

Virtual Symposium by the International Atmospheric Rivers Conference (IARC) Community
5-9 October 2020



<https://iarc-symposium.com/>

Notice: Time is relative to 1300 UTC

	Monday 5	Tuesday 6	Wednesday 7	Thursday 8	Friday 9
Ramos & Maxim	Anna Wilson	Rene Garreaud	Jorge Eiras-Barca	Alexandre Ramos	Marty Ralph
Time hh mm	Dynamical & Physical Processes in ARs	Impacts of Atmospheric Rivers	Atmospheric Rivers modeling & Forecasting	Id., Tracking and Inventories + Regional Flavors	ARs in the Past and the Future + Emergent Topics
0 0	Intro Remarks	Intro Remarks	Intro Remarks	Intro Remarks	Intro Remarks
0 5		Keynote Thomas Corringham	Keynote Vijay Tallapragada	Keynote Jon Rutz-Christine Shields-ARTMIP team	Keynote Florian Pappenberger
0 10	Talk 1-5				
0 15		Keynote Heini Wernli	Break	Discussion	Discussion
0 20	Talk 1-5				
0 25		Discussion	Lightning 1-9	Break	Lightning 1-5
0 30	Break				
0 35		Talk 6-10	Discussion	Discussion	Talk 6-10
0 40	Talk 6-10				
0 45		Discussion	Talk 6-10	Break	Talk 6-10
0 50	Discussion				
0 55		Break	Break	Talk 6-10	Discussion
1 0	Lightning 1-10				
1 5		Discussion	Discussion	Discussion	Discussion
1 10	Break				
1 15		Break	Break	Break	Break
1 20	Break				
1 25		Break	Break	Break	Break
1 30	Break				
1 35		Break	Break	Break	Break
1 40	Break				
1 45		Break	Break	Break	Break
1 50	Break				
1 55		Break	Break	Break	Break
2 0	Break				
2 5		Break	Break	Break	Break
2 10	Break				
2 15		Break	Break	Break	Break
2 20	Break				
2 25		Break	Break	Break	Break
2 30	Break				
2 35		Break	Break	Break	Break
2 40	Break				
2 45		Break	Break	Break	Break
2 50	Break				
2 55		Break	Break	Break	Break
3 0	Break				
3 5		Break	Break	Break	Break
3 10	Break				
3 15		Break	Break	Break	Break
3 20	Break				
3 25		Break	Break	Break	Break
3 30	Break				
3 35		Break	Break	Break	Break
3 40	Break				
3 45		Break	Break	Break	Break
3 50	Break				
3 55		Break	Break	Break	Break
4 0	End of session				

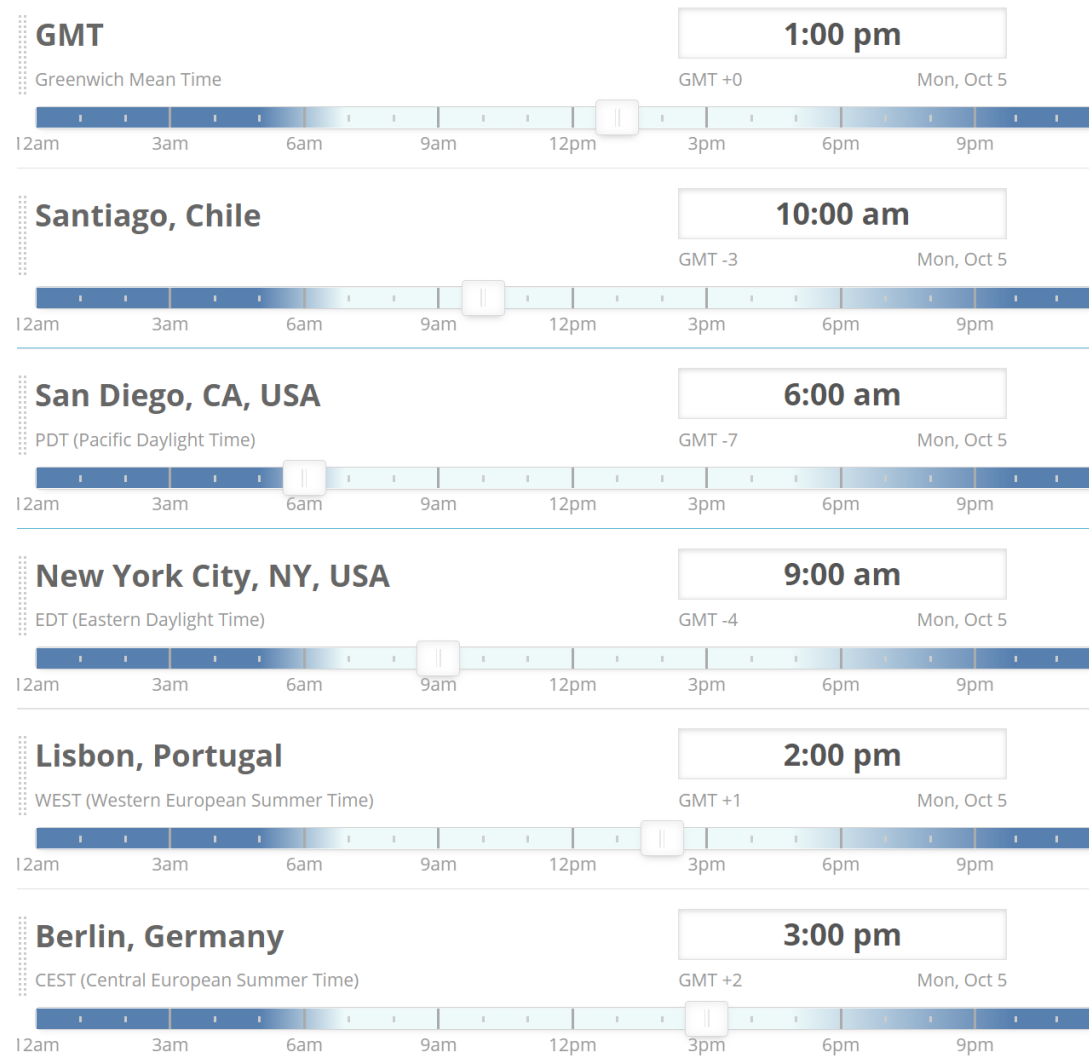
Presentation formats:

