Session Information

**Oral Sessions**
Sessions are being held in the *Convention Center (CC)* and *Marriott Marquis (MM)*

**Poster Sessions**
Posters are on display in the following venue throughout the week: *Hall A-C (Poster Hall)*

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Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 05 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at [https://agup.confex.com/agu/fm18/meetingapp.cgi/Home](https://agup.confex.com/agu/fm18/meetingapp.cgi/Home) for updates.

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**Monday A.M.**

**U11A (CC) 202A**

**Monday 0800h**

Moving the Needle Together: Valuing Nontraditional Approaches to Faculty Tenure, Promotion, and Advancement *(Virtual Session) (joint with ED, PA)*

*Presiding: Pranoti Asher*, American Geophysical Union; *Chris Keane*, American Geosciences Institute; *Alexandra Shultz*, American Geophysical Union;

0800h Welcoming Remarks:

0805h **U11A-01** Professional Societies Role in Moving the Needle: *V S McConnell*, K A Hannula, K S White
0817h U11A-02 Crib Notes on the Implementation and Evolution of Boyer’s Four-tiered Faculty Assessment at the University of Maryland Center for Environmental Science: D Secor

0829h U11A-03 Embracing Impact: Remaking Promotion Criteria at WPI to Reflect the Breadth of Scholarly Work: L A Leshin, P H Hansen

0841h U11A-04 Promotion and Tenure Guidelines: Opportunities for Conversations Related to the Role of Universities in Society: J E Huntoon, J S Gierke

0853h U11A-05 Centering Public Engagement and Diversity, Equity, and Inclusion Activities in Faculty Hiring and Promotion - Emerging Models and Personal Reflections: K M Cobb

0905h U11A-06 Supporting science literacy and encouraging civic engagement takes work, but first, what are we doing?: S K Fortner, C E Wilson

0917h U11A-07 Public Engagement and Professional Advancement: How High are the Barriers, Really?: L J Graumlich, J Davison

0929h Discussion:

U11B  (CC) eLightning Theater I

Monday  0800h

Student Engagement to Enhance Development: Outstanding Student Presentation Award Winners from 2017 Fall Meeting IV eLightning (joint with ED)

Presiding: Leslie Marasco, American Geophysical Union; Kelly Klima, RAND Corporation;

0800h Introductory Remarks:

0801h U11B-01 Geophysical Constraints on Planetary Interiors from High-Precision Equations of State: J F Martin, J S Pigott, W R Pancro

0804h U11B-02 Retrieving Ground Deformation Associated with Cascadia Slow Slip Events Using Sentinel-1 Data: Y Zheng, H A Zebker

0807h U11B-03 Understanding how wastewater injection-induced earthquakes happen to inform mitigation efforts: M R M Brown

0813h U11B-05 Seismic Imaging of the Alaska Subduction Zone: Implications for Slab Geometry and Volcanism: R Martin-Short

0816h U11B-06 Precursory changes in p- and s-phase amplitudes and velocities linked to accelerated fault creep during laboratory slip instabilities: S Shretharan, J Riviere, K L Ryan, C Marone

0819h U11B-07 On the origin of the distance-depth correction $Q(d,h)$ of the $m_b$ formula: An update: N Saloar, E Okal, A Salarec

0822h U11B-08 Mapping groundwater with the ambient seismic wavefield: T Clements, M Denolle

0825h U11B-09 Identifying Conventionally Sub-Seismic Faults in Polygonal Fault Systems: An Ultra-High-Resolution Geophysical Study: C Fry, J Dix, M Faggetter, J Malgor

0828h U11B-10 Connecting source time function and heterogeneous fault properties: J Yin, B P Lipovsky, M Denolle

0831h U11B-11 Searching for a Seismic Signature in the Landscape of the Western Quebec Seismic Zone, Canada: A M Rodriguez Padilla, J Onwuemeka, S G Roy, Y Liu, S R Hall, R M Harrington

0837h U11B-13 Body Wave Tomography of the Cascadia Subduction Zone: W B Hawley

0840h U11B-14 GPR imaging of lava tubes with the TubeX project: S Esmaeil, S Kruse, W B Garry, P Whelley, K Young, S Jazayeri, E Bell

0843h U11B-15 From magma oceans to solid mantle: insights from numerical simulations: D P Bolario, A Rozel, M Ballmer, A Morison, S Labrosse, P J Tackley


0849h U11B-17 Monitoring the development of volcanic eruptions through volcanic lightning: A statistical investigation into volcanic electrification and seismic/infrasound signals: C M Smith, G Thompson, S R McNutt, S A Behnke, H E Edens, R J Thomas, S Reader

0852h U11B-18 Migmatic Water Content Controls Magma Storage Depth: D J Rasmussen, T A Plank, D C Roman, M M Zimmer

0855h U11B-19 Core formation of planetesimals with partial silicate melting: B A Anzures, H C Watson, T Yu, Y Wang

0858h U11B-20 Cold magmas and explosive eruptions: The story of zircons from Mount Pinatubo, Philippines: S L Lee, K Hattori

0901h Concluding Remarks:
U12A  (CC) 202A  
Monday  1020h

Fifty Years of Scientific Ocean Drilling: How the Past Informs the Future  (Virtual Session)

Presiding: James Wright, Rutgers University New Brunswick; Leanne Armand, Macquarie University; Anthony Morris, Plymouth University; Yoshiyuki Tatsumi, Kobe University;


1045h  U12A-02 Earth in Motion: Recent Discoveries and Future Prospects for IODP: R J Arculus

1100h  U12A-03 Earth Connections in 50 years of ocean drilling toward mantle drilling: K Michibayashi

1135h  U12A-04 Fifty Years of Scientific Ocean Drilling: Biosphere Frontiers: V B Heuer

