate Simulations with Stochastic Parameterizations
1351	4	5	5	A	Rongcai	Ren	-	A decomposition of ENSO's impacts on the northern winter
1250	4	5	6	E	Hong-Li	Ren	-	Impacts of the Super El Nino Events on the Probability of Spring-Summer Extreme Precipitation in Eastern China
1161	4	5	7	B	Tieh-Yong	Koh	-	Multi-Scale Interactions in a High-Resolution Tropical-Belt Experiment using WRF Model
1228	4	5	8	F	Jayakrishnan	Pandiyattilillar	ECS	Observation and Modelling of the Influence of Synoptic Scale Features on the Sea / Land Breeze Circulation during Southwest and Northeast Monsoon Seasons over No
1312	4	5	9	C	Tetsuya	Takemi	-	Control of Tropospheric Stability on the Intensification of Tropical Cyclones

Theme 5 Advances in Observation and Reanalysis Datasets

1277	5	Keynote		Nathaniel	Livesey	-	Beyond the "Golden Age" - Routes to Continuing and Augmenting the Record of Spaceborne Limb and Occultation Sounders
1365	5	Keynote		Daren	Lyu	-	Atmospheric Profiling Synthetic Observation System in Tibet
1397	5	Oral		David	Flittner	-	Stratospheric Aerosol and Gas Experiment III Installed on the International Space Station (SAGE III/ISS): On-Orbit Update
1383	5	Oral		Kaley	Walker	-	The SPARC Water Vapour Assessment II: Overview of Results and Characterization of Instruments and Data Records
1142	5	Oral		Jacquelyn C	Witte	-	Twenty Years of SHADOZ: Archiving, Reprocessing, and Uncertainties of Tropical Ozonesonde Profiles
1448	5	Oral		Emma	Leedham Elvi	ECS	Multiple Tracer Gases from Aircraft and AirCores and their Potential as Diagnostic Tools for Stratospheric Changes
1521	5	Oral		Susann	Tegtmeier	-	The Tropical Tropopause Layer in Observations and Reanalysis Data Sets
1252	5	Oral		Edwin	Gerber	-	The Annular Modes in Reanalyses: The Value of Conventional and Surface-Observation Only based Reanalyses in the Northern Hemisphere

			1					Interannual variations and climate
1281	5	1	1	E	Amanda C.	Maycock	-	Revisiting the Mystery of Recent Stratospheric Temperature Trends
1406	5	1	2	B	Craig	Long	-	Climatology and Interannual Variability of Dynamic Variables in Multiple Reanalyses Evaluated by the SPARC Reanalysis Intercomparison Project (S-RIP)
1463	5	1	3	F	Chiara	Cagnazzo	-	Assessing the Quality of Reanalyses Trends in the Southern Hemisphere Stratosphere-Troposphere through the Use of CMIP5 Models
1044	5	1	4	C	Naga Sai Mad	Gummadipudi	ECS	Long Term Oscillations Observed Globally in the Middle Atmosphere using COSMIC GPS RO and SABER/TIMED Measurements
1160	5	1	5	A	Ulrich	Foelsche	-	Improving the Value of Radio Occultation Data for Monitoring Climate in the UTLS
1320	5	1	6	D	Torsten	Schmidt	-	Tropopause Characteristics Observed with GPS Radio Occultation Data
1421	5	1	7	B	Andrea K.	Steiner	-	Advances in GNSS Radio Occultation for Atmospheric Climate Monitoring

			2					Large-scale dynamics
1001	5	2	1	B	Michal	Kozubek	ECS	New Reanalyses and How They Behave in the Middle Atmosphere
1226	5	2	2	D	Masatomo	Fujiwara	-	SPARC Reanalysis Intercomparison Project (S-RIP)
1496	5	2	3	C	Jonathon S.	Wright	-	Assessing Diabatic Signatures of Upwelling near the Tropical Tropopause in Reanalyses
1194	5	2	4	E	Paul	Konopka	-	How Robust are Stratospheric Age of Air Trends from Different Reanalysis Data Sets and Different Methods?
1335	5	2	5	D	Simon	Chabrillat	-	Comparison of Mean Age of Air in Five Reanalyses Using the BASCOE Transport Model
1534	5	2	6	F	Hella	Garny	-	Brewer-Dobson Circulation Inter-Comparison Based on Reanalyses and Models
1134	5	2	7	E	Kaoru	Sato	-	The Climatology of Brewer-Dobson Circulation and the Contribution of Gravity Waves
1345	5	2	8	A	Froila M.	Palmeiro	-	Reanalyses Performance in Representing Major Sudden Stratospheric Warmings
1378	5	2	9	F	Michaela	Hegglin	-	Seasonal and Regional Variations and Long-Term Trends in Upper Tropospheric Jets from Reanalyses
1382	5	2	10	B	Corwin	Wright	-	How Well Do Stratospheric Reanalyses Reproduce High-Resolution Satellite Temperature Measurements?
1431	5	2	11	A	Bernard	Legras	-	Comparison of the Cloud Properties of Five Modern Reanalyses with Satellite Based Products in the TTL
1548	5	2	12	C	James	Anstey	-	How Well Do Reanalyses Represent the Quasi-Biennial Oscillation?
1187	5	2	13	B	Yoshihiro	Tomikawa	-	Comparison of Climatological Atmospheric Fields in the Upper Stratosphere and Lower Mesosphere between Multiple Reanalysis Data
1319	5	2	14	D	Toshihiko	Hirooka	-	Intercomparison of Dynamical Fields in the Middle Atmosphere Revealed in Global Reanalyses
1413	5	2	15	C	Hua	Lu	-	Solar Cycle Modulation of the North Atlantic Oscillation: The Role of Rossby Wave Breaking, Internal Wave Reflection and Critical Layer Instability
1170	5	2	16	E	John	McCormack	-	Investigation of Planetary Waves and Tides in a High Altitude Meteorological Analysis System
1542	5	2	17	F	Steven	Pawson	-	Global Assimilation of X Project Loon Stratospheric Balloon Observations
1278	5	2	18	A	Dai	Koshin	ECS	A Study on the Optimal Data Assimilation System for the Whole Neutral Aatmosphere
1135	5	2	19	B	Noriyuki	Nishi	-	Cirrus Cloud-Top Height Estimation using Geostationary Satellite Split-Window Measurements Trained with CALIPSO and CloudSat data

			3					Gravity waves and turbulence
1027	5	3	1	C	Corwin	Wright	-	3D Measurements of Atmospheric Gravity Waves, in Observations and Reanalyses
1396	5	3	2	D	Neil	Hindley	ECS	Three-Dimensional Satellite Observations of Gravity Waves around the Southern Wintertime Polar Vortex: Separating Contributions from Orographic and Non-Orographic
1445	5	3	3	E	Peter	Preusse	-	A Test of the Polarization Relations Based on 3D GLORIA and In Situ Data
1212	5	3	4	F	Masashi	Kohma	-	Seasonal Variation of Energy Dissipation Rate Derived from Radar and Radiosonde Observations at Syowa Station in the Antarctic
1289	5	3	5	E	Yuichi	Minamihara	-	The Intermittency of Gravity Waves Momentum Fluxes in the Antarctic Troposphere and Lower Stratosphere Revealed by the PANSY Radar Observation
1314	5	3	6	D	Ryosuke	Shibuya	ECS	Gravity Wave Characteristics in the Winter Antarctic Mesosphere by a Long-Term Numerical Simulation Using a Non-Hydrostatic General Circulation Model
1372	5	3	7	B	Mareike	Kenntner	-	Characterisation of Mountain Waves in the Tropopause Region Using MTP Measurements
1481	5	3	8	F	Paul	Konopka	-	Vertical Diffusivity in the Tropical Upper Troposphere-Lower Stratosphere in the Lagrangian Transport Model ClaMS and Comparison with In Situ Observations of Turbule
1449	5	3	9	C	Hye-Yeong	Chun	-	Increased Access to High-Resolution Radiosonde Data - New Science Prospects for FISAPS

			4					Trace gases and aerosols (combined dataset)
1260	5	4	1	B	Krzysztof	Wargan	-	Long-Term Ozone Variability and Trends from Reanalyses
1474	5	4	2	D	Birgit	Hassler	-	An Updated Version of a Gap-Free Monthly Mean Zonal Mean Ozone Database
1334	5	4	3	C	Ryan M	Stauffer	ECS	Evaluation of MERRA-2-based Ozone Profile Simulations with the Global Ozonesonde Network

1220	5	4	4	F	Nathaniel	Livesey	-	Characterizing Sampling and Screening Biases in Solar Occultation and Limb Sounders
1299	5	4	5	D	Sean	Davis	-	Assessment of Upper Tropospheric and Stratospheric Water Vapor and Ozone in Reanalyses as Part of S-RIP
1386	5	4	6	B	Mengchu	Tao	ECS	Multi-Timescale Variations of Modelled Stratospheric Water Vapor Derived from Different Reanalysis Products
1210	5	4	7	E	Farahnaz	Khosrawi	-	The SPARC Water Vapour Assessment II: Comparison of Stratospheric and Lower Mesospheric Water Vapour Time Series Observed from Satellites
1216	5	4	8	C	Niall J	Ryan	ECS	Global Cl Species Climatologies from Measurements and Modelling
1371	5	4	9	F	Quentin	Errera	-	BASCOE Reanalysis of Aura MLS (BRAM)
1125	5	4	10	D	Henda	Guermazi	ECS	The Simultaneous Retrieval of Volcanic Sulphur Dioxide and Sulphate Aerosols from TIR Spectra: Analysis of Satellite and Ground-Based Observations
1524	5	4	11	A	Andrea	Stenke	-	The Basis and Development of the CMIP6 Stratospheric Aerosol Record

						5		Trace gases and aerosols (satellite)
1545	5	5	1	B	Juying	Warner	-	Upper Tropospheric Ammonia Detected from AIRS
1375	5	5	2	F	Kaley	Walker	-	Long-Term Validation for the Atmospheric Chemistry Experiment (ACE) Satellite Mission
1285	5	5	3	C	Ghassan	Taha	-	Comparison of SAGE III/ISS Ozone and Aerosol Profiles with Correlative Measurements
1523	5	5	4	A	Robert	Damadeo	-	The Stratospheric Aerosol and Gas Experiment (SAGE) IV Pathfinder
1304	5	5	5	D	Marilee	Roell	-	Validation of the SAGE III on ISS Science Data Products
1543	5	5	6	B	Landon	Rieger	ECS	Multiwavelength Limb Scattering Aerosol Algorithm and Application to the OSIRIS Dataset
1323	5	5	7	E	Michael C	Pitts	-	SAGE III/ISS Temperature and Pressure Research Products
1437	5	5	8	C	Masato	Shiotani	-	Satellite Observation of the Whole Atmosphere - Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES-2)
1333	5	5	9	F	Makoto	Suzuki	-	Sensitivity Analysis for Submm/THz Limb Sounder, SMILES-2 Proposal
1110	5	5	10	D	Daniel J.	Zawada	ECS	The University of Saskatchewan OMPS-LP Data Products

