

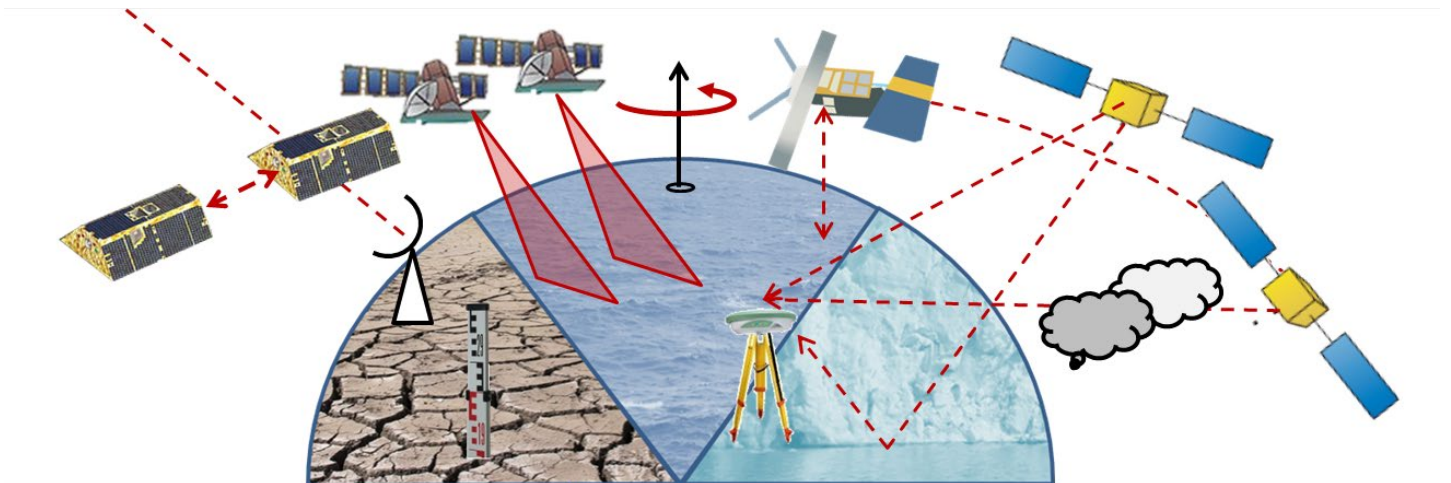
1. ICCC Workshop „Geodesy for Climate Research“

March 29-31, 2021

- online –

Program

Registration: <https://forms.gle/VPDcBrk7Le4aCX2h6>



Organized by the Inter-Commission Committee on “Geodesy for Climate Research” of the International Association of Geodesy (IAG)



International
Association of
Geodesy

Organizing committee:

Annette Eicker, Carmen Boening, Ira Anjasmara, Balaji Devaraju, Henryk Dobslaw, Thomas Frederikse, Vincent Humphrey, Erik Ivins, Mehdi Khaki, Anna Klos, Jolanta Nastula, Steve Neerem, Rosa Pacione, Roland Pail, Roelof Rietbroek, Riccardo Riva, Marcelo Santos, Ingo Sasgen, Matthias Weigelt, Bert Wouters.

General Information:

- The workshop is a mixture of **live sessions** and **online content** that can be viewed and discussed at any time.
- All presentations (orals and posters) should **be available for download** (see below) to allow asynchronous viewing.
- A **chat platform** will allow communication between participants throughout the workshop.

Program:

- **Live Sessions:**
 - **2x2h of live session on Zoom per day:** 2h in the “morning” at 8.a.m Central European Summer time (CEST = UTC+2) and 2h in the “afternoon” at 5 p.m. CEST.
 - The live sessions will consist of introductory overview lectures, oral presentations, poster breakout sessions, and discussions.
- **Orals:** Each presentation shall be **no longer than 12 minutes**.
- **Posters:** We will have two ~45 min. poster sessions (Monday p.m. and Tuesday a.m.).
 - Each presenter will have the chance to use their **individual Zoom breakout room** to discuss the poster and to show additional content.

