

# **IAHS Scientific Assembly 2022**

**29 May–03 June 2022  
Montpellier, France**

**Conference Programme**

## Monday, 30 May 2022

### Lecture Room: Auditorium Pasteur

#### SP1 Opening Ceremony

10:30–11:30

##### Welcome addresses by

- E. Servat (Director of ICIREWARD & Chair of the LOC)
- C. Cudennec (Secretary General of IAHS)
- A. Amani (Director of the Water Sciences Division, UNESCO)
- D. Bérod (Head of the Earth System Monitoring, WMO)
- P. Augé (President of the University of Montpellier)
- M. Delafosse (Mayor of Montpellier and President of Montpellier Métropole)

##### Keynotes by

- H. Kreibich (Chair of IAHS Panta Rhei Initiative)
- B. Arheimer (President of IAHS)

#### S2 Floods: Processes, Forecasts, Probabilities, Impact Assessments and Management

**Convener:** Svenja Fischer

**Co-Conveners:** Andreas Schumann; Günter Blöschl; Elena Volpi; Christopher White; Alberto Viglione; Marcelo Uriburu

##### Event Analyses and Flood Studies

###### 08:30–08:45: IAHS2022-229

The Initiation of a National Flood Studies Programme for South Africa: Overview and Progress to Date

**Jeff Smithers**

(smithers@ukzn.ac.za)

###### 08:45–09:00: IAHS2022-453

The importance of retention times in Natural Flood Management interventions

**Keith Beven**, Elizabeth Follett, Barry Hankin, David Mindham, Trevor Page, Nick Chappell  
Lancaster, United Kingdom of Great Britain - England, Scotland, Wales (k.beven@lancaster.ac.uk)

###### 09:00–09:15: IAHS2022-203

The German flood cooking book: ingredients and regional flavors of floods

**Ralf Merz**, Larisa Tarasova, Stefano Basso  
Helmholtz Centre for Environmental Research UFZ, Department for Catchment Hydrology, Leipzig, Germany (ralf.merz@ufz.de)

###### 09:15–09:30: IAHS2022-70

Risky rivers: physioclimatic controls of basins' penchant for extreme floods

**Stefano Basso**, Ralf Merz, Arianna Miniussi  
Department of Catchment Hydrology, Helmholtz Centre for Environmental Research - UFZ, Halle (Saale), Germany (stefano.basso@ufz.de)

###### 09:30–09:45: IAHS2022-183

Disastrous flooding in July 2021 in Germany - Event analysis and consequences for risk assessment approaches

**Bruno Merz**, Heiko Apel, Heidi Kreibich, Sergiy Vorogushyn  
GFZ German Research Centre for Geosciences, Section Hydrology, Potsdam, Germany (bmerz@gfz-potsdam.de), Institute for Environmental Sciences and Geography, University Potsdam, Germany

**09:45–10:00: IAHS2022-164**

Testing state-of-the-art radar-based precipitation estimates to simulate the exceptional European floods of July 2021

**Mohamed Saadi**, Carina Furusho, Alexandre Belleflamme, Ju-Yu Chen, Silke Trömel, Stefan Kollet  
Institute for Bio- and Geosciences (IBG-3, Agrosphere),  
Forschungszentrum Jülich, Jülich, Germany (m.saadi@fz-  
juelich.de), Centre for High-Performance Scientific  
Computing in Terrestrial Systems, Geoverbund ABC/J,  
Jülich, Germany

**10:00 Coffee break****12:00 Lunch break/ Exhibition for the public****Hydrological Modelling****13:30–13:45: IAHS2022-490**

Combining multiple hydrological model structures in a semi-distributed modelling environment.

**Cyril Thébault**, Charles Perrin, Vazken Andréassian,  
Guillaume Thirel, Sébastien Legrand  
Université Paris-Saclay, INRAE, HYCAR, Antony, France

**13:45–14:00: IAHS2022-339**

Seeking best streamflow assimilation scheme in a semi-distributed hydrological model for flood forecasting

**Paul Royer-Gaspard**, François Bourgin, Alban de Lavenne, Charles Perrin, Guillaume Thirel  
Université Paris-Saclay, INRAE, HYCAR, Antony Cedex,  
France (paul.royer-gaspard@inrae.fr)

**14:00–14:15: IAHS2022-369**

Simulating future occurrence and magnitude of flood events through bias-correction of hourly climate scenarios and semi-distributed rainfall-runoff modelling: application to the Panaro river (Northern Italy)

**Mattia Neri**, Alfredo Reder, Guido Rianna, Elena Toth  
University of Bologna, Bologna, Italy  
(mattia.neri5@unibo.it)

**14:15–14:30: IAHS2022-275**

Expanding information for flood frequency analysis using a weather generator and distributed hydrological modelling in a Spanish Mediterranean catchment

**Carles Beneyto**, José Ángel Aranda, Sergio Salazar-Galán, Rafael García-Bartual, Eduardo Albentosa-Hernández, Félix Francés  
Universitat Politècnica de València, Research Institute of Water and Environmental Engineering, Valencia, Spain  
(carbeib@alumni.upv.es)

**14:30–14:45: IAHS2022-405**

Improving runoff predictions by updating the subsurface state in the DDD model from observed runoff

**Thomas Skaugen**

Norwegian Water Resources and Energy Directorate,  
Hydrology, Oslo, Norway (ths@nve.no)

**14:45–15:00: IAHS2022-359**

A joint assimilation of satellite soil moisture and flood extent maps to improve a flood hazard modelling.

**Renaud Hostache**, Patrick Matgen, Peter-Jan van Leuween, Nancy Nichols, Marco Chini, Ramona Pelich, Carole Delenne

Luxembourg Institute of Science and Technology,  
Environmental Research and Innovation Department,  
Esch-sur-Alzette, Luxembourg, Institut de Recherche pour  
le développement, Environmental Research and  
Environment, Montpellier, France  
(renaud.hostache@ird.fr)

**15:00–16:30: Poster Presentations****S1/SP2 Unsolved Problems in Hydrology: Overarching session**

**A mix of speakers who have submitted an abstract, of inputs from IAHS' commissions and groups, and of interactive discussions.**

**Convener:** Günter Blöschl

**Co-Conveners:** Berit Arheimer; Christophe Cudennec

**16:30–16:35: Introduction by Günter Blöschl****16:35–16:50: IAHS2022-548**

The hydrological system as a living organism

**Hubert H.G. Savenije**

Delft University of Technology, Water Resources Section,  
Department Water Management, Delft, Netherlands  
(h.h.g.savenije@tudelft.nl)

**17:05–17:20: IAHS2022-452**

Problem 20. Reducing uncertainty in model prediction: The role of model invalidation

**Keith Beven**, Ann Kretzschmar, Paul Smith, Nick Chappell

Lancaster, United Kingdom of Great Britain - England,  
Scotland, Wales (k.beven@lancaster.ac.uk)

**17:20–17:35: IAHS2022-63**

Tipping points in continental hydrology: developing a system dynamics approach to represent the interfaces in the critical zone and built a decade-scale hydrologic model.

**Valentin Wendling**, Christophe Peugeot, Manuela Grippa, Jeremy Panthou, Jean-Louis Rajot, Olivier Mora, Angeles G. Mayor, Emmanuel Lawin, Ibrahim Bouzou-Moussa, Abdramane Ba and the TipHyc project  
Hydrosciences Montpellier (IRD, Univ. Montpellier, CNRS)  
Montpellier, France

**17:35–17:45: Break****17:45–18:00: IAHS2022-295**

23 UPH in Africa, process and progress

**Gil Mahé**, Andrew Ogilvie

UMR HSM, Univ. Montpellier, France (gil.mahe@ird.fr)

**18:00–18:15: IAHS2022-602**

Unsolved Problems in Hydrology (UPH) - a Latin American perspective

**Pedro L.B. Chaffe**, Rodrigo C.D. Paiva, Cristóvão V.S. Fernandes and the UPH Latin America

Federal University of Santa Catarina, Florianopolis, Brazil  
(pedro.chaffe@ufsc.br)

**18:15–19:00: Thoughts of IAHS Commissions and Working groups (3 min flash presentations)**

**19:00–19:30: Discussion**

**Lecture Room: Antigone 1**

**S5**

## **A Synthesis of Change in Hydrology and Society: Coevolution and prediction of coupled human-water systems**

**Convener:** Fuqiang Tian

**Co-Conveners:** Giuliano Di Baldassarre; Heidi Kreibich; Jing Wei

**08:30–08:45: IAHS2022-74**

Coevolution and Prediction of Coupled Human-Water Systems: A Synthesis of Change in Hydrology and Society. **Fuqiang Tian**, Melissa Haeffner, Heidi Kreibich, Aditi Mukherji, Jing Wei, Murugesu Sivapalan, Günter Blöschl Tsinghua University, Institute of Hydrology and Water Resources (IHW), Department of Hydraulic Engineering, Beijing, China (fq.tian@gmail.com)

**08:45–09:00: IAHS2022-363**

Hydrology and society: Phenomena emerging from the interactions and feedbacks between human and water systems

**Giuliano Di Baldassarre**, Yongping Wei, Elisa Savelli, Marlies Barendrecht, Sina Khatami, Xu Li, Pieter van Oel, Jimmy O'Keefe, Nura Jafar Shanono, James S. (Jay) Famiglietti  
Centre of Natural Hazards and Disaster Science (CNDS), Department of Earth Sciences, Uppsala University, Sweden (giuliano.dibaldassarre@geo.uu.se)

**09:15–09:30: IAHS2022-653**

Methodologies for the study of change in hydrology and society

**Saket Pande**, Anna Scolobig, Jan Adamowski, Newsha Ajami, Gemma Carr, Andrea Catellatti, Erhu Du, Joseph Guillaume, Melissa Haeffner, Tobias Kreuger, C. Dionisio Perez-Blanco, Tirthankar Roy  
Delft University of Technology, Department of water management, Delft, Netherlands (s.pande@tudelft.nl)

**09:30–09:45: IAHS2022-41**

A vision for human-water systems data

**Heidi Kreibich**, David Yu, Nick Brozović, Serena Ceola, Mariana Madruga de Brito, Kimberly Quesnel, Kai Schröter, David Walker  
German Research Centre for Geosciences GFZ, Section Hydrology, Potsdam, Germany (heidi.kreibich@gfz-potsdam.de)

**10:00 Coffee break**

**12:00 Lunch break/ Exhibition for the public**

**13:45–14:00: IAHS2022-720**

Chapter 10: Global Human-Water Systems

**Naota Hanasaki** and the Chapter 10 Authors  
National Institute for Environmental Studies, Tsukuba, Japan (hanasaki@nies.go.jp)

**14:00–14:15: IAHS2022-573**

Panta Rhei: A Decadal Review of Cause-effect Pathways from Global Case Studies

**Cynthia V. Castro**, Gopal Penny, Thushara Gunda, Maria Jose Polo, Alberto Montanari  
University of Illinois at Urbana-Champaign

**14:15–14:30: IAHS2022-243**

Agent-based model to analyse human-drought feedbacks in dryland regions

**Ileen Streefkerk**, Jens de Bruijn, Toon Haer, Anne van Loon, Jeroen Aerts

Vrije Universiteit Amsterdam, Institute for Environmental Studies, Water and Climate Risks, Netherlands (ileen.streefkerk@vu.nl)

**14:30–14:45: IAHS2022-309**

Addressing hydrological science problems in the Yangtze River: An integrated water systems approach

**Jun Xia**

State Key Laboratory of Water Resources and Hydropower Engineering Sciences, Wuhan University, Wuhan 430072, China, Institute of Geographical Sciences & Natural Resources Research, Chinese Academy of Sciences, Beijing 100101, China.

**14:45–15:00: IAHS2022-348**

Influence of risk perception on the impacts of multiple hydrological extremes

**Maurizio Mazzoleni**, Elena Mondino, Marlies Barendrecht, Alessia Matanó, Anne Van Loon

Vrije Universiteit Amsterdam, Institute for Environmental Studies, Water and Climate Risk, Amsterdam, Netherlands (maurizio.mazzoleni@geo.uu.se), Centre of Natural Hazards and Disaster Science (CNDS) SE-751 05, Uppsala, Sweden

**15:00–16:30: Poster Presentations**

**Lecture Room: Barthez 1**

**S21**

## **Hydrology of Mediterranean and semi-arid regions**

**Convener:** Yves Trambly

**Co-Conveners:** Hamouda Dahklaoui; Christian Leduc; Hodson Makurira; Roger Moussa; Conrad Wasko; Elzbieta Wisniewski; Charalampos Skoulikaris

**08:30–08:45: IAHS2022-96**

Extending calibration sequences to include multi-year drought is not sufficient to train models for future drier climate

**Luca Trotter**, Margarita Saft, Murray Peel, Keirnan Fowler  
University of Melbourne, Faculty of Engineering and Information Technology, Infrastructure Engineering, Australia

**08:45–09:00: IAHS2022-218**

Long-term assessment of water resources and agricultural changes across a semiarid Mediterranean piedmont (High-Atlas, Morocco)

**Youness Ouassanouan**, Younes Fakir, Vincent Simonneaux, Hakim Kharrou, Abdelghani Chehbouni  
Mohammed VI Polytechnic University, Center for Remote Sensing Applications (CRSA), Morocco  
(youness.ouassanouan@um6p.ma)

**09:00–09:15: IAHS2022-100**

Impact of canopy scale heterogeneity on modelling the water and energy budget of a rainfed olive orchard

**Sassi Zied**

CESBIO, Toulouse, France (mohamedzied.sassi@ird.fr)

**09:15–09:30: IAHS2022-254**

Multiscale analysis of soil moisture variability for a typical semi-arid Mediterranean ecosystem

**Roberto Corona**, Nicola Montaldo, Gabriel G. Katul  
Department of Civil Engineering, Environmental and Architecture, University of Cagliari, Italy  
(roberto.corona@unica.it)

**09:30–09:45: IAHS2022-383**

Towards a hydrological consensus about the 2nd – 3rd October 2020 ALEX storm event in the French “Alpes Maritimes” region

**Frederic Pons**, Laurent Bonnifait, David Criado, Olivier Payrastré, Felix Billaud, Pierre Brigode, Catherine Fouchier, Philippe Gourbesville, Damien Kuss, Nathalie Le Nouveau, Olivier Martin, Stan Nomis, Emmanuel Paquet, Bernard Cardelli  
Cerema, Aix-en-Provence, France

**09:45–10:00: IAHS2022-396**

Estimating water flows and water availability in a poorly monitored semiarid small dam using reverse water balance and remote sensing.

**Alyson Estacio**, Renan Rocha, Samiramisthais Linhares, Leticia Vieira, Rafaela Alves, Eduardo Martins  
FUNCEME, Brazil (alyson.estacio@funceme.br),  
Universidade Federal do Ceará, Brazil  
(alyson.estacio@funceme.br)

**10:00 Coffee break****12:00 Lunch break/ Exhibition for the public****13:30–13:45: IAHS2022-699**

Hydrological Characterisation of Mediterranean Catchments

**Antoine Allam**, Roger Moussa, Wajdi Najem, Claude Bocquillon  
CREEN, Faculty of Engineering, Saint Joseph University, Beirut, Lebanon, UMR LISAH, Univ. Montpellier, INRA, Montpellier, France

**13:45–14:00: IAHS2022-677**

Improving the hydrological role of vegetation over Mediterranean mountain areas: the study case of the dehesa ecosystem in Cardena-Montoro Natural Park (Spain)

**Rafael Pimentel**, Pedro Torralbo, Javier Aparicio, Ana Andreu, María Patrocinio González-Dugo, María José Polo

Fluvial Dynamics and Hydrology Research Group, Andalusian Institute for Earth System Research, University of Córdoba, Campus Rabanales, Edificio Leonardo da Vinci, Área de Ingeniería Hidráulica, 14014 Córdoba, Spain, Department of Agronomy, Unit of Excellence María de Maeztu (DAUCO), University of Córdoba, 14014 Córdoba, Spain

**14:00–14:15: IAHS2022-581**

Modelling of a strong flood event on the Mar Menor coastal lagoon with ROMS

**Francisco López Castejón**, Javier Gilabert Cervera, Nuria Alcaraz Oliver, Dionisio Tudela Meroño, Carolina Rodríguez de Mesas

Universidad Politécnica de Cartagena, Departamento de Ingeniería Química y Ambiental, Spain  
(francisco.lopez@upct.es)

**14:15–14:30: IAHS2022-476**

Spatio-temporal characteristics of heavy precipitation observed over the last 20 years on French Riviera coastal catchments

**Sarah Vigoureux**, Pierre Brigode, Julie Poggio, Stan Nomis, Raphaëlle Dreyfus, Olivier Delestre, Maria-Helena Ramos, Emmanuel Moreau, Christophe Laroche, Emmanuel Tric

Université Côte d'Azur, CNRS, OCA, IRD, Géoazur, France. (vigoureux@geoazur.unice.fr), SMIAGE Maralpin, France

**14:30–14:45: IAHS2022-513**

Analysis of rainfall trend and the impact of teleconnection patterns on its variability: case of Medjerda Transboundary Watershed

**Tayeb Boulmaiz**, Hamouda Boutaghane, Habib Abida, Mohamed Saber, Sameh A. Kantoush, Yves Tramblay  
Materials, Energy Systems Technology and Environment Laboratory, Ghardaia university, Ghardaia, Algeria

**14:45–15:00: IAHS2022-436**

A semi-distributed eco-hydrological model for the estimation of the effect of the climate change on a Mediterranean forest

**Serena Sirigu**, Roberto Corona, Nicola Montaldo, Marcello Airi, Maurizio Mallocci  
Cagliari, Engineering, DICAAR, Italy  
(serena.sirigu@unica.it)

**15:00–16:30: Poster Presentations**

**Lecture Room: Rondelet 1****S19  
Innovation and citizen  
engagement to sense the  
Hydrological Cycle****Convener:** Flavia Tauro**Co-Conveners:** Fernando Nardi; Salvatore Grimaldi; David Hannah; Jérôme Le Coz; Dominique Bérod**Citizen Science****08:30–08:45: IAHS2022-528**

Citizens AND HYdrology (CANDHY): on the application of a transdisciplinary framework for assessing citizen science projects addressing hydrological challenges

**Fernando Nardi**, Christophe Cudennec, Tommaso Abrate, Antonio Annis, Thaine H. Assumpção, Alice H. Aubert, Dominique Berod, Alessio Maria Braccini, Wouter Buytaert, Antara Dasgupta, David M. Hannah, Maurizio Mazzoleni, Maria J. Polo, Øystein Sæbø, Jan Seibert, Flavia Tauro, Rita Teutonico, Stefan Uhlenbrook, Cristina Wahrman Vargas, Salvatore Grimaldi

Water Resources Research and Documentation Centre (WARREDOC), University for Foreigners of Perugia, Perugia, Italy, Institute of Environment and College of Arts, Sciences &amp; Education (CASE), Florida International University (FIU), Miami, Florida, US

**08:45–09:00: IAHS2022-473**

Service chaining, end-using, and support-to-action of a PUB-hydrograph modelling: the SIMFEN web service API

Tom Loree, Hervé Squidant, Josette Launay, Alban de Lavenne, **Christophe Cudennec**

UMR SAS, Institut Agro, INRAE, Rennes, France

**09:00–09:15: IAHS2022-457**

Delft Measures Rain - sharing experiences from two rainfall measurement campaigns by citizens

**Remko Uijlenhoet**, Marie-Claire ten Veldhuis, Sandra de Vries, Marit Bogert, Ilias Timori, Karen Chen, Rafaël van Beek

Delft University of Technology, Faculty of Civil Engineering and Geosciences, Department of Water Management, Delft, Netherlands (r.uijlenhoet@tudelft.nl)

**09:15–09:30: IAHS2022-624**

Application of theoretical principles of citizen science in the estimation of water levels in small basins through images from photo traps. The pilot case study of Montecalvello in Viterbo Province (Central Italy)

**Andrea Spasiano**, Salvatore Grimaldi, Fernando Nardi, Simone Noto, Alessio Maria Braccini

Water Resources and Research Documentation Center, University for Foreigners of Perugia, Perugia, Italy, Department of Economics, Engineering, Society and Business Organization, University of Tuscia, Viterbo, Italy

**09:30–09:45: IAHS2022-196**

Site identification and discharge measurements through Mobile Crowdsensing in the Mar Menor region

**Salvador Peña-Haro**, José M. Cecilia, Pablo Blanco-Gómez, Catia Prandi, Javier Senent-Aparicio  
photrack ag, Zurich, Switzerland (pena@photrack.ch)**09:45–10:00: IAHS2022-92**

The 100 Plastic Rivers Programme &amp;dash; A Participatory Approach to Analysing Global River Microplastic Pollution.

**Stefan Krause**, Holly Nel, Uwe Schneidewind, Iseult Lynch, Greg Sambrook Smith, Jen Drummond, Jesus Gomez-Velez

University of Birmingham, School of Geography, Earth and Environmental Sciences, School of Geography, Earth and Environmental Sciences, Birmingham, United Kingdom of Great Britain - England, Scotland, Wales (s.krause@bham.ac.uk)

**10:00 Coffee break****12:00 Lunch break/ Exhibition for the public****Measurements and Observations****13:30–13:45: IAHS2022-448**

How well can citizens observe water levels and other hydrological variables using a smartphone app?

**Jan Seibert**, Sara Blanco, Mirjam Scheller, Franziska Schwarzenbach, Ze Wang, Ilja van Meerveld

University of Zurich, Department of Geography, Zürich, Switzerland (jan.seibert@geo.uzh.ch), Department of Aquatic Sciences and Assessment, Swedish University of Agricultural Sciences, Uppsala, Sweden

**13:45–14:00: IAHS2022-730**

Flood disasters and integrated flood management especially from citizens' perspectives in Nepal

**Narayan Prasad Gautam**

Department of Meteorology, Tri-Chandra M. Campus, Tribhuvan University, Kathmandu, Nepal

**14:00–14:15: IAHS2022-98**

Extending streamgauging thanks to low-cost velocity-head rods

**Jérôme Le Coz**, Mickaël Lagouy, Francis Pernot, Alexis Buffet, Céline Berni

INRAE, UR RiverLy, Villeurbanne, France (jerome.lecoz@inrae.fr)

**14:15–14:30: IAHS2022-437**

Uncertainty analysis of moving boat ADCP discharge measurements

**Blaise Calmel**, Jérôme Le Coz, Aurélien Despax, Alexandre Hauet

INRAE, UR RiverLy, 5 rue de la Doua, 69100 Villeurbanne, France (blaise.calmel@inrae.fr)

**14:30–14:45: IAHS2022-306**

A Low-Cost Sensor Network System for Reliable Small Stream Monitoring

**Christopher Post**, Mohammad Mayyan, Jackson Merritt, Chuck Cook, Dharan Sammeta, Angel Isaac, Vandini Modi, Paul Minerva, Elena Mikhailova

Clemson University, Department of Forestry and Environmental Conservation, United States of America (cpost@clemson.edu)

**14:45–15:00: IAHS2022-334**

Time-lapse imagery to monitor ephemeral and intermittent streams.

**Simone Noto**, Flavia Tauro, Gianluca Botter, Salvatore Grimaldi

Department of Civil, Environmental and Architectural Engineering, University of Padua, Padova, Italy (simone.noto@phd.unipd.it, gianluca.botter@unipd.it)

**15:00–16:30: Poster Presentations****Lecture Room: Rondelet 2**

## S8 Hydrometeorological predictability on subseasonal to seasonal scale: Potential for hydrological decision making

**Convener:** Harald Kunstmann

**Co-Conveners:** Ali Nazemi; Fuqiang Tian; Yuri Simonov; Christopher White

**08:30–08:45: IAHS2022-104**

Challenges of machine learning based post-processing methods for sub-seasonal forecasts

**Konrad Bogner**, Annie Y.-Y. Chang, Massimiliano Zappa  
Swiss Federal Institute for Forest, Snow and Landscape  
Research WSL, Birmensdorf, Switzerland  
(konrad.bogner@wsl.ch)

**08:45–09:00: IAHS2022-119**

How does the seasonal forecast quality of hydrological extremes vary in space and time?