						6		Trace gases and aerosols (in situ/ground-based)
1143	5	6	1	E	Jacquelyn C	Witte	-	Celebrating 50 Years of the Wallops Island, VA, USA Ozone Program
1185	5	6	2	B	Klara	Cizkova	-	Eight Years of B199 Brewer Umkehr Measurements at the Marambio Base, Antarctic Peninsula
1374	5	6	3	F	Klara	Cizkova	-	Variability Modes of Umkehr Vertical Ozone Profiles at Marambio, Antarctica
1234	5	6	4	C	Anne	Thompson	-	Quality Assurance in Ozonesonde Data: The JOSIE-SHADOZ (2017) Experience
1418	5	6	5	B	Franziska	Schranz	ECS	Middle Atmospheric O3 and H2O Measurements by Ground-Based Microwave Radiometry in the Arctic
1536	5	6	6	E	Akira	Mizuno	-	A Millimeter-Wave Spectrometer Equipped with a New Frequency Multiplexer for Simultaneous Multi-Line Observation
1556	5	6	7	C	Thierry	Leblanc	-	Re-Analysis and Validation of the Ozone, Temperature and Water Vapour Lidar Long-Term Time-Series at Table Mountain Facility and Mauna Loa Observatory
1464	5	6	8	F	Johannes C.	Laube	-	An Overview of Recent Findings from Halogenated Trace Gas Observations in the Troposphere and Stratosphere
1503	5	6	9	D	Linjun	Pan	-	Simulations in the Terahertz Band on the Plateau by Two Different Radiative Transfer Models
1139	5	6	10	A	Teresa	Jorge	ECS	Peltier Cooled Frost Point Hygrometer: PCFH - Future Instrument for Balloon Borne Water Vapor Measurements in the UTLS
1452	5	6	11	E	Junko	Suzuki	-	Primary Results of the Ozone Variability and the Dehydration Process in the UTLS During YMC-Sumatra 2017 Field Campaign

						7		Lower troposphere and surface
1363	5	2	1	D	Jin	Li	-	Application of Extensive Air Monitoring Network: Development of National Land Use Regression for Air Pollution Exposure in China
1101	5	2	2	B	Nirmala Bai	Jadala	ECS	Estimation of GPS Water Vapour Using Collocated Simultaneous MET Data and Interpolated Automatic Weather Station Data from India Meteorological Department Hyde
1358	5	2	3	E	Tianbao	Zhao	-	Surface Relative Humidity Changes in Reanalysis and Observations
1013	5	2	4	C	Minha	Naseer	ECS	Assessment of Drought in Regions of Pakistan Using NDVI in Relation to Different Rainfall Regimes
1231	5	2	5	F	Andrew	Turner	-	Emerging Results from the INCOMPASS Field Campaign of the 2016 Indian Monsoon
1355	5	2	6	D	Rui	Li	-	Satellite Observed Impacts of Wildfires on Regional Atmosphere Composition and the Shortwave Radiative Forcing: A Multiple Case Study
1332	5	2	7	E	Torsten	Schmidt	-	A Comparison of Precipitable Water Values from GNSS Ground-Based, GPS Radio Occultation and Reanalysis Above Oceanic Regions
1417	5	2	8	B	Sarkar	Md.Riad Pave	-	Acceptibility of Black Carbon Instead of Particular Mass Concentration as an Indicator for Traffic Related Partricles in Dhaka City
1420	5	2	9	F	Chuyong	Lin	-	A New Top-Down Approach to Quantifying the Spatial, Temporal, and Vertical Distribution of Urban and Biomass Burning Regions Using Decadal Measurements from MC
1041	5	2	10	C	Cheima	Barhoumi	ECS	Holocene Fire History and Vegetation Dynamic in Komi Republic, Urals Region, Russia

Theme 6 SPARC Science for Society

1559	6	Keynote		Guy	Brasseur	-	The New Strategic Plan of the World Climate Research Programme
1558	6	Keynote		Robert	Carver	-	Project Loon: Balloon-Powered Internet for Everyone
1554	6	Keynote		Erica	Key	-	Advancing Climate Resilience through Transdisciplinary Approaches
1416	6	Oral		Donald J.	Wuebbles	-	Particulate Matter and Ozone Prediction and Source Attribution for Air Quality Management in a Changing Climate
1517	6	Oral		Paul	Young	-	UV, the Biosphere, the Carbon Cycle and the World Avoided by the Montreal Protocol
1327	6	Oral		Taoyuan	Wei	-	Impact on Agricultural Production of Extreme Weather Events
1515	6	Oral		Federico	Fierli	-	The Evaluation and Quality Control of Observational ECVs for the Copernicus Climate Service
1075	6	Oral		Karin	Van Der Wiel	ECS	More Accurate Assessment of Climate Induced Impacts

			1					Cliamte change impacts on extremes
1063	6	1	1	C	Saran	Aadhar	-	Increasing Drought Frequency in 1.5 Degree and 2.0 Degree Warming World over South Asia
1205	6	1	2	D	Sarah	Sparrow	-	Attribution of 2017 Brahmaputra Floods: Implications for Loss and Damage
1106	6	1	3	E	Catrin	Kirsch	-	ENSO's Different Flavors and Global Patterns of Seasonal Climate Anomalies in Troposphere and Stratosphere
1230	6	1	4	F	Andrew	Turner	-	Better Understanding of Interregional Teleconnections for Prediction in the Monsoon and Poles (BITMAP)
1470	6	1	5	A	Scott M	Osprey	-	Globally Observed Teleconnections in a Hierarchy of Atmospheric Models - GOTHAM
1362	6	1	6	B	Roberta	D'Agostino	ECS	PaCMEDy - Palaeoclimate Constraints on Monsoon Evolution and Dynamics
1560	6	1	7	C	Theodore G.	Shepherd	-	Storyline Approaches to Regional Climate Change

			2					Climate and society
1100	6	2	1	B	M.F	Fossa Riglos	ECS	Building a Climate Knowledge Co-Production Dialogue: An Implicated Science Experience
1337	6	2	2	F	Neil	Harris	-	Potential Economic Benefit of Reduced SO2 Emissions during the South Asian Monsoon
1083	6	2	3	A	Vimal	Mishra	-	Impacts of Rising Heat on Crop Yields in India
1079	6	2	4	D	Ye	Shu	-	Study on Outdoor Thermal Comfort of Urban Microclimate in the Urban Street in a Hot Subtropical Area of China
1175	6	2	5	E	Hye-min	Kim	-	Estimation of the Electricity Demand Function in Jeju-Island using Temperature Variable
1035	6	2	6	F	Tianyi	Zhang	-	Biases in Simulation of Rice Phenology Model under Warmer Climate: Compared with Four Models in Five Asian Countries
1468	6	2	7	A	Xiaoyu	Ren	-	The Experiment of Stratosphere Turbulence Observation with Resolution Sounding

All presentations (A to Z)

Aadhar	Saran	1063	6	1	1	C	-	Increasing Drought Frequency in 1.5 Degree and 2.0 Degree Warming World over South Asia
Abalos	Marta	1046	1	Keynote			ECS	New Insights on the Impact of Ozone Depleting Substances and the Antarctic Ozone Hole on the Brewer-Dobson Circulation
Abalos	Marta	1151	1	4	12	B	ECS	Future Trends in Stratosphere-to-Troposphere Transport in CCMI Models
Abalos	Marta	1240	1	3	14	C	-	Response of Stratospheric Transport and Mixing to Sudden Stratospheric Warmings in WACCM: Impacts on Arctic Ozone
Achatz	Ulrich	1107	3	4	10	D	-	Beyond Traditional Limits of Gravity-Wave Parameterizations: Unbalanced Mean Flows
Akiyoshi	Hideharu	1346	1	4	17	A	-	Dynamical Analysis in the Southern Hemisphere Associated with a Three-Week Total Ozone Reduction over the Southern Tip of South Americ
Alemu	Abebaw	1244	2	4	6	E	-	Estimating Coefficients of Z-R Relationship for Bahir Dar City by using Blue Nile Weather Radar Data
Alfahmi	Furqon	1009	3	3	12	B	ECS	The Impact of Curvature Coastline to Rainfall Offshore over Maritime Continent
Ali	Saleem	1094	4	1	15	C	-	Occurrence of the Cirrus Clouds and its Effect on the Thermal Structure of the Tropical Tropopause Layer (TTL)
Amemiya	Arata	1145	4	1	13	B	ECS	Characterizing the Quasi-Biweekly Variability of the Anticyclone in the Upper Troposphere and Lower Stratosphere over the Asian Summer Mo
Ando	Yuta	1354	3	6	3	E	-	Detection of a Climatological Short Break in the Polar Night Jet in Early Winter and its Relation to Cooling over Siberia
Andrews	Martin	1207	3	3	7	E	-	Robustness of Observed and Simulated Teleconnections between the Stratospheric Quasi-Biennial Oscillation and Boreal Winter Atmospheric
Annamalai	Vanmathi	1099	4	1	11	A	-	Relationship between Tropical Tropopause and Tropical Easterly Jet Streams over the Indian Monsoon Region
Anstey	James	1414	3	3	1	B	-	Teleconnections of the Quasi-Biennial Oscillation (QBO) in a Multi-Model Ensemble of QBO-Resolving Models
Anstey	James	1547	2	4	5	A	-	Uncertainty of Regional Climate Change Projections Associated with Atmospheric Blocking Events
Anstey	James	1548	5	2	12	C	-	How Well Do Reanalyses Represent the Quasi-Biennial Oscillation?
Arblaster	Julie	1550	3	9	10	A	-	Precipitation Response to Ozone Depletion in the Southern Hemisphere
Aslanoglu	S. Y.	1127	1	4	7	B	ECS	A 9-Year Three-Dimensional Desert Dust Transport Evaluation over Anatolia with CALIPSO Derived Product
Bader	Juergen	1370	3	11	9	D	-	Global Temperature Modes Shed Light on the Holocene Temperature Conundrum
Bal	Sourabh	1015	4	2	12	F	ECS	Residual Mean Circulation during the Evolution of Sudden Stratospheric Warming
Ball	William	1180	1	Oral			-	Evidence for a Continuous Decline in Lower Stratospheric Ozone Offsetting Ozone Layer Recovery
Banerjee	Antara	1549	1	8	1	B	ECS	Stratospheric Water Vapor: an Important Climate Feedback
Banerjee	Dhruba	1017	3	2	4	C	ECS	A Study of Tropical Cyclones over India (Bay of Bengal and Arabian Sea) and Solar Influence on It
Bao	Ming	1018	3	5	4	F	-	Classifying the Tropospheric Precursor Patterns of Sudden Stratospheric Warmings
Barhoumi	Cheima	1041	5	2	10	C	ECS	Holocene Fire History and Vegetation Dynamic in Komi Republic, Urals Region, Russia
Barton	Cory A.	1235	2	2	2	D	ECS	Optimization of Gravity Wave Source Parameters to Improve Seasonal Forecasts of the Quasi-Biennial Oscillation in a Stratosphere-Resolving
Baumgarten	Kathrin	1389	3	4	4	B	ECS	Seasonal and Short Term Variability of Atmospheric Waves at Mid-Latitudes Derived from Ground-Based Observations and Reanalysis Data
Berner	Judith	1423	2	1	6	A	-	Regime-dependent Predictability in Sub-seasonal Forecasts
Berner	Judith	1424	4	5	4	D	-	Improved ENSO Predictability in Coupled Climate Simulations with Stochastic Parameterizations
Bernet	Leonie	1156	1	Oral			ECS	Stratospheric Ozone Recovery at Mid-Latitudes: Improved Ground-Based Time Series and Trend Estimations
Bhattarai	Shankar	1182	1	5	1	A	ECS	CubeSat with Cylindrical Langmuir Probes to Characterize Ionosphere and Thermosphere Plasma
Bian	Jianchun	1164	1	5	6	F	-	Sounding Water Vapor, Ozone, and Particles during the ASM
Blackport	Russell	1305	3	12	3	C	ECS	Cold Winters in Mid-Latitudes Coincident with But Not Caused by Reduced Arctic Sea Ice
Blackport	Russell	1324	3	12	1	B	-	Atmospheric Circulation Response to Arctic Sea Ice Loss
Boeloeni	Gergely	1155	3	4	12	F	-	Towards a Transient Gravity Wave Drag Parametrization in Atmospheric Models
Boljka	Lina	1068	3	8	1	B	ECS	On the Coupling between Baroclinic and Barotropic Annular Modes
Boschi	Robert	1112	3	9	3	F	ECS	Identifying the Major Sources of Hindu Kush Himalayan Air and Moisture using a Lagrangian Approach
Braesicke	Peter	1262	1	3	13	E	-	The Warming of the Antarctic Peninsula: Is the Ozone Hole to Blame?
Brasseur	Guy	1559	6	Keynote			-	The New Strategic Plan of the World Climate Research Programme
Brenna	Hans	1482	1	2	2	D	ECS	Atmospheric, Climatic and Environmental Effects of the Super-Size Los Chocoyos Eruption 84 Kyrs Ago
Brunamonti	Simone	1130	1	6	6	B	ECS	UTLS Structure and Tracer Distributions in the Asian Summer Monsoon Anticyclone Inferred from Balloon Measurements during StratoClim 20
Bucci	Silvia	1054	1	4	2	B	ECS	Convective Sources and Transport Patterns into the Stratosphere during the 2017 StratoClim Campaign
Burgess	B. Helen	1520	4	2	10	C	ECS	Mixing and the Potential Vorticity Structure of the Quasi-Biennial Oscillation
Bushell	Andrew C	1284	4	2	8	A	-	Coordinated Multi-Model Simulations of the Quasi-Biennial Oscillation
Butchart	Neal	1200	3	3	3	C	-	Quasi-Biennial Oscillation in a Warming Climate, Part 2: Response of the QBO Drivers
Cagnazzo	Chiara	1443	4	3	6	B	-	QBO and ENSO Relationships in Climate Models. Implications for Teleconnection Patterns and Predictability
Cagnazzo	Chiara	1461	2	1	10	C	-	Stratospheric Variability and Stratosphere-Troposphere Coupling in High versus Low Resolution Simulations within the H2020 PRIMAVERA Pr
Cagnazzo	Chiara	1462	3	7	12	D	-	Stratosphere Resolving CMIP5 Models Simulate Different Changes in the Southern Hemisphere
Cagnazzo	Chiara	1463	5	1	3	F	-	Assessing the Quality of Reanalyses Trends in the Southern Hemisphere Stratosphere-Troposphere through the Use of CMIP5 Models
Cai	Mingfu	1223	1	1	15	C	ECS	The Size Resolved Cloud Condensation Nuclei (CCN) Activity and its Prediction based on Aerosol Hygroscopicity and Composition in the Pear
Carver	Robert	1558	6	Keynote			-	Project Loon: Balloon-Powered Internet for Everyone