Keynotes: 20 mins including Q&A
Short talks: 5 mins including a few Q&A
Lightning Presentation: 1 min to display the essence of a work
Plenary discussion: 10-20 mins focused on preceding presentations
Break out room discussion: 60 min for in depth discussion on the work of 5-6 speakers
Breaks: A few minutes for yourself!

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5-9 October 2020 13-17 UTC (GMT)

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Monday 5

Dynamical & Physical Processes in ARs

Session chair: Anna Wilson

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Moderators	Tin	Type	Abstract ID	Last Name	First Name	Institution	Abstract title
Anna Wilson & Irina Gorodetskaya	0:00	Intro Remarks		Ralph	Marty	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	
	0:15	Keynote		Wernli	Heini	ETH Zurich	On the relationship between warm conveyor belts and atmospheric rivers, a dynamics perspective
	0:35	Talk/01	IARCS/013	Bosart	Lance F.	University at Albany/SUNY Department of Atmospheric and Environmental Science, State University of New York	Linked Extreme Weather Events over the Western United States during February 2019 Resulting from North Pacific Rossby Wave Breaking
	0:41	Talk/02	IARCS/011	Suchithra	Sundaram	Independent Researcher, India	The role of Indian Summer Monsoon and North West Pacific atmospheric rivers in modifying the North American Summer Monsoon
	0:47	Talk/03	IARCS/036	Weijenborg	Chris	University of Bergen, Norway	Diabatic Intensification along Atmospheric Rivers: A Pathway for Cyclone Clustering?
	0:53	Talk/04	IARCS/049	Zhang	Zhenhai	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	The Influence of Antecedent Atmospheric River Conditions on Extratropical Cyclogenesis
	0:59	Talk/05	IARCS/093	Moore	Benjamin	NOAA Physical Sciences Laboratory, Boulder, Colorado, USA	Dynamics of long-duration heavy precipitation events linked to atmospheric rivers in the western and central United States
	1:05	Discussion					
	1:20	Break					
	1:25	Talk/06	IARCS/109	McMurdie	Lynn	University of Washington, Department of Atmospheric Sciences, USA	The Role of Warm Rain Processes in Atmospheric River Events during the Olympic Mountains Experiment (OLYMPEX)
	1:31	Talk/07	IARCS/028	DeLaFrance	Andrew	University of Washington, USA	Ice microphysical processes in winter storms encountering complex terrain
	1:36	Talk/08	IARCS/030	Martinez-Claros	Jose	New Mexico Institute of Mining and Technology, USA	Vorticity and Thermodynamics in a Gulf of Mexico Atmospheric River
	1:41	Talk/09	IARCS/087	Thurnherr	Iris	Institute for Atmospheric and Climate Science, ETH Zürich, Switzerland	The role of air-sea fluxes for the water vapour isotope signals in the cold and warm sector of extratropical cyclones over the Southern Ocean
	1:46	Talk/10	IARCS/113	Brugman	Melinda M.	Environment and Climate Change Canada, Canada	Sudden Shifts and Trends of Atmospheric Rivers Since the last Ice Age in the Northeastern Pacific Implied by Stable Isotopes in Precipitation
	1:51	Discussion					
2:10	Break						
Mike Warner & Raul Valenzuela	2:15	Lightning/01	IARCS/040	Goldenson	Naomi	UCLA, USA	Applying Semi-Supervised Learning to Infer Drivers Associated with West Coast Atmospheric Rivers
	2:17	Lightning/02	IARCS/116	Hosseinpour	Farnaz	Desert Research Institute, Reno, Nevada, USA	A New Look Atmospheric Rivers from an Energy Perspective
	2:19	Lightning/03	IARCS/061	De Luna	Michelle	California State University, Los Angeles Jet Propulsion Laboratory	Tropical Atmospheric Rivers
	2:21	Lightning/04	IARCS/104	Michaelis	Allison	Center for Western Weather and Water Extremes, Scripps Institution of Oceanography	Diabatic Contributions to the Formation of Mesoscale Frontal Waves and Modulation of Atmospheric River Events Along the U.S. West Coast
	2:23	Lightning/05	IARCS/001	Vicencio Veloso	Jose Miguel	Dirección Meteorológica de Chile	Analysis of an extreme precipitation event in the Atacama Desert on January 2020 and its relationship to humidity advection along the Southeast Pacific
	2:25	Lightning/06	IARCS/108	Ryoo	Ju-Mee	NASA Ames Research Center, USA	Terrain Trapped Airflows and Precipitation Variability during an Atmospheric River Event
	2:27	Lightning/07	IARCS/102	Cobb	Alison	Center for Western Weather and Water Extremes, Scripps Institution of Oceanography	Atmospheric river sectors: Definition and characteristics observed using dropsondes from 2014-2020 CalWater and AR Recon
	2:29	Lightning/08	IARCS/095	Chyhareva	Anastasiia	National Antarctic Scientific Center, Ukraine	Cloud and precipitation microphysics during atmospheric river events at the Antarctic Peninsula
	2:31	Lightning/09	IARCS/027	Walbroel	Andreas	University of Cologne, Germany	Benefit of microwave remote sensing for analysing the thermodynamic structure of Atmospheric Rivers
	2:33	Discussion					
	2:53	Transition/Closing Remarks/Break					
3:00	Break out room discussion						