**Yiheng Du**, Ilias Pechlivanidis, Ilaria Clemenzi  
Swedish Meteorological and Hydrological Institute,  
Hydrology Research Unit, Sweden (yiheng.du@smhi.se)

**09:00–09:15: IAHS2022-200**

Enhancement of seasonal hydrological forecasting with analogue selection of historical years

**Wei Yang**, Kean Foster, Ilias G. Pechlivanidis  
Swedish meteorological and hydrological institute,  
Hydrology, Norrköping, Sweden (wei.yang@smhi.se)

**09:15–09:30: IAHS2022-291**

Toward a unified stochastic framework for projection and prediction of streamflow under changing conditions

**Ali Nazemi**, Masoud Zaerpour  
Concordia University, Building, Civil and Environmental  
Engineering, Canada (ali.nazemi@concordia.ca)

**09:45–10:00: IAHS2022-415**

Aiming for globally available but locally relevant seasonal drought risk forecasts with GLOFFIS

**Frederiek Sperna Weiland**, Patricia Trambauer, Dimmie  
Hendriks, Matthijs den Toom, Albrecht Weerts, Jan  
Verkade  
Deltares, Delft, The Netherlands

**10:00 Coffee break****12:00 Lunch break/ Exhibition for the public**

**13:30–13:45: IAHS2022-525**

Aqui-FR: towards a hydro-geological seasonal forecasting system for metropolitan France

Jean-Marie Willemet, Simon Munier, Francois Besson,  
**Pierre Etchevers**, Patrick Le Moigne, Fabienne Rousset,  
Jean-Michel Soubeyroux, Christian Viel, Florence Habets,  
Philippe Ackerer, Nadia Amraoui, Jean-Raynald de  
Dreuzy, Nicolas Gallois, Claire Magand, Dominique Thiery,  
Jean-Pierre Vergnes  
Meteo-France, Climatology and Climate Services Division,  
Toulouse, France

**13:45–14:00: IAHS2022-546**

Seasonal forecasts offer economic benefit for hydrological decision making in semi-arid regions

**Tanja C. Portele**, Christof Lorenz, Berhon Dibrani, Patrick  
Laux, Jan Bliefernicht, Harald Kunstmann  
Karlsruher Institut für Technologie, Institut für  
Meteorologie und Klimaforschung - Atmosphärische  
Umweltforschung (IMK-IFU), Garmisch-Partenkirchen,  
Germany (tanja.portele@kit.edu), University of Augsburg,  
Institute of Geography, Augsburg, Germany

**14:00–14:15: IAHS2022-579**

Seamless meteorological forecast production and evaluation towards hydrological decision-making in France: CIPRHES projet

**Talardia Gbangou**, Christian Viel, Fabienne Rousset,  
Jean-Marie Willemet, Pierre Etchevers, Simon Munier,  
Maria-Helena Ramos, François Bourgin  
CNRM, Météo France, CNRS, Toulouse, France  
(talardia.gbangou@meteo.fr), Météo-France, Climatology  
ad Climate Services Division, Toulouse, France

**14:15–14:30: IAHS2022-732**

Seasonal Precipitation forecasting with large scale climate predictors: A hybrid wavelet multiresolution -NARX scheme

**Rim Ouachani**, Zoubeida Bargaoui, Taha Ouarda  
Higher Institute of Transport and Logistics of Sousse -  
Sousse University, Tunisia

**14:30–14:45: IAHS2022-750**

Prediction of water level variations in aquifers using recurrent and convolutional neural networks

**Lea Duran**, Rida Mouni, Valentin Duperron, Loïc  
Maisonasse, Guillaume Artigue, Séverin Pistre, Anne  
Johannet  
Atos Montpellier, HydroSciences Montpellier, Montpellier

**14:45–15:00: IAHS2022-751**

Predictive performance of bias-corrected seasonal SEAS5 forecasts for Germany

**Jan Niklas Weber**, Christof Lorenz, Tanja Portele, Harald  
Kunstmann  
Karlsruhe Institute of Technology, Institute of Meteorology  
and Climate Reserach, Garmisch-Partenkirchen,  
Germany, University of Augsburg, Center for Climate  
Resilience, Augsburg, Germany

**15:00–16:30: Poster Presentations**

## Monday Posters

**Poster Area: Poster Area**

**Attendance Time: 15:00–16:30**

### S1/SP2 Unsolved Problems in Hydrology: Overarching session

**Convener:** Günter Blöschl

**Co-Conveners:** Berit Arheimer, Christophe Cudennec

**P1: IAHS2022-366**

Analysis influence of evapotranspiration on superconducting gravity signal at daily time step  
 Bertille Loiseau, **Simon Carriere**, Cédric Champollion, Chloé Ollivier, Nicolas Martin-StPaul, Nolwenn Lesparre, Albert Olioso, Jacques Hinderer, Damien Jougnot  
 Sorbonne University, Paris, France  
 (simon.carriere@upmc.fr)

**P3: IAHS2022-538**

How Scaling Helps Solve Problems in Hydrology  
**Daniel Schertzer**, Vijay Dimri, Klaus Fraedrich, Vijay Gupta, Witold Krajewski, Renzo Rosso  
 Hydrology Meteorology and Complexity (HM&CO), Ecole des Ponts ParisTech, Marne-la-Vallée, France  
 (daniel.schertzer@enpc.fr), Civil and Environmental Engineering, Imperial College of London, London, United Kingdom

**P4: IAHS2022-692**

In search of catchment-scale hydrological laws: learning from the long-term water balance formulas  
**Vazken Andréassian**, Tewfik Sari, Léonard Santos, Alban de Lavenne  
 Université Paris-Saclay, INRAE, HYCAR, Antony, France  
 (vazken.andreassian@inrae.fr)

**P5: IAHS2022-724**

Interception loss as an underestimated component of evapotranspiration modelling in a forested catchment  
**Anna Lamacova**, Radek Vlnas, Pavel Kram  
 Czech Geological Survey, Prague, Czech Republic  
 (anna.lamacova@geology.cz)

### S2 Floods: Processes, Forecasts, Probabilities, Impact Assessments and Management

**Convener:** Svenja Fischer

**Co-Conveners:** Andreas Schumann, Günter Blöschl, Elena Volpi, Christopher White, Alberto Viglione, Marcelo Uriburu

**P6: IAHS2022-60**

Using the information on rainfall intensities to represent the variability in time of dominant processes in a hydrological model  
**Paul C. Astagneau**, François Bourgin, Vazken Andréassian, Charles Perrin  
 Université Paris-Saclay, INRAE, HYCAR Research Unit, Antony, France (paul.astagneau@inrae.fr)

**P7: IAHS2022-237**

Uncertainty propagation in derived flood frequency analysis driving a rainfall-runoff model with stochastically generated climate input data  
**Luisa-Bianca Thiele**, Ross Pidoto, Uwe Haberlandt  
 Leibniz University Hanover, Hannover, Germany  
 (thiele@iww.uni-hannover.de)

**P8: IAHS2022-38**

Investigating flood change mechanisms in Europe through a probabilistic flood change model  
**Miriam Bertola**, Alberto Viglione, David Lun, Günter Blöschl  
 Institute of Hydraulic Engineering and Water Resources Management, Vienna University of Technology, Vienna, Austria

**P9: IAHS2022-374**

Attribution of hydrometeorological variability in flood generation over the Godavari River  
**Saran Aadhar**, Efrat Morin  
 Civil & Infrastructure Engineering, Indian Institute of Technology, Jodhpur, India (saran.aadhar@iiitj.ac.in)

**P10: IAHS2022-349**

Simulating catchment scale river discharges and flood events from large scale atmospheric information: Example of the Upper Rhône River (European Alps)  
**Caroline Legrand**, Bruno Wilhelm, Benoît Hingray  
 Institute for Geosciences and Environmental Research, University Grenoble Alpes, CNRS, IRD, G-INP, Grenoble, France (caroline.legrand@univ-grenoble-alpes.fr)

**P11: IAHS2022-28**

The Flood Risk Assessment in cities as an element of a Flood Risk Management: A CASE STUDY of Krakow, Poland  
**Andrzej Wałęga**, Benjamin Więzikzik, Kazimierz Banasik, Magdalena Grzebinoga  
 University of Agriculture in Krakow, Department of Sanitary Engineering and Water Management, Poland (andrzej.walega@urk.edu.pl), Association of Polish Hydrologists - SHP

**P12: IAHS2022-61**

Flood monitoring system in the Dakar agglomeration  
**Laurent pascal m. Dieme**, Christophe Bouvier, Ansoumana Bodian, Alpha Sidibé  
 Université gaston berger saint louis, Laboratoire Leïdi, Géographie, Saint Louis, Senegal (dieme.laurent-pascal-malang@ugb.edu.sn)

**P13: IAHS2022-106**

Contribution of a systematic and long-term observation method to improve the understanding of flood impacts  
**Pauline Bremond**, Pierre Balzergue, Frédéric Grelot, Valériane Marry, Maxime Modjeska, David Nortes Martinez  
 INRAE, UMR G-EAU, Univ Montpellier, AgroParisTech, BRGM, CIRAD, IRD, INRAE, Institut Agro, Montpellier, France, Montpellier Cedex 5, France  
 (pauline.bremond@inrae.fr)

**P14: IAHS2022-281**

Groundwater floods: linking the hydrodynamic characterisation of the karst aquifer at the Cadarache CEA centre (South of France) to the karst structure using statistical analysis of temperature.

**Manon Erguy**, Sébastien Morilhat, Guillaume Artigue, Julien Trincal, Anne Johannet, Séverin Pistre  
CEA, Centre de Cadarache, 13108 Saint Paul Lez Durance cedex, France, HydroSciences Montpellier (Univ. Montpellier, IMT Mines Ales, IRD, CNRS), 6 av. de Clavières, 30100 Ales, France

**P15: IAHS2022-336**

Flood damage assessment and mapping within the MOVIDA project: a glance to expected impacts on roads and railway infrastructures

**Natasha Petruccelli**, Alice Gallazzi, Daniela Molinari, Mohammed Hammouti, Marco Zazzeri, Simone Sterlacchini, Francesco Ballio, Armando Brath, Alessio Domeneghetti  
Dept. of Civil, Chemical, Environmental and Materials Engineering, Alma Mater Studiorum - University of Bologna, Bologna, Italy

**P16: IAHS2022-406**

Post-flood evaluation of the 2010 and 2020 niger river floods in the districts of karimama and malanville in north - benin using remote sensing

**Talahatou Tabou**, Ismaël Mazo, Soufouyane Zakari, Ibouaïma Yabi, Ernest Amoussou  
Laboratory of Cartography, (LaCarto) University of Abomey-Calavi, 10 BP 1082, Cadjèhoun, Cotonou, Benin, Pierre PAGNEY Laboratory" Climate, Water, Ecosystems and Development" (LACEEDE), University of Abomey-Calavi, BP 922, Abomey-Calavi, Benin.

**P18: IAHS2022-613**

Flash Flood Hazards and Climate Change in East Cairo Province, Egypt

**Tamer Nassar**  
Cairo University, Faculty of Science, Geology Department, Egypt (nassart@aucegypt.edu), American University in Cairo, School of Science and Engineering

**P19: IAHS2022-718**

Development of flood risk and flood damage methodology

**Maria Hlinkova**  
Technical university of Kosice, Faculty of Civil Engineering, Department of Environmental Engineering

**P20: IAHS2022-687**

Modelling urban floods in megacities: a comparative bibliometric review of traditional physically based and artificial intelligence models

**Marina Batalini de Macedo**, Roberto Fray da Silva, Maria Clara Fava, Ashutosh Sharma, Nikunj K. Mangukiya, Ana Carolina Sarmiento Buarque, Maria Tereza Razzolini, Eduardo Mario Mendiondo, Narendra Kumar Goel, Mathew Kurian, Adelaide Cassia Nardocci  
University of Sao Paulo, School of Public Health, Brazil (marinabatalini@usp.br)

**S5****A Synthesis of Change in Hydrology and Society: Coevolution and prediction of coupled human-water systems**

**Convener:** Fuqiang Tian

**Co-Conveners:** Giuliano Di Baldassarre, Heidi Kreibich, Jing Wei

**P21: IAHS2022-34**

Impact of urbanization on precipitation: a multi-site observation and modelling approach over the United States of America.

**Morgane Lalonde-Le Pajolec**, Alexandre Dulac, Sophie Bastin, Ludovic Oudin  
Sorbonne Université, CNRS, EPHE, UMR METIS, Paris, France, LATMOS/IPSL, UVSQ Université Paris-Saclay, Sorbonne Université, CNRS, Guyancourt, France

**P22: IAHS2022-206**

Human-flood interactions: The role of economic inequality

**Sara Lindersson**, Elena Raffetti, Luigia Brandimarte, Johanna Mård, Maria Rusca, Giuliano Di Baldassarre  
Centre of Natural Hazards and Disaster Science, Department of Earth Sciences, Uppsala University, Uppsala, Sweden

**P23: IAHS2022-210**

Long-term water imbalances of global watersheds resulting from biases in hydroclimatic datasets for water budget analyses

**Xuezhi Tan**  
Center of water resources and environment, Sun Yat-sen University, Guangzhou, PR. China (tanxuezhi@mail.sysu.edu.cn)

**P24: IAHS2022-249**

River runoff in European Russia under global warming

**Andrey Kalugin**  
Water Problems Institute, Russian Academy of Sciences, Moscow, Russia (andrey.kalugin@iwp.ru)

**S8****Hydrometeorological predictability on subseasonal to seasonal scale: Potential for hydrological decision making**

**Convener:** Harald Kunstmann

**Co-Conveners:** Ali Nazemi, Fuqiang Tian, Yuri Simonov, Christopher White

**P27: IAHS2022-301**

A five-parameter Gamma-Gaussian model to calibrate monthly and seasonal GCM precipitation forecasts

**Zeqing Huang**, Tongtiengang Zhao  
School of Civil Engineering, Sun Yat-Sen University, Guangzhou, China (huangzq6@mail2.sysu.edu.cn)

**P29: IAHS2022-445**

Impact of future climate change and anthropization on the discharges of the So'o watershed (South Cameroon)

Valentin Brice Ebodé, Gil Mahé, Jean-jacques Braun, Jean-guy Dzana, Jules Remy Ndam Ngoupayou,

**Bernadette Nka Nnomo**

Institute of Geological and Mining Research  
(bnnomo@gmail.com)

**P30: IAHS2022-506**

Rainfall-runoff processes of Koupendri catchment north-west, Benin: a modeling approach.

**Chukwuebuka Azuka**

University of Nigeria, Nsukka, Department of Soil Science, Nigeria (chukwuebuka.azuka@unn.edu.ng)

## **S19 Innovation and citizen engagement to sense the Hydrological Cycle**

**Convener:** Flavia Tauro

**Co-Conveners:** Fernando Nardi, Salvatore Grimaldi, David Hannah, Jérôme Le Coz, Dominique Bérod

**P33: IAHS2022-416**

Optical techniques: non-intrusive river monitoring approach

**Francesco Alongi**, Dario Pumo, Carmelo Nasello, Salvatore Nizza, Giuseppe Ciralo, Leonardo Valerio Noto  
Università degli studi di Palermo, Dipartimento di Ingegneria, Palermo, Italy (francesco.alongi01@unipa.it)

**P34: IAHS2022-427**

Survey on relationship between hydrogeological risk awareness/preparedness and multiple sociodemographic factors: case study in a flood-prone area, Nagano, Japan

**Shinichiro Nakamura**, Tsuyoshi Takano, Koki Terakawa, Fuko Nakai, Kensuke Otsuyama, Taikan Oki

Department of Civil Engineering, Nagoya University, Nagoya, Japan (shinichiro@civil.nagoya-u.ac.jp)

**P35: IAHS2022-351**

Social uncertainty in flood risk: field research, citizens' engagement, institutions' collaboration

Dimitra Dimitrakopoulou, Romanos Ioannidis, Georgios-Fivos Sargentis, Panayiotis Dimitriadis, Theano Iliopoulou, Efthimis Chardavellas, **Stelios Vavouloyiannis**, Nikos Mamassis, Demetris Koutsoyiannis

## Tuesday, 31 May 2022

### Lecture Room: Auditorium Pasteur

## S2

### Floods: Processes, Forecasts, Probabilities, Impact Assessments and Management

**Convener:** Svenja Fischer

**Co-Conveners:** Andreas Schumann; Günter Blöschl; Elena Volpi; Christopher White; Alberto Viglione; Marcelo Uriburu

#### Flash Floods: Impacts and Forecasting

##### 08:30–08:45: IAHS2022-715

Hydrologic and Hydraulic modelling as a support for an early warning system for flash floods

**João Fernandes**, Rui Rodrigues, Gonçalo Jesus, João Rogeiro, Anabela Oliveira  
National Laboratory for Civil Engineering, Hydraulics and Environment Department

##### 08:45–09:00: IAHS2022-379

Towards a flash flood forecasting model for local crisis managers

**Salma Sadkou**, Guillaume Artigue, Pierre-Alain Ayrat, Séverin Pistre, Sophie Sauvagnargues, Anne Johannet  
HydroSciences Montpellier, Univ. Montpellier, IMT Mines Ales, IRD, CNRS, 30100 Ales, France, France (salma.sadkou@mines-ales.fr)

##### 09:00–09:15: IAHS2022-166

Spatially distributed calibration of a hydrological model with variational optimization constrained by physiographic maps for flash flood forecasting in France

**Maxime Jay-Allemand**, Julie Demargne, Pierre-André Garambois, Pierre Javelle, Igor Gejadze, François Colleoni, Didier Organde, Patrick Arnaud, Catherine Fouchier  
Hydris Hydrologie, Parc Scientifique Agropolis II, 2196 Boulevard de la Lironde, 34980 Montferrier-sur-Lez, France (maxime.jay.allemand@hydris-hydrologie.fr)

##### 09:15–09:30: IAHS2022-666

On extreme rainfall scaling and stochastic storm transposition to enhance the design hydrographs definition and flash flood risk assessment

**Marco Lompi**, Enrica Caporali, Luis Mediero, Bernardo Mazzanti  
University of Florence, Department of Civil and Environmental Engineering, Italy (marco.lompi@unifi.it), Universidad Politécnica de Madrid, Department of Civil Engineering: Hydraulic, Energy and Environment, Madrid, SPAIN

##### 09:30–09:45: IAHS2022-186

Future changes in flash flood frequency and magnitude over the European Alps

**Marjanne Zander**, Pety Viguurs, Frederiek Serna Weiland, **Albrecht Weerts**  
Deltares, Inland Water Systems, Delft, The Netherlands, Hydrology and Quantitative Watermanagement, Dept. of Environmental Sciences, WUR, Wageningen, The Netherlands

##### 09:45–10:00: IAHS2022-512

Floods forecasting on karstic basin - Agly river, south of France

**Perrine Fleury**, Jean-Christophe Maréchal  
BRGM, Université Montpellier, France, G-eau, UMR 183, INRAE, CIRAD, IRD, AgroParisTech, Supagro, BRGM, Montpellier, France

### 10:00 Coffee break

#### Stochastic Hydrology

##### 10:30–10:45: IAHS2022-4

Risk of extreme rainfall in the Bandama basin (West Africa): Contribution of multifractal analysis

**N'diaye Edwige Hermann Meledje**, Kassia Francis Koffi Bi, Kan Martin Kouassi, Yao Alexis N'go, Kouakou Lazare Kouassi

Marine Geology, Sedimentology and Environment Laboratory, Center of Ecology Research, University Nangui Abrogoua, Abidjan, Ivory Coast

##### 10:45–11:00: IAHS2022-550

Flood Seasonality Mechanisms in Brazil

**Vinicius B P Chagas**, Pedro L B Chaffe, Günter Blöschl  
Graduate Program of Environmental Engineering, Federal University of Santa Catarina, Florianopolis, Brazil (vbchagas@gmail.com)

##### 11:00–11:15: IAHS2022-57

Multivariate statistical assessment of flood scenarios in large river basins under consideration of tributary impacts and flood types

**Svenja Fischer**, Andreas Schumann  
Ruhr-University Bochum, Institute of Hydrology, Civil-Engineering, Bochum, Germany (svenja.fischer@hydrology.ruhr-uni-bochum.de)

##### 11:30–11:45: IAHS2022-355

A process-based multivariate framework for reservoir safety evaluation for Slovakia

**Peter Valent**, Anna Liová, Kamila Hlavňová, Silvia Kohnová, Tomáš Bacigál, Roman Výleta, Ján Szolgay  
Institute of Hydraulic Engineering and Water Resources Management, Vienna University of Technology, Karlsplatz 13/223, A-1040 Wien, Austria (valent@hydro.tuwien.ac.at), Slovak University of Technology, Department of Land and Water Resources Management, Radlinského 11, 810 05, Bratislava, Slovakia

##### 11:45–12:00: Discussion (abstract withdrawal)

### 12:00 Lunch break / Exhibition for the public

**Changes in Flood Frequency and Magnitude****13:45–14:00: IAHS2022-553**

Analysis of Historical Flood Frequencies and Magnitudes and Future Scenarios Forecasting in the Mono River Basin, West Africa

**Houteta Djan'na Koubodana**, Moustapha Tall, Rodric MÉRIMÉ Nonki, Koffi Djaman, Nilanchal Patel, Kossi Atchonouglo

African Institute for Mathematical Sciences (AIMS) of Rwanda, Climate Science, Kigali, Rwanda (djanna.koubodana@aims.ac.rw), Faculté Des Sciences, Université de Lomé, 01B:P 1515 Lomé, Togo

**14:00–14:15: IAHS2022-460**

Assessment of the long-term change in the extreme hydrological events across the West African basins

**Jean Hounkpè**, Djigbo Félicien Badou

Laboratoire d'Hydrologie Appliquée, Institut National de l'Eau, Université d'Abomey-Calavi, Abomey-Calavi, Benin

**14:15–14:30: IAHS2022-402**

Detection of trends in observed river floods in Poland

**Nelson Venegas Cordero**, Zbigniew Kundzewicz, Shoaib Jamro, Mikolaj Piniewski

Warsaw University of Life Sciences, Department of Hydrology, Meteorology and Water Management, Warsaw, Poland (nelson\_venegas@sggw.edu.pl)

**14:30–14:45: IAHS2022-245**

Flood risk in China: observed changes and variability, management, and projections

**Zbigniew Kundzewicz**, Tong Jiang, Buda Su, Jinlong Huang, Yanjun Wang

Institute for Disaster Risk Management, School of Geographical Science, Nanjing University of Information Science & Technology, Nanjing, China; Department of Meteorology, Pozna, University of Life Sciences, Pozna, Poland

**14:45–15:00: IAHS2022-26**

On the importance of soil moisture dynamics for flood generation in Africa

**Yves Trambly**, Gabriele Villarini, Mohamed El Mehdi Saidi, Gaby Gründemann, El Mahdi El Khalki, Christian Massari, Lina Stein, Denis Hughes

HydroSciences Montpellier (Univ. Montpellier, CNRS, IRD), Montpellier, France

**15:00 Break****15:00–16:30: Poster Presentations****Uncertainty and Urban Flood Modelling****16:30–16:45: IAHS2022-230**

Investigation of the maximisation potential of large floods by spatio-temporal simulation of rainfall.

**Uwe Haberlandt**, Luisa-Bianca Thiele

University of Hannover, Inst. of Hydrology and Water Resources Management, Hannover, Germany (haberlandt@iww.uni-hannover.de)

**16:45–17:00: IAHS2022-483**

Changeability of Simulated Watershed Hydrograph from Different Vector Scales and Cell Sizes

**Mostafa Moradi Dashtpajardi**, Seyed Hamidreza Sadeghi, Hamidreza Moradi Rekabdarkoolai

Faculty of Natural Resources, Tarbiat Modares University, Noor 46417-76489, Mazandaran, Iran

**17:00–17:15: IAHS2022-703**

Quantifying the uncertainty associated with future floods simulations from regional climate models

**Salah Basem Ajjur**, Sami G. Al-Ghamdi

Division of Sustainable Development, College of Science and Engineering, Hamad Bin Khalifa University, Qatar Foundation. Doha, Qatar.

**17:15–17:30: IAHS2022-6**

Assessing the effects of urbanization on flood events using hydrological modelling: A case study of the Oued Fez urban catchment (Morocco)

**Ismail Bouizrou**, Nanée Chahinian, Jean-Louis Perrin, Remy Müller, Naoual Rais

Sidi Mohamed Ben Abdellah University, Faculty of Sciences and Techniques, Functional Ecology and Environmental Engineering, Fez, Morocco (bouizrouismail@gmail.com)

**17:30–17:45: IAHS2022-71**

Flood impact assessment in urban context. How important is it to couple hydraulic and economic models at a fine scale?

**David Nortes Martinez**, Frédéric Grelot, Cécile Choley, Pascal Finaud-Guyot

G-EAU, Univ. Montpellier, AgroParisTech, CIRAD, IRD, INRAE, Montpellier SupAgro, Montpellier, France

**Lecture Room: Antigone 1****S5**

## A Synthesis of Change in Hydrology and Society: Coevolution and prediction of coupled human-water systems

**Convener:** Fuqiang Tian

**Co-Conveners:** Giuliano Di Baldassarre; Heidi Kreibich; Jing Wei

**08:30–08:45: IAHS2022-443**

Using socio-hydrogeology to identify pollutant fluxes toward groundwater within a highly anthropized coastal hydrosystem

**Eléa Crayol**, Frédéric Huneau, Emilie Garel, Viviana Re, Alexandra Mattei, Sébastien Santoni, Vanina Pasqualini

Département d'Hydrogéologie, Université de Corse Pascal Paoli, Campus Grimaldi, BP 52, 20250 Corte, France, CNRS, UMR 6134, SPE, BP 52, 20250 Corte, France

**08:45–09:00: IAHS2022-493**

Exploring the interplay between human distance to rivers and drought events across Africa

**Serena Ceola**, Johanna Mard, Giuliano Di Baldassarre  
Alma Mater Studiorum - Università di Bologna, Engineering, Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), Bologna, Italy (serena.ceola@unibo.it)

**09:00–09:15: IAHS2022-599**

Compound hydrometeorological risks on the Spanish Mediterranean coast in face of climate, environmental and social change

**María Carmen Llasat**, José Antonio Jiménez  
Department of Applied Physics, Faculty of Physics, University of Barcelona, c) Martí Franqués 1, Barcelona, 08028, Spain (carmell@meteo.ub.edu)

**09:30–09:45: IAHS2022-659**

Unknown knowns: a missing piece of the uncertainty quadrant in hydrology

**Sina Khatami**, Giuliano Di Baldassarre, Enayat A Moallemi, Henrik Erndtson  
Department of Earth Sciences, Centre of Natural Hazards and Disaster Science, Uppsala, Sweden

**09:45–10:00: IAHS2022-700**

Synthesis of Panta Rhei Working Group: Three-dimensional water scarcity

**Junguo Liu**

**10:00 Coffee break****S33****Open science and education, knowledge society, and inclusive progress towards Agenda 2030**

**Convener:** Christophe Cudennec

**Co-Conveners:** Berit Arheimer; Nilay Dogulu; Claudio Caponi; Anil Mishra; Vladimir Smakhtin

**Principles and internationally organized efforts****10:30–10:45: IAHS2022-592**

Open Science in hydrology &ndash; 100 years of precursors and actual tectonics from the IAHS perspective

**Christophe Cudennec**  
IAHS, UMR SAS, Institut Agro, INRAE, Rennes, France

**10:45–11:00: IAHS2022-729**

Enhancing knowledge sharing and building capacity for water resources management: Insights from Southern Africa

**Jean-Marie Kileshye-Onema**, Hodson Makurira, Nnnesi Kgabi  
WaterNet, Harare, Zimbabwe, School of Engineers, University of Lubumbashi, DR Congo

**11:00–11:15: IAHS2022-662**

Advancing the Science and Practice of Hydrology: Past and future contributions of UNESCO-IHP

**Graham Jewitt**, Anil Mishra  
IHE Delft Institute for Water Education, Dept Water Resources and Ecosystems, Delft, Netherlands

**11:15–11:30: IAHS2022-705**

WMO recent developments to contribute to open science and education in operational hydrology

**Claudio Caponi**, Johannes Cullmann  
World Meteorological Organization, Hydrological Services, Switzerland (ccaponi@wmo.int)

**11:30–11:45: IAHS2022-627**

Strengthening water system research at the CGIAR to achieve a water and food secure world

**Stefan Uhlenbrook**, Matthew McCartney, Claudia Ringler, Rachael McDonnell, Mark Smith  
International Water Management Institute, Water, Food and Ecosystems, Sri Lanka (s.uhlenbrook@cgiar.org)

**12:00 Lunch break/ Exhibition for the public****Openness - Principles, data, tools, methods****13:30–13:45: IAHS2022-609**

Open Hydrology Principles and Practical Guide to Promote Diverse and Inclusive Research.