Chabrillat	Simon	1335	5	2	5	D	-	Comparison of Mean Age of Air in Five Reanalyses Using the BASCOE Transport Model
Chaim	Garfinkel	1394	4	Keynote			-	Connections between Tropical Convection and the Tropical Stratosphere
Chang	Kai-Wei	1238	4	1	6	B	ECS	Evolution of Tropical Tropopause Temperature Induced by Convective and Stratiform Latent Heating
Chen	Jack	1183	4	3	3	A	-	Interaction between QBO and MJO Simulated by QBOi Models
Chen	Jilong	1133	3	9	11	D	-	Decadal Shifts of Summer Heavy Rainfall in Southern China
Chen	Wen	1031	4	Oral			-	Modulation of the QBO on the Impact of ENSO on the South Asian High in the Following Summer
Chen	Xiaoyang	1243	1	7	7	B	-	Impact of Photochemical and Meteorological Processes within Boundary Layer and Stratosphere-Troposphere Exchange on Vertical Ozone
Chin	Mian	1271	1	6	7	E	-	Natural and Anthropogenic Aerosols in the UTLS in Recent Decade: Sources and the Role of Monsoon Transport
Chiodo	Gabriel	1258	1	Oral			-	The Importance of the Ozone Layer for the Response of the Climate System to Natural and Anthropogenic Forcings
Chiodo	Gabriel	1419	1	8	16	B	-	Is Interactive Ozone Chemistry Important to Represent Stratospheric Temperature Variability in Earth System Models?
Chipperfield	Martyn	1527	1	3	6	D	-	Stratospheric Ozone: Ongoing Depletion or Recovery?
Cho	Hyeong-Oh	1090	3	13	2	C	ECS	Springtime Extratropical Cyclones in Northeast Asia and their Impacts on Long-Term Precipitation Trends
Choudhary	Arti	1061	1	1	18	C	ECS	Estimate the Influence of Aerosols Optical Properties its Radiative Effects and Seasonal Variability in Megacity Delhi, India
Chrysanthou	Andreas	1126	3	6	11	C	ECS	The Transient Evolution of the Stratospheric Residual Circulation Response to Climate Change
Chun	Hye-Yeong	1449	5	3	9	C	-	Increased Access to High-Resolution Radiosonde Data - New Science Prospects for FISAPS
Chutia	Lakhima	1446	1	1	11	A	ECS	Composition of Aerosols in the Upper Troposphere over Indian Subcontinent
Cizkova	Klara	1185	5	6	2	B	-	Eight Years of B199 Brewer Umkehr Measurements at the Marambio Base, Antarctic Peninsula
Cizkova	Klara	1374	5	6	3	F	-	Variability Modes of Umkehr Vertical Ozone Profiles at Marambio, Antarctica
Collins	William J	1261	1	8	7	E	-	Climate Impacts of a Short-Lived Climate Forcer Mitigation Scenario
Coumou	Dim	1055	2	2	8	A	-	Long-Lead Empirical Forecasts of the Indian Summer Monsoon Rainfall based on Causal Precursors
Coumou	Dim	1096	3	11	1	E	-	Occurrence of North Atlantic SST and Atmospheric Circulation Patterns in a Changing Climate
Coumou	Dim	1401	3	12	10	D	-	The Influence of Arctic Amplification on Mid-Latitude Summer Circulation
Cui	Xuefeng	1222	2	2	11	E	-	Impacts of Climate Seasonal Prediction on Agriculture: Comparison between India and China
D'Agostino	Roberta	1362	6	1	6	B	ECS	PaCMEDy - Palaeoclimate Constraints on Monsoon Evolution and Dynamics
D'Agostino	Roberta	1364	3	9	15	F	ECS	Moisture Budget Decomposition and Mechanisms behind Monsoon Response in the Mid-Holocene and Future Climate Scenario
DallaSanta	Kevin	1343	3	2	2	B	ECS	The Circulation Response to Volcanic Eruptions: The Key Roles of Stratospheric Warming and Eddy Interactions
DallaSanta	Kevin	1344	4	3	13	C	ECS	Annular Modes in the Tropical Circulation
Damadeo	Robert	1270	1	4	16	D	-	The Impact of Sampling Corrections on Derived Long-Term Ozone Trends
Damadeo	Robert	1523	5	5	4	A	-	The Stratospheric Aerosol and Gas Experiment (SAGE) IV Pathfinder
Damiani	Alessandro	1353	1	3	4	C	-	Contribution of Energetic Particle Precipitation to Natural Ozone Variability in Antarctica
Das	Sampa	1491	1	8	3	C	-	An Investigation of the Summer 2017 North American Wildfires and their Influence on the Upper Troposphere and Lower Stratosphere
Davis	Luke L. B.	1428	3	8	8	C	ECS	The Influence of Thermal Damping Timescales on Climate Variability and the Extratropical Circulation
Davis	Sean	1219	3	Oral			-	Tropical Expansion: Comparison of "Upper" and "Lower" Metrics
Davis	Sean	1299	5	4	5	D	-	Assessment of Upper Tropospheric and Stratospheric Water Vapor and Ozone in Reanalyses as Part of S-RIP
Davis	Sean	1516	1	3	5	F	-	Assessment of the Robustness of Recent Lower Stratospheric Ozone Trends and their Reproduction by Models
Deushi	Makoto	1265	1	4	8	E	-	Impact of Ozone on Tropical Tropospheric Circulation Change after a Stratospheric Sudden Warming Event
Diallo	Mohamadou	1043	4	4	6	C	-	Response of Stratospheric Water Vapor and Ozone to the Unusual Timing of El Nino and QBO Disruption in 2015-2016
Diallo	Mohamadou	1257	1	4	11	D	-	Impact of the El Nino Southern Oscillation (ENSO) on the Structure of the Brewer-Dobson Circulation in the Lower Stratosphere
Dion	I.A.	1150	4	1	7	E	-	Diurnal Cycle of Ice Water Content Impacted by Deep Convection in the Tropical Upper Troposphere with an Emphasis over the Maritime Cont
Doernbrack	Andreas	1290	3	4	9	A	-	Gravity Waves Excited during a Minor Sudden Stratospheric Warming
Domeisen	Daniela	1191	3	7	7	A	-	The Predictability of Polar Jet Oscillation Events and their Surface Impacts
Donner	Reik	1535	3	7	6	F	-	Stratosphere-Troposphere Coupling in the Northern Hemisphere Analyzed with Climate Network Measures
Eguchi	Nawo	1317	4	3	12	E	-	Stratospheric Dynamical Impact on the Development of Tropical Cyclone
Errera	Quentin	1371	5	4	9	F	-	BASCOE Reanalysis of Aura MLS (BRAM)
Fei	Xie	1036	1	3	20	F	-	A Connection from Arctic Stratospheric Ozone to El Nino-Southern Oscillation
Fiehn	Alina	1442	1	Oral			-	Importance of Seasonally Resolved Oceanic Emissions for Bromoform Delivery to the Stratosphere through the Asian Monsoon
Fierli	Federico	1514	1	4	1	E	-	Are CCMIs Reproducing the Main Features of the Asian Anticyclone ? What We Can Learn from the StratoClim 2017 Campaign
Fierli	Federico	1515	6	Oral			-	The Evaluation and Quality Control of Observational ECVs for the Copernicus Climate Service
Flittner	David	1397	5	Oral			-	Stratospheric Aerosol and Gas Experiment III Installed on the International Space Station (SAGE III/ISS): On-Orbit Update
Foelsche	Ulrich	1160	5	1	5	A	-	Improving the Value of Radio Occultation Data for Monitoring Climate in the UTLS
Fossa Riglos	M.F	1100	6	2	1	B	ECS	Building a Climate Knowledge Co-Production Dialogue: An Implicated Science Experience
Frank	Franziska I.	1087	1	8	11	A	ECS	Atmospheric Methane and its Isotopic Composition in a Changing Climate: A Modeling Study
Fritsch	Frauke R.L.	1103	3	9	7	B	ECS	On the Derivation of Mean Age of Air and Spectra from Ideal and Realistic Tracers