Tuesday 6

Impacts of ARs

Session chair: René Garreaud

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Moderators	Tin	Type	Abstract ID	Last Name	First Name	Institution	Abstract title
Alexandre Ramos & Maximiliano Viale & René Garreaud	0:00	Intro Remarks		Garreaud	Rene	Universidad de Chile	
	0:05	Keynote		Corringham	Tom	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	Economic perspectives of AR impacts
	0:25	Talk/01	IARCS/078	Ramos	Alexandre M.	Instituto Dom Luiz, Faculdade de Ciências da Universidade de Lisboa	Assessing uncertainty in daily precipitation datasets: the case of extreme precipitation in two Atmospheric Rivers events
	0:31	Talk/02	IARCS/067	Prince	Hamish	University of Otago, New Zealand	A climatology of New Zealand atmospheric rivers
	0:37	Talk/03	IARCS/075	Gyakum	John R.	McGill University, Canada	Cold-season subtropical air mass intrusions into eastern North America: thermodynamic and dynamic impacts
	0:43	Talk/04	IARCS/002	De Kock	Wade	University of Cape Town, South Africa	Large summer rainfall events and their importance in mitigating droughts over the South Western Cape, South Africa
	0:49	Talk/05	IARCS/056	Eiras-Barca	Jorge	EPhysLab, Universidad de Vigo, Spain	European West Coast Atmospheric Rivers: A scale to characterize strength and impacts
	0:55	Break					
	0:59	Lightning/1	IARCS/006	Reid	Kimberley	The University of Melbourne, Australia	New Zealand Extreme Rainfall Associated with Atmospheric Rivers
	1:01	Lightning/2	IARCS/071	Lamjiri	Maryam Asgar	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	Recent Changes in United States Extreme 3-Day Precipitation Using the R-CAT Scale
	1:03	Lightning/3	IARCS/050	Ramos-da-Silva	Renato	Universidade Federal de Santa Catarina (UFSC) - Brazil	Catastrophic Impact of an Atmospheric River on southern Brazil
	1:05	Lightning/4	IARCS/083	Bartlett	Samuel M	Plymouth State University, USA	A Climatological Study of National Weather Service Watches, Warnings and Advisories in Association with Atmospheric Rivers in the Western U.S. 2006–2018
	1:07	Lightning/5	IARCS/043	Leicht	Tyler	University at Albany, SUNY, USA	High-Impact Weather Events over Hawaii and southwestern United States in February 2019 Due to North Pacific Large-Scale Flow Evolution
	1:09	Lightning/6	IARCS/064	Ricciotti	Joseph	Plymouth State University, United States of America	Summarizing the Relationship between IVT and Watershed Mean Areal Precipitation across California
	1:11	Lightning/7	IARCS/068	Prince	Hamish	CW3E, UCSD, USA	Genesis locations of the costliest atmospheric rivers impacting the western United States
	1:13	Lightning/8	IARCS/023	Arabzadeh	Alireza	University of Arizona, USA	Global Analysis of Atmospheric Rivers Precipitation using Remote Sensing and Reanalysis Products
1:15	Lightning/9	IARCS/062	Algarra	Iago	University of Vigo, Spain	On the origin of the anomalous uptake of water vapor by landfalling Atmospheric Rivers	
1:17	Discussion						
1:37	Break						
Irina Gorodetskaya & Jonathan Rutz & René Garreaud	1:41	Talk/06	IARCS/111	Maxwell	Brandt	National Weather Service, USA	Relationships between integrated vapor transport (ivt), water vapor flux and precipitation in southern California
	1:47	Talk/07	IARCS/072	Bozkurt	Deniz	Universidad de Valparaíso, Chile	Unprecedented 2020 Austral Winter Sea Ice Loss over the Amundsen Sea Triggered by Atmospheric Rivers
	1:53	Talk/08	IARCS/054	Porhemmat	Rasool	University of Canterbury	The role of ARs in producing large snowfall events in the Southern Alps of New Zealand
	1:59	Talk/09	IARCS/024	Sharma	Aseem R.	Natural Resources and Environmental Studies Program, University of	Linking atmospheric rivers to annual and extreme river runoff in British Columbia and southeastern Alaska
	2:05	Talk/10	IARCS/042	Bowers	Corinne	Stanford University, USA	A Performance-Based Framework to Quantify Atmospheric River-Induced Flooding
	2:11	Break					
	2:15	Lightning/10	IARCS/045	Rutz	Jonathan	NWS Western Region, USA	Using ARTMIP Data to Examine the Relationship between Atmospheric Rivers and NWS Watches/Warnings/Advisories
	2:17	Lightning/12	IARCS/112	Rojas	Yazmina	University at Albany, State University of New York	Interaction of storms with complex terrain during extreme events in south-central Chile
	2:19	Lightning/13	IARCS/038	Davrinche	Cécile	LSCE, France	Isotopic anomalies in water vapor during an AR event at Dome C, East Antarctic plateau, controlled by large-scale advection and boundary layer processes
	2:21	Lightning/14	IARCS/037	Langhamer	Lukas	Humboldt-Universität zu Berlin, Germany	The Impact of Atmospheric Rivers on Glaciers in Fuego-Patagonia
	2:23	Lightning/15	IARCS/063	Lauer	Melanie	Institute of Geophysics and Meteorology, University of Cologne, Ger	Impact of Atmospheric Rivers on Arctic climate: techniques for a better quantification of precipitation
	2:25	Lightning/16	IARCS/039	Saavedra Mel	Felipe	AMTC Universidad de Chile, Santiago, Chile	Atmospheric Rivers contribution to the snow accumulation over the southern Andes
	2:27	Lightning/17	IARCS/076	Jara Ríos	Angélica	Universidad de Chile, Chile - CR2, Chile	Atmospheric rivers and flooding in south-central Chile
	2:29	Lightning/18	IARCS/088	Sumargo	Edwin	Scripps Institution of Oceanography	Reservoir Flood Pool Sensitivity to Freezing Level Forecast Uncertainty: Examples from Lake Oroville and New Bullards Bar Reservoirs in California
2:31	Lightning/19	IARCS/073	Garreaud	Rene	Universidad de Chile, Chile	Knowing your enemy: landslides and ARs in western Patagonia	
2:33	Discussion						
2:55	Break						
3:00	Break out room discussion						