Caitlyn Hall, **Nilay Dogulu**, Sheila Saia, Andrea Popp, Stanislaus Schymanski, Niels Drost, Tim van Emmerik, Rolf Hut  
Independent Researcher, Ankara, Turkey (nilay.dogulu@gmail.com)

**13:45–14:00: IAHS2022-310**

Open and Free Datasets for Hydrology Research: Insights, Challenges and Opportunities

**Michelle Newcomer**, Nilay Dogulu, Honeyeh Iravani, Moctar Dembélé, Gökçen Uysal, Tirthankar Roy, Svenja Fischer  
Lawrence Berkeley National Laboratory, Berkeley, California, U.S.A., (mnewcomer@lbl.gov)

**14:00–14:15: IAHS2022-521**

CAMELS-FR: A large sample hydroclimatic dataset for France to explore hydrological diversity and support model benchmarking

**Olivier Delaigue**, Pierre Brigode, Vazken Andréassian, Charles Perrin, Pierre Etchevers, Jean-Michel Soubeyroux, Bruno Janet, Nans Addor  
Université Paris-Saclay, INRAE, HYCAR, ANTONY, France (olivier.delaigue@inrae.fr)

**14:15–14:30: IAHS2022-670**

ROBIN - A Reference Observatory of Basins for International hydrological climate change detection

Jamie Hannaford, **Lucy Barker**, Stephen Turner, Harry Dixon, Adam Griffin, Alannah Killeen  
UK Centre for Ecology & Hydrology, Wallingford, United Kingdom

**14:30–14:45: IAHS2022-489**

The OZCAR Critical Zone Observatory Network: an opportunity to address some unsolved problems in hydrology

**Isabelle Braud**, Jérôme Gaillardet  
INRAE, RiverLY, Villeurbanne cedex, France (isabelle.braud@inrae.fr)

**14:45–15:00: Discussion****15:00 Break****15:00–16:30: Poster Presentations**

**Knowledge development, articulation, sharing****16:30–16:45: IAHS2022-219**

Advancing knowledge accumulation and synthesis in hydrology

**Lina Stein**, Thorsten Wagener

Institute of Environmental Science and Geography,  
University Potsdam, Potsdam, Germany (lina.stein@uni-potsdam.de)

**16:45–17:00: IAHS2022-605**

GMS-SNOWMED: Linking scientific knowledge with society in an open global monitoring system of snow hydrology in Sierra Nevada (Spain)

**María José Polo**, Javier Herrero, Eva Contreras, Rafael Pimentel, Cristina Aguilar, Elena Herrera

University of Cordoba, Andalusian Institute for Earth System Research, Cordoba, Spain (mjpolo@uco.es)

**17:00–17:15: IAHS2022-748**

Accelerating Inclusive Learning of Hydrology Under Change and COVID Times With Actions Towards a Planetary Open Science for Future Earth

**Eduardo Mario Mendiando**, Ana Carolina Sarmento Buarque, Maria Clara Fava, Marina Batalini de Macedo, Gabriela Chiquito Gesualdo, Denise Taffarello, Felipe Augusto Arguello de Souza, Marcos Roberto Benso, Luis Miguel Castillo Rapalo, Fabricio Richmond Navarro, Bruno de Souza, Marcos Nobrega Gomez Jr, Cesar Ambrogi do Lago

Water-Adaptive Design & Innovation Lab, SHS-EESC, Univ of Sao Paulo, Brazil, Center for Education & Research on Disasters, University of Sao Paulo, Brazil

**17:15–17:30: IAHS2022-583**

Hydrological sciences realising the UN Sustainable Development Goals

**Berit Arheimer** and the Hydrological Research unit of SMHI

SMHI, Hydrological Research, Norrköpping, Sweden (berit.arheimer@smhi.se)

**17:45–18:00: Discussion****SP3 Open science and IAHS Digital platform**

**A strategic discussion on Open Science in Hydrology, role of IAHS, and actual development of the Water Globe Platform**

**18:00–19:00****Lecture Room: Barthez 1****S21 Hydrology of Mediterranean and semi-arid regions**

**Convener:** Yves Tramblay

**Co-Conveners:** Hamouda Dahklaoui; Christian Leduc; Hodson Makurira; Roger Moussa; Conrad Wasko; Elzbieta Wisniewski; Charalampos Skoulikaris

**08:30–08:45: IAHS2022-110**

Geochemical and isotopic study of groundwaters in the Mitidja coastal plain, north-central Algeria

**Khous Dalale**, Moulla Adnane. s, Ait Amar Hamid, Chorfi Hadjer, Cherchali Mohamed El .H, Belaid Messaouda, Ouarezki Sid-Ali, Benchabane Mounia

Algiers Nuclear research center, Dating and isotopes tracing department, Algeria (dalekh@yahoo.fr)

**08:45–09:00: IAHS2022-169**

Impacts of climate variations and human influences on groundwater recharge in the semi-arid Trarza aquifer (SW Mauritania)

**Ahmed Salem Mohamed**, Christian Leduc, Sidi Yeslem, Guinka Tagarinska, Aichete Salek

Ecole Supérieure Polytechnique de Nouakchott, BP 4303 Cité Cadres - Sebkh, Nouakchott, Mauritania

**09:00–09:15: IAHS2022-173**

Water resources in Lebanon: an overview

**Mohammad Merheb**, Chadi Abdallah, Roger Moussa, Jalal Halwani

Faculty of Sciences 3, Lebanese University, Campus Mont Michel, Ras Maska, Tripoli, Lebanon

(mohammad.merheb.1@ul.edu.lb; mohammadmerheb1987@gmail.com)

**09:15–09:30: IAHS2022-179**

Use of a multi-tracer approach for the hydrogeochemical characterization of fractured crystalline aquifers in semi-arid region

**Marjorie Kreis**, Jean Denis Taupin, Nicolas Patris, Patrick Lachassagne, Virginie Vergnaud-Ayraud, Julien Burte, Christian Leduc, Eduardo Martins

Departamento de Engenharia Civil, Campus do Pici, UFC, Fortaleza, Brazil (marjorie.kreis@hotmail.fr),

Hydrosciences Montpellier, Univ. Montpellier, IRD, CNRS, France (jean-denis.taupin@umontpellier.fr,

nicolas.patris@umontpellier.fr, marjorie.kreis@hotmail.fr, patrick.lachassagne@umontpellier.fr)

**09:30–09:45: IAHS2022-266**

Application of Geochemical and Isotopic Tools to Investigate Water Recharge and Salinization in a Coastal Phreatic Aquifer Suffering Severe Natural and Anthropogenic Constraints: Case of the Mornag Aquifer, NE Tunisia

Mohsen Ben Alaya, Jean Denis Taupin, Haythem Masadek, Inès Ayari, **Nicolas Patris**, Najet Chabenne, Beya Toumi, Fathedinne Melki

Hydrosciences Montpellier, Univ. Montpellier, IRD, CNRS, France (jean-denis.taupin@umontpellier.fr,

nicolas.patris@umontpellier.fr)

**09:45–10:00: IAHS2022-344**

Understanding groundwater drivers in the Mediterranean region using a combination of modeling and in-situ data at a regional scale

**Rafael Chavez Garcia Silva**, Nahed Ben-Salem, Robert Reinecke, Michael Rode, Seifeddine Jomaa  
Department of Aquatic Ecosystem Analysis and Management, Helmholtz Centre for Environment Research - UFZ, Magdeburg, Germany

**10:00 Coffee break****10:30–10:45: IAHS2022-419**

Inclusive and resilient groundwater assessment towards sustainable development in the Mediterranean region

**Seifeddine Jomaa**, Nahed Ben-Salem, Rafael Chávez, Robert Reinecke, Emmanouil Varouchakis, João Vasco Silva, Chiara Ceseracciu, Thi Phuoc Lai Nguyen, Irem Daloglu Cetinkaya, Ali K. Saysel, Nadim K. Copty, Amir Rouhani, Maroua Oueslati, Eric Mino, George P. Karatzas, Pier Paolo Roggero, Michael Rode, J. Jaime Gómez-Hernández  
Department of Aquatic Ecosystem Analysis and Management, Helmholtz Centre for Environmental Research (UFZ), Magdeburg, Germany

**10:45–11:00: IAHS2022-486**

A not-so-paradoxical groundwater rise in semi-arid environments

**Paul Baudron**, Christian Leduc, Ahmed Salem Mohamed, Aziez Zeddouri, Samia Hadj-Said, Marc Leblanc, Fethi Lachaal, Sarah Tweed, José Luis García Aróstegui  
Institut pour la Recherche et le Développement, UMR 183 G-EAU, Montpellier, France, Département des génies civil, géologique et des mines, Polytechnique Montréal, Canada

**11:00–11:15: IAHS2022-491**

Recharge and groundwater dynamics in the Tamanrasset alluvial aquifer (Algerian Sahara)

**Samia Hadj Saïd**, Aziez Zeddouri, Jean Denis Taupin, Nicolas Patris, Christian Leduc  
Laboratoire Réservoirs souterrains: Pétroliers, Gaziers et Aquifères, University Kasdi Merbah, BP 511 Ouargla 30000, Algeria

**11:15–11:30: IAHS2022-607**

Analysis of structural lineaments in the fissural aquifers of the Forquilha and Vista Alegre catchments using remote sensing

**Samiramisthais Linhares**, Rafaela Alves, Marjorie Kreis, Renan Rocha, Alyson Estácio, Jorgiane Bezerra, Eduardo Martins, Natanael Barbosa  
Funceme, Fortaleza, Brazil (samira.linhares@funceme.br), Programa de Pós-Graduação em Geologia, UFBA, Salvador, Brazil

**11:30–11:45: IAHS2022-411**

Isotope hydrology to insight the behaviour of Mediterranean Temporary Ponds: Implications on sustainable ecohydrological management strategies

**Alexandra Mattei**, Frédéric Huneau, Emilie Garel, Laurent Sorba, Sébastien Santoni, Sophie Orsini  
Université de Corse Pascal Paoli, Faculté des Sciences et Techniques, Département d'Hydrogéologie, Campus Grimaldi, BP 52, F-20250 Corte, France, CNRS, UMR 6134, SPE, BP 52, F-20250 Corte, France

**11:45–12:00: IAHS2022-472**

Numerical exploration of the dynamics of infiltration in hill reservoir

**Maroua Bouteffeha**, Cécile Dages, Jérôme Molénat, Rachida Bouhlila  
Tunis El Manar University, National School of Engineering of Tunis, LMHE, 1002 Tunis Belvédère, Tunisia

**12:00 Lunch break/ Exhibition for the public****13:45–14:00: IAHS2022-287**

Hydrological behaviour of mediterranean salt marshes and implications for vegetal cover

**Victor Berteloot**, Armand Crabit, Karim Barkaoui, Elena Kazakou, François Colin  
G-EAU, Univ Montpellier, CIRAD, INRAE, Institut Agro, IRD, Montpellier, France

**14:00–14:15: IAHS2022-515**

Sediment transport and origin in Mediterranean semi-arid basins: Sediment dynamics assessment and quantification

**Omar El Farrouk Khettab**, Abdeslam Megnounif  
EOLE Laboratory, University of Tlemcen, BP 230, 13000, Tlemcen, Algeria

**14:15–14:30: IAHS2022-635**

Spatiotemporal evolution of forest cover and of historical climate data: a case study in the Mediterranean basin.

**Sara Simona Cipolla**, Nicola Montaldo  
Dipartimento di Ingegneria civile, ambientale e architettura, Università di Cagliari, Cagliari, ITALY (saras.cipolla@unica.it)

**14:30–14:45: IAHS2022-64**

Rainfall from ground-based rain gauges vs satellite products at different time steps in the southeast of the Republic of Djibouti.

**Golab Moussa Omar**, Jean-Emmanuel Paturel, Christian Salles, Gil Mahe, Mohamed Jalludin, Frederic Satge, Mohamed Ismail Nour, Abdillahi Hassan Hersi  
HSM, Univ Montpellier, CNRS, IRD, Montpellier (golab.moussa-omar@etu.umontpellier.fr), Centre d'Etudes et de Recherches de Djibouti, Institut des Sciences de la Terre, Djibouti-ville, République de Djibouti (golabmoussa@gmail.com)

**14:45–15:00: IAHS2022-749**

Evaluating the impact of irrigated agriculture on a coastal lagoon in a semi-arid catchment in southeast Spain

**Joris Eekhout**, Juan Albaladejo, Javier Martínez-López, Victor Castillo, Joris de Vente  
Soil and Water Conservation Research Group, CEBAS-CSIC, Murcia, Spain

**15:00–16:30: Poster Presentations**

## S28 The added values of Ecohydrological and Agroecological approaches for integrated large river basin management

**Conveners:** Honeyeh Iravani; Didier Orange  
**Co-Convenor:** Gil Mahé

### 16:30–16:45: IAHS2022-93

Taking the pulse of mother Ganga - The evolution of water pollution along the Ganges River

**Stefan Krause** and the Team SAPTANADI  
University of Birmingham, School of Geography, Earth and Environmental Sciences, School of Geography, Earth and Environmental Sciences, Birmingham, United Kingdom of Great Britain - England, Scotland, Wales (s.krause@bham.ac.uk)

### 16:45–17:00: IAHS2022-161

Ecological study of Mediterranean wetland: Sediment dynamics and blue carbon storage

**Aya Hammami**, Kerim Ben mustapha, Oula Amrouni, Amjad Kallel  
National Institute of Sciences and Technologies of the Sea Tunisia, Ecohydrological, Tunisia (ayahammami60@gmail.com)

### 17:00–17:15: IAHS2022-195

Socioeconomic vulnerability of a Mediterranean coastal lagoon : case of Ghar El Melah, Tunisia

**Abderraouf Hzami**, Gil Mahé, Oula Amrouni, Hechmi Missaoui  
National Institute of Marine Sciences and Technologies, University of Carthage, Tunis, Tunisia (abderraouf.hzami@instm.rnrt.tn, oula.amrouni@instm.rnrt.tn, missaoui.hechmi@instm.rnrt.tn)

### 17:15–17:30: IAHS2022-208

The ecohydrological approach for Integrated Vulnerable Coastal Zone Resilience in arid regions

**Oula Amrouni**, Essam Heggy, Gil Mahé  
National Institute of Marine Sciences and Technologies, Laboratory of Marine Environment, University of Carthage, Tunis, Tunisia (oula.amrouni@instm.rnrt.tn)

### 17:30–17:45: IAHS2022-227

Assessing sediments export from the Nile to the Suez Canal and the associated risk to global shipping

Emmanuel Hanert, **Riana Randresihaja**, Oula Amrouni, Abderraouf Hzami, Sara S. Fouad, Essam Heggy  
Earth and Life Institute, UCLouvain, Louvain-la-Neuve, Belgium (emmanuel.hanert@uclouvain.be), MAST, FOCUS, University of Liège, Liège, Belgium (ny.randresihaja@uclouvain.be)

### 17:45–18:00: IAHS2022-596

Ecohealth model for groundwater quality improvement on the coastal cities of Cotonou and Lomé; in West Africa  
**Henri Sourou Totin Vodounon**, Koko Zébété Houédakor, Ernest Amoussou, Léocadie Odoulami, Codjo Abodourin Albert Patrick Makoutodé

University of Parakou, Faculty of Human and Social Sciences, Department of Geography, Parakou, Benin (totinsourouhv@gmail.com)

## Lecture Room: Rondelet 1

## S20 Hydrology, new tools and innovative measurements and citizen science in Africa

**Convener:** Gil Mahé

**Co-Conveners:** Marloes Mul; Hubert H.G. Savenije; Harald Kunstmann; Flavia Tauro; Fernando Nardi; Anil Mishra; Ernest Amoussou; MEDDI Mohamed; Jean-Marie Kileshye-Onema; Dominique Béro

### Socio-economics and citizen science

#### 08:30–08:45: IAHS2022-97

Modeling erosion and reservoir impacts in data sparse regions in South Africa

**Conrad Brendel**, Alena Bartosova  
Swedish Meteorological and Hydrological Institute, Norrköping, Sweden (conrad.brendel@smhi.se)

#### 08:45–09:00: IAHS2022-1

Which land use scenario for the revitalization of surface runoff in the Senegal River watershed

**Abdoulaye Faty**, Awa Niang, Fernand Kouame, Alioune Kane

#### 09:00–09:15: IAHS2022-746

Analysis of the changes in landcover, streamflow, and sediment yield in Kasai catchment of the Congo River Basin

**Eric Kakanda Tshitende**, Jean Marie Kileshye Onema, Webster Gumindoga, Raphael Tshimanga  
University of Zimbabwe, Construction and Civil Eng. Department Box MP 167 Mt Pleasant, Harare, Zimbabwe, Congo Basin Water Resources Research Center, University of Kinshasa, Kinshasa, DRC, PO Box 127 Kinshasa XI

#### 09:15–09:30: IAHS2022-745

Climate change impact on flood events of Pungwe river basin

**Moises Mavaringana**, Webster Gumindoga, Jean-Marie Kileshye Onema, Hodson Makurira  
Divisão de Agricultura (DivAG) - Instituto Superior Politécnico de Manica PO Box 417, Manica, Mozambique, University of Zimbabwe, Construction and Civil Eng. Department Box MP 167 Mt Pleasant, Harare, Zimbabwe

#### 09:30–09:45: IAHS2022-76

Impact of climate change on the flows of the Mitidja plain basins (Northern Algeria)

**Mohamed Meddi**, Ishak Abdi, Gil Mahe  
National Higher School of hydraulics of Blida, LGEE, Blida, Algeria m.meddi@ensh.dz

**09:45–10:00: IAHS2022-124**

Water Accounting of the Ogun River in the Tropical Environment of South-West Nigeria.

**Shakirudeen Odunuga**, Iyanuoluwa Olufiade, Olubunmi Adegun  
University of Lagos, Geography, Lagos, Nigeria  
(sodunuga@unilag.edu.ng)

**10:00 Coffee break****Hydrological modelling and innovation****10:30–10:45: IAHS2022-75**

A comparative assessment of event based and continuous rainfall runoff modeling for small and ungauged watersheds in Upper Blue Nile Basin, Ethiopia

**Dessalegn Worku Ayalew**, Andrea Petroselli, Davide Luciano De Luca, Ciro Apollonio, Salvatore Grimaldi  
Department of Soil Resources and Watershed Management, College of Agriculture, Woldia University, Woldia, Ethiopia (desuworku60@gmail.com)

**10:45–11:00: IAHS2022-80**

Niger River Basin - Hydrological Modelling: Enhancing Framework Accuracy.

**Salif Koné**, Gil Mahé, Fatogoma Bamba, Jean Emmanuel Paturel, Alain Dezetter, Eric Servat  
École Nationale d'Ingenieurs Abderhamane Baba Touré, Geology, Bamako, Mali (skonemaat@yahoo.fr)

**11:00–11:15: IAHS2022-403**

Improving hydrological modelling across West Africa with the HYPE model

Léonard Santos, **Jafet Andersson**, Berit Arheimer  
SMHI - Swedish Meteorological and Hydrological Institute, Norrköping, Sweden

**11:15–11:30: IAHS2022-117**

Data rescue and valorization of old data. Application to rainfall data in Burkina Faso and Ivory Coast using NUNIEAU software

Jean-Emmanuel Paturel, **Berenger Kouacou**, Franck Lohou, Frédéric Pons, Bernard Dje, Naky Coulibaly, Harouna Karambiri, Valérie Borrell, Andrew Ogilvie, Eric Servat  
DMN, SODEXAM, Abidjan, Côte d'Ivoire

**11:30–11:45: IAHS2022-461**

Rainfall monitoring using microwave links from cellular communication networks: potential for sub-Saharan Africa  
**Remko Uijlenhoet**, Aart Overeem, Hidde Leijnse, Arjan Droste, Linda Bogerd

Delft University of Technology, Faculty of Civil Engineering and Geosciences, Department of Water Management, Delft, Netherlands (r.uijlenhoet@tudelft.nl)

**11:45–12:00: IAHS2022-468**

Caractérisation des occurrences de précipitations dans le sous bassin hydrologique de l'ouémé à Savè : Approche Markovienne et les Réseaux de Neurones Artificiels (RNA)  
**Pierre Jérôme Zohou**, Adéchina Eric Alamou, John Aoga, Eugène C. Ezin

Chaire Internationale en Physique Mathématique et Applications (CIPMA-Chaire UNESCO), UAC, Abomey-Calavi, Benin (pzohou@gmail.com), Laboratoire de Recherche en Sciences Informatiques et Applications (LRSIA), UAC Abomey-Calavi, Bénin (eugene.ezin@gmail.com), Laboratoire d'Hydrologie Appliquée (LHA), UAC, Abomey-Calavi, Bénin (pzohou@gmail.com)

**12:00 Lunch break/ Exhibition for the public****Land-use and climate change impacts on river regimes****13:30–13:45: IAHS2022-207**

Integrating equity into a water allocation model to promote water sharing in environments with vulnerable stakeholders

**Sinetemba Xoxo**, Jane Tanner, Denis Hughes, Sukhmani Mantel  
Rhodes University, Institute for Water Research, Makhanda, South Africa (g13x2945@campus.ru.ac.za)

**13:45–14:00: IAHS2022-235**

Bridging the gap between scientific knowledge and action in flood risk management: two attempts of co-construction project between scientists and stakeholders in Senegal and Burkina Faso in the AMMA2050 program.

**Théo Vischel**, James D. Miller, Youssouph Sané, Fowe Tazen, Gérémy Panthou, Emma Visman, Christopher M. Taylor and the Additionnal Authors  
Université Grenoble Alpes, Institut des Géosciences de l'Environnement, Grenoble Cedex 9, France  
(theo.vischel@univ-grenoble-alpes.fr)

**14:00–14:15: IAHS2022-239**

Exploring the link between drought indices and socio-economic impacts in East Africa

**Rhoda A. Odongo**, Hans de Moel, Marthe Wens, Dim Coumou, Anne F. Van Loon  
Institute of Environmental Studies (IVM), Vrije Universiteit Amsterdam (VU), Amsterdam, Netherlands  
(rhodaachieng.odongo@vu.nl)

**14:15–14:30: IAHS2022-500**

The challenge of integrating local communities to evaluate the WEFE Nexus: the example of the Senegal River

**Laurent Bruckmann**, Amaury Tilmant, Khady Yama Sarr, Ibrahima Barry, Fama Gueye, Massaer Mbaye, Clément Sambou  
Département de Génie Civil et Génie de l'Eau, Université Laval, Québec (Canada)

**14:30–14:45: IAHS2022-562**

Crowdsourcing, Remote sensing and hydrogeomorphic modelling for supporting Data Assimilation for near real time flood forecasting in data scarce regions

**Antonio Annis**, Fernando Nardi  
University For Foreigners of Perugia, WARREDOC, WARREDOC, Perugia, Italy (antonio.annis@unistrapg.it)

**14:45–15:00: IAHS2022-673**

Distributed database technologies for citizen science and data sovereignty

**Julien Malard-Adam**, Ki. Sheejakumar, Joel Harms, Wietske Medema  
IRD, UMR G-EAU, Université de Montpellier, France

**15:00–16:30: Poster Presentations****S27****Policies and mechanisms for water quality improvement and maintenance in a changing environment**

**Convener:** Xiaohong Chen  
**Co-Convener:** Elango Lakshmanan

16:30–18:00

## Lecture Room Rondelet 2

### S23 Advances in snow and ice hydrology

**Convener:** Tobias Jonas  
**Co-Conveners:** Melody Sandells; S. McKenzie Skiles; James McPhee; Timothy Link; Elzbieta Wisniewski; Vsevolod Moreydo

#### 08:30–08:45: IAHS2022-755

How are snowmelt rates actually changing across the Northern Hemisphere?

**Adrià Fontrodona-Bach**, Joshua Larsen, Ross Woods, Bettina Schaeffli, Ryan Teuling  
 School of Geography, Earth and Environmental Sciences, University of Birmingham, UK

#### 08:45–09:00: IAHS2022-14

Snowfall gauge under-catch correction: a key parameter for snow-hydrological simulations

**Denis Ruelland**  
 CNRS, HydroSciences, MONTPELLIER, France  
 (denis.ruelland@um2.fr)

#### 09:00–09:15: IAHS2022-122

Assimilation of multiple types of snow observations through a large scale spatialized particle filter

Jean Odry, **Marie-Amélie Boucher**, Simon Lachance-Cloutier, Richard Turcotte, Pierre-Yves St-Louis  
 Université de Sherbrooke, Civil and Building Engineering department, Sherbrooke, Canada (jean.odry@gmail.com)

#### 09:15–09:30: IAHS2022-572

Ensemble Data Assimilation Methods for Improved Snow Estimation and Streamflow Prediction in Mountainous Terrain.

**David Casson**, Wouter Knoben, Louise Arnal, Shervan Gharari, Bart van Osnabrugge, Guoqiang Tang, Hongli Liu, Martyn Clark  
 Center for Hydrology, University of Saskatchewan, Canada, Department of Operational Water Management, Deltares, Netherlands

#### 09:30–09:45: IAHS2022-441

The Applicability of Optical Satellite Photogrammetry for Snow Depth Derivation and Streamflow Estimates

**James McPhee**, Thomas Shaw, Simon Gascoin, César Deschamps-Berger, Pablo Mendoza, Álvaro Ayala, Francesca Pellicciotti  
 Universidad de Chile, Dept. of Civil Engineering, Santiago, Chile, Advanced Mining Technology Center, Universidad de Chile, Santiago, Chile

#### 09:45–10:00: IAHS2022-144

Aufeis Formation and Climate Change

**Roseanna Neupauer**, Alexi Lainis, Joshua Koch, Michael Gooseff  
 Univ. of Colorado, Dept. of Civil, Environmental and Architectural Engineering, Boulder, Colorado, United States of America

#### 10:00 Coffee break

#### 10:30–10:45: IAHS2022-386

Nivo-glaciological changes in Alpine catchments: impacts on hydrological regimes and aquatic ecosystems

**Anthony Lemoine**, Isabelle Gouttevin, Thomas Condom, Sophie Cauvy-Fraunié, Juliette Becquet, Jordi Bolibar, Antoine Rabatel  
 Univ. Grenoble Alpes, CNRS, IRD, Grenoble INP, IGE, 38000 Grenoble, France (anthony.lemoine@univ-grenoble-alpes.fr), Univ. Grenoble Alpes, Université de Toulouse, Météo-France, CNRS, CNRM, Centre d'Études de la Neige, 38000 Grenoble, France, INRAE, UR RiverLy, 69100 Villeurbanne, France

#### 10:45–11:00: IAHS2022-652

On the use of water stable isotopes to estimate snow and ice melt contribution in a glaciated catchment

**Tom Müller**, Bettina Schaeffli, Stuart N. Lane, Mauro Fischer  
 Institute of Earth Surface Dynamics, University of Lausanne, Lausanne, Switzerland (tom.muller.1@unil.ch), Institute of Geography, University of Bern, Bern, Switzerland

#### 11:00–11:15: IAHS2022-682

Glaciers, snow and neglected forms of frozen water: Cryosphere components in the Trans-Himalaya of Ladakh, India

**Susanne Schmidt**, Stanzin Passang, Dagmar Brombierstäudl, Marcus Nüsser  
 Heidelberg University, South Asia Institute (SAI), Department of Geography, Heidelberg, Germany

#### 11:15–11:30: IAHS2022-340

Influence of initial glacier conditions to the future evolution of river runoff

**Nicolas Champollion**, Lucille Gimenes, Romain Millan  
 Institut des Géosciences de l'Environnement (IGE), CNRS / UGA / Grenoble-INP / IRD, Saint-Martin d'Hères, France (nicolas.champollion@univ-grenoble-alpes.fr)

#### 11:30–11:45: IAHS2022-449

Impact of climate change on the contribution of glaciers to the Upper Yukon River

**Cheick Doumbia**, Alain N. Rousseau  
 Institut National de la Recherche Scientifique, Eau Terre Environnement, Canada (cheick.doumbia@inrs.ca)

#### 11:45–12:00: IAHS2022-267

Potential hydrological pathways using geoelectric and georadar in a covered glacier complex in the Chilean semiarid Andes

**Gonzalo Navarro**, Shelley MacDonell, Rémi Valois  
 Doctorado en Energía Agua y Medio Ambiente, Universidad de La Serena, Avenida Raúl Bitrán 1305, La Serena, Chile, Centro de Estudios Avanzados en Zonas Áridas - CEAZA, Raúl Bitrán 1305, La Serena, Chile

#### 12:00 Lunch break/ Exhibition for the public

### S24

### Cold region runoff and groundwater change

**Convener:** Melody Sandells  
**Co-Conveners:** Felipe de Barros; Fuqiang Tian; Gokcen Uysal; María José Polo

**13:30–13:45: IAHS2022-681**

Using NDVI as an indicator of snowmelt runoff in Mediterranean mountain catchments: application to the Guadalfeo river basin, Sierra Nevada

**Pedro Torralbo**, Rafael Pimentel, Javier Herrero, Cristina Aguilar, Fátima Moreno, María José Polo  
University of Cordoba, Interuniversity Institute of Investigation of the Earth System in Andalusia, Department of Agronomy, Córdoba, Spain (p12tomup@uco.es)

**13:45–14:00: IAHS2022-99**

Aufeis resources and their role in water balance of North-Eastern Eurasia

**Nataliia Nesterova**, Olga Makarieva, Andrey Shikhov, Andrey Ostashov, Anastasiya Zemlyanskova, Vladimir Alexeev  
North-Eastern Permafrost Station, Melnikov Permafrost Institute, Magadan, Russian Federation (nnesterova1994@gmail.com), St. Petersburg State University, Institute of Earth Sciences, Hydrology, St. Petersburg, Russian Federation (nnesterova1994@gmail.com), State Hydrological Institute, St. Petersburg, Russian Federation

**14:00–14:15: IAHS2022-604**

Hydrological surface-subsurface connectivity in permafrost tundra environment, European Russian Arctic

**Nikita Tananaev**, Vladislav Isaev, Dmitry Sergeev  
Melnikov Permafrost Institute, Yakutsk, Russian Federation (nikita.tananaev@gmail.com)

**14:15–14:30: IAHS2022-454**

Impact of changing climatic conditions and permafrost degradation on discharge in southern Siberian catchments

**Lucas Menzel**, Li Han  
Professorship in Hydrology and Climatology, Geography, Heidelberg University, Heidelberg, Germany (lucas.menzel@uni-heidelberg.de)

**14:45–15:00: IAHS2022-367**

Analyzing the Effects of Climate Change for the Water Tower of Mesopotamia, Turkey

**Gokcen Uysal**, Yusuf Ogulcan Dogan, Huseyin Soykan Civelek, Ali Arda Sorman, Aynur Sensoy  
Eskisehir Technical University, Civil Engineering, Eskisehir, Turkey (gokcenuysal@eskisehir.edu.tr)

**15:00–16:30: Poster Presentations****S25****Snow-melt driven erosion and sediment pathways in Polar regions**

**Convener:** Sergey Chalov

**Co-Convener:** Vsevolod Moreydo

**16:30–16:45: IAHS2022-62**

Impact of changing climate on thawing and snowmelt-driven gully erosion in Eastern Romania

**Lilian Niacsu**, Ion Ionita, Jean Poesen  
"Alexandru Ioan Cuza" University of Iasi, Department of Geography, Geography, Iasi, Romania (lilianniacsu@yahoo.com)

**16:45–17:00: IAHS2022-619**

Characteristics of debris-covered snow-covered gorge during the snowmelt period in the Northern Japan Alps

**Goro Mouri**, Sergey Chalov  
Kobe University, Graduate School of Agricultural Science, Japan (mouri.goro@people.kobe-u.ac.jp)

**17:30–17:45: IAHS2022-683**

Trace metal fluxes in largest Siberian rivers

**Vasilii Efimov**, Liudmila Efimova, Sergey Chalov  
Lomonosov Moscow State University, Land Hydrology, Russian Federation (roxifixat@yandex.ru)

**17:45–18:00: IAHS2022-717**

Organochlorine pesticide and polychlorinated biphenyl loads in the snow cover of Hans glacier, Svalbard

**Filip Pawlak**, Krystyna Koziol, Marek Ruman, Zaneta Polkowska  
Gdansk University of Technology, Chemical Faculty, Department of Analytical Chemistry, Poland (filpawla@student.pg.edu.pl)

## Tuesday posters

**Poster Area: Poster area**

**Time: 15:00–16:30**

### S20 Hydrology, new tools and innovative measurements and citizen science in Africa

**Convener:** Gil Mahé

**Co-Conveners:** Marloes Mul, Hubert H.G. Savenije, Harald Kunstmann, Flavia Tauro, Fernando Nardi, Anil Mishra, Ernest Amoussou, MEDDI Mohamed, Jean-Marie Kileshye-Onema, Dominique Béro

#### P1: IAHS2022-49

Etude des caractéristiques hydrogéochimiques des points d'eau de consommation dans la banlieue de Brazzaville: cas du quartier Manianga et Kintélé stade (République du Congo).