Program overview:

CEST (UTC+2)	Monday (29.03.21)	Tuesday (30.03.21)	Wednesday (31.03.21)
<i>« Morning » block (2 hours)</i>			
8:00	Welcome	Session 04 : Cryosphere	Keynote : Sea level & cryo
8:15	Keynote : ECVs		Session 07 : Sea level
8:30	Session 01 : Hydrology and data processing (Hydrology I)		
8:45			
9:00			
9:15			
9:30			
9:45	Discussion	Discussion	
<i>« Afternoon » block (2 hours)</i>			
17 :00	Keynote : Climate models	Keynote : Troposphere	Session 08 : Hydrology II
17 :15	Session 02 : Climate model evaluation	Session 06 : Atmosphere	
17 :30			
17 :45			
18 :00			
18 :15	Session 03 : Poster breakout I	Discussion	
18 :30			
18 :45			
			Closing and next steps

Monday, March 29, 2021

Monday morning: 8 a.m. CEST (UTC+2)			
Session 01: Hydrology & data processing (Hydrology I)			
Convenors: Mehdi Khaki & Balaji Devaraju			
08:00-08:15	S01C01	A. Eicker & C. Böning (and orga team)	Welcome: introduction to the workshop and the ICCG
08:15-08:35	S01C02	A. Güntner (GFZ Potsdam), C. Ruz Vargas, A. Eicker	Keynote lecture: Essential Climate Variables (ECVs) and the contribution of geodetic observations: an overview
08:35-08:50	S01C03	J.D. Ray (IIT Kanpur), B. Devaraju, M.S.M. Vijayan, W. Godah,	Geodetic monitoring of the hydrological changes in Nepal Himalaya
08:50-09:05	S01C04	W. Godah (Warsaw), J.D. Ray, M. Szelachowska, J. Krynski	The Use of National CORS Networks for the Determination of Mass Transport within the Earth's System and for Improving GRACE Solutions
09:05-09:20	S01C05	M. Tourian (Univ. Stuttgart), N. Sneeuw	Spatial downscaling of GRACE water storage change using a copula-supported Bayesian framework
09:20-09:35	S01C06	P. Ditmar (TU Delft)	GRACE data processing: direct conversion of spherical harmonic coefficients into mascon-type solutions
09:35-09:50	S01C07	U. Meyer (Univ. Bern) et al.	Consolidated and validated monthly gravity field combinations of the GRACE, Swarm and GRACE-FO satellite missions
09:50-10:00	Discussion & group photo		

Monday afternoon: 5 p.m. CEST (UTC+2)			
Session 02: Climate model evaluation			
Convenors: Anna Klos & Roland Pail			
17:00-17:20	S02C01	V. Humphrey	Keynote lecture: Climate models for geodesy
17:20-17:35	S02C02	P. Khapikova (Caltech), V. Humphrey, C. Frankenberg	Evaluating CMIP6 soil water storage with GRACE satellite observations
17:35-17:50	S02C03	L. Jensen (HCU Hamburg), A. Eicker, H. Dobslaw, R. Pail	Land Water Storage Variabilities in GRACE and Climate Models – How do they compare and which future changes can we expect?
17:50-18:05	S02C04	J. Nastula (Polish Academy of Sciences), J. Śliwińska, M. Wińska, A. Partyka	Hydrological angular momentum estimates from CMIP6 simulations
18:05-18:20	S02C05	B.D. Vishwakarma (Univ. of Bristol), P. Bates, N. Sneeuw, R. M. Westaway, J. L. Bamber	How to interpret severity of linear trends from GRACE time series
18:20-19:00	Session 03: Poster breakout I (see next page for list of presentations)		

Poster Breakout I (Monday afternoon)