1200h  U12A-05 Scientific Ocean Drilling and Earth’s Climate History: Past is Prologue: M E Raymo

U12B  (CC) eLightning Theater I  
Monday  1020h

Student Engagement to Enhance Development: Outstanding Student Presentation Award Winners from 2017 Fall Meeting III eLightning  (joint with ED)

Presiding: Leslie Marasco, American Geophysical Union; Kelly Klima, RAND Corporation;

1020h Introductory Remarks:

1021h  U12B-01 The Goldilocks Zone: How Cooling Rate Controls the Ability of Iron Meteorites to Record Ancient Magnetic Fields: C I O Nichols, J F J Bryson, R Blukis, R Harrison

1024h  U12B-02 What have we learned from the paleomagnetism of iron meteorites?: C Maurel, J F J Bryson, C Nichols, B P Weiss

1027h  U12B-03 Spatial heterogeneity within lake ecosystems: L C Loken, V Butitta, E H Stanley

1030h  U12B-04 Changes to Soil Respiration in Response to Heatwaves in Southern California: H Anjileli, A AghaKouchak, H Moftakhari, H Norouzi

1033h  U12B-05 The tale of a sinking mega-delta. Subsidence of the Mekong delta: P S J Minderhood

1036h  U12B-06 How often does a gravel riverbed mobilize? The answer depends on sediment supply and hydrology, which vary enormously between regions: A Pfeiffer, N J Finnegan

1039h  U12B-07 Delta Island Formation as a Function of Multiple Transport Regimes and Vegetation: an experimental investigation: M S Daniller-Varghese, W Kim


1045h  U12B-09 The Yucatan Peninsula Groundwater Discharges Into The Ocean And The Role Of Neotropical Dry-Forests In The Dynamics Of The Peninsula’s Water Cycle.: G Alvarez Rodriguez, H A Gutierrez-Jurado, J Uuh-Sonda, L Mendez-Barroso

1048h  U12B-10 The impact of hot phenomena on the fate pollutants at the groundwater-lake interface: S Rakhibekova, D M O’Carroll, C E Robinson

1051h  U12B-11 A thermally-stratified reservoir module for large scale stream temperature model with implementation in the Tennessee River Basin: Y Cheng, R J Niemeyer, Y Mao, J R Yearsley, N Voisin, B Nijssen

1054h  U12B-12 The role of bubble-mediated transport of cyanobacteria and other microbes from lake sediments: K B Delwiche, S Preheim, H Hemond

1057h  U12B-13 Revealing Hidden Flowpaths in a Permeable Alpine Catchment Using Endmember Mixing Analysis and a Hierarchical Bayesian Mixing Model: K H Markovich, J L Arumi, H E Dahlke, G E Fogg, R M Maxwell

1100h  U12B-14 Alternative Concepts to Model Flow in the Unsaturated Zone – Can the Stokes Flow Concept for Modelling Preferential Flow be Applied to a Sensor Network at the Catchment-Scale?: D Demand, M Weiler


1109h  U12B-17 Evaluate the anthropogenic heat and global warming impacts on extreme rainfall characteristics in Southern China Pearl River Delta megacity based on dynamical downscaling: K Y Fung, C Y Tam
1112h U12B-18 Building a decision-making framework for operational landslide monitoring: Evaluating radar, lidar and UAV methods to monitor slope stability: M F Jacquemart, O Wigmore, R Cassotto, C Stopka, B E Hodge, B D Corsa, R G Bilham, K F Tiampo


1118h U12B-20 Highlighting the Roles of Producers and Consumers in Land and Water use for Agricultural Production in Southern Amazonia: M J Lathuiliere, J Godar, T Gardner, C R Suavet

1121h U12B-21 An Integrated Approach to Examine Possible Environmental and Health Impacts Related to Lignite Deposits in the Gulf Coast: A S Ojeda, P R Philp

1124h Concluding Remarks:

U13C (CC) Ballroom A-C

Monday 1230h

Presidential Forum Lecturer: Lisa Jackson
(Virtual Session)

Presiding: Christine McEntee, American Geophysical Union; Eric Davidson, University of Maryland;
Monday P.M.

U13A  (CC) 202A

Monday 1340h

Cities and Geophysics: Lessons from the Past and Challenges for the Future (Virtual Session) (cosponsored by EGU: European Geosciences Union, pGU: Japan GeoScience Union)

**Presiding:** Daniel Schertzer, Ecole Nationale des Ponts et Chaussées; ML Kavvas, Univ California Davis; Sorosh Sorooshian, Univ California Irvine; Stefano Tinti, Univ Bologna;

1340h Introductory Remarks: DJ M Schertzer

1346h U13A-01 SCENARIO PLANNING FOR UNCERTAIN URBAN WATER FUTURES: P Gober


1418h U13A-03 Managing natural risks in cities - from geophysical information to decision-making: S Hallegatte

1434h U13A-04 Urbanization in eco-hydrological state spaces: K Fraedrich

1450h U13A-05 Risks & Resilience: challenges and opportunities for cities: P Gourbesville

1506h U13A-06 The Interface between Interdisciplinary Climate Science and Decision Making at the Territorial Level: Lessons from a Case Study in South-Western France.: H Le Treut

1522h Panel Discussion: S Sorooshian, P Gober, V T V Nguyen, S Hallegatte, K Fraedrich, P Gourbesville, H Le Treut

U13B  (CC) eLightning Theater I

Monday 1340h

Student Engagement to Enhance Development: Outstanding Student Presentation Award Winners from 2017 Fall Meeting II eLightning (joint with ED)