**Harmel Obami-Ondon**, Médard Ngouala Mabonzo, Martin Tchoumou

#### P2: IAHS2022-213

Assessment of 21 gridded precipitation datasets quality in estimating rainfall in Madagascar  
Camille Ollivier, **Simon Carriere**, Tom Heath, Albert Oliosio, Ludovic Oudin, Frédéric Satgé  
Sorbonne University, Paris, France  
(simon.carriere@upmc.fr)

#### P3: IAHS2022-409

Evaluating the skill of the mesoscale Hydrologic Model (mHM) for simulating River Discharge in Sparsely-Gauged Basins in Nigeria

**kingsley Nnaemeka Ogbu**, Oldrich Rakovec, Luis Samaniego, Gloria Chinwendu Okafor, Bernhard Tischbein, Hadush Meresa  
Center for Development Research, Ecology and Natural Resources Management, Germany (knogbu@yahoo.com), Nnamdi Azikiwe University, Awka, Nigeria

### S21 Hydrology of Mediterranean and semi-arid regions

**Convener:** Yves Tramblay

**Co-Conveners:** Hamouda Dahklaoui, Christian Leduc, Hodson Makurira, Roger Moussa, Conrad Wasko, Elzbieta Wisniewski, Charalampos Skoulikaris

#### P4: IAHS2022-29

Spatial and temporal variations in baseflow across headwater streams in the Jonkershoek valley, South Africa.

**Retang Anna Mokua**, Julia Glenday, Dominic Mazvimavi  
University of the Western Cape, Water science, Environmental and Water Science, South Africa  
(mokuar@gmail.com)

#### P5: IAHS2022-44

Qualité de l'eau dans la vallée de la Seybouse (Nord Est de l'Algérie). Utilisation du modèle DPSIR et du SIG

**Abdellah Taher Belkacem**, Samir Hani, nacereddine fellouh

Annaba, Science de la terre, Géologie, Algeria  
(taherbelkacemabdellah@gmail.com)

#### P6: IAHS2022-72

Understanding changes in flood magnitude and timing

**Conrad Wasko**, Rory Nathan, Murray Peel, Lina Stein, Declan O'Shea

University of Melbourne, Department of Infrastructure Engineering, Parkville, Australia

#### P7: IAHS2022-125

Analyzing hydrological model versatility to simulate flash floods in Mediterranean catchments.

**Daniela Peredo**, Maria-Helena Ramos

Université Paris-Saclay, INRAE, UR HYCAR team HYDRO, Antony, France

#### P8: IAHS2022-136

Isotopic signature of precipitation in the semi-arid region of Ceará; Northeastern Brazil

**Marjorie Kreis**, Jean Denis Taupin, Nicolas Patris, Eduardo Martins

Departamento de Engenharia Civil, Campus do Pici, UFC, Fortaleza, Brazil (marjorie.kreis@hotmail.fr), Hydrosociences Montpellier, Univ. Montpellier, IRD, CNRS, France (jean-denis.taupin@umontpellier.fr, nicolas.patris@umontpellier.fr, marjorie.kreis@hotmail.fr)

#### P9: IAHS2022-153

Impact of weather types on rainfall, runoff and sediment yield in a Mediterranean cultivated landscape

Damien Raclot, **Radhouane Hamdi**, Insaf Mekki, Jean Albergel

IRD, Tunis, Tunisia (radhouane.hamdi@ird.fr)

#### P11: IAHS2022-477

LTSER platform P3M : Mediterranean Plain, Piedmont and Plateau

**Héloïse Bénard**, Pierre-Alain Ayrat, Jean-Stéphane Bailly, Brice Boudevillain, Cédric Champollion, Jérôme Demarty, Christelle Batiot-Guilhe, Didier Josselin, Hervé Jourde, Patrick Lachassagne, Jérôme Molenat, Guillaume Nord, Fabrice Vinatier

INRAE, UMR LISAH, France

#### P12: IAHS2022-514

Assessment of climate change impact on hydrology of Isser river basin, Algeria

**Sarra Tadlaoui**, Halima Belarbi, Radia Derbal, Assia Boukhateb

Laboratory EOLE, University Abou-Bakr Belkaïd, Tlemcen, Algeria

#### P13: IAHS2022-518

Evaluation of GPM IMERG products and ERA5 reanalysis for flood modeling in a semi-arid watershed

**Mariame Rachdane**, El Mahdi El Khalki, Mohamed El mehdi Saidi, Yves Tramblay

Geo-resources, Geo-environment and Civil Engineering Laboratory, Cadi Ayyad University, Marrakesh, Morocco

**P14: IAHS2022-735**

Impact des changements climatiques sur les ressources en eau : Cas du bassin de l'Oued El Harrach amont  
**Sabrina Taibi**, Ayoub Zeroual, Nawel Khettab

**P15: IAHS2022-53**

Évaluation de la qualité des eaux de surface à l'aide de techniques statistiques multivariées et de méthodes hydrochimiques : étude de cas de l'Oued El Hatab (Centre de la Tunisie)

**Wafa Hayouni**, Najiba Chkir, Severin Pistre, Kamel Zouari  
Lab. of Radio Analysis and Environment, Geology Dep., National School of Engineers of Sfax, BP" W", 3038 Sfax, Tunisia, HSM, Univ. Montpellier, CNRS, IRD, Montpellier, France

**P16: IAHS2022-264**

From graphical methods to geochemical and isotope hydrology tools: Understanding baseflow mechanisms in mountainous Mediterranean watersheds

**Pierre-Alain Guisiano**, Frédéric Huneau, Sébastien Santoni, Emilie Garel, Alexandra Mattei  
Université de Corse Pascal Paoli, Faculté des Sciences et Techniques, Département d'Hydrogéologie, CNRS, UMR 6134 SPE, F-20250 Corte, France (guisiano\_p@univ-corse.fr)

## S23 Advances in snow and ice hydrology

**Convener:** Tobias Jonas

**Co-Conveners:** Melody Sandells, S. McKenzie Skiles, James McPhee, Timothy Link, Elzbieta Wisniewski, Vsevolod Moreydo

**P17: IAHS2022-43**

Quantifying snow sublimation by Eddy covariance measurements on the High Atlas Mountain of Marrakech at Tazaghart plateau, Morocco

**Lahoucine Hanich**, Ouiaam Lahnik, Simon Gascoin, Adnane Chakir, Vincent Simonneaux  
L3G Laboratory, Earth Sciences Department, Faculty of Sciences and Techniques, Cadi Ayyad University, Marrakech, Morocco, Center for Remote Sensing Application, Mohamed VI Polytechnic University (UM6P), Benguerir, Morocco.

**P18: IAHS2022-640**

Evaluation of precipitation in the winter season in higher altitudes of the Bohemian Forest under changing environmental conditions

**Miroslav Tesař, Václav Šípek, and Jan Procházka**  
Institute of Hydrodynamics of the Czech Academy of Sciences, Czech Republic (miroslav.tesar@iol.cz)

**P19: IAHS2022-171**

Process-based water balance modelling with explicit ice flow dynamics: WaSiM-OGGM coupling scheme

**María Herminia Pesci**, Kristian Förster  
Leibniz Universität Hannover, Institute of Hydrology and Water Resources Management, Germany (pesci@iww.uni-hannover.de)

**P20: IAHS2022-438**

The impact of climate change on hydrology and glaciation of the Zeravshan, Vakhsh and Pyanj river basin

**Parviz Normatov**  
Institute of Mathematics of the National Academy of Sciences of the Tajikistan

## S24 Cold region runoff and groundwater change

**Convener:** Melody Sandells

**Co-Conveners:** Felipe de Barros, Fuqiang Tian, Gokcen Uysal, María José Polo

**P22: IAHS2022-678**

Spatial distribution and seasonal occurrence of Aufeis in the Trans-Himalayan Tso Moriri basin, eastern Ladakh, India

**Dagmar Brombierstäudl**, Susanne Schmidt, Marcus Nüsser  
Heidelberg University, South Asia Institute (SAI), Department of Geography, Heidelberg, Germany

**P23: IAHS2022-328**

Groundwater-surface water interactions and associated greenhouse gas evasion in the High Arctic

**Andrea L. Popp**, Nicolas Valiente, Sigrid Trier Kjær, Anja Sundal, Kristoffer Aalstad, Alexander Eiler, Peter Dörsch  
Department of Geosciences, University of Oslo, Oslo, Norway

**P24: IAHS2022-758**

The mechanisms by which a precipitation shift from snow to rain affects streamflow in the contiguous US: large sample data analysis

**Lina Wang**, Ross Woods  
Department of Civil Engineering, University of Bristol, Bristol, BS8 1TR, UK

## S25 Snow-melt driven erosion and sediment pathways in Polar regions

**Convener:** Sergey Chalov

**Co-Convener:** Vsevolod Moreydo

**P27: IAHS2022-333**

Estimation of the sediment yield from the drainage basin of the Lena River

**Kirill Maltsev**  
Kazan Federal University, Institute of Environmental Sciences, Kazan, Russian Federation (mlcvkirill@mail.ru)

**P28: IAHS2022-712**

Persistent organic pollutants remobilisation from permafrost? A preliminary study in the Kolyma basin (Russian Arctic)

**Danuta Szumińska, Krystyna Koziol, Małgorzata Szopińska, Sergiej R. Chalov, Vasilii A. Efimov, Marcin Frankowski, and Żaneta Polkowska**  
Institute of Geography, Kazimierz Wielki University, Bydgoszcz, Poland (dszum@ukw.edu.pl)

## **S27**

### **Policies and mechanisms for water quality improvement and maintenance in a changing environment**

**Convener:** Xiaohong Chen

**Co-Convener:** Elango Lakshmanan

## **S33**

### **Open science and education, knowledge society, and inclusive progress towards Agenda 2030**

**Convener:** Christophe Cudennec

**Co-Conveners:** Berit Arheimer, Nilay Dogulu, Claudio Caponi, Anil Mishra, Vladimir Smakhtin

#### **P35: IAHS2022-585**

Digital water globe of IAHS to enhance communication and sharing

**Berit Arheimer** and the Task force of IAHS Digital Water Globe

SMHI, Hydrological Research, Norrköpping, Sweden  
(berit.arheimer@smhi.se)

#### **P37: IAHS2022-103**

The airGR galaxy: hydrological tools around GR models

**Olivier Delaigue**, David Dorchies, Guillaume Thirel  
Université Paris-Saclay, INRAE, HYCAR, ANTONY,  
France (olivier.delaigue@inrae.fr)

#### **P38: IAHS2022-347**

transfR: an open-source R package for streamflow prediction in ungauged catchments

**Alban de Lavenne**, Tom Loree, Hervé Squvidant,  
Christophe Cudennec  
INRAE, HYCAR, Antony, France  
(alban.delavenne@inrae.fr)

## Wednesday, 01 June 2022

### Lecture Room: Auditorium Pasteur

#### S2

### Floods: Processes, Forecasts, Probabilities, Impact Assessments and Management

**Convener:** Svenja Fischer

**Co-Conveners:** Andreas Schumann; Günter Blöschl; Elena Volpi; Christopher White; Alberto Viglione; Marcelo Uriburu

#### Flood Damage Estimation

##### 08:30–08:45: IAHS2022-40

Flood scenarios sampling effect on annualised flood damage estimation

**Frédéric Grelot**, Jean-Stéphane Bailly, David Dorchies  
UMR G-EAU, INRAE, Montpellier, France  
(frederic.grelot@inrae.fr)

##### 08:45–09:00: IAHS2022-11

Estimation of expected annual damage, EAD

#### **Dan Rosbjerg**

Technical University of Denmark, DTU Environment,  
Kongens Lyngby, Denmark (daro@env.dtu.dk)

##### 09:00–09:15: IAHS2022-540

Impact of river basin morphology and climate on geomorphic scaling laws for floodplain mapping

**Antonio Annis**, Marissa Karpack, Ryan R. Morrison,  
Fernando Nardi

University for Foreigners of Perugia, WARREDOC, Water Resource Research and Documentation Center, Perugia, Italy

##### 09:15–09:30: IAHS2022-558

Flood physical vulnerability assessment under land-use evolution scenarios

**Yelena Hernández Atencia**, Luis Eduardo Peña Rojas,  
Jader Muñoz Ramos

Civil Engineering Program, Faculty of Engineering,  
Universidad Cooperativa de Colombia, Ibagué, Colombia  
(yelena.hernandez@campusucc.edu.co)

##### 09:30–09:45: IAHS2022-559

Classification of flood-aggravating pathways in Oberland (Upper Bavaria), Germany

#### **Gamze Koc**

Karlsruhe Institute of Technology - KIT, Institute of Meteorology and Climate Research Atmospheric Environmental Research (IMK-IFU), Germany  
(gamze.koc@kit.edu)

##### 09:45–10:00: IAHS2022-634

RIM2D - fast 2D hydraulic modelling for operational flood and flood impact forecast

**Heiko Apel**, Sergiy Vorogushyn, Bruno Merz

GFZ German Research Center for Geoscience, Section 5.4 Hydrology, Potsdam, Germany (hapel@gfz-potsdam.de)

#### 10:00 Coffee break

#### S3

### Change in extreme droughts in the future

**Convener:** Gil Mahé

**Co-Conveners:** David Hannah; Yonca Cavus; Ebru Eris; MEDDI Mohamed

#### Drought Characterisation

##### 10:30–10:45: IAHS2022-372

Spatial characterization of drought through CHIRPS and a station-based dataset in the Eastern Mediterranean

**Christina Anna Orieschnig**, Yonca Cavus

UMR G-EAU, UMR Hydrosiences, IRD, University of Montpellier, Montpellier, France  
(christina.orieschnig@ird.fr)

##### 11:00–11:15: IAHS2022-276

Characterizing major droughts in the context of dry period in Seyhan River basin, Turkey

**Yonca Cavus**, Hafzullah Aksoy, Kerstin Stahl

Beykent University, Department of Civil Engineering, Turkey (yoncacavus@beykent.edu.tr), Istanbul Technical University, Graduate School, Civil Engineering, Turkey (cavus17@itu.edu.tr), University of Freiburg, Environmental Hydrological Systems, Freiburg, Germany (yonca.cavus@hydrology.uni-freiburg.de)

##### 11:30–11:45: IAHS2022-176

Modelling of meteorological drought using the SPI and SPEI indices in the Volta watershed in Togo

**Pilabina Somiyabalo**, Yabi Ibouaïma, Amoussou Ernest Lome, Geography, Togo (spilabina85@gmail.com)

##### 11:45–12:00: IAHS2022-744

Evaluation of some Meteorological Drought Indices in Nigeria using RCP 8.5 Climate Scenario

**Akinwale Ogunrinde**, Phillip G. Oguntunde, Akinola S. Akinwumiju, Johnson T. Fasinmirin

Department of Agricultural and Environmental Engineering, Federal University of Technology, Akure, Ondo State, Nigeria

#### 12:00 Lunch Break // W4F Hackathon High Schools Final

#### Drought related issues

##### 13:30–13:45: IAHS2022-192

Investigation of drought and flooding areas in coastal countries of West Africa in the context of global warming

**Domihò Japhet Kodja**, Houteta Djan'na Koubodana,  
Gandome Mayeul L. D Quenum, Ernest Amoussou,

Arsène Sègla Josué Akognongbé, Gil Mahé, Jean-Emmanuel Paturel, Expédit Wilfrid Vissin, Constant Houndénou

Laboratory Pierre Pagney Climate, Water, Ecosystems and Development (LACEEDE) / University of Abomey Calavi (Benin), 03 BP 1112 Cotonou, Department of Geography and Regional Planning / University of Parakou, Benin, UMR 5599 HydroSciences Montpellier / University of Montpellier, France

**13:45–14:00: IAHS2022-67**

The Effect of Water Vapor Originating from Land on the 2018 Drought Development in Europe  
 Fares Al Hasan, **Ruud van der Ent**, Andreas Link  
 Department of Water Management, Faculty of Civil Engineering and Geosciences, Delft University of Technology, Delft, Netherlands (r.j.vanderent@tudelft.nl)

**14:15–14:30: IAHS2022-352**

Performance-based weighting of CORDEX projections of hydrological climate change impacts over Europe  
**Frederiek Sperna Weiland**, Robrecht Visser, Peter Greve, Berny Bisselink, Lukas Brunner, Albrecht Weerts  
 Deltares, Delft, Netherlands  
 (frederiek.sperna@deltares.nl)

**14:30–14:45: IAHS2022-674**

Assessing drought risk to track progress in drought adaptation, mitigation and management at the global scale  
**Lucy Barker**, Nathan Rickards, Sunita Sarkar, Jamie Hannaford, Eugene Magee, Gwyn Rees  
 UK Centre for Ecology & Hydrology, Wallingford, United Kingdom

**14:45–15:00: IAHS2022-147**

Anatomy of an extended drought in part of the Eastern Cape Province, South Africa  
**Denis Hughes**  
 Rhodes University, Inst. for Water Research, South Africa, South Africa (d.hughes@ru.ac.za)

**15:00–16:30: Poster Presentations****SP4****Medals and awards ceremony**

Celebration of the 2020, 2021, 2022  
 Dooge and Volker Medals of the IAHS-UNESCO-WMO International Hydrology Prize <https://iahs.info/About-IAHS/Competition--Events/International-Hydrology-Prize.do> and of the IAHS Tison Award <https://iahs.info/About-IAHS/Competition--Events/Tison-Award.do>

16:30–18:30

**Lecture Room: Antigone 1****S4 Water resource management in a changing world: economic, environmental and societal trade-offs and synergies**

**Convener:** Barry Croke

**Co-Conveners:** Jennifer Adam; Jean-Marie Kileshye-Onema; Suxia Liu; Marloes Mul; Hwirin Kim; Elpida Kolokytha; Charalampos Skoulikaris

**08:30–08:45: IAHS2022-426**

Tailoring large-scale hydrological models for national planning of climate actions in vulnerable countries  
**Berit Arheimer**, Frida Gyllensvärd, René Capell, Jafet Andersson

**08:45–09:00: IAHS2022-365**

Use of data assimilation to improve rainfall-runoff model structure for climate change projections  
**Julien Lerat**, Francis Chiew, Hongxing Zheng, David Robertson  
 CSIRO, Land and Water, Canberra, Australia  
 (julien.lerat@csiro.au)

**09:00–09:15: IAHS2022-463**

On the role of water resources management to transform water, energy, food and ecosystem (WEFE) systems in transboundary river basins  
**Stefan Uhlenbrook**, Claudia Ringler, Jonathan Lautze, Matthew McCartney, Mohsin Hafeez  
 International Water Management Institute, Water, Food and Ecosystems, Sri Lanka (s.uhlenbrook@cgiar.org)

**09:15–09:30: IAHS2022-360**

Progress in characterising water-energy-food interdependencies  
**Declan Conway**  
 United Kingdom of Great Britain - England, Scotland, Wales (d.conway@lse.ac.uk)

**09:30–09:45: IAHS2022-425**

Water scarcity conflicts: Supporting dialogue and negotiation  
**Intissar Ferchichi**, Abdelaziz Zairi, Serge Marlet  
 Institut National de la Recherche en Génie Rural, Eaux et Forêts, Université de Carthage, Tunis, Tunisie  
 (ferchichiintissar@hotmail.fr)

**09:45–10:00: IAHS2022-742**

Rethinking of methods to deal with water conflicts  
**Seyede Simin Mirhashemi Dehkordi**, Hojjat Mianabadi  
 Water Engineering and Management Department, Faculty of Agriculture, Tarbiat Modares University, Iran

**10:00 Coffee break****10:30–10:45: IAHS2022-271**

Sustainability Assessment: The role of Indicator-based Frameworks in Sustainable Water Management  
**Mojtaba Shafiei**, Shervan Gharari, Mohammad Ghareisifard, Mohammad Ghoreishi, Cyndi V. Castro  
 Hydroinformatics Department, East Water and Environmental Research Institute (EWERI), Mashhad, Iran. (moj.shafiei@gmail.com)

**10:45–11:00: IAHS2022-234**

Evaluating the impact of climate change on water system vulnerabilities using multiple hydrological models  
**Elmira Hassanzadeh**, Ali Sharifinejad  
 Polytechnique Montreal, Civil, Geological, and Mining Engineering, Canada (elmira.hassanzadeh@polymtl.ca)

**11:00–11:15: IAHS2022-283**

The performance of rainwater harvesting systems in the context of deep uncertainties  
**Gabriela Cristina Ribeiro Pacheco**, Conceição de Maria Albuquerque Alves  
 UnB - Universidade de Brasília, Brasília, Brasil (cmaalves@gmail.com), IFG - Instituto Federal de Goiás, Goiânia, Brasil (gabrielaacrpacheco@gmail.com)

**11:15–11:30: IAHS2022-257**

Water resources management as a coupled hydro-environmental and social-equity-based optimization framework

**Cyndi Vail Castro**

University of Illinois at Urbana-Champaign, Department of Civil & Environmental Engineering, Urbana, IL, United States of America (cynthiavail11@gmail.com)

**11:30–11:45: IAHS2022-676**

Are the thresholds of ecological flows established by the water management authorities aligned with the natural regime of rivers in Mediterranean regions?

**Javier Aparicio**, Eva Contreras, Cristina Aguilar, Fátima Moreno, María José Polo

University of Cordoba, Interuniversity Institute of Investigation of the Earth System in Andalusia, Department of Agronomy, Córdoba, Spain

**11:45–12:00: IAHS2022-612**

Dam operation Model as a part of Integrated Water Resource Management in Nam Ngum River Basin, Lao PDR

**Aastha Lamichhane**, Keigo Noda

Gifu University, Graduate School of Natural Science and Technology, Agriculture and Environmental Science, Japan (aastha.lamichhane12@gmail.com)

**12:00 Lunch Break // W4F Hackathon High Schools Final****13:30–13:45: IAHS2022-158**

Modelling long-term effects of climate change and anthropogenic activities on water resources of the Moselle River basin.