Session 03

S03C01	D. Salstein (Atmospheric and Environmental Research),	Atmospheric angular momentum variations over many time scales, Earth rotation, and climate signals
S03C02	L. I. Fernández (Univ. Nacional de La Plata), J.M. Aragón-Paz, L.P.O. Mendoza	Near-Real-Time GNSS tropospheric products available for South America
S03C03	Y. Ghiasi (Univ. of Waterloo), C. Duguay, J. Murfitt	Temperature Effect on Reflected GNSS Signals from Mid-Latitude Lake Ice
S03C04	E. Ivins (JPL), S. Adhikari, L. Caron, E. Larour	Polar Land Mass Change and Geodesy for the Solid Earth in the 21st Century
S03C05	S. Chuter (Univ. of Bristol), A. Zammit-Mangion, J. Rougier, G. Dawson, J. Bamber	Antarctic Peninsula Mass Trends and driving processes from 2003 until present through assimilation of geodetic data using a Bayesian Hierarchical Model approach
S03C06	C. Beşel (Karadeniz Technical Univ.), E. Tanır Kayıkçı	Retrieving Sea Level Heights around Turkish Coasts using GPS Interferometric Reflectometry
S03C07	D. Argus (JPL), W. R. Peltier, G. Blewitt, C. Kreemer	Distinguishing between Models of Glacial Isostatic Adjustment using GPS, GRACE, and Relative Sea Level Observations: Inferring the Viscosity of the Top Third of the Lower Mantle
S03C08	J. Bamber (Univ. of Bristol)	An integrated, data-driven approach for estimating global glacial isostatic adjustment, VLM, land ice, hydrology and ocean mass trends.
S03C10	C. Camargo (NIOZ), R. E.M. Riva, A.B.A. Slangen	Regional patterns of ocean mass sea-level change over the satellite altimetry era (1993-2017)
S03C11	Z. Young (Univ. of Nevada), C. Kreemer, G. Blewitt	Groundwater Mass Removal During the 2012-2016 Drought, Inferred from 3D GPS Displacements Around Great Salt Lake, Utah
S03C12	M. Birylo (Univ. Olsztyn), Z. Rzepecka, J. Sliwinska, J. Nastula	Groundwater storage determination with downscaled remote-sensing-based observations
S03C13	M. Birylo (Univ. Olsztyn), Z. Rzepecka	Groundwater Drought Index assessment based on wells and remote sensing techniques over area of Poland
S03C14	S. Stolzenberger (Univ. Bonn), R. Rietbroek, C. Wekerle, B. Uebbing, J. Kusche	Greenland meltwater effects in geodetic and oceanographic data
S03C15	B. Gutknecht (TU Dresden), A. Groh, M. Horwath	Multiannual Ocean Mass Variability from GRACE/-FO

Tuesday, March 30, 2021

Tuesday morning: 8 a.m. CEST (UTC+2)			
Session 04: Cryosphere			
Convenors: Ingo Sasgen & Bert Wouters			
08:00-08:15	S04C01	N. Schlegel (JPL Pasadena), D. Wiese, J. Nilsson, A. Gardner	Can the Combination of Satellite Gravimetry and Altimetry Aid in the Regional Evaluation of Modeled Firn Change in Antarctica?
08:15-08:30	S04C02	M. O. Willen (TU Dresden), T. Broerse, A. Groh, B. Wouters, P. Kuipers Munneke, M. Horwath, M. R. van den Broeke, L. Schröder	Time dependent contributions to the mass balance of Antarctic drainage systems from satellite geodesy and model products
08:30-08:45	S04C03	A. Groh (TU Dresden), M. Horwath, M. O. Willen, E. Buchta, T. Döhne, B. D. Gutknecht, M. T. Kappelsberger	Towards a temporal error covariance matrix for ice mass change products
08:45-09:00	S04C04	M. King (Univ. of Tasmania)	GPS estimates of GIA in East Antarctica considering the effects of recent ice mass balance fluctuations
09:00-09:15	S04C05	M. Razeghi (Australian National University), S.-C. Han, M. King, P. Tregoning	Assessing the accuracy of GIA models through a combination of GRACE, GPS, and satellite altimetry data
09:15-10:00	Session 05: Poster breakout II (see next page for list of presentations)		