**Presiding:** Leslie Marasco, American Geophysical Union; Kelly Klima, RAND Corporation;

1347h U13B-03 New radiocarbon constraints for an earlier Holocene Thermal Maximum on Baffin Island: S Pendleton, G H Miller, N A Lfiton, N E Young

1350h U13B-04 Front morphology of Antarctica’s Ross Ice Shelf and implications for mass loss: M K Becker, H A Fricker

1353h U13B-05 Combination of ICESat and GRACE to Obtain High Resolution Mass Variation in the Antarctic Ice Sheet at Monthly Timescales: R A Hardy, R S Nerem, D N Wise, A S Gardner

1356h U13B-06 Early snowmelt timing leads to divergent wildfire responses in vegetated ecosystems of western USA: D O’Leary III, M J Medler, A Flower

1359h U13B-07 High-Resolution Insights into the Dynamics of Himalayan Debris-Covered Glaciers: P D A Kraginjenbrink

1405h U13B-09 Numerical modelling insights into pockmark formation by hydrate dissociation: M De La Fuente Ruiz, H Marín-Moreno, J Vaunat

1408h U13B-10 Munitions and Explosives of Concern in Shallow Estuarine Environments: Investigating Scour-Burial-Mobility During Energetic Events: C Duval, A C Trembanis

1414h U13B-12 Future Nuisance Flooding in Norfolk, VA from Astronomical Tides and Annual to Decadal Internal Climate Variability: A Burgos, B Hamlington, P R Thompson, R D Ray

1417h U13B-13 Drivers of recent salinity trends in the subpolar North Atlantic: J E Tesdal, R Abernathey, J I Goes, A L Gordon, T W N Haine

1420h U13B-14 Comparison of Surface Turbulent Heat Fluxes between CMIP5 Analyses and Satellite Estimations: E J Rainville, C A Clayson

1423h U13B-15 Long-term evolution of sediment provenance in the Indus Fan inferred from clay $^{87}$Sr/$^{86}$Sr and $\delta^{13}$C from IODP Sites U1456 and U1457: S Carter, E M Griffith, H Scher, T M Dellapenna, P D Clift

1426h U13B-16 Reconciling Evapotranspiration Partitioning Models with Evidence of Anomalously Low Isotopic Fractionation during Evaporation in Semi-arid Landscapes: A Kaushik, D Noone, M B Berkelhammer, M O’Neill

1429h U13B-17 Past temperature and snow accumulation at the South Pole from ice-core water-isotope diffusion: E C Kahle, E J Steig, T J Fudge, M R Koutnik, C Buizert

1432h U13B-18 Ancient landscapes along the U.S. mid-Atlantic coast record glacial isostatic adjustment: T Pico, J X Mitrovica, J T Perron, P R Bierman, K Ferrier, J Braun
1435h  **U13B-19** Shifting plant functional types in the rapidly warming high northern latitudes: **J Wang**, D J Sullamenashe, C E Woodcock, O Sonnentag, M A Friedl

1438h  **U13B-20** Rate variation in moss associated N fixation across a diverse group of host species in Alaska is driven by moss type and latitudinal location: **J Stuart**, H Holland Moritz, L Lewis, M C Mack