Wednesday 7

AR modeling & Forecasting

Session chair: Jorge Eiras-Barca

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Moderators	Tin	Type	Abstract ID	Last Name	First Name	Institution	Abstract title
Christine Albano & Maximiliano Viale	0:00	Intro Remarks		Eiras	Jorge		
	0:05	Key Note		Tallapragada	Vijay	EMC/NCEP/NOAA, USA	Emerging Advancements at NCEP in AR Observations, Modeling and Data Assimilation
	0:25	Talk/01	IARCS/003	Lakshmi Douluri	Dhana	Indian Institute of Technology Kharagpur, India	Numerical modeling Study of Atmospheric Rivers and associated Heavy Precipitation over the West Coast of India using WRF-ARW model
	0:31	Talk/02	IARCS/009	Doyle	James D	U.S. Naval Research Laboratory, USA	Diagnosing Multi-scale Forecast Sensitivity of Atmospheric Rivers Using Adjoint
	0:37	Talk/03	IARCS/034	Reynolds	Carolyn	US Naval Research Laboratory, USA	Naval Research Laboratory Analysis of AR RECON Buoy and Dropsonde Impacts
	0:43	Talk/04	IARCS/048	English	Jason M	CIRES / NOAA, USA	Evaluating Experimental and Operational RAP/HRRR Model Forecasts of AR Events in California
	0:49	Talk/05	IARCS/051	Huang	Huanping	Lawrence Berkeley National Laboratory, USA	Sources of subseasonal-to-seasonal predictability of atmospheric rivers and precipitation in the western United States
	0:55	Discussion					
1:10	Break						
Jonhatan Rutz & Raúl Valenzuela	1:15	Lightning/01	IARCS/007	Bresson	Hélène	Alfred Wegener Institute, Germany	Atmospheric River Over the Arctic with the ICON model
	1:17	Lightning/02	IARCS/047	Tallapragada	Vijay	EMC/NCEP/NOAA, USA	Atmospheric River Reconnaissance Dropsonde Data Impact in the NCEP Operational GFS
	1:19	Lightning/03	IARCS/069	Cordeira	Jason M.	Plymouth State University, U.S.A.	Evaluating GFS and ECMWF Ensemble Forecasts of Integrated Water Vapor Transport Along the U.S. West Coast
	1:21	Lightning/04	IARCS/084	Viale	Maximiliano	IANIGLA - CONICET-Mendoza Argentina	A Web Site with Atmospheric Rivers forecast tools for the West Coast of Southern South America
	1:23	Lightning/05	IARCS/094	Cannon	Forest	Scripps Institution of Oceanography, USA	Observations and Predictability of a High-Impact Narrow Cold-Frontal Rainband over Southern California on 2 February 2019
	1:25	Lightning/06	IARCS/096	Tseng	Kai-Chih	NOAA GFDL Princeton University, USA	Seasonal Prediction of western North America Atmospheric Rivers
	1:27	Lightning/07	IARCS/097	Viale	Maximiliano	IANIGLA - CONICET Mendoza, Argentina	Inland Penetration of Atmospheric Rivers over the Patagonian Andes in the Esquel city area 43°S of Argentina
	1:29	Lightning/08	IARCS/100	Sun	Rui	Scripps Institution of Oceanography, USA	The role of air-sea interactions in atmospheric river events: Case studies using the SKRIPS regional coupled model
	1:31	Lightning/09	IARCS/106	Steinhoff	Daniel	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	Description and Validation of the 34-Year West-WRF Reforecast
	1:33	Lightning/10	IARCS/107	Reynolds	David	Dept. of Atmos. and Oceanic Sciences, Univ. of Colorado, USA	Analysis of a Tuned Version of the WRF Model's Prediction of Rainfall over the Russian Basin During Land-Falling Atmospheric Rivers
	1:35	Lightning/11	IARCS/110	Zheng	Minghua	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	Impacts of Assimilating Dropsonde Obs from Atmospheric River Reconnaissance on Forecasts of Landfalling ARs and the Precipitation across the Western US
	1:37	Lightning/12	IARCS/118	Subramanian	Aneesh	University of Colorado Boulder, USA	The Impact of Additional Sfc. Pressure Obs over the NE Pacific Ocean on the Data Assimilated Analysis and Forecast of Atmospheric Rivers During Feb - Apr 2019
	1:39	Discussion					
1:55	Break						
Anna Wilson & Jorge Eiras-Barca	2:00	Talk/06	IARCS/070	Leung	L. Ruby	Pacific Northwest National Laboratory, USA	Response of Landfalling Atmospheric Rivers on the U.S. West Coast to Local Sea Surface Temperature Perturbations
	2:06	Talk/07	IARCS/085	Torn	Ryan	University at Albany, USA	Application of Ensemble Sensitivity during the AR Recon 2020 Experiment
	2:12	Talk/08	IARCS/098	Minder	Justin Robert	University at Albany, USA	Parameter Perturbations to Microphysical and Turbulence Schemes for Convection-Permitting Ensemble Forecasts of Orographic Precipitation
	2:18	Talk/09	IARCS/105	Viale	Maximiliano	IANIGLA - CONICET Mendoza, Argentina	A Narrow Cold Frontal Rainband within an AR impacting on the coastal Piuquén cordillera in the Chiloé Island, Chile
	2:24	Talk/10	IARCS/117	Haase	Jennifer S.	Scripps Institution of Oceanography, USA	The Pacific Northwest flooding event of 5-7 Feb 2020: a case study for Airborne Radio Occultation data assimilation
	2:30	Discussion					
	2:50	Transition/Closing Remarks/Break					
	3:00	Break out room discussion					