**Thibault Lemaitre-Basset**, Guillaume Thirel, Ludovic Oudin

Sorbonne Université, CNRS, EPHE, UMR METIS, Case 105, 4 place Jussieu, F-75005 Paris, France, Université Paris-Saclay, INRAE, HYCAR research unit, Hydrology Research Group, Antony, France

**13:45–14:00: IAHS2022-563**

Technical, economic and social rehabilitation of old canals to cope with global change: the case of the Neste Canal (France)

Patrice Garin, **Marielle Montginoul**, Daniel Lepercq, Pascal Chisne

INRAE UMR G-EAU Université de Montpellier Montpellier France (marielle.montginoul@inrae.fr)

**14:00–14:15: IAHS2022-105**

Drought and flood risk assessment of the Seine basin reservoir management under climate change

**David Dorchies**, Jean-Claude Bader, Laura Nunez Torres, Olivier Delaigue, Guillaume Thirel

G-EAU, Univ Montpellier, AgroParisTech, BRGM, CIRAD, IRD, INRAE, Institut Agro, Montpellier, France

**14:15–14:30: IAHS2022-418**

Environmental flows and integrated water resources management in Colombia

**Nicolás Cortés-Torres**, Maria Camila Fernandez Berbeo, Juan Diego Vega Idarraga, Valentina Ramos Romero, Camilo Andrés Pulgarin, Martin Perez Pedraza, Nelson David Rodríguez Vega, Jennifer Camila Yanala Bravo, Alejandro Alarcón, Alejandro Lopez Bayona, Karen Jhoana Ortega Tenjo, Juan Manuel Molano, Carlos Cubillos Peña, Sergio Salazar-Galán

Universidad Católica de Colombia, Facultad de Ingeniería, Bogotá, Colombia (ncortes@ucatolica.edu.co), Escuela de Ingenieros Militares, Bogotá, Colombia (nicolas.cortest@esing.edu.co), Inpacto Colombia, Bogotá Colombia (inpacto.col@gmail.com)

**14:30–14:45: IAHS2022-696**

Assessing the significance of Water resource management in improving the socio-economic and environmental status of a fast-growing urban community: A case study from Southern India

Rinisha Kartheeshwari Mariappan, **Elango Lakshmanan** Anna university, College of Engineering Guindy, Department of Geology, India (mrinisha94@gmail.com)

**14:45–15:00: IAHS2022-170**

Water Balance Assessment in Iran: From Unsolved Problems to Practical Solutions

**Mojtaba Shafiei**, Banafsheh Zahraie, Saeed Soleimaniha, Nematollah Dehbandi, Mohsen Naseri, Hossein Dehghanisanij, Mojtaba Noury, Elham Golkar, Firuz Ghasemzadeh

Hydroinformatics Department, East Water and Environmental Research Institute (EWERI), Mashhad, Iran. (moj.shafiei@gmail.com)

**15:00–16:30: Poster Presentations**

**Lecture Room: Barthez 1**

## S9 Stochastic Hydrology with contributions on methodologies and applications, for modeling, forecasting, change assessment, and uncertainty quantification

**Convener:** Elena Volpi

**Co-Conveners:** Simon Michael Papalexiou; Antonio Zarlenga; Marco Marani; Alberto Viglione

### 08:30–08:45: IAHS2022-58

Consideration of sample size uncertainty for the regionalization of type-specific flood frequency analyses

**Svenja Fischer**, Andreas Schumann

Ruhr-University Bochum, Institute of Hydrology, Civil-Engineering, Bochum, Germany  
(svenja.fischer@hydrology.ruhr-uni-bochum.de)

### 08:45–09:00: IAHS2022-361

How much value is in climate and geomorphological descriptors for distributed hydrological modelling? A decision tree based approach in North-Western Italy

**Matteo Pesce**, Alberto Viglione, Jost Hardenberg, Larisa Tarasova, Stefano Basso, Ralf Merz

Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Turin, Italy

### 09:00–09:15: IAHS2022-381

Multivariate and data-driven regional frequency analysis for rainfall extremes

**Andrea Magnini**, Michele Lombardi, Elena Valtancoli, Attilio Castellarin

Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), University of Bologna, Bologna, Italy

### 09:15–09:30: IAHS2022-647

A R package for quickly updating trend analysis: application to French streamflow time series.

Valentin Mansanarez, Benjamin Renard, **Michel Lang**

INRAE, Riverly Research Unit, Lyon-Villeurbanne, France  
(michel.lang@inrae.fr)

### 09:30–09:45: IAHS2022-714

Building confidence curves with classical change point tests

**Ronald van Nooijen**, Alla Kolechkina, Changrang Zhou  
Delft University of Technology, Faculty of Civil Engineering and Geosciences, Water Management, Delft, Netherlands  
(r.r.p.vannooyen@tudelft.nl)

### 09:45–10:00: IAHS2022-743

Developing Non Stationary Frequency Relationships for Greater Pamba River basin, Kerala India incorporating dominant climatic precursors

Arathy Nair, **Sankaran Adarsh**, G Mohan Meera, Vi Sreedevi

TKM College of Engineering, Kollam, Kerala, PIN-691 005, APJ Abdul Kalam Technological University, Kerala, India

10:00 Coffee break

### 10:30–10:45: IAHS2022-270

Time Asymmetry and Stochastic Modelling of Streamflow  
**Stelios Vavoulogiannis**, Theano Iliopoulou, Panayiotis Dimitriadis, Demetris Koutsoyiannis  
National Technical University of Athens, Civil Engineering, Athens, Greece

### 10:45–11:00: IAHS2022-273

Using high-resolution stochastic climate ensembles to model the impacts and uncertainty of hydrology in mountainous catchments

**Jorge Sebastian Moraga**, Nadav Peleg, Peter Molnar, Simone Fatichi, Paolo Burlando

Institute of Environmental Engineering, ETH Zürich, Zürich, Switzerland (moraga@ifu.baug.ethz.ch)

### 11:00–11:15: IAHS2022-358

Dominant discharge periodicities and their attenuation in rivers of Sweden

**Maria Elenius**, Göran Lindström

Swedish Meteorological and Hydrological Institute, Norrköping, Sweden (maria.elenius@smhi.se)

### 11:15–11:30: IAHS2022-362

A process-based multisite multivariate stochastic weather generator for water resources management

**Roman Vyleta**, Peter Valent, Ján Szolgay

Slovak University of Technology, Department of Land and Water Resources Management, Radlinského 11, 810 05, Bratislava, Slovakia (roman.vyleta@stuba.sk)

### 11:30–11:45: IAHS2022-574

Bluecat: A Local Uncertainty Estimator for Deterministic Simulations and Predictions

Demetris Koutsoyiannis, **Alberto Montanari**

University of Bologna, DICAM, Bologna, Italy  
(alberto.montanari@unibo.it)

### 11:45–12:00: IAHS2022-663

Universal Multifractal relations between rainfall and wind turbulence

**Auguste Gires**, Jerry Jose, Daniel Schertzer, Ioulia Tchiguirinskaia

Hydrologie Météorologie et Complexité (HM&Co), École des Ponts ParisTech, Champs-sur-Marne, France  
(auguste.gires@enpc.fr)

## 12:00 Lunch Break // W4F Hackathon High Schools Final

### 13:30–13:45: IAHS2022-357

Efficiency of shallow geothermal systems in heterogeneous media, how to manage uncertainty

**Antonio Zarlenga**, Mariaines Di Dato, Claudia D'Angelo, Alessandro Casasso

Department of Engineering, Roma Tre University, Via Vito Volterra 62, Rome 00146, Italy  
(antonio.zarlenga@uniroma3.it)

### 13:45–14:00: IAHS2022-485

Pros and cons of various efficiency criteria for evaluating hydrological models

**Charles Onyutha**

Kyambogo University, Department of Civil and Environmental Engineering, P.O. Box 1, Kyambogo, Kampala, Uganda (conyutha@kyu.ac.ug)

**14:00–14:15: IAHS2022-535**

The value of synthetic high-resolution daily snow cover maps for long-term hydrological modeling

**Pau Wiersma**, Fatemeh Zakeri, Grégoire Mariéthoz  
University of Lausanne, Institute of Earth Surface Dynamics, Lausanne, Switzerland (pau.wiersma@unil.ch)

**14:15–14:30: IAHS2022-547**

Performance assessment of a daily time-step HYMOD conceptual rainfall-runoff model for the Upper Benue River, Cameroon

**Rodric Merimé Nonki**, Ernest Amoussou, Raphael Muamba Tshimanga, Houteta Djan'na Koubodana, Franck Eitel Kemgang Ghomsi, André Lenouo  
Laboratory for Environmental Modelling and Atmospheric Physics (LEMAP), Department of Physics, Faculty of Science, University of Yaounde 1, Yaounde, Cameroon (norome31@yahoo.fr)

**14:30–14:45: IAHS2022-571**

Uncertainty quantification in climate change impacts on hydrology using ANOVA

**Tejith Pogakula**, Tirupati Boliseti  
University of Windsor, Civil and Environmental Engineering, Windsor, Canada (tirupati@uwindsor.ca)

**14:45–15:00: IAHS2022-723**

New runoffmap for Norway by combining a precipitation runoff model with geostatistical interpolation

**Kolbjørn Engeland**, Thea Roksvåg, Stein Beldring, Erik Holmqvist, Anja Iselin Pedersen, Gusong Ruan  
NVE, Oslo, Norway (koe@nve.no)

**Lecture Room: Rondelet 1****S29****Sustainable water management in agricultural areas**

**Convener:** Jérôme Molénat

**Co-Conveners:** Delphine Leenhardt; Rim Zitouna Chebbi; Fernando Nardi; Christophe Cudennec

**Improving agricultural water uses and management from plot to catchment****08:30–08:45: IAHS2022-510**

Is Water the Achilles Heel of Regenerative Agriculture? A critical examination of the roles and omissions of soil-water and water in "Regen Ag"

**Bruce Lankford**, Stu Orr  
School of International Development, University of East Anglia, United Kingdom of Great Britain - England, Scotland, Wales (b.lankford@uea.ac.uk)

**08:45–09:00: IAHS2022-551**

Conceptual principles of water resources management in irrigated agriculture

Mykhailo Romashchenko, Vsevolod Bohaienko, Tetiana Matiash, Andrii Shatkovskiy, Serhii Kolomiets, **Iuliia Danylenko**  
Institute of Water Problems and Land Reclamation, Kyiv, Ukraine (iwpim.naan@gmail.com)

**09:00–09:15: IAHS2022-232**

Estimating the drainage of irrigated areas: a combined crop water balance modeling and remote sensing approach

**Pierre Laluet**, Luis Enrique Olivera Guerra, Victor Altés Gaspar, Vincent Rivalland, Vincent Simonneaux, Vincent Bustillo, Joaquim Bellvert, Josep Maria Villar, Olivier Merlin

Center of Biosphere Space Studies, Université Toulouse 3, Toulouse, France

**09:15–09:30: IAHS2022-188**

Managed groundwater recharge at the farm scale in pre-Saharan Morocco

**Yassine Khardi**, Guillaume Lacombe, Abdelilah Taky, Benoit Dewandel, Jean-Christophe Maréchal, Ali Hammani, Sami Bouarfa  
Hassan II Agronomic and Veterinary Institute, Rabat, Morocco, CIRAD, UMR G-EAU, Montpellier, France, Montpellier SupAgro, Montpellier, France

**09:30–09:45: IAHS2022-516**

Detection and prediction of illicit drilling by combination of drought indices and NDVI: case of the Nadhour-Saouaf aquifer (Northeast Tunisia)

**Emna Gargouri**, Fairouz Slama, Khaoula Khmiri, Hammouda Dakhlaoui, Hedia Chakroun  
LR99ES19 Laboratory of Modelling in Hydraulics and Environment (LMHE), National Engineering School of TUNIS (ENIT), University of Tunis El Manar, BP 37, Tunis, 1002, Tunisia

**09:45–10:00: IAHS2022-680**

Analysis of rainfed cereal-legume mixture cropping water productivity in Lebna catchment, Cap-Bon, Tunisia.

**Insaf Mekki**, Rim Zitouna-Chebbi, Salah Benyoussef, Aya Abdelghaffar, Frederic Jacob, Jean Albergel  
National Research Institute for Rural Engineering, Water and Forestry, Université de Carthage, Ariana, Tunisia (insaf.mekki.im@gmail.com)

**10:00 Coffee break****10:30–10:45: IAHS2022-154**

Multi-criteria evaluation of the AquaCrop model in a Mediterranean rainfall context.

**Mariem Dhouib**, Rim Zitouna-Chebbi, Insaf Mekki, Laurent Prévot, Jérôme Molénat, Frédéric Jacob  
L'institut Agro | Montpellier SupAgro, France (mariem.dhouib@supagro.fr)

**10:45–11:00: IAHS2022-428**

Hydrochory in agricultural landscapes

**Martin Faucher**, Jean-Stéphane Bailly, Fabrice Vinatier  
LISAH, Univ Montpellier, INRAE, IRD, Montpellier SupAgro, Montpellier, France

**11:00–11:15: IAHS2022-90**

Exploring ways to improve agricultural water management on two Mediterranean irrigated systems: promises of wireless low-tech sensor networks.

**Paul Vandôme**, Gilles Belaud, Crystele Leauthaud, Simon Moinard, Insaf Mekki, Abdelaziz Zairi, François Charron, Julien Leconte, Intissar Ferchichi, Tarek Ajmi  
G-EAU, AgroParisTech, Cirad, IRD, INRAE, Montpellier SupAgro, Univ. Montpellier, Montpellier, France

**Evaluating adequation between water resources and agricultural water uses from catchment to continent**

**11:15–11:30: IAHS2022-27**

Mapping sustainable irrigation development potential with renewable groundwater in Africa

**Yvan Altchenko**

Université PARIS-SACLAY, AGROPARISTECH, SIAFEE, France (yvan.altchenko@agroparistech.fr)

**11:30–11:45: IAHS2022-629**

Application of the SWAT hydrological model for water balance assessment in an intensive irrigated agricultural catchment in the Western Cape, South Africa

**Sakikhaya Mabohlo**, Jane Tanner, David Gwapedza

Rhodes University, Institute for Water Research, Grahamstown, South Africa (j.tanner@ru.ac.za)

**11:45–12:00: IAHS2022-45**

A modelling approach for the assessment of irrigation water requirements spatial and temporal distribution in Greece

**Konstantinos Soulis**, Demetrios Tsesmelis, Emmanouil Psomiadis

Agricultural University of Athens, Natural Resources Management and Agricultural Engineering, Athens, Greece (soco@aua.gr)

### 12:00 Lunch Break // W4F Hackathon High Schools Final

**13:30–13:45: IAHS2022-299**

Impact of water demand for irrigation on the water availability of the Urubu River in Brazil.

**Nicole John Volken**, Ricardo Tezini Minoti, Conceição de Maria Albuquerque Alves, Fernan Enrique Vergara Figueroa

University of Brasília, Technology College, Civil and Environmental Engineering, Florianópolis/SC, Brazil (nicolejvolken@gmail.com)

**13:45–14:00: IAHS2022-407**

Artificial intelligence for agricultural drought monitoring based on soil moisture and crop yield under change

**Marcos Roberto Benso**, Roberto Fray Silva, Gabriela Chiquito Gesualdo, Patricia Angélica Marques, Alexandre Delbem, Antônio Mauro Saraiva, Eduardo Mario Mendiondo

University of São Paulo, São Carlos School of Engineering, Hydraulics and Sanitation, Brazil (marcosbenso@hotmail.com)

**14:00–14:15: IAHS2022-517**

Assessment of current and future (under climate change) crop water requirement and irrigation strategies under bubbler irrigation system for date palm in Jemna oasis, Southern Tunisia

Nessrine Zemni, **Fairouz Slama**, Fethi Bouksila, Hammouda Dakhlaoui, Latifa Dhaouadi, Ons Sidhom, Rachida Bouhlila

University of Tunis El Manar, National Engineering School of Tunis (ENIT), LR99ES19 Laboratory of Modelling in Hydraulics and Environment (LMHE), BP 37, Tunis 1002, Tunisia

**New visions and approaches towards integrated water management in agricultural territories****14:15–14:30: IAHS2022-393**

Soil and water salinization in mediterranean coastal area : toward an integrated approach for salinity management - Case study of the Aude lowland

**Laurène Marien**, Armand Crabit, Florian Bergé, Evaëlle Alexandre, François Colin

G-EAU, Univ Montpellier, CIRAD, INRAE, Institut Agro, IRD, Montpellier, France

**14:30–14:45: IAHS2022-323**

L'Eau, a hybrid serious game to explore pathways towards better water quality in rural catchments

**Olivier Barreteau**, Isabelle Charpentier, Hossam Elouati, Hugo Kelhetter, Daniil Kudriashov, Hélène Blanchoud, Mathieu Bonnefond, Sylvie Dousset, Véronique Gouy, Christophe Piscart, Marie-Noëlle Pons, Olivier Ragueneau, Sébastien Salvador-Blanes

UMR G-EAU, AgroParisTech, BRGM, Cirad, INRAE, Institut Agro, IRD, Univ. Montpellier, Montpellier, FRANCE

**14:45–15:00: IAHS2022-651**

Co-design of multidimensional mainstreaming of the WEFE Nexus: preliminary results from the four Mediterranean Nexus-Ness living labs

**Fernando Nardi** and the NEXUS-NESS Consortium

University for Foreigners of Perugia, WARREDOC, Water Resource Research and Documentation Center, Perugia, Italy (fernando.nardi@unistrapg.it)

**15:00–16:30: Poster Presentations**

**Lecture Room: Rondelet 2****S17  
Tracer methods in catchment and critical zone hydrology****Convener:** Andrea L. Popp**Co-Conveners:** David Hannah; Christine Stumpp; Przemyslaw Wachniew; Maki Tsujimura; Giovanni Mosquera; ZHONGHE PANG**08:30–08:45: IAHS2022-561**

Intensive Quantification of Precipitation Moisture Sources in the Eastern Asian Monsoon Zone: A Modified Deuterium-excess-based Model

**Fen Zhang**, Tianming Huang, Zhonghe Pang  
Institute of Geology and Geophysics, Chinese Academy of Sciences, Key Laboratory of Shale Gas and Geoengineering, China, College of Earth and Planetary Sciences, University of Chinese Academy of Sciences, Beijing, China**08:45–09:00: IAHS2022-101**

Isotope study of monthly rainfall and its response in the Santos Formation phreatic aquifer, La Mesa de Los Santos, Santander (Colombia).

Maria Alejandra Cetina, Jean Denis Taupin, Sully Gomez, **Nicolas Patris**  
Hydrosciences Montpellier, Univ. Montpellier, IRD, CNRS, France (jean-denis.taupin@umontpellier.fr, nicolas.patris@umontpellier.fr)**09:15–09:30: IAHS2022-527**

Tracing and hydraulic modeling of flows in a constructed wetland for the treatment of the pollutants load from drained agricultural lands.

**Hocine Henine**, Julien Tournebize, Cedric Chaumont, Bruno J. Lemaire  
University of Paris-Saclay, INRAE, UR HYCAR, Jouy-en-Josas - Antony**09:45–10:00: IAHS2022-389**

Combining residence time and isotopic tracers for a better understanding of the fresh and marine water recharge and groundwater flux of a karstic thermal aquifer

**Coralie Ranchoux**, Bernard Ladouche, Véronique De Montety, Jean-Luc Seidel, Christelle Batiot-Guilhe  
HydroSciences Montpellier, CNRS, IRD, University of Montpellier, Montpellier, France (coralie.ranchoux@umontpellier.fr)**10:00 Coffee break****11:00–11:15: IAHS2022-329**

Use of trace elements to distinguish flows from different types of carbonated rocks

**Leïla Serène**, Christelle Batiot-Guilhe, Naomi Mazzilli, Philippe Léonide, Christophe Emblanch, Eléonore Resongles, Rémi Freyrier, Léa Causse, Milanka Babic, Julien Dupont, Roland Simler, Matthieu Blanc, Gérard Massonnat  
HydroSciences Montpellier (HSM), Univ Montpellier, CNRS, IRD, Montpellier, France**11:15–11:30: IAHS2022-507**

Evaluating radium as a time tracer for infiltrated surface water in unsteady surface-groundwater interaction areas

**Sabine Veuille**, Paul Baudron, Florent Barbecot, Dominique Claveau-Mallet  
Département des génies civil, géologique et des mines, Polytechnique Montréal, Canada, Geotop, Montreal, Canada, CentrEau, Quebec, Canada**11:45–12:00: IAHS2022-373**Thermonuclear  $^{36}\text{Cl}$ , a new tritium-like tracer of the hydrologic cycle. Application to the water residence time in Cameroon volcanic lakes**Souleyman Abba**, Bruno Hamelin, Pierre Deschamps, Benjamin Ngounou Ngatcha, Yannick Garcin, A.s.t.e.r Team  
Aix Marseille Université, IRD, CNRS, INRAE, Collège de France, CEREGE, France (abba@cerge.fr), The University of Ngaoundéré, Faculty of Science, Department of Earth Sciences, Cameroon**12:00 Lunch Break // W4F Hackathon High Schools Final****13:30–13:45: IAHS2022-12**

Multi-isotopic approach to identify groundwater flow paths, relationships with rivers and sources of contaminants in the Regional Quaternary Aquifer of the Lake Chad Basin.

**Bertil Nlend**, Fricelle Song, Suzanne Ngo Boum-Nkot, Frédéric Huneau, Emilie Garel, Raoul Nkoue, Abdallah Mahamat Nour, Jacques Etame  
University of Douala, Faculté des Sciences, Cameroon (nlendbertil@yahoo.fr)**13:45–14:00: IAHS2022-261**

How can geochemistry and isotope hydrology tools tell us about alluvial groundwater-wetlands interactions and subsequent carbon balance? Case of the Moltifau Mediterranean peatland (Corsica Island, France)

**Sébastien Santoni**, Emilie Garel, Frédéric Huneau, Marina Gillon, Milanka Babic, Alexandra Mattei  
Université de Corse Pascal Paoli, Faculté des Sciences et Techniques, Département d'Hydrogéologie, CNRS, UMR 6134 SPE, F-20250 Corte, France (santoni\_s@univ-corse.fr)**14:15–14:30: IAHS2022-378**

Isotopic fractionation of water in river pools. The effect of diel atmospheric variations and eventual depletion of heavy isotopes.

**Francesc Gallart**, Sebastián González-Fuentes, Pilar Llorens, Jérôme Latron  
IDAEA - CSIC, Geosciences, Barcelona, Spain (francesc.gallart@idaea.csic.es)**14:30–14:45: IAHS2022-356**

A multi-objective parameterization of StorAge Selection functions based on stable isotopes sampled at the catchment outlet and in trees to constrain water age estimations for runoff and evapotranspiration fluxes

**Matthias Sprenger**, Pilar Llorens, **Francesc Gallart**, Paolo Benettin, Scott Allen, Jérôme Latron  
Institute of Environmental Assessment and Water Research (IDAEA-CSIC), Barcelona, Spain

**14:45–15:00: IAHS2022-658**

A combined mixing model for high-frequency  
concentration-discharge relationships

**Gaëlle Tallec**, José Manuel Tunqui Neira, Vazken

Andréassian, Jean-Marie Mouchel

Université Paris-Saclay, INRAE, HYCAR Research Unit,  
92761 Antony, France

**15:00–16:30: Poster Presentations**

## Wednesday posters

**Poster Area: Poster Area**  
**Attendance Time: 15:00–16:30**

### S3

#### Change in extreme droughts in the future

**Convener:** Gil Mahé  
**Co-Conveners:** David Hannah, Yonca Cavus, Ebru Eris, MEDDI Mohamed

**P1: IAHS2022-327**  
 Evaluation of Meteorological Drought Characteristics under Climate Change over the Agriculture-dominated Marathwada Region, India  
**Sabyasachi Swain**, Surendra Mishra, Ashish Pandey  
 DEPARTMENT OF WATER RESOURCES DEVELOPMENT AND MANAGEMENT, INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, Roorkee, India (sswain@wr.iitr.ac.in)

**P2: IAHS2022-342**  
 Investigation of Flash Drought Characteristics Across The Central Europe  
**Akif Rahim**, Yannis Markonis, Rajani Kumar Pradhan  
 (rahim@fzp.czu.cz)

**P4: IAHS2022-586**  
 Rainfall and drought: Changes in the synoptic distribution over semi-arid Tunisia  
**Haifa Feki**, Christophe Cudennec  
 GREEN TEAM Laboratory, LR17AGR01, Carthage University, Tunisia

**P5: IAHS2022-623**  
 Low flow characterization and forecasting in a non-stationary context  
**Hajar El Khalfi**, Claire Delus, Gilles Drogue, Sébastien Lebaut, Luc Manceau, Didier François  
 LOTERR EA 7304, Lorraine University, F-57000 Metz, France (hajar.el-khalfi@univ-lorraine.fr)

**P6: IAHS2022-665**  
 Integrated chain for the hydrometeorological forecasting of low flows and droughts in France. The CIPRHES project  
**Charles Perrin** and the CIPRHES Team  
 Université Paris-Saclay, INRAE, UR HYCAR, Antony, France (charles.perrin@inrae.fr)

### S4

#### Water resource management in a changing world: economic, environmental and societal trade-offs and synergies

**Convener:** Barry Croke  
**Co-Conveners:** Jennifer Adam, Jean-Marie Kileshye-Onema, Suxia Liu, Marloes Mul, Hwirin Kim, Elpida Kolokytha, Charalampos Skoulikaris

**P7: IAHS2022-88**  
 Optimization of surface water allocations in a prospective vision : application of the WEAP model in the Ivory Coast Aghien lagoon watershed  
**Djibril Dabissi Noufé**, Gneneyougo Emile Soro, Amidou Dao, Bamory Kamagaté, Droh Lanciné Goné, Bi Tié Albert Goula, Jean-Emmanuel Patuél, Gil Mahé, Eric Servat  
 Laboratoire Géosciences & Environnement (LGE), Université NANGUI ABROGOUA (UNA) d'Abidjan, Côte d'Ivoire, (dnoufe@hmail.com)

**P8: IAHS2022-242**  
 Impact of climate change and land-use/land cover changes on the Dam management in the Senegal River basin  
**Jean Albergel**, Mame Henriette Astou Sambou, Wilfrid Vissin, Stefan Liersch, Zoltan Szantoi, Landing Sane, Soussou Sambou  
 Institut de Recherche pour le Développement, Environnement & ressources, MONTPELLIER, France (jean.albergel@ird.fr)

**P9: IAHS2022-474**  
 Water availability and expansion of agricultural activity in southwestern Tocantins - Brazil: identification of scenarios and weaknesses  
**Roberta Oliveira**, Rodolfo Alves Luz, Fernan Vergara  
 Universidade Federal do Tocantins, Federal, Engenharia Civil, Brazil (robertaoliveira@mail.uft.edu.br)

**P10: IAHS2022-645**  
 Index-based Insurance to Mitigate Drought Financial Losses for Water Supply Sector  
 Gabriela Gesualdo, Marcos Benso, Fabricio Navarro, Luis Rápalo, **Eduardo Mendiando**  
 University of São Paulo, São Carlos School of Engineering, São Carlos, Brazil

### S9

#### Stochastic Hydrology with contributions on methodologies and applications, for modeling, forecasting, change assessment, and uncertainty quantification

**Convener:** Elena Volpi  
**Co-Conveners:** Simon Michael Papalexioiu, Antonio Zarlenga, Marco Marani, Alberto Viglione

**P11: IAHS2022-13**  
 Towards development of the methodology for the design hydrograph definition including stochastic simulations in Slovenia, Europe  
 Nejc Bezak, Matjaž Mikoš, Klauđija Lebar, Simon Rusjan, and Mojca Šraj  
 University of Ljubljana, Faculty of civil and geodetic engineering, Ljubljana, Slovenia (nejc.bezak@fgg.uni-lj.si)

**P12: IAHS2022-168**  
 Estimating point rainfall statistics from gridded large scale rainfall data  
 Silvia Salas Aguilar, **Etienne Leblois**, Jean-Dominique

Creutin, Enrique Gonzalez Sosa  
RiverLy Research Unit, INRAE, Lyon, France

**P13: IAHS2022-343**

Copulas for hydroclimatic analysis: A practice-oriented overview

**Faranak Tootoonchi**, Mojtaba Sadegh, Jan Olaf Haerter, Olle Råty, Thomas Grabs, Claudia Teutschbein  
Uppsala University, Earth Science, Uppsala, Sweden  
(faranak.tootoonchi@geo.uu.se)

**P14: IAHS2022-353**

Prediction of daily water temperature in the Yangtze River based on the C-vine copula

**Yuwei Tao**, Yuankun Wang, Dong Wang  
Nanjing University, School of Earth Sciences and Engineering, Nanjing, China  
(dz1729009@smail.nju.edu.cn; wangdong@nju.edu.cn)

**P16: IAHS2022-413**

Modelling rainfall event frequency through a temporal contagion model with external covariates

**Dario Treppiedi**, Gianluca Sottile, Giada Adelfio, Leonardo Valerio Noto  
Dipartimento di Ingegneria, Università degli Studi di Palermo, Palermo, ITALY

**P17: IAHS2022-451**

Rainfall model comparison for continuous modelling for small and ungauged basins

Salvatore Grimaldi, **Elena Volpi**, Andreas Langousis, Simon Michael Papalexios, Davide Luciano De Luca, Rodolfo Piscopia, Sofia D. Nerantzaki, Georgia Papacharalampous, Andrea Petroselli  
Department of Engineering, Roma Tre University, Rome, Italy;

**P18: IAHS2022-636**

How much do serial correlation and field significance affect trend detection on extreme precipitation frequencies?