1444h **Concluding Remarks:**

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<td><strong>Can We Manage Earth’s Future? ☀️ (Virtual Session)</strong> <em>(joint with B, GC, PA, SI)</em></td>
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<td><strong>Presiding:</strong> <strong>Ariel Anbar</strong>, Arizona State University; <strong>Stephen Romaniello</strong>, Arizona State University; <strong>Hilairy Hartnett</strong>, Arizona State University; <strong>Linda Rowan</strong>, UNAVCO, Inc.;</td>
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<td><strong>1600h Introductory Remarks:</strong> <strong>A D Anbar</strong></td>
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<td><strong>1605h Opening Remarks:</strong> <strong>A C Revkin</strong></td>
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<td><strong>1615h U14A-01</strong> Can we manage Earth’s future?: <strong>K Caldeira</strong></td>
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<td><strong>1630h U14A-02</strong> Integrated human-earth system modeling: <strong>K V Calvin</strong>, B P Bond-Lamberty</td>
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<td><strong>1645h U14A-03</strong> Managing Earth’s Land: From Parcels to Planet: <strong>E C Ellis</strong></td>
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<td><strong>1700h U14A-04</strong> MANAGING OR ‘BUILDING RELATIONSHIPS? ENVIRONMENTAL HUMANITIES CONTRIBUTIONS TO THE DESIGN OF DESIRABLE FUTURES: <strong>J L Adamson</strong></td>
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<td><strong>1715h Panel Discussion and Q&amp;A:</strong> <strong>A C Revkin</strong></td>
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<td><strong>Student Engagement to Enhance Development: Outstanding Student Presentation Award Winners from 2017 Fall Meeting eLightning ☀️ (joint with ED)</strong></td>
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<td><strong>Presiding:</strong> <strong>Leslie Marasco</strong>, American Geophysical Union; <strong>Kelly Klima</strong>, RAND Corporation;</td>
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<td><strong>1600h Welcoming Remarks:</strong></td>
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<td><strong>1605h U14B-01</strong> An Event Observed as a Terrestrial Gamma-ray Flash (TGFl and a Terrestrial Electron Beam (TEB) by <strong>Fermi</strong>-GBM: <strong>M Stanbro</strong>, M S Briggs, O Roberts, E S Cramer, J Dwyer, B Mailyan</td>
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<tr>
<td><strong>1604h U14B-02</strong> Variability and Trends in Tropical Tropopause Layer Temperatures Derived from Four Decades of Satellite-informed Radiosonde Observations: <strong>D Gilford</strong>, W J Randel</td>
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<td><strong>1607h U14B-03</strong> Using ground measurements and global models to investigate the spatial extent of extreme climate events in a warming world: <strong>D E Touma</strong></td>
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<td><strong>1610h U14B-04</strong> Turbulence Spectra in the Stable Atmospheric Boundary Layer: <strong>Y Cheng</strong>, Q Li, S Gentile, C Sayde, P Gentile</td>
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<td><strong>1619h U14B-07</strong> Mid-Wave Infrared Hyperspectral Imaging of Kilauea’s Halemāumā‘u lava lake: <strong>C I Honniball</strong>, R Wright, P G Lucey</td>
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<td><strong>1622h U14B-08</strong> Influence of Microphysical Variability on Stochastic Condensation in Turbulent Clouds: <strong>N Desai</strong>, K K Chandrakar, K Chang, S Gienke, W H Cantrell, J P Fugal, R A Shaw</td>
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<td><strong>1625h U14B-09</strong> Influence of continental geometry on the onset and spatial distribution of monsoonal precipitation: <strong>K L Hui</strong>, S Bordoni</td>
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<td><strong>1628h U14B-10</strong> Hadley cell and atmospheric eddy dynamics in high-obliquity planets: <strong>W Kang</strong>, M Cai, E Tziperman</td>
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<td><strong>1631h U14B-11</strong> Atmospheric Bromine and Chlorine Chemistry in the Changing Arctic: <strong>S M McNamara</strong>, A R W Raso, S Wang, N Garner, S Thanekar, J D Fuentes, P B Shepson, K Pratt</td>
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<td><strong>1634h U14B-12</strong> Probabilistic detection of extreme weather using deep learning methods: <strong>A Mahesh</strong>, T A O’Brien, W D Collins, M F Wehner, M Prabhat, K Kashinath, M Mudigonda</td>
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<td><strong>1637h U14B-13</strong> ENSO Variability Influences Lower Stratosphere Ozone in South America: <strong>B Gamelin</strong>, L V Carvalho</td>
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<td><strong>1640h U14B-14</strong> ENSO DYNAMICS AND TRENDS, AN ALTERNATE VIEW: <strong>J D Rojo Hernandez</strong>, U Lall, O J Mesa</td>
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<td><strong>1649h U14B-17</strong> Connecting Weather and Space Weather: An Information Theory Based Approach to Diagnose Atmospheric Tidal Variability Using Satellite Data: <strong>K Kumari</strong>, J Oberheide</td>
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<td><strong>1652h U14B-18</strong> How Local Trapping Amplifies the Effects of Heating from Magnetic Pumping: <strong>E R Lichko</strong>, J Egedal, W S Daughton, J C Kasper</td>
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<td><strong>1655h U14B-19</strong> Spatial characterization of relativistic electron enhancements in the Earth’s outer radiation belt during the Van Allen Probes era: <strong>V A Pinto</strong>, J Bortnik, P S Moya, L R Lyons, D G Sibeck, S G Kanekal</td>
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Data Plenary: How Open Data Powers Sustainability Innovation - Kara Hurst (Virtual Session)

Presiding: Brooks Hanson, American Geophysical Union; Christine McEntee, American Geophysical Union;

Union: AGU Fall Meeting 2018

1658h U14B-20 Predicting Io's Auroral Footprint: P C Hinton, F Bagenal


1704h Concluding Remarks:
Session Information

Oral Sessions
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Poster Sessions
Posters are on display in the following venue throughout the week: Hall A-C (Poster Hall)

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation. Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is correct as of 05 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agn.confex.com/agn/fm18/meetingapp.cgi/Home for updates.

Tuesday A.M.

U21A (CC) 202B
Tuesday 0800h

Cassini's Grand Finale: Discoveries and Science Highlights 1 Year Later © (Virtual Session)

Presiding: Scott Edgington, Jet Propulsion Laboratory; Marcia Burton, JPL;

0800h U21A-01 Cassini’s Grand Finale: Discoveries and Highlights One Year Later: L J Spilker, S G Edgington
0815h U21A-02 Saturn’s Magnetic Field Observations from the Cassini Grand Finale: M K Dougherty, H Cao
0830h U21A-03 Radio Science Highlights from the Cassini Grand Finale Orbits: R G French


0915h U21A-06 Enceladus’ complex organics, Saturn’s main ring composition and Oort Cloud dust: the latest and best from Cassini’s CDA: F Postberg, H W Hsu, R Srama, S Kempf, N Altabelli, J Schmidt, N Khawaja, C Fischer


0945h U21A-08 Saturn’s Rings: Post-Cassini Highlights and Overview - Invited Paper 427896: J N Cuzzi, M S Tiscareno

0920h U21B-06 Hydroclimatic intensification in a warming world: is society ready for increasing precipitation whirlpools?: D L Swain

0935h Panel Discussion: B van der Pluijm, A AghaKouchak

U22A (CC) 202A

Tuesday 1020h

The Giants of Tectonophysics (Virtual Session) (joint with G, S, T)

Presiding: Ross Stein, Temblor, Inc.; Julia Morgan, Rice University; Jolante van Wijk, New Mexico Institute of Mining and Technology; Margarete Jadamec, The State University of New York at Buffalo;

1020h U22A-01 Science on a Mission: How Military Secrecy Impeded the Development of Plate Tectonics: N Oreskes

1035h U22A-02 Marie Tharp: Discoverer of the Rift Valley of the Mid-Atlantic Ridge and Inventor of Marine Cartography: D Wright, H Felt

1050h U22A-03 Harry Hammond Hess: All-Round Scientist who Spread the Sea Floor: C P Jaupart

1105h U22A-04 John Tuoz Wilson: Transform Faults: Key to Understanding the Kinematics of Ocean Floors: G F West

1120h U22A-05 Lynn R. Sykes: Earthquakes at the Boundaries and Beyond: M Nettles, G Ekstrom