Thursday 8

Identification, Tracking and Inventories + Regional Flavors

Session Chair: Alexandre Ramos

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Moderators	Tin	Type	Abstract ID	Last Name	First Name	Institution	Abstract title	
Alexandre Ramos & Maximiliano Viale	0:00	Intro Remarks		Ramos	Alexandre			
	0:05	Keynote		Jon Rutz &	Christine Shields		Atmospheric River Tracking Method Intercomparison Project	
	0:20	Talk/01	IARCS/005	Reid	Kimberley	The University of Melbourne, Australia	The Sensitivity of Atmospheric River Identification using Integrated Water Vapour Transport to Resolution, Regridding method and Threshold	
	0:26	Talk/02	IARCS/099	Tardy	Alex	National Weather Service, USA	What do we do with non-atmospheric rivers or hybrids that produce heavy rainfall and result in high impacts?	
	0:32	Talk/03	IARCS/065	Sengupta	Agniv	Jet Propulsion Laboratory, USA	Atmospheric Rivers over South Asia: Climatology, Associated Precipitation, and Modulation by Climate Variability Modes	
	0:38	Talk/04	IARCS/032	Liang	Ping	Shanghai Regional Climate Center, China	Atmospheric Rivers in Association with Boreal-summer Heavy Rainfall over Yangtze Plain of China	
	0:44	Talk/05	IARCS/033	Böhm	Christoph	University of Cologne, Germany	The role of atmospheric rivers for the Atacama Desert	
	0:50	Discussion						
	1:00	Break						
Jorge Eiras & Natalia Tilinina	1:03	Lightning/01	IARCS/044	Guan	Bin	University of California, Los Angeles, USA	Tracking Atmospheric Rivers Globally: Spatial Distributions and Temporal Evolution of Life Cycle Characteristics	
	1:05	Lightning/02	IARCS/008	Shearer	Eric	Center for Hydrometeorology and Remote Sensing (CHRS)	An examination of global mid-latitude atmospheric river lifecycles using an object-oriented methodology	
	1:07	Lightning/03	IARCS/052	Lora	Juan	Yale University, USA	On the consensus and disagreement in atmospheric river detection in ARTMIP global catalogues	
	1:09	Lightning/04	IARCS/081	Kim	Sol	University of California, Berkeley, USA	Atmospheric River Representation in E3SM	
	1:11	Lightning/05	IARCS/017	Zhou	Yang	Lawrence Berkeley National Lab, California, USA	Uncertainties in Atmospheric River Life Cycles by Detection Algorithms: Climatology and Variability	
	1:13	Discussion						
	1:23	Break						
Christine Shields & Roberto Rondanelli	1:25	Keynote		Gorodetskaya	Irina	University of Aveiro, Portugal	Climate Change and Atmospheric Rivers in the Polar Regions	
	1:40	Talk/06	IARCS/014	Bozkurt	Deniz	Universidad de Valparaíso, Chile	Influence of African Atmospheric Rivers on the Hydrometeorology of the Near East's Highlands in the Snowmelt Season	
	1:46	Talk/07	IARCS/020	Massoud	Elias	Jet Propulsion Laboratory, USA	Atmospheric rivers and precipitation in the Middle East and North Africa (MENA)	
	1:52	Talk/08	IARCS/066	Wille	Jonathan	Université Grenoble Alpes, France	Antarctic Atmospheric River Climatology and Impacts	
	1:58	Talk/09	IARCS/057	Rauber	Robert M	DASO, University of Illinois at Urbana-Champaign, USA	Structure of an Atmospheric River over Australia and the Southern Ocean. Part I: Tropical and Mid-Latitude Water Vapor Fluxes	
	2:04	Talk/10	IARCS/016	Thandlam	Venugopal	Department of Earth Sciences, Uppsala University, Sweden	On the Rivers in the Euro-Atlantic Sky	
	2:10	Discussion						
2:20	Break							
Christine Albano & Jonathan Wille	2:23	Lightning/06	IARCS/019	Jacobs	Aaron	NWS, Weather Forecast Office Juneau Alaska, USA	Atmospheric river statistics for Southeast Alaska comparing point based CFSR IVT values to station precipitation data	
	2:25	Lightning/07	IARCS/092	Wilson	Anna M	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	Deployment of Additional Surface Pressure Measurements over the Northeast Pacific to Support Atmospheric River Forecasts on the US West Coast	
	2:27	Lightning/08	IARCS/101	Viceto	Carolina	University of Aveiro, Portugal	Atmospheric rivers in the Arctic: case studies during a field campaign near Svalbard	
	2:29	Lightning/09	IARCS/077	Campos	Diego	Dirección Meteorológica de Chile	The role of Atmospheric Rivers in the wintertime precipitation anomalies in central-south Chile during El Niño and La Niña events	
	2:31	Lightning/10	IARCS/060	Nash	Deanna	University of California Santa Barbara, USA	Winter and Spring Atmospheric Rivers in High Mountain Asia: Climatology, Dynamics and Variability	
	2:33	Lightning/11	IARCS/058	Finlon	Joseph	University of Illinois at Urbana-Champaign, USA	Structure of an Atmospheric River over Australia and the Southern Ocean. Part II: Microphysical Evolution	
	2:35	Lightning/12	IARCS/079	Viale	Maximiliano	IANIGLA - CONICET-Mendoza Argentina	Atmospheric Rivers on the East coast of South America	
	2:37	Lightning/13	IARCS/121	MacLennan	Michelle	Climate Change Research section, NCAR, USA.	Observations and Impact of Atmospheric River-Driven Extreme Precipitation over Thwaites Glacier, Antarctica	
	2:39	Lightning/14	IARCS/103	Gorodetskaya	Irina	CESAM/University of Aveiro, Portugal	From Pacific Ocean to South America and to Antarctic Peninsula: a short story of several long atmospheric rivers with important impacts	
	2:41	Discussion						
	2:55	Transition/Closing Remarks/Break						
	3:00	Break out room discussion						