**Stefano Farris**, Roberto Deidda, Francesco Viola, Giuseppe Mascaro  
Department of Civil and Environmental Engineering and Architecture, University of Cagliari, Italy

**S17****Tracer methods in catchment and critical zone hydrology**

**Convener:** Andrea L. Popp

**Co-Conveners:** David Hannah, Christine Stumpp, Przemyslaw Wachniew, Maki Tsujimura, Giovanni Mosquera, ZHONGHE PANG

**P19: IAHS2022-394**

Routing of stemflow water through the soil: A dual labelling approach with artificial tracers

Juan Pinos, Jérôme Latron, **Francesc Gallart**, Markus Flury, Pilar Llorens  
Institute of Environmental Assessment and Water Research (IDAEA)-CSIC, Barcelona, Spain  
(Juan.pinos@idaea.csic.es)

**P22: IAHS2022-757**

Role of porous and permeable layers in an argillaceous formation: Preliminary results on groundwater residence time based - an isotopic approach

**Corinne Le Gal La Salle**, Somar Khaska, Patrick Verdoux, Jean-Luc Michelot, Aster Team, Jürgen Sültenfuß, Michael Minet

**P24: IAHS2022-220**

Multi frequency isotopes survey to improve transit time estimation in the case of river-aquifer relation

**Angélique Poulain**, Vincent Marc, Marina Gillon, Anne-Laure Cognard-Plancq, Roland Simler, Milanka Babic, Marc Leblanc  
Avignon Université, UMR EMMAH, Avignon, France, Calligée, Toulouse, France

**P25: IAHS2022-277**

Hydrograph separation method based on a hydrological model and a chemical-statistical approach

**Ksenia Suchkova**, Yury Motovilov  
Water problems institute, Department of river basin hydrology, Russian Federation  
(kseniyaSuchkova@mail.ru)

**P26: IAHS2022-380**

Evaluating baseflow contribution to stream flow using stable water isotopic signatures in Kameng river basin, North Eastern India.

**Siddharth Arora**, Prosenjit Ghosh, Anil Vishnupant Kulkarni, Sk Satheesh, Mao Chang Liang  
Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru, India (siddhartha1@iisc.ac.in)

**P27: IAHS2022-615**

History and expectation of investigations on sediment yield with the Upa River basin

**Maksim Ivanov**, Vanentin Golosov  
Institute of Geography RAS, 119017, Moscow, Russia, Faculty of geography, Lomonosov Moscow State University, 119991, Moscow, Russia

**S29****Sustainable water management in agricultural areas**

**Convener:** Jérôme Molénat

**Co-Conveners:** Delphine Leenhardt, Rim Zitouna Chebbi, Fernando Nardi, Christophe Cudennec

**P28: IAHS2022-754**

Impact of irrigation and reservoirs on the flow regime of small agricultural basins

**Andrés Saracho**, Rafael Navas, Pablo Gamazo, Elena Alvareda  
Departamento del Agua, Centro Universitario Regional Litoral Norte, Universidad de la República, Salto, Uruguay

**P29: IAHS2022-616**

Hydrological and agricultural impacts of small reservoirs: a numerical exploration based on a catchment in south-west France

**Nicolas Lebon**, Cécile Dagès, Delphine Leenhardt, Jérôme Molénat  
UMR LISAH, Université de Montpellier, INRAE, IRD, Institut Agro, Montpellier, France

**P30: IAHS2022-150**

Impact of land use on runoff, sediment and carbon exports in two small headwater catchments in central Morocco

**Damien Raclot**, Ihssane Berrabhi, Mohamed Yassin, Yannick Pépin

IRD - LISAH, Laboratoire d'étude des Interactions Sols - Agrosystèmes - Hydrosystèmes, Montpellier, France (damien.raclot@ird.fr)

**P31: IAHS2022-716**

Simulating nitrate loads and concentrations in the main French rivers by 2050 according to different territorial agricultural scenarios.

**Antoine Casquin**, Gilles Billen, Marie Silvestre, Josette Garnier, Vincent Thieu

Sorbonne Université, CNRS, UMR 7619 METIS, Paris, France

**P32: IAHS2022-240**

Increasing water use efficiency and understanding the value of information for the management of deficit irrigation systems

**Niels Schütze**

Institut für Hydrologie und Meteorologie, Technische Universität Dresden

**P33: IAHS2022-539**

Defining socio-hydrological indicators of WEFEE Nexus: preliminary insights from the PRIMA Nexus-Ness project in four Mediterranean living labs

**Mohammad Merheb**, Christophe Cudennec, Fernando Nardi

Lebanese University, Faculty of Sciences 3, Campus Mont Michel, Tripoli, Lebanon

## Thursday, 02 June 2022

### Lecture Room: Auditorium Pasteur

## S12 Quantifying uncertainty in hydrological systems: A Bayesian point of view

**Convener:** Ashish Sharma

**Co-Conveners:** Ilaria Prosdocimi; Dmitri Kavetski; Lucy Marshall; Mojtaba Sadegh; Alberto Viglione

### 08:30–08:45: IAHS2022-439

Data assimilation of global hydrological model discharge to constrain a distributed hydrological model

**Alexandre Devers**, Claire Lauvernet, Jean-Philippe Vidal INRAE, UR RIVERLY, Lyon-Villeurbanne, France (alexandre.devers@inrae.fr)

### 08:45–09:00: IAHS2022-313

Bayesian model calibration in ungauged catchments via satellite data

**Hae Na Yoon**, Lucy Marshall, Ashish Sharma, Seokhyeon Kim

University of New South Wales, School of Civil and Environmental Engineering, Sydney, Australia (h.yoon@student.unsw.edu.au)

### 09:00–09:15: IAHS2022-115

A new semi-Bayesian robust estimation method for spatially distributed models

**Igor Gejadze**, Hind Oubanas, Pierre-Olivier Malaterre (igor.gejadze@inrae.fr) UMR G-eau, Inrae, Montpellier, France

### 09:15–09:30: IAHS2022-126

Variational data assimilation on a multi-dimensional hydraulic-hydrological model of hydrographic network: inference of large composite control vectors on the DassFlow platform

**Léo Pujol**, Pierre-André Garambois, Jérôme Monnier, Kevin Larnier, Lilian Villenave, Robert Mosé

Laboratoire des Sciences de l'ingénieur, de l'informatique et de l'imagerie (ICUBE), Fluid Mechanics Team, CNRS, Université de Strasbourg, France

### 09:30–09:45: IAHS2022-2

Bayesian inference of synthetic daily rating curves by coupling Chebyshev polynomials and the GR4J model

**Rafael Navas**, Willem Vervoort, Pablo Gamazo Programa Nacional de Investigación en Producción y Sustentabilidad Ambiental, Instituto Nacional de Investigación Agropecuaria, Colonia, Uruguay (rafaelnavas23@gmail.com), Departamento del Agua, Centro Universitario Regional Litoral Norte, Universidad de la República, Salto, Uruguay

### 09:45–10:00: IAHS2022-522

Estimating the Structural Uncertainty of Lumped Parameter Models in Karst Hydrology: a Bayesian Model Averaging (BMA) Approach

**Cousquer Yohann**, Sivelle Vianney, Jourde Hervé CNRS, Hydrosiences, France (yohann.cousquer@gmail.com)

### 10:00 Coffee/tea break

## S11 Extremes in hydroclimatic systems

**Convener:** Krzysztof Kochanek

**Co-Conveners:** Ilaria Prosdocimi; Salvatore Grimaldi; Ernest Amoussou; Alberto Viglione

### Introduction. Extreme Rainfalls.

### 10:30–10:45: IAHS2022-37

Potential links between large-scale circulation patterns and extreme precipitation events over the Central-Eastern China

**Qin Jiang**, Mario Giannini, Francesco Cioffi Dipartimento di Ingegneria Civile, Edile e Ambientale, "La Sapienza" University of Roma, Rome 00184, Italy, Key Laboratory of Geographic Information Science (Ministry of Education), East China Normal University, Shanghai 200241, China, School of Geographic Sciences, East China Normal University, Shanghai 200241, China

### 10:45–11:00: IAHS2022-163

Parameterizing the spatial structure of torrential rain for flood impact assessments

**Nadav Peleg**, João P. Leitão, Athanasios Paschalis, Simone Fatichi, Peter Molnar, Paolo Burlando University of Lausanne, Institute of Earth Surface Dynamics, Lausanne, Switzerland (nadav.peleg@unil.ch)

### 11:00–11:15: IAHS2022-177

High-resolution rain analysis in FVG, Northeastern Italy

**Elisa Arnone**, Dario Treppiedi, Leonardo V. Noto Università degli Studi di Udine, DPIA, Udine, Italy (elisa.arnone@uniud.it)

### 11:15–11:30: IAHS2022-191

Robustness of precipitation and streamflow extremes in the surrogate world of seasonal forecasts

**Peter Berg**, Katharina Klehmet, Denica Bozhinova, Louise Crochemore, Ilias Pechlivanidis, Christiana Photiadou, Wei Yang SMHI, Hydrology Research Unit, Norrköping, Sweden (peter.berg@smhi.se)

**11:30–11:45: IAHS2022-231**

Rarest rainfall events have greatest relative increase under climate change

**Gaby Gründemann**, Nick van de Giesen, Lukas Brunner, Ruud van der Ent

Delft University of Technology, Water Management, Delft, Netherlands (g.j.gruendemann@tudelft.nl), Centre for Hydrology, University of Saskatchewan, Canmore, Alberta, Canada

Discussion.

**11:45 Lunch break / Exhibition for the public****Extreme Rainfalls****13:30–13:45: IAHS2022-236**

The role of precipitation event type in the emergence of heavy tails in extreme precipitation series.

**Luzie Marlene Wietzke**, Bruno Merz, Björn Guse, Elena MacDonald, Bodo Ahrens, Sergiy Vorogushyn

GFZ German Research Centre for Geosciences, Potsdam, Section Hydrology, Potsdam, Germany (lwietzke@gfz-potsdam.de)

**13:45–14:00: IAHS2022-312**

Impact of bias-corrected RCM lateral boundary conditions on precipitation extremes

**Youngil Kim**, Jason Evans, Ashish Sharma  
University of New South Wales, School of Civil and Environmental Engineering, Australia

**14:00–14:15: IAHS2022-335**

Increasing rainfall data density in Northern Italy through daily extremes and the Hershfield factor

**Paola Mazzoglio**, Ilaria Butera, Pierluigi Claps  
Politecnico di Torino, Department of Environment, Land and Infrastructure Engineering, Torino, Italy (paola.mazzoglio@polito.it)

**14:15–14:30: IAHS2022-597**

Spatial non-stationary extreme precipitation modelling in the Mediterranean region.

**Hela Hammami**, Julie Carreau, Luc Neppel, Sadok Elasm  
Higher School of Communication of Tunis, University of Carthage, Tunis., Tunisia (hela.hammami@supcom.tn), University of Montpellier, Montpellier, France

Discussion.

**SP5****IAHS 100th anniversary****16:30–19:30****Segment 1:**

**Historical recap in building the future, chaired by B. Arheimer, with inputs by G. Blöschl, K. Beven and C. Cudennec**

**Segment 2:**

**Future water challenges and scientific opportunities, chaired by C. Cudennec, with inputs by A. van Loon, I. Pechlivanidis, M-J. Polo**

**Segment 3:**

**Emerging knowledge, technology, community building, chaired by G. Blöschl, with panelists B. Arheimer (IAHS), A. Amani (UNESCO), J. Cullmann (WMO), H. Makurira (Waternet), M. H. Ramos (EGU), S. Uhlenbrook (IWMI), H. Kreibich (IAHS), M. Sivapalan (IAHS)**

Lecture Room: Auditorium Pasteur

**15:00–16:30: Poster Presentations****Lecture Room: Antigone 1****S4****Water resource management in a changing world: economic, environmental and societal trade-offs and synergies**

**Convener:** Barry Croke

**Co-Conveners:** Jennifer Adam; Jean-Marie Kileshye-Onema; Suxia Liu; Marloes Mul; Hwirin Kim; Elpida Kolokytha; Charalampos Skoulikaris

**08:30–08:45: IAHS2022-588**

Relevance of Water Accounting Plus in the MENA region: A pragmatic analysis in light of the region's challenges to sustainable water management

**Nafn Amdar**, Marloes Mul, Stefan Uhlenbrook, Martine Rutten, Jawad Al-Bakri, Graham Jewitt

IHE Delft Institute for Water Education, Water, Land and Ecosystems, Jordan (n.amdar@un-ihe.org), International Water Management Institute, Delft University of Technology

**08:45–09:00: IAHS2022-371**

Assessing trade-offs and vulnerabilities to global changes in the Senegal River basin.

**Étienne Guilpart**, Amaury Tilmant, Marc-André Bourgault, René Roy

Département de génie civil et de génie des eaux, Université Laval, Québec, Canada (etienne.guilpart@gmail.com)

**09:00–09:15: IAHS2022-30**

The trade-offs in re-operating dams for the environment in the Lower Volta River Basin

**Afua Owusu**, Jazmin Zatarain Salazar, Marloes Mul, Pieter van der Zaag, Jill Slinger

Land and Water Management Department, IHE Delft Institute for Water Education, Delft, Netherlands, Faculty of Technology, Policy and Management, TU Delft, Delft, Netherlands

**09:15–09:30: IAHS2022-617**

Co-evolving mechanisms of climate - vegetation - hydrology in the source region of Yellow River

Xingguo Mo, **Suxia Liu** (liusx@igsnr.ac.cn) Key Laboratory of Water Cycle and Related Land Surface Processes, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, College of Resources and Environment, University of Chinese Academy of Sciences, Beijing 100190, China, Sino-Danish College, University of Chinese Academy of Sciences, Beijing 100049, China

**09:30–09:45: IAHS2022-120**

Research to support water resources planning in the Murray-Darling Basin

**David Post**, David Robertson, Rebecca Lester, Francis Chiew

CSIRO, Land and Water, Canberra, ACT, Australia (david.post@csiro.au)

**09:45–10:00: IAHS2022-137**

Developing a real-time ecological forecast for the Northern Murray-Darling Basin.

Callum Savage, Moyang Liu, **Barry Croke**, Julien Lerat, Anthony Jakeman

Fenner School of Environment and Society, The Australian National University, Canberra, Australia, Mathematical Sciences Institute, The Australian National University, Canberra, Australia

**10:00 Coffee break****S32**

## Hydrology and Society: Gender as an essential dimension in solving societal hydrological challenges in learning and participatory processes

**Convener:** Valérie Borrell Estupina

**Co-Conveners:** Carolina Valenzuela; Raphaëlle Ducrot; Roger Moussa; Jean-Emmanuel Paturel; Andrew Ogilvie; Olivier Barreateau; KOUASSI Kouamé Auguste; Aristide Gountôh Douagui; Jean Messingué; Mònica Serrano

**10:30–10:45: IAHS2022-214**

Gender differences within hydrological risk perception: Floods and droughts in Italy and Sweden

**Elena Mondino**, Elena Raffetti, Giuliano Di Baldassarre  
Department of Earth Sciences, Uppsala University, Uppsala, Sweden (elena.mondino@geo.uu.se), Institute for Environmental Sciences, University of Geneva, Geneva, Switzerland, Centre of Natural Hazards and Disaster Science, Sweden

**10:45–11:00: IAHS2022-669**

Eau, genre et défis globaux en Côte d'Ivoire. Water, gender and global challenges in Côte d'Ivoire

**Valérie Borrell Estupina**, Alexis Tchiakpe and the V. BORRELL1 and A. TCHIAKPE2

University of Montpellier, Faculty of Sciences, Montpellier, France (valerie.borrell@umontpellier.fr)

**11:00–11:15: IAHS2022-693**

Genre, Gouvernance et Participation Citoyenne en côte d'Ivoire :le programme COCOFCIGender, Governance and Citizen Participation in Côte d'Ivoire:COCOFCI program

**Euphrasie Kouassi-Yao**, Alexis Tchiakpe

Eau, Femmes et pouvoir de Décisions- Chaire UNESCO, Univ Félix Houphouët Boigny, Abidjan Côte d'Ivoire

**11:15–11:30: IAHS2022-685**

Rapprochement d'un Centre et d'une Chaire de l'UNESCO pour mieux répondre aux enjeux du développement durable et de la justice sociale au sud Valérie Borrell Estupina, **Euphrasie Kouassi-Yao**, Eric Servat, Alexis Tchiakpe, Blaise Koffi Yao, Jean-Emmanuel Paturel, Andrew Ogilvie, olivier Barreateau, brigitte Lundin Eau, Femmes, Pouvoir de Décision - Chaire UNESCO, Univ. Felix Houphouët Boigny, Abidjan Côte d'Ivoire

**11:45 Lunch break / Exhibition for the public****S7**

## Grounded socio-hydrology

**Convener:** Olivier Barreateau

**Co-Conveners:** Andrew Ogilvie; Margreet Zwarteveen

### S7-1. Grounding sociohydrology through stakeholder engagement

**13:30–13:40: Symposium introduction****13:40–13:55: IAHS2022-391**

Transdisciplinarity for sustainable groundwater management - a case from Germany

**Robert Luetkemeier**, Linda Söller

Institute for Social-Ecological Research, Frankfurt am Main, Germany (luetkemeier@isoe.de)

**13:55–14:10: IAHS2022-392**

Qualitative analysis between increased demand for wells and changes in activities at the community scale, case study of the Forquilha and Algodão Creek, Banabuiú Basin – Ceará

**Rafaela Alves**, Samiramisthaís Linhares, Gilberto Möbus, Hela Gasmi, Eduardo Martins, Renan Rocha, Alyson Estácio

Fundação Cearense de Meteorologia e Recursos Hídricos, Gerência de Estudos e Pesquisas em Recursos Hídricos, Fortaleza, Brazil (rafaela.alves@funceme.br)

**14:10–14:25: IAHS2022-488**

A stakeholder-driven process to develop a sustainable water resources management plan in the Koue Bokkeveld farming region, Western Cape-South Africa

**David Gwapedza**, Sukhmani Mantel, Bruno Bonte, Stefan Theron, Sakikhaya Mabohlo, Sinethemba Xoxo, Bruce Paxton, Olivier Barreateau, Jane Tanner

Rhodes University, Institute for Water Research, Grahamstown, South Africa (davidgwapedza@gmail.com)

**14:25–14:40: IAHS2022-686**

Establishing citizen science drought impacts monitoring in Northeast Brazil: what for and how?

**David W. Walker**, Meiry Sayuri Sakamoto, Veronica Mitroi, Juliana Lima Oliveira, Francisco das C. Vasconcelos Júnior, Sarra Kchouk, Louise Cavalcante, Germano Ribeiro Neto, Eduardo S.P.R. Martins, Pieter van Oel

Wageningen University, Wageningen, The Netherlands

**14:40–14:55: IAHS2022-492**

From piezometers to water actors and back again. A grounded sociohydrology towards the sharing of hydrological knowledge (Senegal River delta).

**Jeanne Riaux**, Ahmed Salem Mohamed, Christian Leduc, Cheikh A.A.M. Ba, Mamadou Lam

IRD, UMR G-EAU, Montpellier cedex 5, France

**15:00–16:30: Poster Presentations****Lecture Room: Barthez 1****S10****Forecasting and making decisions under uncertainty: ensemble approaches, evaluation methods and lessons learnt from post-event analyses****Convener:** Shaun Harrigan**Co-Conveners:** James Bennett; Marie-Amélie Boucher; Céline Cattoën-Gilbert; Fernando Mainardi Fan; Ilias Pechlivanidis; Maria-Helena Ramos; Paolo Reggiani**Advances in real-time monitoring, data assimilation and evaluation of initial conditions****08:30–08:45: IAHS2022-148**

Radar rainfall nowcasting for flash flood forecasting

**Ruben Imhoff**, Claudia Brauer, Klaas-Jan van Heeringen, Remko Uijlenhoet, Albrecht Weerts

Operational Water Management &amp; Early Warning, Deltares, Delft, The Netherlands, Hydrology and Quantitative Water Management Group, Wageningen University and Research, Wageningen, The Netherlands

**08:45–09:00: IAHS2022-225**

The impact of assimilating Earth Observation and in-situ data on seasonal hydrological predictions

**Jude Lubega Musuuza**, Louise Crochemore, Ilias G. PechlivanidisSMHI, Hydrology, Norrköping, Sweden  
(jude.musuza@smhi.se)**09:15–09:30: IAHS2022-297**

How can we use Data Assimilation for Real-Time Probabilistic Flood Inundation Mapping?

**Hamid Moradkhani**, Keighobad Jafarzadegan, Peyman Abbaszadeh

University of Alabama, Center for Complex Hydrosystems Research, Department of Civil, Construction and Environmental Engineering, United States of America (hmoradkhani@ua.edu)

**09:30–09:45: IAHS2022-734**

A novel approach for assimilating SAR derived flood extent map into flood forecasting model: the tempered particle filter

**Concetta Di Mauro**, **Renaud Hostache**, Patrick Matgen, Ramona Pelich, Marco Chini, Peter Jan van Leewen, Nancy Nichols, Günter Blöschl

Luxembourg Institute of Science and Technology, Luxembourg

**09:45–10:00: Poster pitches****10:00 Coffee break****New techniques for calibration and modelling across scales****10:45–11:00: IAHS2022-308**

An enhanced meteorological ensemble postprocessing scheme for improving the prediction of extreme rainfall events.

**Yu Zhang**, Mohammadvaghef Ghazvinian, Dong-Jun Seo**11:30–11:45: IAHS2022-113**

Sub-seasonal Hydrological Drought Forecast - the use of a Hybrid Forecasting System for Streamflow and Lake Level Predictions in Switzerland

**Annie Y.-Y. Chang**, Simone Jola, Konrad Bogner, Daniela I.V. Domeisen, Massimiliano Zappa

Swiss Federal Institute for Forest, Snow and Landscape Research, WSL, Birmensdorf, Switzerland, ETH Zürich, Zürich, Switzerland

**11:45–12:00: IAHS2022-440**

Combination of Global and Regional Hydrological Forecasts

**Nicolas Fontaine**, Marie-Amélie Boucher, Jean Odry, Simon Lachance-Cloutier, Vincent Fortin, François Anctil, Richard Turcotte

Department of Civil and Building Engineering, Université de Sherbrooke, Sherbrooke, Canada

**12:00 Lunch break / Exhibition for the public****Lessons learnt from post-event analyses and (pre)operational platforms****13:45–14:00: IAHS2022-375**

A methodological framework for the evaluation of short-range flashflood hydrometeorological forecasts at the event scale

**Maryse Charpentier-Noyer**, Daniela Peredo, Maria-Helena Ramos, Olivier Payrastra, Eric Gaume, Pierre Nicolle, François Bouttier, Hugo Marchal, Axelle Fleury

Université Gustave Eiffel, IFSTTAR, GERS-LEE, Nantes, France (maryse.charpentier-noyer@ifsttar.fr)

**14:00–14:15: IAHS2022-255**

Impact-based drought forecasting for agro-pastoralists in the Horn of Africa drylands

**Tim Busker**, Hans de Moel, Bart van den Hurk, Dagmawi Asfaw, Victoria Boulton, Jeroen Aerts

Institute for Environmental Studies (IVM), Vrije Universiteit Amsterdam (VU), Amsterdam, Netherlands

**14:15–14:30: IAHS2022-66**

Low-flow forecasting in France using the PREMHYCE operational platform: advances and perspectives

**François Tilmant**, François Bourgin, Anne-Lise Véron, Fabienne Rousset, Jean-Marie Willemet, Didier François, Matthieu Le Lay, Jean-Pierre Vergnes, Charles Perrin, Claire Magand, Mathilde Morel

HYCAR, INRAE, Université Paris-Saclay, Antony, France (francois.tilmant@inrae.fr)

**14:30–14:45: IAHS2022-233**

Experiences from co-developing hydrological forecasting systems across West Africa and eastern Siberia

**Jafet Andersson**, David Gustafsson, Judit Lienert, Martijn Kuller, Abdou Ali, Aishatu Ibrahim, Lyudmila Lebedeva, Sardana Boyakova, Berit Arheimer

Swedish Meteorological and Hydrological Institute (SMHI), Hydrology Research, Norrköping, Sweden

**14:45–15:00: IAHS2022-756**

FEWS - Uruguay: A platform for Flood Early Warning System and water management

**Pablo Gamazo**, Nicolás Failache, Andrés Saracho, Lucas Bessone, Rafael Navas, Julián Ramos, Elena Alvareda, Jan Talsma, Jose Valles  
Departamento del Agua, Centro Universitario Regional Litoral Norte, Universidad de la República, Salto, Uruguay

**15:00–16:30: Poster Presentations****Lecture Room: Rondelet 1****S30 Nature-based Solutions as a global change adaptation strategy**

**Convener:** Joris Eekhout

**Co-Conveners:** Federico Preti; Graham Jewitt; Jordi Morato

**08:30–08:45: IAHS2022-174**

Riparian zone assessment as a tool for planning nature-based solutions

**Jiří Jakubínský**, Pavel Cudlín, Vilém Pechanec, Kateřina Machová, Ondřej Cudlín, Lenka Štěrbová, Jan Purkyt, and Marcela Prokopová  
Global Change Research Institute CAS, Department of Carbon Storage in the Landscape, Brno, Czechia (jakubinsky.j@czechglobe.cz)

**08:45–09:00: IAHS2022-704**

Restoring instream wood as a Nature-based Solution to nutrient pollution

**Ben Howard**, Ian Baker, Nick Kettridge, Sami Ullah, Stefan Krause  
University of Birmingham, Birmingham Institute of Forest Research, Geography, Earth and Environmental Sciences, Birmingham, United Kingdom of Great Britain - England, Scotland, Wales (bch823@bham.ac.uk), Small Woods Association, Station Rd, Coalbrookdale, Telford, TF8 7DR

**09:00–09:15: IAHS2022-286**

Abandonment of gravity-fed irrigation: how to mitigate the impact on biodiversity and water cycle

**Anne-Laure Cognard-Plancq**, Alain Thiery, Marina Gillon, Vincent Marc, Juliette Mexler, Joffrey Moiroux, Milanka Babic, Hugues Soumille, Roland Simler  
Avignon University, UFR Sciences (Institute on sciences, technology and health), UMR EMMAH, AVIGNON, France (anne-laure.cognard-plancq@univ-avignon.fr)

**09:15–09:30: IAHS2022-215**

Assessment of the effectiveness of natural flood management in medium scale lowland catchments

**Heou Maleki Badjana**, Anne Verhoef, Hannah L Cloke, Stefan Julich, Carla Camargos, Patrick McGuire, Joanna M Clark  
University of Reading, Geography and Environmental Science, United Kingdom of Great Britain - England, Scotland, Wales (h.badjana@reading.ac.uk)

**09:30–09:45: IAHS2022-611**

A Coupled TOPMODEL-Soil Erosion Model: Towards Having a Compact Decision Support Tool for Evaluating Hydrological Ecosystem Services

**Emmanuel Okiria**, Keigo Noda  
The United Graduate School of Agricultural Sciences, Gifu University, Gifu 501-1193, Japan (okiriaemmah@gmail.com)

**09:45–10:00: IAHS2022-667**

Nature-based solution to study multiple ecosystems services in temporary wetlands: the case of the Sebou Delta in Morocco

**Hajar Choukrani**, Guillaume Lacombe, Ali Hammani, Abdelilah Taky, Gilles Belaud, Marcel Kuper  
Montpellier SupAgro, France (choukrani.hajar@gmail.com), Institut Agronomique et Vétérinaire Hassan II, UMR G-eau, CIRAD

**10:00 Coffee break****10:30–10:45: IAHS2022-414**

The effects of seasonal variability of precipitation and vegetation cycle on enhanced weathering for carbon sequestration

**Giuseppe Cipolla**, Salvatore Calabrese, Amilcare Porporato, Leonardo Noto  
Dipartimento di Ingegneria, Università degli Studi di Palermo, Palermo, Italy

**10:45–11:00: IAHS2022-226**

Sea level rise and climate change hazards: an integrated and multidisciplinary NBS approach to the hydrological impacts of erosion and land degradation

**Patrick Friend**, Oula Amrouni, Olivier Ceberio, Amine Dahmani, Babacar Diagne, Ibrahima Gaye, Craig Jones, Ronald Koomans, William Staby  
Integral Consulting Inc., Marine Science and Engineering Dept., Houston, Texas, United States of America (pfriend@integral-corp.com)

**11:00–11:15: IAHS2022-246**

Towards nature-based and hybrid adaptation to coastal flood risk: a global perspective

**Timothy Tiggeloven**, Hans de Moel, Philip Ward  
Vrije Universiteit Amsterdam, Institute for Environmental Studies, De Boelelaan 1087, 1081 HV Amsterdam, Netherlands

**11:30–11:45: IAHS2022-565**

Nature-based solutions for urban water management

**Junguo Liu**  
Southern University of Science and Technology, Shenzhen, China (junguo.liu@gmail.com)

**11:45–12:00: IAHS2022-710**

Large-scale impacts of multilayer blue-green roofs: pluvial flood mitigation capacity and water storage capacity

**Elena Cristiano**, Antonio Annis, Francesco Viola, Roberto Deidda, Fernando Nardi  
University of Cagliari, Cagliari, Italy (elena.cristiano@unica.it)

**12:00 Lunch break / Exhibition for the public**

**S31****The Water & Health Nexus - Understanding water controls on human health and wellbeing in a drastically changing world**

**Conveners:** Stefan Krause; Christophe Cudennec; Laura Richards

**13:30–13:45: IAHS2022-250**

Water based epidemiology: a new wave?