1135h U22A-06 Jason Morgan’s 1967 Discovery of Plate Tectonics: H R Frankel

1150h U22A-07 Donald L. Turcotte: Geodynamics and the drivers of plate tectonics: L H Kellogg

1205h U22A-08 Dan McKenzie: What Happened after Plate Tectonics?: B Parsons

U22B (CC) 202B

Tuesday 1020h

The New Jupiter as Revealed by Juno (Virtual Session) (joint with A, P, SH, SM)

Presiding: Scott Bolton, Southwest Research Institute; Jonathan Lunine, Cornell University; Glenn Orton, Jet Propulsion Laboratory; Fran Bagenal, Univ Colorado;

1020h Introductory Remarks: S J Bolton

1024h U22B-01 Juno’s Surprises: The Emerging View of Jupiter’s interior: D J Stevenson

1053h U22B-02 The meteorology of Jupiter: Impact of the Juno data: A P Ingersoll
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**U23B (CC) Ballroom A-C**

**Tuesday 1230h**

**Frontiers of Geophysics Lecture: The Human Element - James Balog (Virtual Session)**

*Presiding: Denis-Didier Rousseau*, Ecole Normale Supérieure Paris; *Christine McEntee*, American Geophysical Union;
**Tuesday P.M.**

**U23A (CC) 202A**

**Tuesday 1340h**

**How to Support and Develop the Modern Digital Research Ecosystem to Maximize Benefits of Science for Society and the Research Community** (Virtual Session) (cosponsored by EGU: European Geosciences Union, JpGU: Japan GeoScience Union) (joint with IN)

*Presiding:* Lesley Wyborn, Australian National University; Erin Robinson, Foundation for Earth Science; Helen Glaves, British Geological Survey; Shelley Stall, American Geophysical Union;

1340h Introductory Remarks: M K McNutt

1350h **U23A-01 OPEN ACCESS: FROM ASPIRATION TO IMPLEMENTATION:** M T Zuber

1355h **U23A-02 The Time is Now - Ideas for Supporting Digital Infrastructures - Lessons from the Belmont Forum:** M E Uhle

1400h **U23A-03 European perspective on the development of a modern digital research ecosystem: the European Open Science Cloud (EOSC) contribution:** M Schoupe

1405h **U23A-04 Open Science and Research Data Sharing in Japan:** Y Murayama

1415h **U23A-06 Providing the best possible weather and natural hazard forecast products for the benefit of society:** F Pappenberger

1420h Moderated Questions and Answers:

1500h Questions from the Audience:

1530h Concluding Remarks: M K McNutt

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**U24A (CC) 202A**

**Tuesday 1600h**

**Highlights from the Fourth National Climate Assessment: Impacts, Risks, and Adaptation in the United States** (Virtual Session) (joint with A, GC, GH, SI)

*Presiding:* Katie Reeves, US Global Change Research Program; David Reidelmiller, United States Global Change Research Program;

1600h Welcoming Remarks: D Reidmiller

1610h **U24A-01 Climate Science in the Fourth US National Climate Assessment:** K Hayhoe, D R Easterling, D W Fahey, S J Doherty, J Kossin, W Sweet, R S Vose, M F Wehner, D J Wuebbles, R E Kopp, K Kunkel, J W Nielsen-Gammon

1625h **U24A-02 Highlights from the Fourth National Climate Assessment: Risks to Our Nation’s Economy and Infrastructure:** J Martinich

1640h **U24A-03 New insights from the United States National Climate Assessment on anthropogenic climate change impacts, risks, and adaptation in ecosystems:** P Gonzalez

1655h **U24A-04 Highlights from the Fourth National Climate Assessment: Human Health:** K L Ebi

1710h **U24A-05 Highlights from the Fourth National Climate Assessment: Emphasis on regional risks increases relevance for local decision makers:** V W Keener

1725h **U24A-06 Highlights from the Fourth National Climate Assessment: Climate Effects on U.S. International Interests:** M Muth, J B Smith, A Alpert, J L Buizer, J Cook, A Dave, J Furlow, K Preston, P Schultz, L Vaughan

1740h Discussion:
Session Information

Oral Sessions
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM)

Poster Sessions
Posters are on display in the following venue throughout the week:
Hall A-C (Poster Hall)

Join AGU in Honoring the 2018 Union Honorees
6:00 PM–8:00 PM
Convention Center: Ballroom A-C

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation. Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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Wednesday A.M.

U31A (CC) 202A

Wednesday 0800h

How Science Influences Action: Responding to Climate Change in Developing Countries (Virtual Session) (joint with GC, SI)

Presiding: Tegan Blaine, U.S. Agency for International Development; Rosalind West, Department for International Development (DFID); Ana Bucher, World Bank; John Balbus, National Institutes of Health;

0800h U31A-01 How Science Influences Action: Responding to Climate Change in Developing Countries: W Baethgen

0815h U31A-02 How Science Influences Action: Building Bottom-up, Problem-focused Interdisciplinary solutions to Climate-Related Issues: R J Cornforth
0830h  U31A-03 Panel Discussion: B F Zaitchik

0845h  U31A-04 Using Climate Science to Inform Decision-Making: Where, when and how can you make a difference?: A K Snover

0900h  U31A-05 Predictions of Disease Spikes induced by Climate Variability: A pilot real time forecasting model project from Maharashtra, India: S Saunik

0915h  U31A-06 How scientific information on climate change can inform development plans and project designs in developing countries: S Hallegatte

0930h  U31A-07 Challenges, opportunities, lessons in integrating science and sustained action: Climate extremes, and change, in the Caribbean: R S Pulwarty

0945h  U31A-08 Use of climate information to develop a resilient agricultural system in Senegal: O Ndiaye