Friday 9

ARs in the Past and the Future + Emergent Topics

Session chair: Marty Ralph

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Moderators	Tin	Type	Abstract ID	Last Name	First Name	Institution	Abstract title
Alexandre Ramos & Maximiliano Viale	0:00	Intro Remarks		Ralph	Marty	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	
	0:05	Keynote		Pappenberger	Florian	ECMWF	TBD
	0:25	Talk/1	IARCS/041	Menemenlis	Sofia	Yale University, USA	Atmospheric rivers influenced by stationary wave changes in model of mid-Pliocene climate
	0:31	Talk/2	IARCS/119	Skinner	Christopher	University of Massachusetts Lowell, USA	Atmospheric river changes shaped mid-latitude hydroclimate since the mid-Holocene
	0:37	Talk/3	IARCS/059	Slinsky	Emily	Portland State University, United States	Climate Change Effects on Atmospheric Rivers over the Continental United States
	0:43	Talk/4	IARCS/010	Shields	Christine	NCAR	Meridional heat transport and atmospheric rivers under climate change
	0:49	Talk/5	IARCS/025	Rhoades	Alan	Lawrence Berkeley National Laboratory	Projecting the role of atmospheric rivers in Chilean hydroclimatic extremes using variable-resolution CESM
	0:55	Discussion					
1:05	Break						
Rene Garreaud & Alexandre Ramos	1:10	Lightning/1	IARCS/022	Parrish	Jack	NOAA Aircraft Operations Center US	Much more than a name change for aircraft crews: The transformation from Winter Storm Reconnaissance to Atmospheric River Reconnaissance (2013-2020)
	1:12	Lightning/2	IARCS/089	Zheng	Minghua	UC San Diego/SJO/CW3E, the United States	Data Gaps within Atmospheric Rivers over the Northeastern Pacific
	1:14	Lightning/3	IARCS/120	Murphy	Michael	Scripps Institution of Oceanography, USA	Depth of Penetration of GNSS Radio Occultation Observations in Atmospheric Rivers
	1:16	Lightning/4	IARCS/004	Fox	Alan	Fox Weather	A Tool for Forecasting Areas of Cyclogenesis Tendency out to 30 Days
	1:18	Lightning/5	IARCS/080	Albano	Christine	Desert Research Institute, United States	Assessment of wintertime streamflow forecast skill in an atmospheric river-influenced river basin on the lee side of the Sierra Nevada
	1:20	Lightning/6	IARCS/114	Heggli	Anne	University of Nevada, Reno	Towards Improved Decision Support in Snow-Dominated Watersheds During Extreme Weather
	1:22	Lightning/7	IARCS/086	O'Brien	Travis	Indiana University Bloomington, USA	Uncertainty in Current and Projected Atmospheric Rivers: A call for process-oriented constraints on AR detection
	1:24	Discussion					
1:34	Break						
Natalia Tilina & Christine Albano	1:39	Talk/6	IARCS/031	Cowan	Willie J	USC, USA	"But Chinook-Wind returned in the form of rain": Indigenous Knowledge of Atmospheric Rivers, Winter Storms, and Great Floods on the Pacific Slope
	1:45	Talk/7	IARCS/026	Swain	Daniel	University of California, Los Angeles, USA	ARkStorm 2.0: Developing a new extreme atmospheric river storm scenario for 21st century California