**Patricia Licznar-Fajardo**, Nicolas Bernaud, Ayad Almakki, Aboubakar Diaby, Iman Bouazizi, Fabien Aujoulat, Mylene Toubiana, Agnes Masnou, Jean-Louis Perrin, Luc Seguis, Kalpy Julien Coulibaly, Estelle Jumas-Bilak  
HSM, Univ Montpellier, CNRS, IRD, CHU Montpellier, Montpellier, France (patricia.licznar-fajardo@umontpellier.fr)

**13:45–14:00: IAHS2022-595**

The Water-Food-Health Nexus; Exploring the Water Foundations of Family to Community to Global Health.

**Jo-Anne Geere**, Bruce Lankford  
University of East Anglia, Water Security Research Centre, School of Health Sciences, United Kingdom of Great Britain - England, Scotland, Wales (jo.geere@uea.ac.uk)

**14:15–14:30: IAHS2022-181**

Dynamics of antimicrobial resistance in drinking water: a territorial study

**Patricia Licznar-Fajardo**, Fabien Aujoulat, Magalie Robert, Christelle Batiot-Guilhe, Lara Guillerez, Isabelle Zorogniotti, stefanyia Hantova, Estelle Jumas-Bilak  
HSM, Univ Montpellier, CNRS, IRD, CHU Montpellier, Montpellier, France (patricia.licznar-fajardo@umontpellier.fr)

**14:30–14:45: IAHS2022-151**

Bacterial water pollution and diarrheal diseases in West Africa

**Elodie Robert**, Manuela Grippa, Dayangnéwendé Edwige Nikiema, Laurent Kergoat, Hamidou Koudougou, Yves Auda, Emma Rochelle-Newall  
LETG, CNRS, Université de Nantes, Nantes, France

**14:45–15:00: IAHS2022-708**

Quantitative Microbiological Risk Assessment of drinking water produced in Ouagadougou, Burkina Faso

**Seyram Sossou**, Francois-Cedry Bidi, Bernadette Ouattara, Elie Kabre  
2iE, Institut International d'Ingénierie de l'Eau et de l'Environnement, Ouagadougou, Burkina Faso (seyram.sossou@2ie-edu.org)

**15:00–16:30: Poster Presentations**

**Lecture Room: Rondelet 2**

**S16****Dealing with subsurface contamination and risks: technical solutions and practical applications, from shallow to deep geological environments**

**Convener:** Felipe de Barros

**Co-Conveners:** Wouter Buytaert; Christine Stump; Elena Volpi

**08:30–08:45: IAHS2022-46**

Application of a new hydrogeological conceptual model of basement aquifers: Structuring and distribution of hydrodynamic properties. Critique and revision of piezometric mapping methods in a sub-basin of the Cavally River in western Côte d'Ivoire

**Kouassi Aristide Aoulou**, Severin Pistre, Yéï Marie Solange Oga, Benoît Dewandel, Patrick Lachassagne  
UFR-STRM, Université Félix Houphouët-Boigny, 22 BP 582, Abidjan 22, Côte d'Ivoire, HSM, Univ. Montpellier, CNRS, IRD, Montpellier, France

**08:45–09:00: IAHS2022-112**

3D hydrogeological parametrization using scarce piezometric data

**Dimitri Rambourg**, Philippe Ackerer  
Institut Terre et Environnement de Strasbourg, Université de Strasbourg/EOST/ENGEES, CNRS UMR 7063, 5 rue Descartes, Strasbourg F-67084, France

**09:00–09:15: IAHS2022-282**

The use of redox and hydrodynamic characteristics of groundwater in the control of nitrates.

**Jean-Pierre Faillat**

Centre pour l'Enseignement et la Recherche en Géosciences et Applications, Hydrogéologie, France (yjpf@free.fr)

**09:15–09:30: IAHS2022-536**

Petrophysical characterization of a clastic coastal aquifer with implications for saltwater intrusion and the evolution of groundwater resources. The DEM'EAUX ROUSSILLON project, Occitanie, France.

**Philippe Pezard**, Johanna Lofi, Erwan LeBer, Gilles Henry, Laurent Brun, Muriel Geeraert, Colin Hamel, Ryan Gee, Nicolas Brillouet, Denis Neyens, Yvan Caballero  
CNRS, Geosciences Montpellier, France

**09:30–09:45: IAHS2022-556**

Global and local sensitivity analysis of heat transport in fractured rock using a modified LH-OAT method

**Xiao-long Wu**, Bernard Kueper, Kent Novakowski  
Queen's University, Faculty of Engineering and Applied Science, Department of Civil Engineering, Canada (xiao-long.wu@queensu.ca)

**09:45–10:00: IAHS2022-736**

Groundwater resources vulnerability assessment in an alluvial aquifer subjected to strong anthropogenic contamination: geochemical and multi-isotopic fingerprinting approach

**Antoine Bonnière**, Corinne Le Gal La Salle, Somar Khaska, Mathieu Sebilo, Pascale Louvat, Patrick Verdoux  
Univ. Nîmes, EA 7352 CHROME, rue du Dr Georges Salan, 30021 Nîmes, France

**10:00 Coffee break****S26****Emerging contaminants and legacy pollutants in freshwater ecosystems**

**Convener:** Stefan Krause

**Co-Conveners:** Alena Bartosova; Anne Jaffrezic; Françoise Elbaz-Poulichet

**10:30–10:45: IAHS2022-399**

Global river water pollution: exploring current challenges and future prospects

**David Hannah**, Benjamin Abbot, Kieran Khamis, Christa Kelleher, Iseult Lynch, Stefan Krause, Adam Ward  
University of Birmingham, UK

**10:45–11:00: IAHS2022-470**

Climate change and water quality responses in agricultural catchments with high legacy storages of nutrients

**Ophelie Fovet**, Laurent Strohmeier, Remi Dupas, Patrick Durand, Mikael Fauchoux, Yannick Hamon, Laurent Jeanneau, Patrice Petitjean, Laurent Ruiz, Chantal Gascuel-Oudou  
UMR SAS, INRAE, Institut Agro- Agrocampus Ouest, Rennes, France (ophelie.fovot@inrae.fr)

**11:00–11:15: IAHS2022-739**

Seasonal variation of Heavy Metal Pollution and numerical Modeling in the River and Dam (Case study: Zarineh river and Bookan dam in Iran)

**Maryam Khalilzadeh Postegal**, Mojtaba Noury, Seyed Ahmad Mirbagheri  
Faculty of Civil Engineering, K. N. Toosi University of Technology, Tehran, Iran

**11:30–11:45: IAHS2022-442**

What can we learn from flume experiments about the transport of polyamide microplastics in streams?

**Uwe Schneidewind**, Holly Nel, Jennifer Drummond, Anna Kukkola, Iseult Lynch, Greg Sambrook-Smith, Stefan Krause

University of Birmingham, School of Geography, Earth and Environmental Sciences, Birmingham, United Kingdom of Great Britain - England, Scotland, Wales (u.schneidewind@bham.ac.uk)

**11:45–12:00: IAHS2022-410**

Remediation of Per- and Polyfluoroalkyl Substance (PFAS) Contaminated Soil with Colloidal Activated Carbon: Lessons Learned from a Swedish Case Study

**Georgios Niarchos**, Dan Berggren Kleja, Lutz Ahrens, Fritjof Fagerlund  
Uppsala University, Earth Sciences, Uppsala, Sweden (georgios.niarchos@geo.uu.se)

**12:00 Lunch break / Exhibition for the public****S15****Advancements on understanding and modeling of the fluxes of groundwater across boundaries**

**Convener:** Alraune Zech

**Co-Conveners:** Gil Mahé; Flavia Tauro; Antonio Zarlenga

**13:30–13:45: IAHS2022-368**

Water storage capacity and hydrological role of andean peatlands in the semi-arid Chile

**remi valois**, nicole schaffer, Shelley macdonell  
EMMAH-Avignon University, CEAZA, Chile

**13:45–14:00: IAHS2022-691**

Investigating hydrological and geomorphological functioning of the mysterious endemic Palmiet wetlands in South Africa.

**Jane Tanner**, Caitlin Smith, Fred Ellery, Julia Glenday  
Rhodes University, Institute for Water Research, Grahamstown, South Africa

**14:00–14:15: IAHS2022-711**

A wavelet analysis of surface water - groundwater interaction in reaches affected by hydropeaking

**Gabriele Chiogna**, Monica Basilio Hazas, Giorgia Marcolini, Tanu Singh, Barbara Wohlmuth  
Technical University of Munich, Munich, Germany (gabriele.chiogna@tum.de)

**14:15–14:30: IAHS2022-377**

Flow and transport at the catchment scale: hillslopes vs river network who plays the leading role?

**Aldo Fiori**, Antonio Zarlenga, Vladimir Cvetkovic  
Department of Engineering, Roma Tre University, Via Vito Volterra 62, Rome 00146, Italy (aldo.fiori@uniroma3.it)

**14:30–14:45: IAHS2022-55**

Impact of the Alex storm on the exchanges between the Roya River and its alluvial aquifer

**Sandra Lanini**, Bernard Ladouche, Benoit Dewandel, Melissande Ibba, Vincent Bailly-Comte, Marie Genevier  
BRGM, Univ. Montpellier, Montpellier, France, G-EAU, UMR 183, INRAE, CIRAD, IRD, AgroParisTech, Supagro, BRGM, Montpellier, France

**14:45–15:00: IAHS2022-390**

Discrete Fracture Network geophysical imaging from Electrical Resistivity Methods

**Cédric Champollion**, Delphine Roubinet  
Lab. Geosciences Montpelleir, Univ. Montpellier / CNRS, France, Montpellier, France (cedric.champollion@umontpellier.fr)

**15:00–16:30: Poster Presentations**

## Thursday posters

**Poster Area: Poster Area**  
**Attendance Time: 15:00–16:30**

### S10

#### Forecasting and making decisions under uncertainty: ensemble approaches, evaluation methods and lessons learnt from post-event analyses

**Convener:** Shaun Harrigan

**Co-Conveners:** James Bennett, Marie-Amélie Boucher, Céline Cattoën-Gilbert, Fernando Mainardi Fan, Ilias Pechlivanidis, Maria-Helena Ramos, Paolo Reggiani

#### P2: IAHS2022-48

SMASH - Spatially distributed Modelling and ASsimilation for Hydrology: Python wrapping towards enhanced research-to-operations transfer

**Maxime Jay-Allemand**, François Colleoni, Pierre-André Garambois, Julie Demargne

Hydris Hydrologie, Parc Scientifique Agropolis II, 2196 Boulevard de la Lironde, 34980 Montferrier Sur Lez (maxime.jay.allemand@hydris-hydrologie.fr)

#### P3: IAHS2022-626

Toward Improved Parameter Estimation of Variable Infiltration Capacity Model Under the Impacts of Niño Events

**Chandni Thakur**, Diwan Mohaideen, Kasiviswanathan Kasiapillai Sudalaimuthu, Bankaru Swamy Soundharajan, Claudia Teutschbein

IIT Roorkee, IIT Roorkee, Water Resources and Development, India (chandni@wr.iitr.ac.in)

#### P4: IAHS2022-695

Comparison and validation of outputs from global hydrological models against local hydrological data in South Africa

**Harriette Okal**, Jane Tanner, Denis Hughes  
 Rhodes University, Institute for Water Research, Grahamstown, South Africa

#### P5: IAHS2022-610

Theoretical framework for the stochastic synthesis of the variability of global-scale key hydrological-cycle processes and estimation of their predictability limits under long-range dependence.

**Panayiotis Dimitriadis**, Theano Iliopoulou, Demetris Koutsoyiannis

National Technical University of Athens, School of Civil Engineering, Department of Water Resources and Environmental Engineering

#### P6: IAHS2022-298

Attributing correlation skill of dynamical GCM precipitation forecasts to statistical ENSO teleconnection using a set-theory-based approach.

**Haoling Chen**, Tongtiengang Zhao

Center of Water Resources and Environment, Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai), School of Civil Engineering, Sun Yat-Sen University, Guangzhou, China (zhaottg@mail.sysu.edu.cn)

### S11

#### Extremes in hydroclimatic systems

**Convener:** Krzysztof Kochanek

**Co-Conveners:** Ilaria Prosdocimi, Salvatore Grimaldi, Ernest Amoussou, Alberto Viglione

#### Modelling of hydrological extremes.

#### P8: IAHS2022-52

Extremes in hydroclimatic systems and their consequences: Evaluation of precipitation reanalysis products for rainfall-runoff modelling in Slovenia

**Hannes Müller-Thomy**, Patrick Nistahl, Nejc Bezak, Marcos Alexopoulos, Günter Meon

Leichtweiß-Institute for Hydraulic Engineering and Water Resources (Hydrology, Water Management and Water Protection), Technical University of Brunswick, Braunschweig, Germany (h.mueller-thomy@tu-braunschweig.de)

#### P10: IAHS2022-660

Statistical and hydraulic analysis of flood hazard in the Ahr valley, Germany considering historical floods

**Sergiy Vorogushyn**, Heiko Apel, Matthias Kemter, Annegret Thieken

GFZ German Research Centre for Geosciences, Hydrology, Potsdam, Germany (sergiy.vorogushyn@gfz-potsdam.de)

#### P11: IAHS2022-584

Use of the HEC RAS model for the analysis of exceptional floods in the Ouémé basin

**Amoussou Ernest**, Amoussou Toundé Félix, Bossa Yaovi Aymar, Kodja Domiho Japhet, Totin Vodounon Sourou Henri, Houndénou Constant, Borrel Valérie, Paturel Jean-Emmanuel, Mahé Gil, Cudennec Christophe, Boko Michel

Benin (ajernest@yahoo.fr)

#### Climate change impact on hydrological extremes.

#### P12: IAHS2022-73

Assessment of the Influence of Southern Oscillation Index on Rainfall Variability in Southeast Region of Nigeria

**Fidelis Okorie**, Reik Donner

Imo State University, Owerri, Department of Geography and Environmental Management, Owerri, Nigeria (fidelisokorie@yahoo.co.uk)

**P13: IAHS2022-129**

The trend analysis of rain over threshold the 100 mm on the Bia basin at south east Cote d'Ivoire

**Kan Martin Kouassi**, Nathalie Rouché, N'diaye Hermann Mledje

Félix Houphouët Boigny, Centre de Recherche en Ecologie, Science de la Terre et des Ressources Minières, Côte d'Ivoire (kanstephane@yahoo.fr)

**P14: IAHS2022-130**

Impacts of climatic extremes on the production of hydroelectric energy from the Faé dam in San-Pédro (South-West Côte d'Ivoire)

**Affoué Berthe Yao**, Franck Hervé Akaffou, Sampah Georges Eblin, Abel Konan Komey, Kouakou Lazare Kouassi, Kouadio Koffi

(k\_lazare@yahoo.fr), Environmental Science and Technology Laboratory, Jean Lorougnon Guédé University, Daloa, Côte d'Ivoire

**P15: IAHS2022-83**

Analysis of long-term changes in inundation characteristics of near-natural temperate riparian habitats in the Lower Basin of the the Biebrza Valley, Poland

**Krzysztof Kochanek**, Mateusz Grygoruk, Dorota Mirosław-Swiątek

Institute of Geophysics Polish Academy of Sciences, Hydrology i Hydrodynamics, Warsaw, Poland (kochanek@igf.edu.pl)

**S15**

## Advancements on understanding and modeling of the fluxes of groundwater across boundaries

**Convener:** Alraune Zech

**Co-Conveners:** Gil Mahé, Flavia Tauro, Antonio Zarlenga

**P16: IAHS2022-278**

Hydrogeology of oil wells in the coastal sedimentary basin of the Abidjan margin (Côte d'Ivoire)

Kouassi Kouamé Auguste, **Coulibaly Adama**, Kouassi Francis William, Koua Eric

Unité de Formation et de Recherche des Sciences de la Terre et des Ressources Minières (UFR-STRM), Université Félix Houphouët-Boigny, Abidjan, Côte d'Ivoire (cooladok57@gmail.com)

**P18: IAHS2022-395**

Groundwater modelling of a complex multilayer coastal aquifer under climate change in the framework of the DEM'EAUX ROUSSILLON project.

**Sandra Lanini**, Ludovic Schorpp, Valentin Dall'Alba, Philippe Renard, Benoît Dewandel, Bernard Ladouche, Frédéric Bouchette, Yvan Caballero

BRGM & UMR G-EAU, Univ Montpellier, Montpellier, France

**S16**

## Dealing with subsurface contamination and risks: technical solutions and practical applications, from shallow to deep geological environments

**Convener:** Felipe de Barros

**Co-Conveners:** Wouter Buytaert, Christine Stump, Elena Volpi

**P22: IAHS2022-296**

Saline intrusion through zones of high hydraulic conductivity associated with faults in coastal aquifers

**Rafaela Alves**, Leandson Lucena

Fundação Cearense de Meteorologia e Recursos Hídricos, Gerência de Estudos e Pesquisas em Recursos Hídricos, Brazil (rafaela.alves@funceme.br)

**S26**

## Emerging contaminants and legacy pollutants in freshwater ecosystems

**Convener:** Stefan Krause

**Co-Conveners:** Alena Bartosova, Anne Jaffrezic, Françoise Elbaz-Poulichet

**P23: IAHS2022-184**

Suspended particulate matter and water fecal pollution in the Niger River at Niamey

**Moussa Boubacar Moussa**, Amadou Abdourhamane Touré, Bruno Lartiges, Emma Rochelle Newall, Laurent Kergoat, Elodie Robert, Marielle Gosset, Bachir Alkali Tanimoun, Manuela Grippa

Université Abdou Moumouni, FAculté des Sciences et Techniques (FAST)- département de Géologie, Niamey / Niger, Université Toulouse III Paul Sabatier, Géosciences Environnement Toulouse (GET- UMR 5563 CNRS / UR 234 IRD / UM 97 UPS / CNES

**P24: IAHS2022-404**

Inland Fisheries and Risk of Contamination of Fisheries Ecosystems in the Gbaga Lagoon Channel (Benin-Togo Coastal Zone)

**Mahougnon Fidèle Ahéhinnou Yêdo**, Ernest Amoussou, Maurice Mathieu Ahouansou, Japhet Domiho Kodja, Sourou Henry Totin Vodounon

Université d'Abomey-Calavi, IGATE, LACEEDE, Benin (fideleyedo@gmail.com)

**P25: IAHS2022-444**

Contaminants of emerging concerns in groundwater as tracers of antropization to small Mediterranean lagoons hydrosystems

**Eléa Crayol**, Frédéric Huneau, Emilie Garel, Alexandra Mattei, Sébastien Santoni, Vanina Pasqualini

Département d'Hydrogéologie, Université de Corse Pascal Paoli, Campus Grimaldi, BP 52, 20250 Corte, France, CNRS, UMR 6134, SPE, BP 52, 20250 Corte, France

**P26: IAHS2022-497**

Impact of seasonal touristic activity on emerging contaminants of micro-estuaries and hydraulically connected water bodies in North-Western Corsica

**Frédéric Huneau**, Emilie Garel, Sébastien Santoni, Alexandra Mattei, Caroline Tafani, Vanina Pasqualini  
UMR 6134 SPE CNRS, University of Corsica, Corte, France (huneau\_f@univ-corse.fr)

**P27: IAHS2022-578**

Identification of some water quality parameters of the liquid effluents discharged from recent urbanization

**Nabil Bougherira**, Azzedine Hani, Hicham Chaffai, Marnik Vanclooster, Larbi Djabri, Dounia Nechem, Badreddine Saadali, Salim Boubelli, Ahmed Nahal (pedagogiegeologie@yahoo.fr)

**P28: IAHS2022-628**

R-Beale: an automated stratified Beale's ratio estimator to calculate pollutant loading from measurements with missing observations.

**Remegio Confesor**, Marianne Bechmann, Johannes Deelstra, Jannes Stolte  
Norwegian Institute for Bioeconomy, Norway (remegio.confesor@nibio.no)

**P29: IAHS2022-741**

The Effect of Hydrological Drought on Water Quality in Zanjanrud River

**Zahra Abdollahi**, Ataollah Kavian, Seyed Hamid Reza Sadeghi  
Soil Conservation and Watershed Management Research Department, Zanjan Agricultural and Natural Resources Research and Education Center, AREEO, Zanjan, Iran

**P30: IAHS2022-65**

Modeling Nitrate export with GR4J and StorAge Selection functions

**Alban de Lavenne**, Julien Tournebize, Hocine Henine, Samy Chelil, Vazken Andréassian  
INRAE, HYCAR, Antony, France

**P31: IAHS2022-534**

Veterinary pharmaceutical and fecal contamination in mixed-land use watersheds: from agricultural headwater watersheds to water-monitoring watersheds

**Anne Jaffrezic**, Lise Charuau, Marine Liotaud, Fabien Mercier, Barbara Le Bot, Emilie Jardé  
UMR SAS, Institut Agro, AGROCAMPUS OUEST, INRAE 35000 Rennes, France

**S30****Nature-based Solutions as a global change adaptation strategy**

**Convener:** Joris Eekhout

**Co-Conveners:** Federico Preti, Graham Jewitt, Jordi Morato

**P33: IAHS2022-622**

Investigation of the intercepting performance of urban trees at a rainfall event basis

**Mark Bryan Alivio**, Katarina Zabret, Mojca Iraj, Nejc Bezak  
University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia (markbryan.alivio@fgg.uni-lj.si)

**P34: IAHS2022-740**

Assessing the effectiveness of Nature-based Solution as a climate change adaptation strategy using a coupled hydrology-soil erosion-river morphodynamics model

**Joris Eekhout**, Carolina Boix-Fayos, Pedro Pérez-Cutillas, Joris de Vente  
Soil and Water Conservation Research Group, CEBAS-CSIC, Murcia, Spain

**P35: IAHS2022-326**

(Sub-) surface hydrology of photovoltaic green roofs revisited under extreme rainfall conditions

**Kristian Förster**, Daniel Westerholt, Gilbert Lösken  
Institute of Hydrology and Water Resources Management, Leibniz Universität Hannover, Hannover, Germany (foerster@iww.uni-hannover.de)

## Friday, 03 June 2022

### Lecture Room: Auditorium Pasteur

## S11 Extremes in hydroclimatic systems

**Convener:** Krzysztof Kochanek

**Co-Conveners:** Ilaria Prosdocimi; Salvatore Grimaldi; Ernest Amoussou; Alberto Viglione

### Introduction. Extreme Discharges.

#### 10:30–10:45: IAHS2022-580

Estimating droughts in Central Asia based on several climate indices and climate factors

**Milena Latinovic**, Abror Gafurov

GFZ German Research Centre for Geosciences, Potsdam, Hydrology, Potsdam, Germany (milena@gfz-potsdam.de)

#### 10:45–11:00: IAHS2022-341

Statistical model for compound flood hazard to separate local and upstream flow inputs on the Niger River at Niamey

**Elisa Sauzedde**, Théo Vischel, Jeremy Panthou, Vieri Tarchiani, Giovanni Massazza

Univ. Grenoble Alpes, CNRS, IRD, Grenoble INP\*, IGE, 38000 Grenoble, France \*Institute of Engineering and Management Univ. Grenoble Alpes (elisa.sauzedde@univ-grenoble-alpes.fr; jeremy.panthou@univ-grenoble-alpes.fr; theo.vischel@univ-grenoble-alpes.fr)

#### 11:00–11:15: IAHS2022-382

Investigating the clustering mechanisms of hydroclimatic extremes: from identification to modelling strategies

**Theano Iliopoulou**, Panayiotis Dimitriadis, Demetris Koutsoyiannis

Department of Water Resources & Environmental Engineering, School of Civil Engineering, National Technical University of Athens, Greece

#### 11:15–11:30: IAHS2022-384

Reanalysis of the October 1940 record flash flood in the Pyrenees

**Eric Gaume**, Olivier Payrastre, Denis Coeur, Yves Kovacs Université Gustave Eiffel, Department of Geotechnics Water and Risks, Nantes, France (eric.gaume@univ-eiffel.fr)

#### 11:30–11:45: IAHS2022-420

Effects of climate change on hydrological safety of dams with gated spillways.