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**U31B  (CC) Ballroom A-C**

**Wednesday   0900h**

**U.S. Senate Perspectives on Science Policy (Virtual Session)**

*Presiding: Christine McEntee, American Geophysical Union; Christine McEntee, American Geophysical Union;*

0900h Lisa Murkowski, U.S. Senate (Alaska):

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**U32A  (CC) 202A**

**Wednesday   1020h**


*Presiding: Dorothy Merritts, Franklin and Marshall College; Josh Roering, University of Oregon;*

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1020h  U32A-01 Reflections on the Legacy of Grove Karl Gilbert, 1843-1918: Harnessing the natural experiments of the American West in the service of science: R S Anderson

1050h  U32A-02 “Hydraulic Mining Debris in the Sierra Nevada, California,” G. K. Gilbert’s 1917 capstone monograph: A James


1150h  U32A-04 G.K. Gilbert’s Pioneering Flume Experiments: Good Data are Eternal: W E Dietrich

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**U33C  (CC) Ballroom A-C**

**Wednesday   1230h**


*Presiding: Robin Bell, Lamont -Doherty Earth Observatory; Christine McEntee, American Geophysical Union;*

1230h Opening Remarks: J L Karsten

1240h Panel Discussion:

1230h Panelist: S Stanley

1230h Panelist: L Scherer

1230h Panelist: J Posselt

1230h Panelist: B Jones

1230h Panelist: C Jesus-Rydin

1230h Q&A:
Union: AGU Fall Meeting 2018

Wednesday P.M.

U33A (CC) 202A

Wednesday 1340h

Grand Challenges in Rock and Paleomagnetism (Virtual Session) (joint with GP, MR)

Presiding: Fabio Florindo, Istituto Nazionale di Geofisica e Vulcanologia; Lisa Tauxe, Scripps Institution of Oceanography, University of California San Diego;

1340h U33A-01 Some Frontiers in Rock Magnetism: A P Roberts

1400h U33A-02 The Role of Atomic-scale Properties on Magnetic Anomalies on Local, Regional and Satellite Scales: S A McEnroe, P Robinson

1420h U33A-03 Beyond Single Model and Single Domain - Using Big Data to Answer Fundamental Questions in Rock Magnetism: L Nagy, L Tauxe, W Williams, A R Muxworthy

1440h U33A-04 Using paleomagnetic data to characterize global geomagnetic field behavior over 0-2 Ma: C Constable

1500h U33A-05 What We Know and Don’t Know about Reversals: R S Coe

1520h U33A-06 Phanerozoic Earth History: A Journey in Time and Space from Base to Top: T H Torsvik

U33B (MM) Marquis 6

Wednesday 1440h

The Asahiko Taira International Scientific Ocean Drilling Research Prize (Virtual Session)

Presiding: Judith McKenzie, ETH-Zurich; Marta Torres, Oregon State Univ;

1440h U33B-01 Understanding Shallow Subsurface Fluid Flow in Marine Sediments through Coring, Logging, Experiments, and Models: B Dugan

U34A (CC) 202A

Wednesday 1600h

Joint AGU-AAS Session on Frontiers in Exoplanets (Virtual Session) (joint with GP, MR, P, SH)

Presiding: Brooks Hanson, American Geophysical Union; Kevin Marvel, American Astronomical Society; Steven Hauck, Case Western Reserve University; Sabine Stanley, University of Toronto;

1600h U34A-01 Planets in the Milky Way: Their Occurrence and Their Characteristics: S Ballard

1616h U34A-02 Our Solar System’s Giant Planets as Exoplanet Atmospheric Laboratories: A A Simon

1632h U34A-03 Understanding Hot Neptunes in the Era of Exoplanet Transit Surveys: E D Lopez

1648h U34A-04 Planetary Interiors As a Control for Habitability: W R Panero, C T Unterborn, S D Hull, N E Wahlstrom

1704h U34A-05 From Exotic to Familiar: Characterizing the Atmospheres of Extrasolar Worlds: C Morley

1720h Panel Discussion:
Session Information

**Oral Sessions**
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**Poster Sessions**
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Thursday A.M.

**U41A (CC) 202A**

**Thursday 0800h**

**Critical Geohealth Disaster Research to Support Response, Recovery, and Future Preparedness** *(Virtual Session)* (joint with GC, H, S, SI)

**Presiding:** Aubrey Miller, National Institutes of Health; Claire Horwell, Durham University; Ramesh Singh, Chapman University; Benjamin Zaitchik, Johns Hopkins University;

0800h **U41A-01** Integrating Geohealth Sciences to Increase Preparedness to Extreme Weather and Climate Events in a Changing Climate: **K L Ebi**

0820h **U41A-02** Protecting Public’s Health from Disasters, Theory and Practice: **C R Ugarte**
0840h U41A-03 CONVERGE: Coordinated Social Science, Engineering, and Interdisciplinary Extreme Events Research: L Peek

0900h U41A-04 Geographical analysis helps characterising human exposure to harmful environment during and after disasters: S Nakayama, M Takagi

0920h U41A-05 USGS science helps protect the safety and health of the Nation’s communities from the effects of disasters: G S Plumlee, D Applegate

0940h Discussion:

U42A  (CC) 202A

Thursday  1020h

Sixty Years of Scientific Achievements in the Arctic and Antarctica: Looking Back, Looking Forward  (joint with C, GC)

Presiding: Lauren Everett, National Academy of Sciences; James White, Univ Colorado; Julie Brigham-Grette, Univ Massachusetts;


1035h U42A-02 The National Science Foundation Role in Polar Science: Looking Back to Forge the Future: K K Falkner

1050h U42A-03 60 Years of Polar Research on Abrupt Climate Change and Atmospheric Gases Trapped in Ice Cores: J P Severinghaus