	1:51	Talk/8	IARCS/082	Black	Peter	I.M. Systems Group, Miami, FL, USA	Joint Operations of AR Recon 2020 and IMPACTS 2020 for Simultaneous Aircraft Sampling of USA West Coast and East Coast Winter Weather Systems
	1:57	Talk/9	IARCS/115	Delle Monache	Luca	CW3E, Scripps Institution of Oceanography, UC San Diego, USA	A Convolutional Neural Network for improved Precipitation Prediction
	2:03	Talk/10	IARCS/015	Waliser	Duane	Jet Propulsion Lab. (NASA), USA	Atmospheric Aerosol Rivers: Climate and Air Quality Impacts
	2:09	Discussion					
2:19	Break						
Jorge Eiras & James McPhee	2:24	Lightning/8	IARCS/053	Gonzalez-Hirshfeld	Ilan	Portland State University, USA	Climate Model Evaluation of Atmospheric Rivers over the Continental United States
	2:26	Lightning/9	IARCS/029	Zhang	Pengfei	Penn State University, USA	Atmospheric river response to global warming in an idealized GCM with Earth-like global circulation and hydrological cycle
	2:28	Lightning/10	IARCS/012	Dougherty	Erin	National Center for Atmospheric Research, USA	Future Changes in the Hydrologic Cycle Associated with Flood-Producing Storms in California
	2:30	Lightning/11	IARCS/055	Sousa	Pedro	Instituto Dom Luiz (IDL-FCUL)	Future changes in Western Europe moisture transport and precipitation regimes in a warming planet
	2:32	Lightning/12	IARCS/021	Ma	Weiming	University of California, Los Angeles, USA	Thermodynamic and Dynamic Controls on the Recent Poleward Shift of Atmospheric Rivers in the Southern Hemisphere
	2:34	Lightning/13	IARCS/074	Mo	Ruping	National Laboratory-West, Environment and Climate Change Canada	Does the Atmospheric River Story Have a Prequel in the 1930s? A Revisit to the Moist Tongues Identified by Rossby and His Collaborators
	2:36	Lightning/14	IARCS/091	Gonzales	Katerina	Stanford University, USA	Trends & Impacts of Moisture vs. Wind Dominated Flavors of Atmospheric Rivers
	2:38	Lightning/15	IARCS/090	Anderson	Michael	CA Department of Water Resources, USA	Connecting Research of Past, Present, and Future Atmospheric Rivers to the Central Valley Flood Protection Plan
	2:40	Discussion					
	2:50	Closing Remarks		Garreaud	Rene	Universidad de Chile	
3:00	Break out room discussion						



Break out rooms discussion: 1600-1700 UT

Monday 5		Dynamical & Physical Processes in ARs			Session chair: Anna Wilson	
Room	1	2	3	4	5	
Keywords	Precipitation processes	Atmospheric Structure	Mesoscale Dynamics	Synoptic-scale dynamics	Large-scale dynamics	
<i>LEAD (moderator/facilitator)</i>	Anna Wilson	Irina Gorodetskaya	Rene Garreaud	Raul Valenzuela	Natalia Tilinina	
<i>Co-LEADER 1</i>	Hans Christian	Mike Warner	Pedro Souza	Christine Shields	Alexandre Ramos	
<i>Co-LEADER 2</i>	Jorge Eiras-Barca	Maxi Viale	Roberto Rondanelli	Jon Rutz	James McPhee	
<i>NOTE TAKER</i>	Kerstin Paulsson	Kristen Stewart	Tyler Leicht	Ava Cooper	Carly Ellis	
Speaker 1	McMurdie	Thurnherr	Martinez-Claros	Michaelis	Goldenson	
Speaker 2	DeLaFrance	Brugman	Zhang	Bosart	Suchithra	
Speaker 3	Cobb	Chyhareva	Ryoo	Vicencio Veloso	Moore	
Speaker 4	Walbroel	Hosseinpour	DeLuna	Weijenborg		