Fujiwara	Masatomo	1226	5	2	2	D	-	SPARC Reanalysis Intercomparison Project (S-RIP)
Fujiwara	Masatomo	1432	1	1	16	B	-	Measurements of Cloud Particles and Sea Salt Aerosols at Tarawa (1.35N, 172.92E), Kiribati using Balloon-Borne Cloud Particle Sensor (CPS
Gangadharan	Karthika	1108	1	3	21	C	-	Diurnal and Seasonal Variability of Total Column Ozone Over Cochin - A Comparative Study of Microtop II Ozonometer Measurements with R
Gao	Yanqiu	1321	2	2	6	F	-	A Study of the Impact of Initialization on ENSO Predictability based on Ensemble Coupled Data Assimilation
Gao	Yongqi	1456	3	12	5	D	-	Intensified Linkage between the Arctic Warming and the Eurasian Cooling
Garfinkel	Chaim	1326	3	6	6	C	-	Rossby Waves in the Stratosphere: The Effect of Mean Flow on the Accuracy of Quasi-Geostrophic Solutions
Garfinkel	Chaim I	1025	2	1	12	D	-	The Influence of the Madden Julian Oscillation and the Quasi-Biennial Oscillation on the Boreal Winter Arctic Stratosphere in S2S Subseasona
Garny	Hella	1172	3	4	13	D	-	Role of Parametrized Gravity Wave Drag for the Stratospheric Circulation and Transport
Garny	Hella	1534	5	2	6	F	-	Brewer-Dobson Circulation Inter-Comparison Based on Reanalyses and Models
Gerber	Edwin	1252	5	Oral			-	The Annular Modes in Reanalyses: The Value of Conventional and Surface-Observation Only based Reanalyses in the Northern Hemisphere
Ghosh	Priyanka	1050	4	5	2	C	ECS	Convection Generated High-Frequency Gravity Waves: Comparison between MST Radar Observations & WRF Simulation
Ghosh	Priyanka	1051	3	1	2	F	ECS	Vertical Coupling from the Lower Atmosphere to the Ionosphere: Observations Inferred from Indian MST Radar, GPS Radiosonde, Ionosonde a
Gillett	Zoe E	1441	2	2	14	D	ECS	Modelling the Influence of the Antarctic Ozone Hole on Southern Hemisphere Surface Climate Variability
Godin-Beekmann	Sophie	1338	1	3	8	E	-	Ozone Trends in the Lower Stratosphere from Long-Term Lidar and Satellite Records
Goel	Vikas	1093	1	1	13	B	ECS	Chemical Processing of Dust in an Urban Environment (New Delhi)
Grutter	Michel	1508	4	4	3	E	-	Stratospheric Variability over a Sub-Tropical High Altitude Station in Central Mexico
Guermazi	Henda	1125	5	4	10	D	ECS	The Simultaneous Retrieval of Volcanic Sulphur Dioxide and Sulphate Aerosols from TIR Spectra: Analysis of Satellite and Ground-Based Obs
Gummadipudi	Naga Sai Madha	1044	5	1	4	C	ECS	Long Term Oscillations Observed Globally in the Middle Atmosphere using COSMIC GPS RO and SABER/TIMED Measurements
Guo	Zhun	1400	3	9	13	E	-	Impact of Horizontal Resolutions and Topography on the Simulation of Summer Rainfall over Southeast China
Gupta	Aman	1237	1	5	8	B	ECS	The Impact of Model Numerics on Trace Gas Transport in the Stratosphere: A Dynamical Core Benchmark Test Using the Age of Air
Harada	Yayoi	1225	4	3	5	D	-	Relationship between the Boreal Summer Intra-Seasonal Oscillation and the Stratospheric Quasi-Biennial Oscillation
Harada	Yayoi	1227	3	5	3	C	-	A WN2-Type Major Sudden Stratospheric Warming Event in February 2018
Hardiman	Steven	1208	3	6	10	E	-	The Influence of Dynamical Variability on the Observed Brewer-Dobson Circulation
Harris	Neil	1337	6	2	2	F	-	Potential Economic Benefit of Reduced SO2 Emissions during the South Asian Monsoon
Hasebe	Fumio	1472	1	4	15	F	-	CUBE/Biak: Observations of Dynamics and Chemistry Affecting the Air on its Ascent in the Tropical Lower Stratosphere
Hassler	Birgit	1474	5	4	2	D	-	An Updated Version of a Gap-Free Monthly Mean Zonal Mean Ozone Database
Hassler	Birgit	1489	1	8	17	E	-	CMIP Model Evaluation with the Earth System Model Evaluation Tool (ESMValTool)
Hatfield	Luke	1494	3	6	4	B	ECS	Low-Frequency Variability of the Winter Polar Vortex in a Simple Model of the Seasonally Evolving Stratosphere
Haynes	Peter	1245	3	9	4	D	-	Seasonal and Interannual Variations in Upwelling and Temperatures in the Tropical UTLS
Haynes	Peter	1246	4	2	13	A	-	Robust Tropical Responses to Sudden Stratospheric Warmings
Hegglin	Michaela	1378	5	2	9	F	-	Seasonal and Regional Variations and Long-Term Trends in Upper Tropospheric Jets from Reanalyses
Hegglin	Michaela	1385	1	8	12	E	-	ESA Climate Change Initiative: Long-Term Changes in Atmospheric Water Vapour
Hendon	Harry H.	1186	4	3	1	D	-	Variations in Vertical Structure of the MJO Associated with the QBO
Hendon	Harry H.	1188	3	7	1	A	-	Compounding Tropical and Stratospheric Forcing of the Record Low Antarctic Sea-Ice in 2016
Hindley	Neil	1396	5	3	2	D	ECS	Three-Dimensional Satellite Observations of Gravity Waves around the Southern Wintertime Polar Vortex: Separating Contributions from Orog
Hirano	Soichiro	1288	3	6	8	D	-	Primary Contribution of the Australian High to Climatology of the Stratospheric Momentum Budget during the Austral Spring
Hirooka	Toshihiko	1319	5	2	14	D	-	Intercomparison of Dynamical Fields in the Middle Atmosphere Revealed in Global Reanalyses
Hirota	Nagio	1132	4	2	2	D	-	The Influences of El Nino and Arctic Sea-Ice on the QBO Disruption in February 2016
Hitchcock	Peter	1313	3	3	10	D	-	Non-Radiative Dissipation of Stratospheric Kelvin Waves
Hitchcock	Peter	1500	3	7	8	B	-	The Downward Influence of Uncertainty in the Northern Hemisphere Stratospheric Polar Vortex Response to Climate Change
Hitchman	Matthew H.	1005	4	3	4	A	-	Observational Studies of the Direct Influence of the Stratospheric QBO on Tropical Deep Convection, the Early Years (1961 - 2003)
Holt	Laura	1129	4	Oral			ECS	Evaluation of Resolved Equatorial Waves and Wave-Driving of the QBO in the QBOi Models
Hong	Hao-Jhe	1144	1	3	17	A	-	Intraseasonal Ozone-Circulation Relationships in the Arctic Stratosphere
Hood	Lon L.	1384	4	3	7	E	-	QBO/Solar Influence on the Madden-Julian Oscillation: Midlatitude Impacts
Hoor	Peter	1159	1	7	3	F	-	Mixing and Transport in the UTLS: Results from the Wave-Driven Isentropic Exchange (WISE) Mission
Hoor	Peter	1339	1	7	1	E	-	An Overview of OCTAV-UTLS (Observed Composition Trends and Variability in the UTLS), a SPARC Activity
Horinouchi	Takeshi	1310	3	9	5	A	-	Dynamical UTLS Control on Summertime Precipitation from Weather to Climate
Hoshi	Kazuhira	1465	3	5	6	B	ECS	Characterizing Influences of the Arctic Sea Ice Loss on Weak Stratospheric Polar Vortex Events
Huang	Jinlong	1070	3	6	1	C	ECS	Preconditioning of Arctic Stratospheric Polar Vortex Shift Events
Hunt	Kieran M R	1097	3	13	5	B	ECS	Vertical Structure of Western Disturbances in the Subtropical Jetstream and Mechanisms Associated with Extreme Rainfall in South Asia
Hunt	Kieran M R	1098	3	13	7	C	ECS	Future Projections of Western Disturbances: A CMIP5 Multi-Model Assessment
Huo	Wenjuan	1256	3	2	3	F	ECS	Modulation of Solar Activity on Tropical Pacific SST Anomalies by the Wintertime AO-Like Variability
Hurst	Dale F.	1518	4	4	8	D	-	Anomalously Strong and Rapid Drying of the Tropical Lower Stratosphere in 2016: Connections to the QBO and ENSO

Hwang	Jaeyoung	1328	2	4	1	E	-	Future Change of Northern Hemisphere Blocking in CESM Large Ensemble Simulations
Inai	Yoichi	1174	4	1	5	D	-	Long-Term Variation in the Mixing Fraction of Tropospheric and Stratospheric Air Masses in the Upper Tropical Tropopause Layer
Inai	Yoichi	1178	1	7	4	C	-	Seasonal Characteristics of Chemical and Dynamical Transports into the Extratropical Upper Troposphere/Lower Stratosphere
Ishida	Yuki	1447	3	10	2	E	-	The Leading Mode of NH Interannual Tropopause Height Variability and its Relationship with ENSO
Iwao	Koki	1275	3	1	6	B	-	Climatological Features of Planetary Waves in the Middle Atmosphere during the Northern Hemisphere Winter
Iwasaki	Toshiki	1249	3	6	14	A	-	Three-Dimensional Structure of Mass-Weighted Isentropic Time Mean Meridional Circulations
Jadala	Nirmala Bai	1101	5	2	2	B	ECS	Estimation of GPS Water Vapour Using Collocated Simultaneous MET Data and Interpolated Automatic Weather Station Data from India Mete
Jaroslawski	Janusz	1296	1	3	1	D	-	Signs of the Total Ozone Recovery based on the Satellite (MSR) Data for the Period 1979-2017
Johansson	Erik	1458	4	1	4	F	ECS	How Does Cloud Overlap Affect the Radiative Heating in the Tropical Upper Troposphere / Lower Stratosphere?
Jorge	Teresa	1139	5	6	10	A	ECS	Peltier Cooled Frost Point Hygrometer: PCFH - Future Instrument for Balloon Borne Water Vapor Measurements in the UTLS
Jucker	Martin	1028	3	5	5	D	-	Using Precursors for Statistical SSW Prediction
Jung	Myung-Il	1368	1	4	4	C	ECS	Southern Hemisphere Atmospheric General Circulation Changes in CCMI Models
K. K.	Ahana	1120	4	1	8	C	ECS	Turbulence Parameter Estimation from Concurrent Measurements of Radar and Radiosonde
Kang	Min-Jee	1287	4	2	7	F	-	Momentum Flux of Convective Gravity Waves Derived from an Offline Gravity Wave Parameterization: Impacts on the Large-Scale Flow Includ
Kang	Wanying	1016	3	Oral			ECS	The Teleconnection between the Madden-Julian Oscillation (MJO) and the Sudden Stratospheric Warmings (SSW)
Karami	Mehdi Pasha	1213	3	11	6	D	-	The Variability of the North Atlantic Subpolar Gyre and its Global Impact
Karim	Tanzina Tul	1357	1	1	19	D	-	Source Apportionment Study with PMF Model and Health Risk Assessment of Volatile Organic Compounds (VOCs) at Atmospheric Fine Partic
Kawatani	Yoshio	1138	4	3	2	E	-	ENSO Modulation of the QBO: Results from MIROC Models with and without Nonstationary Gravity Wave Parameterization
Keeble	James	1381	1	3	7	A	ECS	Diagnosing the radiative and chemical contributions to future changes in tropical column ozone with the UM-UKCA chemistry–climate model
Kenntner	Mareike	1372	5	3	7	B	-	Characterisation of Mountain Waves in the Tropopause Region Using MTP Measurements
Kerzenmacher	Tobias	1136	4	2	5	D	-	Regional Teleconnections Revealed by Lagged Correlations between the Quasi-Biennial Oscillation and Ozone Concentrations
Key	Erica	1554	6	Keynote			-	Advancing Climate Resilience through Transdisciplinary Approaches
Khaykin	Sergey	1476	4	Oral			-	Cross-Tropopause Transport of Water in the Asian Summer Monsoon from Airborne and Satellite Observations
Khosrawi	Farahnaz	1210	5	4	7	E	-	The SPARC Water Vapour Assessment II: Comparison of Stratospheric and Lower Mesospheric Water Vapour Time Series Observed from Sa
Khosrawi	Farahnaz	1211	1	3	16	D	-	Arctic Winter 2009/2010, 2010/2011 and 2015/2016 in Comparison: Denitrification and Polar Stratospheric Cloud Formation
Kiladis	George N	1505	4	Oral			-	Associations between Stratospheric Wave Activity and Tropical Convection in Various Reanalysis Datasets
Kim	Hera	1347	4	3	9	F	ECS	MJO-Induced Precipitation Change in East Asia and its Modulation by QBO
Kim	Hye-Jin	1453	3	12	4	F	ECS	Is Recent Eurasian Winter Cooling Caused by Arctic Amplification?
Kim	Hye-min	1175	6	2	5	E	-	Estimation of the Electricity Demand Function in Jeju-Island using Temperature Variable
Kim	Joowan	1434	3	Keynote			-	Dynamical Processes in the Tropical UTLS: Observational Evidences and Issues in Numerical Models
Kim	Seoyeon	1077	3	10	3	F	ECS	Southern Hemisphere Zonal-Mean Circulation Changes from Last Glacial Maximum (LGM) to Future Climate
Kinoshita	Takenari	1292	4	3	11	A	-	On the Gravity Wave Activities based on Intensive Radiosonde Observations at Bengkulu during YMC-Sumatra 2017
Kirsch	Catrin	1106	6	1	3	E	-	ENSO's Different Flavors and Global Patterns of Seasonal Climate Anomalies in Troposphere and Stratosphere
Ko	Ken-Chung	1148	4	5	1	E	-	The ENSO Effect on Summertime Submonthly Wave Patterns in the Western North Pacific
Kobayashi	Chiaki	1224	3	10	10	F	-	Formation of Tropospheric Zonal Mean Anomalies Associated with ENSO
Kodera	Kunihiko	1202	3	Oral			-	Role of Downward Propagating Planetary Waves in European Severe Cold Snap during a Recovery Phase of the SSW in February 2018
Kodera	Kunihiko	1348	4	3	14	D	-	Impact of the Tropical Lower Stratospheric Cooling on Deep Convective Activity during a Boreal Summer Monsoon
Koenigk	Torben	1176	3	12	2	E	-	Siberian Cooling Trends and the Linkage to Arctic Sea Ice Loss
Koh	Tieh-Yong	1161	4	5	7	B	-	Multi-Scale Interactions in a High-Resolution Tropical-Belt Experiment using WRF Model
Kohma	Masashi	1212	5	3	4	F	-	Seasonal Variation of Energy Dissipation Rate Derived from Radar and Radiosonde Observations at Syowa Station in the Antarctic
Konopka	Paul	1152	1	4	9	C	-	Impact of Mixing on the Composition of Air in the Upper Troposphere and Lower Stratosphere (UTLS): A Lagrangian View
Konopka	Paul	1194	5	2	4	E	-	How Robust are Stratospheric Age of Air Trends from Different Reanalysis Data Sets and Different Methods?
Konopka	Paul	1481	5	3	8	F	-	Vertical Diffusivity in the Tropical Upper Troposphere-Lower Stratosphere in the Lagrangian Transport Model ClaMS and Comparison with In S
Kornhuber	Kai	1045	3	13	8	F	ECS	Increasing Probability of Simultaneous Mid-Latitudinal Heat Waves due to a Quasi-Stationary Wave 7 Teleconnection Favored by Heterogenec
Kosaka	Yu	1349	3	10	8	E	-	Global Temperature Fluctuations due to Tropical Pacific Decadal Variability and their Uncertainty
Koshin	Dai	1278	5	2	18	A	ECS	A Study on the Optimal Data Assimilation System for the Whole Neutral Aatmosphere
Kozubek	Michal	1001	5	2	1	B	ECS	New Reanalyses and How They Behave in the Middle Atmosphere
Kretschmer	Marlene	1115	3	Oral			ECS	Using Causal Discovery Algorithms to Evaluate Arctic-Stratosphere Linkages in CMIP5 Models
Krikken	Folmer	1393	2	2	12	C	ECS	Global Empirical System for Probabilistic Seasonal Climate and Fire Risk Forecasts
Krueger	Kirstin	1561	4	1	3	A	-	The South Asian Summer Monsoon Anticyclone in Reanalysis
Kulyamin	Dmitry V.	1522	1	8	8	C	-	Modeling of the Energetic Particles Precipitation Influence on Atmospheric Ozone, Circulation and Surface Climate
Kumar	Pradeep	1062	1	1	8	C	ECS	Seasonal Variations of Atmospheric Aerosols and its Association with the Optical Properties of Aerosols in Varanasi at Middle Indo-Gangetic P
Kumar	Ranjit	1484	1	1	3	C	-	Characterization of Atmospheric Soot Particles using Aethalometer and SEM-EDX