Tuesday afternoon: 5 p.m. CEST (UTC+2)			
Session 06: Atmosphere			
Convenors: Rosa Pacione & Jolanta Nastula			
17:00-17:20	S06C01	R. Pacione (e-GEOS/ASI-CGS) M. Santos, G. Dick, J. Jones, E. Pottiaux, A. Rinke, <u>R. Van Malderen</u> (Royal Meteorological Institute of Belgium), G. Elgered	Keynote lecture: Ground-based GNSS for climate research: review and perspectives
17:20-17:35	S06C02	A. Scaife (U.K. Met Office), L. Hermanson, A. van Niekerk, M. Baldwin, S. Belcher, P. Bett, R. Comer, N. Dunstone, R. Geen, S. Hardiman, S. Ineson, J. Knight, Y. Nie, H. Ren, D. Smith	Long-Range Predictability of the Length of Day and Extratropical Climate
17:35-17:50	S06C04	G. Dick (GFZ Potsdam), J. Jones, J. Wang, K. Rannat, J. Wickert, F. Zus, K. Balidakis, K. Wilgan	GNSS-based Precipitable Water Vapor: Certification for the Global Climate Observing System
17:50-18:05	S06C05	O. Bock (Université de Paris), N. Khanh Nguyen, E. Lebarbier	Tracking inhomogeneities in long reprocessed GNSS data sets for climate monitoring
18:05-18:20	S06C06	F. Bamahry (TU Berlin), K. Balidakis, R. Heinkelmann, H. Schuh	How accurately we can probe climate change with VLBI, GNSS, and ERA5?
18:20-18:35	S06C07	M.V. Mackern (Univ. Maza), M. L. Mateo, M. F. Camisay, P.A. Rosell	Tropospheric Products validation in the GNSS SIRGAS Network
18:35-19:00	Discussion		

Poster Breakout II (Tuesday morning)

Session 05

S05C01	S. Raut (GFZ Potsdam), K. Balidakis, S. Modiri, R. Heinkelmann, S. Belda, C. Kitpracha, H. Schuh, GFZ Potsdam.	How well can VLBI probe long-wavelength climate-induced variations in Earth rotation?
S05C02	E. Tanır Kayıkçı (Karadeniz Techn. Univ.), M. Yalçinkaya, V. Tornatore, S. Zengin, S. C. Tuncer, M. Demircan	PWV Distribution During of Severe Weather Events in Black Sea Region of Turkey Derived From GPS Measurements, ERA-Interim/ERA-5 and Radiosonde
S05C03	L. Liu (Chinese Univ. of Hong Kong), J. Zhang	Utilizing the Full Potentials of GNSS Interferometric Reflectometry for Quantifying Permafrost Changes in a Warming Climate
S05C04	A. Groh (TU Dresden), U. Meyer, M. Lasser, C. Dahle, A. Kvas, J.-M. Lemoine, A. Jäggi, F. Flechtner, T. Mayer-Gürr	Inter-comparison of time-variable gravity field releases for the application in ice sheet studies
S05C05	K. Douch (Univ. Stuttgart), P. Saemian, N. Sneeuw	A state-space representation of the water storage dynamics at basin scale to do hydrology backward
S05C06	B. Kalisz (Univ. Olsztyn), M. Birylo	Remote sensing-based determination of the Water Storage Deficit Index under different land cover types
S05C07	M. Birylo (Univ. Olsztyn), Z. Rzepecka	Remote sensing based drought severity assessment for small area case study
S05C08	M. Khaki (Univ. Newcastle), H.-J. Hendricks Franssen, S.-C. Han	Multi-mission Satellite Remote Sensing Data for Improving Land Hydrological Models via Data Assimilation
S05C09	I. Anjasmara (Institut Teknologi Sepuluh Nopember), S. Yanti Rahayu	Extreme Weather Signatures in Indonesia from GRACE and GRACE-FO satellites data
S05C10	M. O. Willen (TU Dresden), B. Uebbing, M. Horwath, J. Kusche	Constraining the contributions of ice sheets to sea-level rise in a global inversion framework
S05C11	M. Passaro (TU Munich) et al.	Baltic SEAL: new insights into the mean and variability of the sea level in the Satellite Altimetry era
S05C13	N. Antonoglou (Univ. Potsdam), K. Balidakis, B. Bookhagen, G. Dick, F. Zus, J. Wickert, A. de la Torre	Integrated water vapour monitoring from ground-based GNSS observations in the south-central Andes
S05C14	S. Oukil (Algerian Space Agency-Satellite development center), W. Belgacem	Effect of solar cells degradation on Geostationary satellite power subsystem.