Tuesdays 6		Impacts of ARs			Session chair: René Garreaud	
Room	1	2	3	4	5	
Keywords	Cryosphere	Runoff/Flood	Broad impact	Extreme PP	Mean Precip	
<i>LEAD (moderator/facilitator)</i>	Irina Gorodetskaya	Mike Warner	Marty Ralph	Roberto Rondanelli	Christine Albano	
<i>Co-LEADER 1</i>	James Mc Phee	Lucia Scaff	Linn McMurdie	Christine Shields	Anna Wilson	
<i>Co-LEADER 2</i>	Hans C. Steen-Larsen	Rene Garreaud	Jon Rutz	Alexandre Ramos	Jorge Eiras Barca	
<i>NOTE TAKER</i>	Lauren Bolotin	Corinne Bowers	Yazmina Rojas	Anne Heggli	José Vicencio	
Speaker 1	Bozkurt	Sharma	Arabzadeh	Ramos	Prince	
Speaker 2	Porhemmat	Bowers	Algarra	Reid	Maxwell	
Speaker 3	Agosta	Jara Ríos	Gyakum	Lamjiri	De Kock	
Speaker 4	Langhamer	Sumargo	Rutz	Ramos-da-Silva	Eiras-Barca	
Speaker 5	Lauer	Garreaud	Corringham	Bartlett	Ricciotti	
Speaker 6	Saavedra		Rojas	Leicht		

Wednesday 7		AR modeling & Forecasting			Session chair: Jorge Eiras-Barca	
Room	1	2	3	4	5	
Keywords	Forecast sensitivity	Observations	Forecast Validation	Modeling studies	Case Study & Fct products	
<i>LEAD (moderator/facilitator)</i>	Jorge Eiras	Maxi Viale	Anna Willson	Raúl Valenzuela	Mike Warner	
<i>Co-LEADER 1</i>	René Garreaud	Jon Rutz	Christine Albano	James McPhee	Ava Cooper	
<i>Co-LEADER 2</i>	Jonathan Wile	Matthew Kelsch	Roberto Rondanelli	Mindy Brugman	Edwin Sumargo	
<i>NOTE TAKER</i>	Kerstin Paulsson	William Cowan	Corine Cassey	Sol Kim	Negin Hayatbini	
Speaker 1	Minder J.	Reynolds C	English JM	Laskmi D	Huang H	
Speaker 2	Torn R	Viale M	Doyle J.	L. Ruby	Haase J.S.	
Speaker 3	Zheng M	Cannon F	Corderira J.	Bressen H	Sun R	
Speaker 4	Subramanian	Viale M	Steinhoff D.		Viale M.	
Speaker 5	Tallapragada		Reynolds D		Tseng K.	

Thursday 8		Id., Tracking and Inventories + Regional Flavors			Session Chair: Alexandre Ramos	
Room	1	2	3	4	5	
Keywords	ARTMIP	Polar	Pacific	Atlantic	Indian	
<i>LEAD (moderator/facilitator)</i>	Jon Rutz	Hans C. Steen-Larsen	Christine Albano	Alexandre Ramos	Rene Garreaud	
<i>Co-LEADER 1</i>	Christine Shields	Jorge Eiras	Anna Wilson	Natalia Tilina	Mike Warner	
<i>Co-LEADER 2</i>	Pedro Sousa	Anne Heggli	Lynn McMurdie	Venu Thandlam	Roberto Rondanelli	
<i>NOTE TAKER</i>	Sol Kim	Chris Weijenborg	Will Cowan	Kristen Stewart	Lauren Bolotin	
Speaker 1	Reid	Willie	Tardy	Thandlam	Sengupta	
Speaker 2	Guan	Jacobs	Bohm	Bozkurt	Liang	
Speaker 3	Shearer	Viceto	Kim	Massoud	Rauben	
Speaker 4	Lora	MacIennan	Zhou	Viale	Nash	
Speaker 5		Gorodetskaya	Wilson		Finlon	
Speaker 6			Campos			

Friday 9		ARs in the Past and the Future + Emergent Topics			Session chair: Marty Ralph/C. Albano	
Room	1	2	3	4	5	
Keywords	Emergent Topics	Future ARS - modeling	Future ARS - impacts	Past ARs	AR Reconnaissance	
<i>LEAD (moderator/facilitator)</i>	Roberto Rondanelli	Jorge Eiras	Rene Garreaud	James McPhee	Marty Ralph	
<i>Co-LEADER 1</i>	Aseem Sharma	Natalia Tilinina	Mike Warner	Maxi Viale	Matt Kelsch	
<i>Co-LEADER 2</i>	Jennifer Haase	Alexandre Ramos	Jon Rutz	Kerstin Paulsson	Venu Thandlam	
<i>NOTE TAKER</i>	Chris Weijenborg	Tyler Leicht	Corinne Bowers	Daniella Cuahtemoc	Ava Cooper	
Speaker 1	Waliser	OBrien	Rhoades	Skinner	Parrish	
Speaker 2	Fox	Slinsky	Dougherty	Ma	Zheng	
Speaker 3	Heggli	Gonzalez-Hirschfeld	Anderson	Mo	Black	
Speaker 4	Albano	Chen	Sousa	Menemenlis	Murphy	
Speaker 5	Delle Monache	Shields	Swain	Cowan		
Speaker 6	Gonzales					