Kumar	Vinay	1140	4	4	9	B	ECS	Impact of QBO and ENSO on the Stratospheric Water Vapor from the Equator to Mid-Latitudes
Kuniyil Viswanathar	Suneeth	1082	4	1	9	F	ECS	Role of Zonal Circulation in the Exchange of Minor Constituents between the Upper Troposphere and Lower Stratosphere
Kuwano-Yoshida	Akira	1451	3	8	7	E	-	Long-Term Changes in Explosive Cyclone Activity over the Midwinter North Pacific
Ladstaedter	Florian	1502	4	1	10	D	-	Tropical Temperature and Tropopause Trends from Vertically High-Resolved Observations
Lakhani	Anita	1504	1	1	17	E	-	Chemical Characteristics, Source Apportionment and Health Risk Assessment on Human Exposed to Heavy Metals in PM10 at a Traffic Site
Lan	Xiaoqing	1233	3	6	2	F	-	The Modulation Effects of Pacific Decadal Oscillation on Relation between Arctic Oscillation and Mid-High Latitude Climate and Evolution of W
Langematz	Ulrike	1153	1	7	2	B	-	Future Changes in the Stratosphere-to-Troposphere Ozone Mass Flux
Laube	Johannes C.	1464	5	6	8	F	-	An Overview of Recent Findings from Halogenated Trace Gas Observations in the Troposphere and Stratosphere
Leavor	Kevin R.	1454	1	1	1	B	ECS	A Global Perspective of SAGE III ISS Aerosol Observations
Leblanc	Thierry	1556	5	6	7	C	-	Re-Analysis and Validation of the Ozone, Temperature and Water Vapour Lidar Long-Term Time-Series at Table Mountain Facility and Mauna
Lee	Jaeyeon	1405	3	8	6	B	ECS	Characteristics of East Asian Extratropical Cyclones in CMIP5 Climate Models
Lee	Robert W.	1072	2	1	13	B	ECS	ENSO Modulation of MJO Teleconnection to the North Atlantic & Europe and Implications for Subseasonal Predictability
Lee	Robert W.	1073	3	11	2	B	ECS	Impact of Gulf Stream SST Biases on the Global Atmospheric Circulation
Leedham Elvidge	Emma	1412	1	6	3	C	-	Aircraft-Based Observations of Transport Tracers and Ozone-Depleting Substances in and above the Asian Monsoon
Leedham Elvidge	Emma	1448	5	Oral			ECS	Multiple Tracer Gases from Aircraft and AirCores and their Potential as Diagnostic Tools for Stratospheric Changes
Legras	Bernard	1430	1	6	9	C	-	Confinement of Air in the Asian Monsoon Anticyclone and Pathways of Convective Air to the Stratosphere during Summer Season
Legras	Bernard	1431	5	2	11	A	-	Comparison of the Cloud Properties of Five Modern Reanalyses with Satellite Based Products in the TTL
Lehmann	Ralph	1111	1	5	7	D	-	Model Calculations of the Contribution of Tropospheric SO2 and DMS (Dimethyl Sulfide) to the Stratospheric Sulfur Budget
Li	Chaofan	1203	2	2	13	F	-	Skillful Seasonal Prediction of Yangtze River Valley Summer Rainfall
Li	Feng	1409	1	8	15	C	-	Effects of Greenhouse Gas Increase and Stratospheric Ozone Depletion on Brewer-Dobson Circulation in 1960-2010
Li	Jin	1363	5	2	1	D	-	Application of Extensive Air Monitoring Network: Development of National Land Use Regression for Air Pollution Exposure in China
Li	Qian	1177	1	7	9	C	-	Distribution and Variation of Surface Emitted Air Pollutants in UTLS under the Control of Asian Summer Monsoon
Li	Rui	1355	5	2	6	D	-	Satellite Observed Impacts of Wildfires on Regional Atmosphere Composition and the Shortwave Radiative Forcing: A Multiple Case Study
Li	Yuanpu	1403	4	2	3	C	ECS	The Trend of the Planetary Waves and Stratospheric Sudden Warming in the Northern Hemisphere Related to the Indian Ocean and Maritime
Liang	Qing	1530	1	5	12	D	-	The Impact of Stratosphere-Troposphere Exchange on Atmospheric Nitrous Oxide (N2O) and its Isotopic Budget in the Troposphere
Lim	Eun-Pa	1366	2	1	9	F	-	S2S Forecast Skill for Southern Hemisphere Early Spring Vortex Variability
Lim	Yuna	1488	2	1	14	E	-	Influence of the QBO on MJO Prediction Skill in the S2S Models
Lim	Yuna	1490	2	1	11	A	-	MJO Prediction Skill of the Subseasonal-to-Seasonal Prediction Models
Lin	Chuyong	1420	5	2	9	F	-	A New Top-Down Approach to Quantifying the Spatial, Temporal, and Vertical Distribution of Urban and Biomass Burning Regions Using Deca
Lin	Pu	1283	3	3	8	C	ECS	The Development of the Eddy Momentum Flux Divergence during the 2015/2016 Quasi-Biennial Oscillation Disruption
Linz	Marianna	1123	3	9	8	F	ECS	Non-Gaussian Tracer Distributions from Horizontal Advection
Liu	Guangyu	1322	3	7	11	F	-	Relationships between Antarctic Ozone Hole and Dynamical Fields
Liu	Yi	1477	1	6	8	C	-	Stratosphere and Troposphere Exchange Experiment over Asian Summer Monsoon Project (STEAM)
Livesey	Nathaniel	1220	5	4	4	F	-	Characterizing Sampling and Screening Biases in Solar Occultation and Limb Sounders
Livesey	Nathaniel	1277	5	Keynote			-	Beyond the "Golden Age" - Routes to Continuing and Augmenting the Record of Spaceborne Limb and Occultation Sounders
Long	Craig	1406	5	1	2	B	-	Climatology and Interannual Variability of Dynamic Variables in Multiple Reanalyses Evaluated by the SPARC Reanalysis Intercomparison Pro
Long	Craig	1407	2	1	2	E	-	Influence of Sudden Stratospheric Warmings upon Sub-Seasonal Forecasts
Long	Craig	1408	2	1	4	F	-	Sudden Stratospheric Warming Monitoring at NOAA/Climate Prediction Center
Lu	Hua	1395	3	3	6	B	-	On the Role of Rossby Wave Breaking in Quasi-Biennial Modulation of the Stratospheric Polar Vortex
Lu	Hua	1413	5	2	15	C	-	Solar Cycle Modulation of the North Atlantic Oscillation: The Role of Rossby Wave Breaking, Internal Wave Reflection and Critical Layer Instab
Lubis	Sandro	1184	3	7	3	B	ECS	Understanding the Stratospheric Influence on the Troposphere through Finite-Amplitude Wave Activity Theory
Lyu	Daren	1365	5	Keynote			-	Atmospheric Profiling Synthetic Observation System in Tibet
Ma	Xuan	1039	1	8	4	A	ECS	An Advanced Impact of Arctic Stratospheric Ozone Changes on Spring Precipitation in China
Makhnykina	Anastasia	1092	2	2	10	B	ECS	Seasonal Changes in Soil CO2 Emission in the Forest Ecosystems of Central Siberia
Mani	Sivakandan	1047	3	1	1	F	ECS	The Predominant Occurrence Altitudes of Middle Atmospheric Temperature Inversions and Mesopause over the low Latitude Indian Sector
Manzini	Elisa	1331	3	7	9	D	-	Nonlinear Response of the Stratosphere and the North Atlantic-European Climate to Global Warming
Martineau	Patrick	1263	3	11	7	B	ECS	Role of the Atlantic Ocean in Modulating North-American and European Weather Extremes on Decadal Timescales
Martineau	Patrick	1264	3	5	8	C	ECS	Lower-Stratospheric Control of the Frequency of Sudden Stratospheric Warming Events
Martius	Olivia	1168	3	5	7	E	-	Rossby Wave Propagation into the Northern Hemisphere Stratosphere: The Role of Zonal Phase Speed
Matei	Daniela	1377	3	10	6	D	-	InterDec: The Potential of Seasonal-to-Decadal-Scale Inter-Regional Linkages to Advance Climate Predictions
Maycock	Amanda C.	1281	5	1	1	E	-	Revisiting the Mystery of Recent Stratospheric Temperature Trends
Maycock	Amanda C.	1282	1	8	13	B	-	On the Structure of Greenhouse Gas Radiative Forcing Kernels
McCormack	John	1170	5	2	16	E	-	Investigation of Planetary Waves and Tides in a High Altitude Meteorological Analysis System