1105h U42A-04 Building Antarctic Communities from Awe and Discovery with Global Impacts: R E Bell, T J Wilson

1120h U42A-05 From Overlooked to Astonishing: Life Below and Within Polar Ice Formations: J W Deming

1135h U42A-06 Scientific Committee on Antarctic Research – International Leadership for the ‘ Continent for Science’: S Hansen, T J Wilson, A T’Weatherwax


U42B  (MM) Marquis 5

Thursday  1020h

Fostering International Science in a Time of Nationalism  (Virtual Session)

Presiding: Eric Davidson, Woods Hole Research Center;
Eric Davidson, University of Maryland Center for Environmental Science Appalachian Laboratory;

1020h Introductory Remarks: E A Davidson

1025h Jessica Wyndham, AAAS: J Wyndham

1035h Carlos Nobre, University of Sao Paulo: C A Nobre

1045h Kaveh Madani, Imperial College London,: K Madani

1055h Lauren Morello, Nature: L Morello

1105h Panel Discussion:

1120h Q&A:

U43B  (CC) Ballroom A-C

Thursday  1230h

Agency Lecturer: Dr. Jim Reilly (Virtual Session)

Presiding: Eric Davidson, University of Maryland;
Denis-Didier Rousseau, CNRS - ENS;
Thursday P.M.

U43A  (CC) 202A
Thursday  1340h
The Legacy and Future of the Washington, D. C., Region as a Collaborative Center for Geoscience Research (joint with ED, P, SI, V)
Presiding: Karen Prestegaard, University of Maryland College Park; Erik Hankin, American Geophysical Union;

1340h Introductory remarks by Karen Prestegaard:
1348h U43A-01 Data-Driven Discovery and the Rise of the Collaborative Culture of Data Sharing: R M Hazen
1402h U43A-02 Smithsonian’s National Rock and Ore Collections: An International Legacy and Community Resource: E Cottrell, L Hale
1416h U43A-03 The Deep Carbon Observatory: The Carnegie Institution for Science as a Global Center for Collaborative and Interdisciplinary Research: C M Schiffries, A J Mangum, J Mays, M Hoon-Starr, R Hazen
1430h U43A-04 USGS Analytical Research Labs Provide Collaborative Opportunities for Advancing Understanding of Natural Resource Challenges: I Cozzarelli
1444h U43A-05 The Role of IRIS in Collaborative Research in the Geosciences: R S Detrick, T K Ahern, J S Taber, R S Woodward
1458h U43A-06 NASA’s Operation IceBridge: A Collaborative Airborne Mission to Monitor the Earth’s Changing Cryosphere: L Boisvert, J A MacGregor, B Medley, N T Kurtz, M Studinger
1512h U43A-07 Use of USGS streamflow data for field-based and data-driven research: S Kaushal, K L Prestegaard, C Plank

1526h U43A-08 On National Science Policy, Science Societies and Sister Organizations Are All In It Together: A Shultz, E Landau

U44A  (CC) 202A
Thursday  1600h
The New Generation of Scientists (Virtual Session)
Presiding:

1600h U44A-01 Experimental space physics: Exploring fundamental physical processes in the natural laboratories of our heliosphere: D L Turner
1605h U44A-02 The ocean’s role in hydroclimatic extremes and their impacts for human and natural systems: C Ummenhofer
1610h U44A-03 Groundwater exchange as a significant global sink of mangrove soil carbon: I R Santos
1615h U44A-04 From snowflake to river basin: a multi-scale exploration of Asia’s Water Tower: W W Immerzeel
1620h U44A-05 Analysis of coupled human and natural systems: S J Davis
1625h U44A-06 Assessing the reliability of 2D ERI inverse models: Depth of investigation (DOI) index map: A P Aizebekhái
1630h U44A-07 Investigation on the impacts of the geomagnetic classes of activity on foF2 seasonal and solar cycle phases variations at Korhogo station from 1992 to 2002: F Ouattara
1635h U44A-08 Transdisciplinary approaches to food system sustainability: K F Davis
1640h Panel Discussion:
**Session Information**

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**Friday A.M.**

**US1A** (CC) 202A

*Friday 0800h*

**New Models of Citizen Science for the Next Century of AGU: Approaches to Enable Meaningful Engagement with Evidence and the Scientific Process** (Virtual Session) *(joint with ED, EP, P, PA)*

**Presiding:** John McLaughlin, Organization Not Listed; Lin Chambers, NASA Langley Research Center; Caren Cooper, North Carolina Museum of Natural Sciences;

0800h Introduction to session and mini-panel 1: Studying areas where you don’t live:

0802h **U51A-01** Engaging Citizen Scientists in Ocean Exploration with Ocean Video Lab: V L Ferrini, N Pawlenko, J J Morton

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18 of 20
0812h **U51A-02** JunoCam: Citizen scientists populate Juno’s virtual imaging team: **C J Hansen**, J Bolton, E Jensen, G Eichstädt, J Rogers, J Frolo

0822h Q&A mini-panel 1:

0828h Introduction to mini-panel 2: Collaborative and co-created projects:

0830h **U51A-03** THE POWER OF COLLABORATIVE AND COMMUNITY-DRIVEN RESEARCH IN IMPROVING ENVIRONMENTAL HEALTH OUTCOMES: **S Wilson**

0840h **U51A-04** From the spark to the fire, reflections on five years of public participation in aurora research: **E MacDonald**, C Ratzlaff

0850h **U51A-05** CitSci.org: Helping people do meaningful science of relevance to them by engaging with evidence and the scientific process: **S J Lynn**, G Newman

0900h Q&A mini-panel 2:

0908h Introduction to mini-panel 3: Making it Happen: leveraging with different partners and networks:

0910h **U51A-06** Accelerating Innovation through Partnerships: The Citizen Science Consortium Model: **A Bowser**, A Long

0920h **U51A-07** Credit where credit’s due: Ensuring the provenance and long-term value of citizen scientists’ contributions to biodiversity monitoring through direct, transparent links to uses of FAIR and open data: **K Copas**, D Hoben, D Noesgaard

0930h **U51A-08** Deep Roots and Broad Branches: Connecting Insights from Different Traditions, Disciplines, and Approaches to Advance the Field: **J Shirk**

0940h **U51A-09** Linking Projects To Cooperatively Maximize Volunteer Sustainability and Learning: **D Cavalier**

0950h Q&A mini-panel 3:

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**U52A (CC) 202A**

**Friday 1020h**

**Geoscience Impact in a Complex World:** Successful Collaboration with Social Scientists (Virtual Session) (joint with GC, NH, PA, SI)

**Presiding:** Margaret Goud Collins, Friends of IASA; Margaret Palmer, National Socio-Environmental Synthesis Center (SESYNC), Univ. of MD; Carrie Hritz, National Socio-Environmental Synthesis Center (SESYNC), Univ. of MD; Fabian Wagner, IIASA International Institute for Applied Systems Analysis;

1002h **U52A-01** Integrating the Social Sciences at the Institutional Level: Examples from the USGS, Science Magazine, and the National Academy of Sciences: **M K McNutt**

1035h **U52A-02** Math: A Critical, Treacherous Bridge Between Scientific Disciplines: **N H Fefferman**

1045h **U52A-03** Achieving a Sustainable and Equitable Future for all on a Stable and Resilient Planet: Science-based Participatory Processes for Harnessing Disruptive Technologies and Lifestyles: **A V Jaarsveld**, N Nakicenovic, P Kabat

1055h **U52A-04** Climate Uncertainty, Ecological Resilience, and Robust Water Management: Climate Adaptation as a Mechanism for Long-Term Sustainability: **J Matthews**

1105h **U52A-05** Forging Public-Private Partnerships on a Journey from Global Integrated Assessment Models to Real World Technology Transition: **H Hummel**

1115h **U52A-06** Crossing to Safety: Making the Transition from Geoscience to Policy Using Social Science: **D Goldston**

1125h **U52A-07** Moving beyond sound science to achieve conservation: How social drivers and policies enhance the effectiveness of economic incentives: **B Gold**

1135h Panel Discussion:

1215h Concluding Remarks:

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**U53C (CC) Ballroom A-C**

**Friday 1230h**

**Centennial Plenary: A Celebration of the Past and Discussion of the Future of Earth and Space Science (Virtual Session)**

**Presiding:** Christine McEntee, American Geophysical Union; Eric Davidson, University of Maryland;
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<td>1340h</td>
<td>The Challenges of Recognizing Implicit Bias in Earth and Space Sciences and Strategies for Minimizing Its Impact in the Coming Decades of AGU (Virtual Session)</td>
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<td>1400h</td>
<td>Gender-Age Co-author Networks in the Earth and Space Sciences: Young boys and Old Boys: B Hanson, J C Lerback, B M Williams, K S Blaufuss</td>
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<td>Partners in Diversity: An Institutional Framework for Effective Program Administration for the Retention and Graduation of Diverse Student Populations: R Roper Nedd</td>
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**U53B (MM) Marquis 12-13**

**Friday 1340h**

**American Geophysical Union Literature Review (Virtual Session)**

*Presiding: Brooks Hanson, American Geophysical Union; Brooks Hanson, American Geophysical Union; Lisa Tauxe, Scripps Institution of Oceanography, University of California San Diego;*  

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**U54A (CC) 202A**

**Friday 1600h**

**Why American Geophysical Union Scientists Study the Earth and Space (Virtual Session)**

*Presiding: Heidi Steltzer, Fort Lewis College; Claudia Corona, University of Colorado at Boulder; Sanjoy Som, Blue Marble Space Institute of Science; Tashiana Osborne, Scripps Institution of Oceanography;*  

1600h Introductory Remarks: S M Som, T C Osborne

1605h **U54A-01** Laboratory Experiments to Unravel Inner Secrets of Continents: S Saha

1610h **U54A-02** A Series of Fortunate Events: W Bohon

1615h **U54A-03** Exploration: An Evolutionary Forcing Function: P G Conrad

1620h **U54A-04** Feeding this and other worlds: A space botanist’s journey: R Loureiro

1625h **U54A-05** Giving Back: Why I Study the Earth: J W C White

1630h Panel Discussion:

1640h Transition panel (1) to panel (2):

1643h **U54A-06** Hidden Messages From the World of Plants and Soil Microbes: E Valdez-Ward

1648h **U54A-07** How I became a geoscientist and a quest for why: Y Wu

1653h **U54A-08** Connecting the dots between satellites in space and disasters on Earth: D Kirschbaum

1658h **U54A-09** Paradise Lost: K M Cobb

1703h **U54A-10** Reflections from the Arctic: Asking “Why” at the Top of the World: R Kirpes

1708h Panel Discussion (2):

1718h Transition panel (2) to panel (3):

1721h **U54A-11** Tales Of Tree Rings and Past Climates: S Belmecchi

1726h **U54A-12** The Transformative Value of Exploring Earth and Space: J D Haqq-Misra

1731h **U54A-13** Water Towers of the World: Why We Should Study Mountain Hydroclimate: S B Kapnick

1736h **U54A-14** Why do we care to study the ice sheets in Greenland and Antarctica?: E J Rignot

1741h Surprise Speaker:

1746h Panel Discussion (3):

1756h Concluding Remarks: C Corona, H Steltzer