Wednesday, March 31, 2021

Wednesday morning: 8 a.m. CEST (UTC+2)			
Session 07: Sea level :			
Convenors: Roelof Rietbroek & Riccardo Riva			
08:00-08:20	S07C01	R. Rietbroek (Univ. Twente) et al.	Keynote lecture: A Tango between Ice and Sea level
08:20-08:35	S07C02	J. Chenal (CNES), B. Meyssignac, A. Blazquez	Observational constraint on the equilibrium climate sensitivity from space geodesy measurement of the ocean thermal expansion
08:35-08:50	S07C03	M. Passaro (TU Munich),	Observing sea level and climate change at the coast and the polar latitudes with reprocessed satellite altimetry: a review
08:50-09:05	S07C04	L. Fenoglio (Univ. Bonn), S. Dinardo, S. Bruni, F. Raicich, S. Zerbini, B. Uebbing	Coastal sea level from SAR altimetry, tide gauges and GPS
09:05-09:20	S07C05	K. Simon (NIOZ), R.E.M. Riva, L.L.A. Vermeersen	Constraint of GIA in Northern Europe and the North Sea with Geological RSL and GPS Data
09:20-09:35	S07C06	A. Yavuzdoğan (Gümüşhane Univ.), T. Kayıkçı Emine	Instantaneous Sea-Level Prediction with Machine Learning Methods in Aegean Sea
09:35-09:50	S07C07	B. Alexandrov (University of Architecture Civil Engineering and Geodesy), L. Pashova	Bulgarian geodetic contribution to the multidisciplinary research on Livingston Island for the period 1998 - 2020
09:50-09:00	Discussion		

Wednesday afternoon : 5 p.m. CEST (UTC+2)			
Session 08: Hydrology II :			
Convenors: Mehdi Khaki & Balaji Devaraju			
17:00-17:15	S08C01	M. Vijayan (CSIR Fourth Paradigm Institute Bangalore), A. Vincent, K. Rajendran	Utilising geodetic estimation of crustal response to changes in hydrological loading as a tool to measure climate change: opportunities and challenges
17:15-17:30	S08C02	R. K. Guntu (Indian Inst. of Techn.), A. Agarwal, B. D. Vishwakarma	Unravelling teleconnections of terrestrial water storage via complex networks
17:30-17:45	S08C03	P. Chinnasamy (Indian Inst. of Techn.)	Combination of observed data and remote sensing based Geodesy data for groundwater monitoring and management in India
17:45-18:00	S08C04	A. Lenczuk (Military University of Technology, Warsaw), A. Klos, J. Bogusz	Study on groundwater signatures in GPS position time series
18:00-18:15	S08C05	E. Börgens (GFZ Potsdam), A. Güntner, H. Dobsław, C. Dahle	The Central European Drought of 2018-2020
18:15-18:30	S08C06	L. Wang (BKG Germany), D. Thaller, M. Weigelt, A. Susnik, T. van Dam	The total continental water storage variation during 2018 extreme drought of Rhine basin from daily global GNSS network solution
18:30-18:45	S08C07	D. Argus (JPL), D. Wiese, H. Martens, M. Anderson, A. Peidou, A. Borsa, E. Knappe, F. Landerer	Estimating water change at Earth's surface using GRACE gravity and GPS positioning
18:45-19:00	S08C08	V. Graffigna (UNLP), V. Brunini, M. Gende M. Hernández-Pajares R. Galván, F. Oreiro	Retrieving geophysical signals from GPS in the La Plata River region
19:00-19:25	Closing and next steps		