Md.Riad Pavel	Sarkar	1417	5	2	8	B	-	Acceptibility of Black Carbon Instead of Particular Mass Concentration as an Indicator for Traffic Related Partricles in Dhaka City
Mehta	Sanjay K.	1467	3	6	13	D	-	The Fine Scale Structure of the Annual Cycle in Stratospheric Temperatures Observed from GPS Radio Occultation
Meraner	Katharina	1199	1	8	6	B	ECS	How Useful is a Linearized Ozone Scheme for Global Climate Modelling?
Messori	Gabriele	1197	3	8	3	C	ECS	Low-Frequency Variability of Wintertime Euro-Atlantic Planetary Wave Breaking
Messori	Gabriele	1198	2	4	2	C	ECS	Dynamical Systems Proxies of Atmospheric Predictability and Mid-Latitude Extremes
Mezzina	Bianca	1119	3	10	4	C	ECS	Separating ENSO and NAO Signatures in the North Atlantic
Minamihara	Yuichi	1289	5	3	5	E	-	The Intermittency of Gravity Waves Momentum Fluxes in the Antarctic Troposphere and Lower Stratosphere Revealed by the PANSY Radar O
Mishra	Vimal	1083	6	2	3	A	-	Impacts of Rising Heat on Crop Yields in India
Misios	Stergios	1466	2	3	2	B	-	Observed and Modelled Influences of the 11-Yr Solar Cycle on the Walker Circulation
Mizuno	Akira	1536	5	6	6	E	-	A Millimeter-Wave Spectrometer Equipped with a New Frequency Multiplexer for Simultaneous Multi-Line Observation
Moffat-Griffin	Tracy	1469	3	4	3	D	-	Radiosonde Observations of Gravity Waves in the Stratosphere Close to 60S
Mohammad	Salauddin	1084	3	9	14	C	ECS	Monsoon Variability and Stratosphere-Troposphere Exchange (STE) of Ozone over Costa-Rica (10N, 83.4W)
Mori	Masato	1192	3	12	8	C	-	Quantification of Influence of Arctic Sea-Ice Decline and Natural Variability to Recent Eurasian Cooling
Mueller	Rolf	1425	1	5	9	E	-	The Maintenance of Elevated Active Chlorine Levels in the Antarctic Lower Stratosphere through HCl Null Cycles
Mukougawa	Hitoshi	1146	3	7	4	E	-	Dynamics and Predictability of Downward Propagating Stratospheric Planetary Waves Observed in March 2007
Nahida	Rashada Akter	1356	1	1	12	E	-	Polycyclic Aromatic Hydrocarbons in Atmospheric Fine Particulate Matters in Dhaka, Bangladesh: Sources Characterization and Potential Hea
Nakamura	Hisashi	1318	3	Keynote			-	Modulations of the East Asian Winter Monsoon by the Western Pacific (WP) Pattern: Its Dynamics and Remote Influence from the Tropics
Nakamura	Noboru	1544	3	5	9	D	-	Wave Activity Budget and the Onset of Sudden Stratospheric Warming
Naoe	Hiroaki	1232	3	3	4	F	-	The Extratropical Response to the Quasi-Biennial Oscillation (QBO) in the NH Winter in QBOi Experiments
Naseer	Minha	1013	5	2	4	C	ECS	Assessment of Drought in Regions of Pakistan Using NDVI in Relation to Different Rainfall Regimes
Ndah	Anthony Banyoul	1049	2	3	1	C	ECS	A Novel Perspective on the Sun-Ocean Time-Lag and Proposed Mechanism for Bottom-Up (Ocean-Atmosphere) Climate Forcing: Implications
Neu	Jessica	1546	4	2	1	F	-	Short-Term Trends in Stratospheric Circulation Driven by Seasonal Timing of the Quasi-Biennial Oscillation
Newman	Paul A.	1473	3	5	2	A	-	Impact of the February 2018 Major Stratospheric Sudden Warming on Global Ozone
Ngaina	Joshua	1076	2	2	9	D	ECS	Predictability of Seasonal Rainfall over the Greater Horn of Africa
Nguyen-Vinh	Xuan-Tien	1492	2	4	3	F	-	Evaluation of the Global Weather Research and Forecasting (WRF) Model, Focusing on Summer Mid- and High-Latitude Upper Troposphere a
Nie	Yu	1026	3	8	4	A	-	On the Roles of Upper- versus Lower-level Thermal Forcing in Shifting the Eddy-Driven Jet
Nilsen	Tine	1067	3	11	3	F	ECS	Northern North Atlantic Oceanic Conditions as an Important Driving Factor for Forest Fire Activity in Northern Scandinavia
Nishi	Noriyuki	1135	5	2	19	B	-	Cirrus Cloud-Top Height Estimation using Geostationary Satellite Split-Window Measurements Trained with CALIPSO and CloudSat data
Nishii	Kazuaki	1330	3	6	7	A	-	Midlatitude Oceanic Fronts and the Stratospheric Polar Vortex
Nishimoto	Eriko	1291	4	3	8	C	ECS	Thorough Survey of Zonal-Mean Influence of the Stratospheric QBO on the Troposphere
Noersomadi		1429	4	1	16	B	-	The Influence of Madden Julian Oscillation to the Tropical Tropopause Inversion Layer as Revealed by COSMIC GPS-RO
Noguchi	Shunsuke	1510	1	4	14	C	ECS	Potential Influence of Elevated Stratopause Events on the Lower Atmospheric Circulation
Onishi	Tatsuo	1376	1	6	4	A	-	Transport of Aerosols and Trace Gases into the Upper Troposphere during the Peak Asian Monsoon Period in Summer 2017
Orbe	Clara	1254	1	Keynote			ECS	Overview of Large-Scale Tropospheric Transport in the Chemistry Climate Modeling Initiative (CCMI) Models
Orsolini	Yvan J.	1422	2	1	3	C	-	Duration and Decay of Polar Stratospheric Vortex Events in the ECMWF Seasonal Forecast Model
Orsolini	Yvan J.	1540	2	1	1	B	-	Subseasonal-to-Seasonal Forecasts with the Norwegian Climate Prediction Model
Osprey	Scott M	1470	6	1	5	A	-	Globally Observed Teleconnections in a Hierarchy of Atmospheric Models - GOTHAM
P R Sinha	Ram	1204	1	1	4	A	-	Development of Balloon-Borne Impactor Payload for Profiling Free Tropospheric Aerosol Size Distribution
P R Sinha	Ram	1311	1	8	2	F	-	Ubiquity of Quasi-Aerosol Layers in the Free Troposphere and its Regional Climate Response
Paik	Seungmok	1493	1	Oral			ECS	Divergent Hydrological Responses to Volcanic Eruptions in CMIP5 Multi-Models
Palmeiro	Froila M.	1114	3	5	12	B	-	On How Turbulent Mountain Stress Influences Sudden Stratospheric Warming Ocurrence in WACCM
Palmeiro	Froila M.	1121	4	3	10	D	-	Dynamics of the ENSO Impact on the Tropical Upwelling
Palmeiro	Froila M.	1122	3	5	10	A	-	Assessing Sudden Stratospheric Warming Variability in the EC-EARTH Climate Model
Palmeiro	Froila M.	1345	5	2	8	A	-	Reanalyses Performance in Representing Major Sudden Stratospheric Warmings
Pan	Laura	1300	1	6	1	B	-	Atmospheric Composition and the Asian Monsoon (ACAM): A Joint Activity of SPARC and IGAC
Pan	Linjun	1503	5	6	9	D	-	Simulations in the Terahertz Band on the Plateau by Two Different Radiative Transfer Models
Pandit	Amit K	1512	4	Oral			ECS	Long-Term Records of Cirrus Cloud Properties for Climate Understanding
Pandiyattilillam Raj	Jayakrishnan	1228	4	5	8	F	ECS	Observation and Modelling of the Influence of Synoptic Scale Features on the Sea / Land Breeze Circulation during Southwest and Northeast M
Panwar	Vivek	1034	4	1	1	B	-	Temperature Trends and Long Term Variations in the UTLS Region and its Association with Convection over Indian and Adjacent Region
Park	Chang-Hyun	1436	3	12	6	B	ECS	A Causal Relationship between Barents-Kara Sea Ice Concentration and Wintertime Surface Air Temperature Variability in East Asia
Park	In-Hong	1095	3	10	1	A	-	Understanding the Indo-Pacific Warm Pool Expansion: Seasonal Changes
Pavuluri	Chandra Mouli	1361	1	1	14	F	-	High Abundance of Non-Fossil Derived Organics in Fine Aerosols in the Eastern Mediterranean Troposphere
Pawson	Steven	1537	2	1	5	D	-	The Stratospheric Warming of 2018 in Context of the Earth System

Pawson	Steven	1542	5	2	17	F	-	Global Assimilation of X Project Loon Stratospheric Balloon Observations
Petropavlovskikh	Irina	1439	1	3	10	F	-	Is Stratospheric Ozone Recovering as We Expect? Results of the SPARC LOTUS Analyses.
Pilch Kedzierski	Robin	1269	3	8	9	F	ECS	Baroclinic Life-Cycles from GPS Radio-Occultation Measurements
Pisoft	Petr	1267	3	4	1	C	-	Localized Gravity Wave Forcing in the Lower Stratosphere - Role of the East Asian and North Pacific Hotspot
Pisoft	Petr	1268	3	6	12	F	-	Changing Spatial Structure of the Brewer-Dobson Circulation in CCMI Simulations - Is There a Role for the Wave Driving?
Pitts	Michael	1483	1	3	11	C	-	The SPARC Polar Stratospheric Cloud Initiative (PSCi)
Pitts	Michael C	1323	5	5	7	E	-	SAGE III/ISS Temperature and Pressure Research Products
Pitts	Michael C	1399	1	3	15	F	-	Reference PSC Data Record and Climatology based on CALIOP, MLS, and MIPAS Observations
Plougonven	Riwal	1478	4	1	2	A	-	Impact of Equatorial and Gravity Waves on the Structure and Evolution of Tropical Tropopause Layer Cirrus Clouds
Plougonven	Riwal	1531	3	4	11	C	-	On Constraints and Uncertainties for Gravity Wave Parameterizations
Plougonven	Riwal	1532	4	2	11	E	-	Accuracy of Lower Stratospheric Winds in ECMWF Analyses and Forecasts, Assessed from Superpressure Balloon Trajectories
Plummer	David A	1402	1	8	14	F	-	Comparing the Stratosphere in Specified Dynamics (Nudged) and Free-Running Simulations from the Chemistry Climate Model Initiative Mode
Polichtchouk	Inna	1141	3	6	9	B	ECS	Sensitivity of the Brewer-Dobson Circulation and Polar Vortex Variability to Parametrized Nonorographic Gravity-Wave Drag in a High-Resoluti
Polichtchouk	Inna	1506	2	4	7	B	ECS	Sensitivity of the Lower Tropical Stratosphere to Vertical Resolution in NWP Models
Preusse	Peter	1445	5	3	3	E	-	A Test of the Polarization Relations Based on 3D GLORIA and In Situ Data
Preusse	Peter	1450	3	4	7	F	-	Propagation of Mesoscale Gravity Waves above the Scandinavian Mountains as Observed by GLORIA and AIRS
Rajendran	Kylash	1379	4	2	9	B	ECS	Evaluation of Seasonal Synchronization Tendencies of the QBO in the SPARC QBOi Project
Ray	Eric	1272	1	5	11	F	-	Disentangling Interannual Stratospheric Transport Variability Impacts on Surface Trace Gas Concentrations
Reintges	Annika	1294	3	11	4	C	ECS	Variability and Teleconnections in Wind-Driven Hindcasts with the Kiel Climate Model
Reintges	Annika	1360	3	11	5	A	-	Reducing Climate Model Systematic Error in the Tropical Atlantic Sector by Enhancing Atmospheric Resolution: Implications for Seasonal to In
Ren	Hong-Li	1250	4	5	6	E	-	Impacts of the Super El Nino Events on the Probability of Spring-Summer Extreme Precipitation in Eastern China
Ren	Hong-Li	1251	2	2	4	F	-	Dynamics and Predictability of 2016 Extreme Indian Ocean Dipole Event
Ren	Rongcai	1351	4	5	5	A	-	A decomposition of ENSO's impacts on the northern winter
Ren	Xiaoyu	1468	6	2	7	A	-	The Experiment of Stratosphere Turbulence Observation with Resolution Sounding
Richter	Jadwiga	1158	3	3	2	E	-	Quasi-Biennial Oscillation in a Warming Climate, Part 1: Overview & Metrics
Rieger	Landon	1543	5	5	6	B	ECS	Multiwavelength Limb Scattering Aerosol Algorithm and Application to the OSIRIS Dataset
Riviere	Emmanuel D.	1459	4	1	12	E	-	Estimation of Hydration by Stratospheric Overshoots during TRO-Pico, Brazil: Mesoscale Simulations of Observational Cases
Robock	Alan	1301	1	1	21	F	-	Impacts of Stratospheric Sulfate Geoengineering on PM2.5
Roell	Marilee	1304	5	5	5	D	-	Validation of the SAGE III on ISS Science Data Products
Rudeva	Irina	1242	3	12	11	A	-	The Interaction between the Polar, Midlatitude and Tropical Regions.
Ryan	Niall J	1216	5	4	8	C	ECS	Global Cl Species Climatologies from Measurements and Modelling
Saginela	Ravindra Babu	1059	1	4	5	A	ECS	Tropical Tropopause Layer (TTL) Variability during the Balloon Measurement Campaigns of the Asian Tropopause Aerosol Layer (BATAL) ove
Sakazaki	Takatoshi	1201	4	Keynote			ECS	Tropospheric Response to Downward Propagating Tide from the Stratosphere
Samanta	Dhrubajyoti	1286	2	4	4	D	ECS	The Double ITCZ Bias in GCMs: Causes and Implications for Future Rainfall Projections
Santee	Michelle L	1154	1	6	2	F	-	Characterizing the Climatological Composition and Intraseasonal and Interannual Variability of the Asian Summer Monsoon Anticyclone Using
Santee	Michelle L	1217	1	3	12	B	-	Ozone Mini-Hole Representation in Satellite Data and Reanalyses
Sato	Kaoru	1134	5	2	7	E	-	The Climatology of Brewer-Dobson Circulation and the Contribution of Gravity Waves
Satoh	Reona	1089	3	9	6	E	-	Intraseasonal Variability of Cloud Amount in Middle Latitude during Boreal Winter
Scheffler	Janice	1171	3	7	10	C	ECS	Stratosphere-Troposphere Coupling in Ensemble Simulations with Fast Stratospheric Ozone Chemistry
Schlager	Hans	1336	1	Keynote			-	First Airborne Measurements of SO2, H2SO4 , NO, HNO3, and NOy in the Asian Summer Monsoon Anticyclone between 12 and 20 Km
Schmidt	Hauke	1553	3	2	5	A	-	Polar Vortex Responses to Solar, Volcanic and ENSO Forcing in a Large Ensemble of Historical Simulations
Schmidt	Torsten	1320	5	1	6	D	-	Tropopause Characteristics Observed with GPS Radio Occultation Data
Schmidt	Torsten	1332	5	2	7	E	-	A Comparison of Precipitable Water Values from GNSS Ground-Based, GPS Radio Occultation and Reanalysis Above Oceanic Regions
Schneidereit	Andrea	1157	1	4	10	F	-	Boreal Planetary Wave Transport of Zonally Asymmetric Ozone during the Polar Healing Phase
Schoon	Lena	1380	3	Oral			ECS	A Novel Method for the Extraction of Local Gravity Wave Parameters: Description, Validation and Application
Schranz	Franziska	1418	5	6	5	B	ECS	Middle Atmospheric O3 and H2O Measurements by Ground-Based Microwave Radiometry in the Arctic
Schwartz	Chen	1030	2	1	7	E	-	Relative Roles of the MJO and Stratospheric Variability in North Atlantic Climate Patterns during Boreal Winter
Scott	R. K.	1513	3	3	5	D	-	Polar-Tropical Coupling in the Winter Stratosphere
Sekizawa	Shion	1193	3	13	6	E	-	Interannual Variability of Australian Summer Monsoon and its Remote Influence on Wintertime East Asian Climate
Selten	Frank M.	1555	3	7	14	E	-	The Climate in a World without Ozone
Seong	Min-Gyu	1444	3	8	5	D	-	A Bayesian Attribution Analysis of Global and Regional Changes in Extreme Temperatures during 1951-2010
Seppala	Annika	1471	1	3	9	B	-	Polar Ozone Response to Energetic Particle Precipitation over Decadal Time Scales
Shahid	Imran	1019	1	1	10	D	-	Variability of Particulate Matter Concentrations during Dense Winter Fog Period in Northeastern Pakistan

Shahid	Muhammad Zees	1021	1	1	5	D	ECS	Modelling and Remote-Sensing based Analysis of a Dense Haze Event over Northeastern Pakistan
Sharma	Disha	1042	1	4	6	D	ECS	Tracking the Influence of Long Range Transport of Dust Aerosols on their Chemical Characteristics Observed in the North-West Indo Gangetic
Sharma	Som Kumar	1088	3	1	4	A	-	Investigations on Stratospheric-Mesospheric Temperature Climatology in the Northern and Southern Hemispheres
Shen	Chong	1350	1	1	20	D	-	The Impacts of Aerosol on Precipitation in the Pearl River Delta Region
Shepherd	Theodore G.	1560	6	1	7	C	-	Storyline Approaches to Regional Climate Change
Sheshadri	Aditi	1433	3	8	2	F	ECS	Propagating Annular Modes
Shibuya	Ryosuke	1314	5	3	6	D	ECS	Gravity Wave Characteristics in the Winter Antarctic Mesosphere by a Long-Term Numerical Simulation Using a Non-Hydrostatic General Circu
Shiotani	Masato	1435	1	5	4	E	-	Systematic Biases owing to a Response Time Issue of Ozonesondes
Shiotani	Masato	1437	5	5	8	C	-	Satellite Observation of the Whole Atmosphere - Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES-2)
Shu	Ye	1079	6	2	4	D	-	Study on Outdoor Thermal Comfort of Urban Microclimate in the Urban Street in a Hot Subtropical Area of China
Silverman	Vered	1109	4	4	11	F	ECS	Radiative Effects of Ozone Waves on the Northern Hemisphere Polar Vortex and its Modulation by the QBO
Sivakandan	Mani	1048	3	1	3	B	ECS	Long-Term Variation of OH Peak Emission Altitude and Volume Emission Rate over Indian Low Latitudes
Smith	Anne	1253	4	2	6	E	-	Comparing Observed Equatorial Zonal Winds around the Stratopause with the QBOi Model Ensemble
Smith	Jacob W	1117	4	4	4	B	ECS	Determining Stratospheric Water Vapour Variability in a Global Climate Model
Song	Byeong-Gwon	1279	3	5	1	B	ECS	Three-Dimensional Structure of Planetary and Gravity Wave Forcing during the Evolution of the January 2009 Stratospheric Sudden Warming
Song	Lei	1137	3	13	1	F	ECS	Relative Contributions of Synoptic and Intraseasonal Variations to Strong Cold Events over Eastern China
Sparrow	Sarah	1205	6	1	2	D	-	Attribution of 2017 Brahmaputra Floods: Implications for Loss and Damage
Stauffer	Ryan M	1334	5	4	3	C	ECS	Evaluation of MERRA-2-based Ozone Profile Simulations with the Global Ozonesonde Network
Steiner	Andrea K.	1421	5	1	7	B	-	Advances in GNSS Radio Occultation for Atmospheric Climate Monitoring
Stenke	Andrea	1487	1	2	3	C	-	Impacts of Mt. Pinatubo Volcanic Aerosol on the Tropical Stratosphere in Chemistry-Climate Model Simulations using CCMI and CMIP6 Aeros
Stenke	Andrea	1501	1	1	7	E	-	Composition of the Asian Tropopause Aerosol Layer Simulated with a Coupled Aerosol-Chemistry-Climate Model: Enhanced H2SO4-H2O Dro
Stenke	Andrea	1524	5	4	11	A	-	The Basis and Development of the CMIP6 Stratospheric Aerosol Record
Stockdale	Timothy N	1486	2	2	5	E	-	Prediction of the Quasi-Biennial Oscillation (QBO) with a Multi-Model Ensemble of QBO-Resolving Models
Stone	Kane	1539	1	8	5	D	ECS	Using Stratospheric Ozone to Predict Northern Hemisphere Surface Temperatures
Sukhodolov	Timofei	1116	1	2	1	B	ECS	Influence of Volcanic SO2 Emissions on the Climate and Ozone Layer Evolution during Early 21st Century.
Sumi	Yukari	1163	3	4	5	E	-	Frontal Structure and Gravity Waves Observed during Stratospheric Sudden Warming Events
Sun	Cheng	1280	2	3	3	C	-	North Atlantic Oscillation Implicated as a Predictor of Northern Hemisphere Multidecadal Climate Variability
Suzuki	Junko	1452	5	6	11	E	-	Primary Results of the Ozone Variability and the Dehydration Process in the UTLS During YMC-Sumatra 2017 Field Campaign
Suzuki	Makoto	1333	5	5	9	F	-	Sensitivity Analysis for Submm/THz Limb Sounder, SMILES-2 Proposal
Svendsen	Lea	1102	3	10	7	B	ECS	Pacific Contribution to the Early 20th Century Warming in the Arctic
Taguchi	Bunmei	1411	3	11	8	E	-	Influence of Extra-Tropical Oceanic Variability on the Interannual-to-Decadal Variability of the Midlatitude Atmosphere
Taguchi	Masakazu	1247	2	2	3	D	-	Seasonal Winter Forecasts of the Northern Stratosphere and Troposphere: Results from JMA Seasonal Hindcast Experiments
Taha	Ghassan	1285	5	5	3	C	-	Comparison of SAGE III/ISS Ozone and Aerosol Profiles with Correlative Measurements
Takemi	Tetsuya	1312	4	5	9	C	-	Control of Tropospheric Stability on the Intensification of Tropical Cyclones
Talento Costa	Stefanie	1118	3	11	10	F	ECS	Influence of Extratropical Thermal Forcings on the Asian Monsoons
Tamarin-Brodsky	Talia	1074	3	Oral			ECS	A Dynamical Perspective on Temperature Variability, Extremes and Their Response to Climate Change
Taneja	Kanika	1011	1	1	9	F	-	Impact of an Extreme Weather Event on Aerosol Optical and Radiative Properties in India
Tao	Mengchu	1386	5	4	6	B	ECS	Multi-Timescale Variations of Modelled Stratospheric Water Vapor Derived from Different Reanalysis Products
Tao	Mengchu	1388	4	4	12	F	ECS	A Lagrangian Model Diagnosis of Stratospheric Contributions to Tropical Mid-Tropospheric Air
Tarasick	David W.	1519	1	5	14	E	-	Tropospheric Ozone Assessment Report: Tropospheric Ozone Observations - How Well Do We Know Tropospheric Ozone Changes?
Tegtmeier	Susann	1521	5	Oral			-	The Tropical Tropopause Layer in Observations and Reanalysis Data Sets
Tegtmeier	Susann	1533	4	4	10	E	-	Widening of the Cold Point Tropopause and Implications for Stratospheric Composition
Thompson	Anne	1234	5	6	4	C	-	Quality Assurance in Ozonesonde Data: The JOSIE-SHADOZ (2017) Experience
Thompson	Anne	1236	4	4	1	D	-	Variability and Trends in Free Tropospheric and Lower Stratospheric Ozone in the Tropics from SHADOZ
Thomson	Stephen I.	1329	2	2	7	C	ECS	Atmospheric Response to SST Anomalies. Background-State Dependence, Teleconnections and Local Effects in Winter and Summer
Tian	Wenshou	1309	1	8	10	D	-	The Relationship between Lower-Stratospheric Ozone at Southern High Latitudes and Sea Surface Temperature in the East Asian Marginal Se
Ting	Liu	1085	3	9	9	C	-	Influence of the Boreal Autumn SAM on Winter Precipitation over Land in the Northern Hemisphere
Tomikawa	Yoshihiro	1187	5	2	13	B	-	Comparison of Climatological Atmospheric Fields in the Upper Stratosphere and Lower Mesosphere between Multiple Reanalysis Data
Tripathi	Nidhi	1104	1	5	3	B	ECS	First PTR-TOF-MS Based Measurement of Volatile Organic Compounds (VOCs) in New Delhi: Implication to Regional Atmospheric Chemistry
Turner	Andrew	1230	6	1	4	F	-	Better Understanding of Interregional Teleconnections for Prediction in the Monsoon and Poles (BITMAP)
Turner	Andrew	1231	5	2	5	F	-	Emerging Results from the INCOMPASS Field Campaign of the 2016 Indian Monsoon
Tweedy	Olga	1181	4	4	5	F	ECS	The Impact of Tropical SSTs on Interannual Variability of Tropical Lower Stratospheric Ozone
Tyrlis	Evangelos	1392	3	12	7	E	-	The Key Role of Blocking in Arctic Sea Ice Loss and Cold Spells over Central Asia in Autumn 2016

Tyrrell	Nicholas	1165	2	2	1	C	ECS	Atmospheric Circulation Response to Anomalous Siberian Forcing in Autumn 2016 and its Long-range Predictability.
Tyrrell	Nicholas	1166	4	2	14	B	ECS	The Importance of the QBO Meridional Crculation for Modulating the Polar Vortex in Climate Models
Tyrrell	Nicholas	1167	4	2	15	C	ECS	Analyzing Teleconnections in the QBOi Dataset using Causal Effect Networks
Ukita	Jinro	1460	3	12	9	F	-	Long-Term Change in Stationary Eddy Heat Flux Related to Arctic-Midlatitude Climate Linkage
Ul-Haq	Zia	1499	1	5	2	D	-	Anthropogenic Emissions and Satellite Inferred Tropospheric Formaldehyde Trends, Seasonality and Anomalies over South Asian Region
Ungermann	Joern	1455	1	7	6	D	-	A Case Study of Water Vapor In-Mixing into the LS from SparcGLORIA Measurements Acquired during the WISE Campaign
Van Der Wiel	Karin	1075	6	Oral			ECS	More Accurate Assessment of Climate Induced Impacts
Van Niekerk	Annelize	1551	2	4	8	C	ECS	The Circulation Response to Resolved Versus Parametrized Orographic Drag over Complex Mountain Terrains
Van Niekerk	Annelize	1552	3	6	5	F	ECS	The Modulation of Stationary Waves, and their Response to Climate Change, by Parameterized Orographic Drag
Vargin	Pavel	1002	3	5	11	E	-	Lower troposphere impact of stratospheric perturbations in historical simulations of INM climate model
Vazhathottathil	Madhu	1078	1	3	18	E	-	North Atlantic Oscillations in Total Ozone Detected by Chemistry-Climate Model and Reanalysis
Verma	Puneet K	1511	1	5	5	C	ECS	Potential Source Contributions and Cancer Risk Assessment of Atmospheric Polycyclic Aromatic Hydrocarbons (PAHs) and Nitro-PAHs over a
Vernier	Hazel	1541	1	1	2	F	-	Chemical Composition of Aerosols in the Upper Troposphere and Lower Stratosphere over India
Vernier	Jean-Paul	1525	1	2	4	F	-	VolRes: Volcano Response Plan to Be Prepared for the Next Large Volcanic Eruption
Vernier	Jean-Paul	1529	1	5	13	A	-	Assessing the Transport of Asian Pollution into the Stratosphere through Balloon-Borne and Satellite Observations together with the GEOS-Ch
Walker	Kaley	1375	5	5	2	F	-	Long-Term Validation for the Atmospheric Chemistry Experiment (ACE) Satellite Mission
Walker	Kaley	1383	5	Oral			-	The SPARC Water Vapour Assessment II: Overview of Results and Characterization of Instruments and Data Records
Wang	Lei	1069	1	4	3	F	-	Large Impacts, Past and Future, of Ozone Depleting Substances on Brewer-Dobson Circulation Trends: A Multi-Model Assessment
Wang	Lin	1307	3	13	9	D	-	Multidecadal Fluctuation of the Wintertime Arctic Oscillation Pattern and its Implication
Wang	Ling	1221	3	4	8	A	-	High Resolution Numerical Simulations of Gravity Wave Encounters with the Tropopause
Wang	Pao K.	1302	1	8	9	F	-	How Deep Convective Storms Influence Global Climate: Cross-Tropopause Transport of H2O
Wang	Ray (H.J.)	1341	1	3	3	E	-	Preliminary Validation Results of SAGE III-ISS Ozone Data
Wang	Tao	1033	1	7	10	B	ECS	Quantify Laminar Cirrus Ice and its Contribution to the Total Water Budget in the Tropical Tropopause Layer
Wang	Tao	1308	3	2	6	D	-	Influence of Low-Frequency Solar Forcing on the East Asian Winter Monsoon based on HadCM3 and Observations
Wang	Wuke	1162	4	4	2	F	ECS	Decadal Variability of Tropical Tropopause Temperatures and Lower Stratospheric Water Vapour
Wangh	Hongyue	1239	1	7	8	E	-	Impact of Stratosphere-to-Troposphere Exchange on Surface Ozone in Eastern China from the Valley between the South Asia High and the Su
Wargan	Krzysztof	1260	5	4	1	B	-	Long-Term Ozone Variability and Trends from Reanalyses
Warner	Juying	1545	5	5	1	B	-	Upper Tropospheric Ammonia Detected from AIRS
Watanabe	Shingo	1032	4	2	4	E	-	Hindcasts of the 2016 Disruption of the Stratospheric Quasibiennial Oscillation
Wei	Ke	1014	3	7	13	B	-	The Effect of a Well-Resolved Stratosphere on East Asian Winter Climate
Wei	Taoyuan	1327	6	Oral			-	Impact on Agricultural Production of Extreme Weather Events
White	Ian	1022	3	7	5	C	ECS	The Downward Influence of Sudden Stratospheric Warmings: Insight using an Idealised Moist GCM
White	Ian	1426	4	5	3	F	ECS	The Salience of Nonlinearities in the Boreal Winter Response to ENSO
Wilka	Catherine	1427	1	3	2	B	ECS	The Influence of Heterogeneous Chemistry on Volcanic Sulfate Aerosols on Ozone Depletion and Recovery
Williams	Ryan, S.	1485	1	5	10	C	ECS	Seasonality and Geographical Variability of Tropospheric Ozone (O3), Stratospheric Influence and Recent Trends
Witte	Jacquelyn C	1142	5	Oral			-	Twenty Years of SHADOZ: Archiving, Reprocessing, and Uncertainties of Tropical Ozonesonde Profiles
Witte	Jacquelyn C	1143	5	6	1	E	-	Celebrating 50 Years of the Wallops Island, VA, USA Ozone Program
Wright	Corwin	1027	5	3	1	C	-	3D Measurements of Atmospheric Gravity Waves, in Observations and Reanalyses
Wright	Corwin	1382	5	2	10	B	-	How Well Do Stratospheric Reanalyses Reproduce High-Resolution Satellite Temperature Measurements?
Wright	Jonathon S.	1495	1	1	6	B	-	Links between the Large-Scale Circulation and Daily Air Quality Variations over Central-Eastern China during Winter
Wright	Jonathon S.	1496	5	2	3	C	-	Assessing Diabatic Signatures of Upwelling near the Tropical Tropopause in Reanalyses
Wu	Bo	1179	3	10	5	A	-	Atmospheric Dynamic and Thermodynamic Processes Driving the Western North Pacific Anomalous Anticyclone during El Nino
Wu	Xue	1012	1	6	5	D	ECS	Equatorward Dispersion of a High-Latitude Volcanic Plume and its relation to the Asian Summer Monsoon: A Case Study of the Sarychev Erup
Wuebbles	Donald J.	1416	6	Oral			-	Particulate Matter and Ozone Prediction and Source Attribution for Air Quality Management in a Changing Climate
Xi	Haosen	1457	1	7	5	A	-	Stratosphere-Troposphere Exchange of Ozone and Carbon Monoxide over the Northern Pacific Ocean in Northern Winter using Two Chemical
Xia	Yan	1037	3	9	2	C	ECS	Impacts of Tropical Tropopause Warming on the Stratospheric Water Vapor
Xiao	Ziniu	1498	3	2	1	E	-	Preferred Solar Signal Transfer in the Asian-Pacific Sector
Yamashita	Yousuke	1206	3	3	9	F	-	Two Possible Pathways of the Southern Hemisphere Polar Vortex Response to the QBO from Winter to Early Summer
Yan	Xiaolu	1390	4	1	14	F	ECS	El Nino Southern Oscillation Influence on the Asian Summer Monsoon Anticyclone
Yang	Rui	1040	3	4	6	C	ECS	Simulation of a Torrential Rainstorm and Stratospheric Gravity Wave Analysis
Yasui	Ryosuke	1438	3	1	7	E	-	In-Situ Gravity Wave Generation by Shear Instability in the MLT Region
Yoden	Shigeo	1306	4	Oral			-	A Series of Numerical Experiments on Stratosphere-Troposphere Two-Way Dynamical Coupling in the Tropics through Organizations of Moist
Yoo	Ji-Hee	1315	3	4	2	A	-	Characteristics and Sources of Inertia-Gravity Waves Revealed in Operational Radiosonde at Jang Bogo Station (JBS), Antarctica

Yoshida	Kohei	1440	3	9	1	E	-	What Causes Disagreement of Upwelling in the TTL among CMIP5 Models?
Young	Paul	1517	6	Oral			-	UV, the Biosphere, the Carbon Cycle and the World Avoided by the Montreal Protocol
Yu	Yueyue	1248	2	1	8	B	ECS	On the Linkage among Anomalously Strong Stratospheric Mass Circulation, Stratospheric Sudden Warming, and Cold Weather Events
Yuan	Zibing	1369	1	4	13	E	-	Impact of Large-Scale Synoptic Circulation Pattern on Ozone Forming Mechanism in Shanghai, China
Zawada	Daniel J.	1110	5	5	10	D	ECS	The University of Saskatchewan OMPS-LP Data Products
Zhang	Jiankai	1057	1	3	19	B	ECS	Stratospheric Ozone Loss over the Eurasian Continent Induced by the Polar Vortex Shift
Zhang	Lixia	1038	3	10	9	E	-	ENSO Transition from La Nina to El Nino Drives Prolonged Spring Summer Drought over North China
Zhang	Tianyi	1035	6	2	6	F	-	Biases in Simulation of Rice Phenology Model under Warmer Climate: Compared with Four Models in Five Asian Countries
Zhang	Yuli	1052	4	4	7	C	ECS	Madden-Julian Oscillation in Wintertime Ozone in the Upper Troposphere and Lower Stratosphere
Zhao	Deming	1255	3	13	3	A	-	Role of Land Use and Cover Changes in Regional Climate Studies over East Asia
Zhao	Tianbao	1358	5	2	3	E	-	Surface Relative Humidity Changes in Reanalysis and Observations
Zhou	Tianjun	1507	1	Oral			-	Anthropogenic Aerosols Reduced Global Land Monsoon Precipitation
Zhou	Wen	1316	3	7	2	D	-	Role of the Stratospheric Polar Vortex and Tropospheric Blocking in Winter 2016
Zülicke	Christoph	1295	3	1	5	D	-	Coupling of Stratospheric Warmings with Mesospheric Coolings
Zveryaev	Igor I.	1410	3	13	4	D	-	Soil Moisture Variability in European Russia and its Links to Regional Climate During Summer #