**Enrique Soriano Martín**, Luis Mediero Orduña, Andrea Petroselli, Salvatore Grimaldi, Davide Luciano De Luca Department of Civil Engineering: Hydraulics, Energy and Environment, Universidad Politécnica de Madrid, 28040, Madrid, Spain

### Discussion.

### 11:45 Lunch break / Exhibition for the public

### Extreme Discharges.

#### 13:30–13:45: IAHS2022-422

Decadal variability in long- and short-lived hydrological extremes in Sub-Saharan Africa

**Job Ekolu**, Bastien Dieppois, Jonathan Eden, Yves Tramblay, Gabrielle Villarini, Gil Mahé, Jean-Emmanuel Paturel, Marco van de Wiel

Centre for Agroecology, Water and Resilience (CAWR), Coventry University, Coventry, UK

#### 13:45–14:00: IAHS2022-533

Does Groundwater Dynamics Impact Heat Waves Simulations and Projections? Explicit Groundwater Representation in a State-of-the-art Regional Climate Model Ensemble over Europe

**Carina Furusho-Percot**, Liubov Poshvyailo-Strube, Carl Hartick, Klaus Goergen, Stefan Kollet

Agrosphere (IBG-3), Research Centre Jülich, Germany, Centre for High-Performance Scientific Computing in Terrestrial Systems, Geoverbund ABC/J, Jülich, Germany.

#### 14:00–14:15: IAHS2022-545

Shifting of streamflow timing and seasonality under climate change in the Volta River basin

**Moctar Dembélé**, Mathieu Vrac, Natalie Ceperley, Sander J. Zwart, Josh Larsen, Simon J. Dadson, Grégoire Mariéthoz, Bettina Schaeffli

International Water Management Institute, Accra, Ghana (moctar.dembele@cgiar.org)

#### 14:15–14:30: IAHS2022-650

Hydrological records of the Rhône River at Beaucaire from 1816 to 2020: accounting for uncertainty in the discharge estimation and flood frequency analysis

**Mathieu Lucas**, Michel Lang, Antoine Bard, Benjamin Renard, Jérôme Le Coz, Matteo Darienzo, Gilles Pierrefeu INRAE, Riverly, Lyon, France (mathieu.lucas@inrae.fr)

#### 14:30–14:45: IAHS2022-589

Does a convection-permitting climate model improve the simulation of flash floods? A case study over a Mediterranean watershed

**Nils Poncet**, Philippe Lucas-Picher, Yves Tramblay, Guillaume Thirel CNRM, GMGEC, France

### Discussion.

### 15:00 Break

### Extreme Discharges.

#### 16:30–16:45: IAHS2022-5

How do reservoirs affect local and regional floods and droughts?

**Manuela Irene Brunner**

University of Freiburg, Earth and Environmental Sciences, Germany (manuela.brunner@hydrology.uni-freiburg.de)

#### 16:45–17:00: IAHS2022-9

Multi-scale approaches in forecasting extreme floods and their global connections

**Ankit Agarwal**, Bruno Merz, Jürgen Kurths

Department of Hydrology, Indian Institute of Technology Roorkee, 247667 India (ankit.agarwal@hy.iitr.ac.in)

**17:00–17:15: IAHS2022-68**

Characteristics and process controls of statistical flood moments in Europe - a data-based analysis

**David Lun**, Alberto Viglione, Miriam Bertola, Jürgen Komma, Juraj Parajka, Peter Valent, Günter Blöschl  
TU Wien, Institute of Hydraulic Engineering and Water Resources Management, Vienna, Austria  
(lun@hydro.tuwien.ac.at)

**17:15–17:30: IAHS2022-262**

Clustering for hydroclimatic extremes: a retrospective synthesis of the literature

**Nilay Dogulu**, Manuela Irene Brunner, Svenja Fischer, Wouter Knoben  
Independent researcher, Ankara, Turkey  
(nilay.dogulu@gmail.com)

**17:30–17:45: IAHS2022-324**

Using flood process information to support flood trend studies

**Lina Stein**, Ross Woods, Conrad Wasko, Francesca Pianosi  
Institute of Environmental Science and Geography, University Potsdam, Potsdam, Germany (lina.stein@uni-potsdam.de)

**Discussion. Summary of the session.**

## SP6 Closing

**Lecture Room:** Auditorium Pasteur

**18:00–18:30**

**Lecture Room: Antigone 1**

## S7 Grounded socio-hydrology

**Convener:** Olivier Barreteau

**Co-Conveners:** Andrew Ogilvie; Margreet Zwarteveen

### S7-2. (2) Grounding sociohydrology in decision-making/management

**08:30–08:45: IAHS2022-284**

Generating knowledge from water management situations: a pragmatist approach to socio-hydrology

**Olivier Barreteau**, Amandine Adamczewski, Bruno Bonte, Anne-Laure Collard, Marcel Kuper, Christian Leduc, Caroline Lejars, Sylvain Massuel, Andrew Ogilvie, Jeanne Riaux, Laura Seguin, Jean-Philippe Venot  
UMR G-EAU, AgroParisTech, BRGM, Cirad, INRAE, Institut Agro, IRD, Univ. Montpellier, Montpellier, FRANCE

**08:45–09:00: IAHS2022-423**

Exploring institutions, land use and water quality interactions with a socio-hydrological modelling approach in Burkina Faso

**Gemma Carr**, Marlies Barendrecht, Bedru Balana, Liza Debevec  
Technical University Vienna, Centre for Water Resource Systems, Vienna, Austria (carr@waterresources.at)

**09:00–09:15: IAHS2022-537**

When the exception becomes the rule: learning how to govern water scarcity in the French Grand Est Region. Analysis of the regulatory work of State services.

**Sara Fernandez**, Rémi Barbier, Charles Antoine, Sophie Liziard  
INRAE, UMR GESTE, France  
(sara.fernandez@inrae.fr), Université de Strasbourg

**09:15–09:30: IAHS2022-675**

Multiple scale conflicts over water security in a semi-arid river basin: Banabuiu River Basin, Ceara - Brazil

**Louise Cavalcante**, Esmee van de Ridder, Pieter van Oel, Art Dewulf, Sarra Kchouk, Germano Ribeiro Neto, David Walker, Eduardo Martins  
Wageningen University & Research, Wageningen, The Netherlands

**09:30–09:45: IAHS2022-408**

System level water use efficiency of rural water supply systems in rural Colombia: a top - down analysis

**Diana Carolina Callejas Moncaleano**, Luuk Rietveld, Saket Pande  
Delft University of Technology, Department of Water Management, Delft, Netherlands

**09:45–10:00: IAHS2022-661**

Cryosphere changes and local adaptation strategies: socio-hydrological case studies from the Himalayan region

**Marcus Nüsser**, Susanne Schmidt, Juliane Dame  
South Asia Institute (SAI), Department of Geography, Heidelberg University, Heidelberg, Germany  
(Marcus.nuesser@uni-heidelberg.de), Heidelberg Centre for the Environment (HCE), Heidelberg University, Heidelberg, Germany

### 10:00 Coffee break

### S7-3. (Dealing with) questions of power, equity and justice in sociohydrology

**10:30–10:45: IAHS2022-247**

Grounding sociohydrology through a justice lens

**Margreet Zwarteveen**, Maria Rusca, James Linton, Melissa Haeffner, Rebecca Lave, Jenia Mukherjee, John Ndiritu, Raul Pacheco Vega  
IHE Delft Institute for Water Education and University of Amsterdam, The Netherlands

**10:45–11:00: IAHS2022-31**

Elite consumptions trigger water shortages: Modelling heterogeneous interactions between drought and society  
**Elisa Savelli**, Maurizio Mazzoleni, Hannah Cloke, Giuliano Di Baldassarre, Maria Rusca  
Department of Earth Sciences, Air, Water and Landscape Science, Uppsala University, Uppsala, Sweden  
(elisa.savelli@geo.uu.se), Centre of Natural Hazards and Disaster Science, CNDS, Uppsala, Sweden

**11:00–11:15: IAHS2022-222**

How to be reflexive about an Agent Based Model of social and hydrological system?

**Bruno Bonté**, Anne-Laure Collard, Salem Idda  
INRAE, AQUA, France (bruno.bonte@inrae.fr)

**11:15–11:30: IAHS2022-664**

Riding the wave of discomfort. A reflexive way to practice sociohydrology

Jeanne Riaux, Sylvain Massuel, **Marcel Kuper**  
Cirad, UMR G-eau, Université de Montpellier

**12:00 Lunch break / Exhibition for the public****S7-4. Conversations between different data collection methods (and can they always be combined)****13:30–13:45: IAHS2022-209**

The Prek Multiple: Doing Difference Together for Incremental Policy Changes in Cambodia

**Jean-Philippe Venot**, Sylvain Massuel, Christina Orieschnig, Gilles Belaud

UMR G-EAU, IRD, University of Montpellier, Montpellier

**13:45–14:00: IAHS2022-198**

The emergence of household-level water insecurity through socio-hydrological processes in the semi-arid region of Ceará, northeast Brazil

**Cydney K. Seigerman**, Eduardo Sávio Martins, Donald R. Nelson

University of Georgia, Athens (GA), United States of America, Cearense Foundation for Meteorology and Water Resources (FUNCEME), Fortaleza, Brazil

**14:00–14:15: IAHS2022-432**

Reducing the imperviousness of urban soils: a way of improving the quality of runoff that is struggling to impose itself in the Mediterranean area

**Christelle Gramaglia**, Christian Salles, Marlène Rio, Marie-George Tournoud

INRAE, Montpellier, France (christelle.gramaglia@inrae.fr)

**14:15–14:30: IAHS2022-471**

The Systemic Timeline Multistep methodology: a framework for analyzing interdependencies between knowledge and action in socio-hydrological observatories

**Kevin Daudin**, François Colin, Christiane Weber

TETIS, Univ. Montpellier, AgroParisTech, CIRAD, CNRS, INRAE, 34000 Montpellier, France, G-EAU, Univ. Montpellier, AgroParisTech, CIRAD, IRD, INRAE, Institut Agro, 34000 Montpellier, France

**14:30–14:45: IAHS2022-325**

Algeria case study: Re-inventing the circular irrigation system in the semi-desert Mzab valley

**Meriem Farah Hamamouche**, Amine Saidani, Emanuele Fantini, Marcel Kuper

Research office for Agricultural Development (BRDA), Paris, France; (hfarah07@hotmail.fr), Bureau d'Études, Consulting dans le domaine Agricole (ECA), Algiers, Algeria, University of Montpellier, CIRAD, G-Eau Research Unit, 361 Rue Jean François Breton, 34090 Montpellier, France

**14:45–15:00: IAHS2022-91**

A socio-hydrological journey around the Wadi Merguellil in central Tunisia

**Hamza Jerbi**, Sylvain Massuel, Jeanne Riaux, Christian Leduc, Jamila Tarhouni

Université de Carthage, INAT, LSTE, Tunisie

**15:00 Break****15:00–16:30: Poster Presentations****S7-5. Ways to incorporate human dynamics in socio-hydrological models****16:30–16:45: IAHS2022-20**

Balancing Policy Coherence in Socio-hydrology

**Cyndi Vail Castro**

University of Illinois at Urbana-Champaign, Urbana, IL, USA (cynthiavail11@gmail.com)

**16:45–17:00: IAHS2022-753**

Capacitating Development @Cauvery Delta #joint-groundwater learning through science-policy-user interactions

**Andres Verzijl**, Veena Srinivasan

IHE Delft Institute for Water Education

**17:00–17:15: IAHS2022-290**

An Agent-Based Model to evaluate the performance of water allocation methodologies in coupled human-water irrigation systems: the case of the Formoso River Basin (Brazil).

**Déborah Sousa**, Conceição Alves, Célia Ghedini, Fernán Vergara

Department of Civil and Environmental Engineering, University of Brasília, Brasília, Brazil (deborahsousa.eng@gmail.com)

**17:30–17:45: IAHS2022-638**

Impact of large-scale managed aquifer recharge in sustaining agricultural groundwater use: A case study of shallow hard-rock aquifer region of western India

**Mohammad Faiz Alam**, Paul Pavelic, Alok Sikka, Karen Villholth, Saket Pande

Delft University of Technology, Delft, Netherlands, International Water Management Institute (IWMI), Delhi, India

**17:45–18:00: IAHS2022-388**

How drought affects flood risk: positive / negative effects and feedbacks in different cases

**Anne Van Loon**, Marlies Barendrecht, Ruben Weesie, Heidi Mendoza, Alessia Matanó, Johanna Koehler, Melanie Rohse, Marleen de Rooter, Maurizio Mazzoleni, Philip Ward, Jeroen Aerts, Giuliano di Baldassarre, Rosie Day

Vrije Universiteit, Institute for Environmental Studies (IVM), Amsterdam, Netherlands (a.f.van.loon@vu.nl)

**Lecture Room: Barthez 1****S22  
Tropical Hydrology****Convener:** Alain Dezetter**Co-Conveners:** Ernest Amoussou; Pedro Luiz Borges Chaffe; Gil Mahé; Giovanni Mosquera**08:30–08:45: IAHS2022-10**

Evaporation dynamics and partitioning in Andean tussock grasslands

**Ana Ochoa-Sánchez**, Patricio Crespo, Galo Carrillo-Rojas, Adrián Sucozhañay, Franklin Marín, Rolando Céleri

University of Azuay, TRACES &amp; School of Environmental Engineering, Faculty of Science and Technology, Cuenca, Ecuador (aeochoa@uazuay.edu.ec)

**08:45–09:00: IAHS2022-23**

Assessment of climate Change impact on water supply in Peru

**Waldo Lavado-Casimiro**

National Service of Meteorology and Hydrology from Peru, Lima, Perú (wlavado@senamhi.gob.pe)

**09:30–09:45: IAHS2022-89**

Artificial Neural Networks (ANNs) and Hydrological Models to Simulate Streamflow in a context of climate change: Case of Davo river basin in Côte d'Ivoire

**Yao Morton Kouamé**, N'diaye Edwige Hermann Meledje, Tanina Idrissa Soro, Gneneyougo Emile Soro, Destyle Van Kombyla, Kouakou Lazare Kouassi, Bi Tié Albert Goula, Jean Emmanuel Paturel, Arona Diedhiou, Ernest Amoussou

Université Jean Lorougnon Guédé, Daloa, Côte d'Ivoire (mortonkouame@gmail.com)

**09:45–10:00: IAHS2022-134**

WAVELET ANALYSIS OF TIME SERIES AT RAINFALL AND FLOW STATIONS IN THE UPSTREAM TORTIYA WATERSHED (Northern Ivory Coast)

**Marc Auriol Amalaman**, Gil Mahe, Ibrahim Beh Diomande, Zamble Armand Tra Bi, Nathalie Rouche, Zeineddine Nouaceur, Benoit Laignel

Department of Geography, UFR CMS, Université Alassane Ouattara Bouaké-Côte d'Ivoire - zambtra@yahoo.fr

**10:00 Coffee break****10:30–10:45: IAHS2022-19**

Low flows and irrigation in Mono River basin at Athiéme outlet (West -Africa).

**Coffi Justin Noumon**, Domiho Japhet Kodja, Ernest Amoussou, Luc Olliver Sintondji, Euloge Kossi Agbossou Université d'Abomey-Calavi, Institut National de l'Eau, Laboratoire d'Hydraulique et de Maîtrise de l'Eau (LHME), Benin (justinoum2001@yahoo.fr)**10:45–11:00: IAHS2022-59**

Rainfall risk over the city of Abidjan (Ivory Coast): First contribution to the joint analysis of daily rainfall from a historical record and a recent network of rain gauges.

**Kouakou Christian Junior Yao**, Modeste Kacou, Ehouman Serge Koffi, Amidou Dao, Clément Dutremble, Maurice Guilliod, Bamory Kamagaté, Luc Neppel, Jean-Emmanuel Paturel, Jean-Louis Perrin, Christian Salles, Luc Séguis, Eric Pascal Zahiri

Laboratoire de science de la matière, de l'environnement et de l'énergie solaire, Université Félix Houphouët Boigny, Abidjan, Côte d'Ivoire (christian.yao@ird.fr)

**11:00–11:15: IAHS2022-690**

Floods in Abidjan and global changes at the neighborhood level

**Valerie Borrell**, Eugène Kouacou, Ahmat Abdoulaye, Brice Konan Kouame, Alex Zile Kouadio, Jean-Emmanuel Paturel, Bernard Dje, Andrew Ogilvie, Eric Servat G-EAU, Univ. Montpellier, IRD, INRAE, Montpellier, France**11:15–11:30: IAHS2022-274** Using of hydrological model and geospatial tool to assess climate change impact on the hydropower potential of the White Bandama watershed in Côte d'Ivoire (West Africa)**Koffi Claude Alain Kouadio**, Ernest Amoussou, Arona Diedhiou, Talnan Jean Honoré Coulibaly, Houebagnon Coulibaly, Regis Didi, Issiaka Savané

University Nangui Abrogoua, Geosciences and Environment, Côte d'Ivoire (kclaudealain@gmail.com), African Centre of Excellence on Climate Change, Biodiversity and Sustainable Agriculture (CEA-CCBAD), Côte d'Ivoire

**11:30–11:45: IAHS2022-149**

Trend analysis of reference evapotranspiration and climate variables in the main hydrosystems of Senegal: Senegal, Gambia, and Casamance River Basins

**Papa Malick Ndiaye**, Ansoumana Bodian, Serigne Bassirou Diop, Lamine Diop, Alain Dezetter, Andrew Ogilvie, Koffi Djaman

Laboratoire Leïdi "Dynamique des Territoires et Développement", Université Gaston Berger (UGB), Sénégal

**11:45–12:00: IAHS2022-152**

Evaluation and calibration of Twenty alternative methods for estimating reference evapotranspiration in main hydrosystems of Senegal: Senegal, Gambia, and Casamance River Basins

**Ansoumana Bodian**, Papa Malick Ndiaye, Serigne Bassirou Diop, Lamine Diop, Alain Dezetter, Andrew Ogilvie, Koffi Djaman

Laboratoire Leïdi "Dynamique des Territoires et Développement", Université Gaston Berger (UGB), Sénégal

**12:00 Lunch break / Exhibition for the public****13:30–13:45: IAHS2022-212**

Transient ecohydrology of the rainforests under changing climate

**Chandrakant Singh**, Lan Wang-Erlandsson, Ingo Fetzer, Ruud van der Ent

Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden (chandrakant.singh@su.se)

**13:45–14:00: IAHS2022-244**

The connections between rainfall regimes and crop production in semi-arid and sub-humid climates: an example from Ethiopia

**Mosisa Tujuba Wakjira**, Nadav Peleg, Daniela Anghileri, Darcy Molnar, Tena Alamirew, Johan Six, Peter Molnar  
Environmental Engineering, Civil, Environmental and Geomatic Engineering, ETH Zurich, Zurich, Switzerland

**14:15–14:30: IAHS2022-475**

Climate change and deforestation in Haiti: are historical hydro-meteorological observations relevant to describe present catchment hydrological characteristics?

**Ralph Bathelemy**, Pierre Brigode, Dominique Boisson, Emmanuel Tric, Vazken Andréassian

Université Côte d'Azur, Observatoire de la Côte d'Azur, CNRS, IRD, Géoazur, France, Université d'Etat d'Haïti, Faculté des Sciences, LMI CARIBACT, Urgéo, Haïti

**14:30–14:45: IAHS2022-69**

Comparison of One-Site vs Multi-Sites calibration/validation schemes for hydrological modelling of nested watersheds in the West African Sahel

**Yetchékpo Patrick Gbohoui**, Roland Yonaba, Tazen Fowé, Jean-Emmanuel Paturel, Harouna Karambiri, Hamma Yacouba

Laboratoire Eaux, HydroSystèmes et Agriculture (LEHSA), Institut International d'Ingénierie de l'Eau et de l'Environnement (2iE), Rue de la Science, Ouagadougou 01 01-BP-594, Burkina Faso; 2ie@2ie-edu.org, HydroSciences Montpellier, Univ Montpellier, CNRS, IRD, Montpellier, France; jean-emmanuel.paturel@ird.fr

**14:45–15:00: IAHS2022-702**

Investigating land cover change impacts on the Oueme hydrosystem (Benin) using an integrated, physics-based model

**René Bodjrènou**, Jeanmartial Cohard, Bernard Ahamidé, Basile Hector, Emmanuelagnidé Lawin, Yekambessoun Ntchampo, Félicien Badou

Laboratory of Applied Hydrology, National Water Institute, University of Abomey-Calavi, Benin, Univ. Grenoble Alpes, CNRS, IRD, Institute of Engineering and Management Univ. Grenoble Alpes, IGE, 38000 Grenoble, France, Faculty of Agricultural Sciences, University of Abomey-Calavi, Benin

**15:00 Break****15:00–16:30: Poster Presentations****16:30–16:45: IAHS2022-478**

Teleconnection patterns between tropical sea surface temperature and rainfall in coastal equatorial Africa: a focus on the Ogooué River basin

**Sakaros Bogning**, Raphael Onguene, Frédéric Frappart, Gil Mahé, Adrien Paris, Michel Tchilibou, Jacques Etame, Jean-Jacques Braun

Laboratory of Technology and Applied Sciences, University Institute of Technology, P.O. Box 8698 Douala, Cameroon, LMI DYCOFAC, IRD, BP 1857 Yaoundé, Cameroon

**16:45–17:00: IAHS2022-496**

The Saigon's River response to coastal dynamics

**Francisco Amaral**, Nicolas Gratiot, Thierry Pellarin  
Institut des Géosciences de l'Environnement, Univ. Grenoble Alpes/CNRS/IRD/Grenoble INP, Grenoble, France

**17:00–17:15: IAHS2022-532**

Impacts of climate change and forestation on the hydrology of a tropical catchment in Indonesia

Hero Marhaento, **Martijn J. Booij**, Noorhadi Rahardjo  
Water Engineering and Management Group, Faculty of Engineering Technology, University of Twente, Enschede, the Netherlands (m.j.booij@utwente.nl)

**17:30–17:45: IAHS2022-593**

Le château d'eau de l'Afrique de l'Ouest est-il hydrologiquement résilient?

**Luc Descroix**, Sylvie Paméla Manga, Arame Dièye, Ange Bouramanding Diedhiou, Kadiatou Diallo, Yaya Sakho, Ababacar Fall, Julien Andrieu, Andrew Ogilvie, Oumar Marega, Ousmane Diouf, Bakary Faty

IRD, UMR PALOC, Dakar, Senegal (luc.descroix@ird.fr)

**Lecture Room: Barthez 2****S15****Advancements on understanding and modeling of the fluxes of groundwater across boundaries**

**Convener:** Alraune Zech

**Co-Conveners:** Gil Mahé; Flavia Tauro; Antonio Zarlenga

**08:30–08:45: IAHS2022-458**

Ensemble of geological models of a complex coastal aquifer for uncertainty estimation and groundwater modelling in the framework of the DEM'EAUX ROUSSILLON project.

**Valentin Dall'Alba**, Ludovic Schorpp, Sandra Lanini, Benoît Issautier, Eric Lasseur, Philippe Renard, Yvan Caballero

Neuchâtel, Center for Hydrogeology and Geothermics, Switzerland

**08:45–09:00: IAHS2022-706**

Temporal variability in hyporheic exchange dynamics along urban streams due to stormwater flushing

**Tim Duval**

University of Toronto Mississauga, Department of Geography, Mississauga, Canada (tim.duval@utoronto.ca)

**09:00–09:15: IAHS2022-501**

Large-scale identification of riverbank filtration wells using an isotopic and geochemical approach

**Laurence Labelle**, Paul Baudron, Florent Barbecot  
Département des génies civil, géologique et des mines, Polytechnique Montréal, Canada, Département des sciences de la Terre et de l'atmosphère, Université du Québec à Montréal, Canada, GEOTOP, Université du Québec à Montréal, Canada

**09:15–09:30: IAHS2022-688**

Identification of river water and groundwater interaction using geochemical and isotopic indicators in the lower basin of the Cauvery River

**Keerthan Lingaiah**, RamyaPriya Ramesh, Elango Lakshmanan

Anna University, Department of Geology, India (keerthan38@gmail.com)

**09:30–09:45: IAHS2022-637**

A closer look over the Thau hydrosystem, a new monitoring network to characterize and prevent seawater intrusion in the submarine Vise spring (Balaruc-les-Bains, France)

**Vivien Hakoun**, Bernard Ladouche, Claudine Lamotte, Benoit Dewandel, Jean-Christophe Maréchal, Michel Séranne

BRGM, Montpellier University, Montpellier, France (v.hakoun@brgm.fr), G-eau, UMR 183, INRAE, CIRAD, IRD, AgroParisTech, Supagro, BRGM, Montpellier, France

**09:45–10:00: IAHS2022-484**

Petrophysical characterisation of a karstic carbonate aquifer, with implications for saltwater and brine intrusion into hydrothermal resources. The DEM'EAUX THAU project, Balaruc, France

**Philippe Pezard**, Gilles Henry, Laurent Brun, Erwan Le Ber, Fadl Raad, Michel Séranne, Florian Widhen, Andrea Schleifer, Cinzia Bellezza, Fabio Meneghini, Nicolas Brillouet, Denis Neyens, Claudine Lamotte  
Geosciences, Montpellier University, France (philippe.pezard@umontpellier.fr)

**10:00 Coffee break****10:30–10:45: IAHS2022-33**

Transdisciplinary characterisation of a complex coastal aquifer, for a sustainable exploitation of its groundwater resources in a Mediterranean context. The DEM'EAUX ROUSSILLON project.

**Yvan Caballero**, Cédric Duvail, Sébastien Chazot, Frédéric Bouchette, Octavian Dobricean, Yann Balouin, Serge Berne, François Bourrin, Cédric Champollion, Valentin Dall'Alba, Benoit Dewandel, Patrice Garin, Benoît Issautier, BernardLadouche, Sandra Lanini, Johanna Lofi, Marielle Montginoul, Noémie Neverre, Philippe Pezard, Philippe Renard

BRGM & UMR G-EAU, Univ Montpellier, Montpellier, France, G-eau, UMR 183, INRAE, CIRAD, IRD, AgroParisTech, Supagro, BRGM, Montpellier, France

**10:45–11:00: IAHS2022-292**

Observational & numerical evidence of storm-driven piezometric/conductivity dynamics in the Roussillon coastal aquifer (Mediterranean basin, France)

**Frederic Bouchette**, Jean-Baptiste Clément, Yvan Caballero, Sandra Lanini, Yann Balouin, Bijan Mohammadi, Mehmet Ersoy

GEOSCIENCES-M & GLADYS, Univ Montpellier, CNRS, Montpellier, France (frederic.bouchette@umontpellier.fr)

**11:00–11:15: IAHS2022-530**

Flow reversal and saltwater intrusion at the submarine spring of a Mediterranean karst aquifer: explanation and modelling

**Jean Christophe Maréchal**, Bernard Ladouche, Claudine Lamotte, Benoit Dewandel, Vivien Hakoun, Pierre Perrcohet

BRGM, Univ Montpellier, Montpellier, France, G-eau, UMR 183, INRAE, CIRAD, IRD, AgroParisTech, Supagro, BRGM, Montpellier, France

**11:15–11:30: IAHS2022-294**

Role of the beach water content in the impact of meteoric forces on piezometric level at coastal boreholes: a Dupuit vs generalized Darcy vs Richards comparison

**Jean-Baptiste Clément**, Frédéric Bouchette, Bijan Mohammadi, Damien Sous, Mehmet Ersoy, Yvan Caballero

GEOSCIENCES-M & GLADYS, Univ Montpellier, CNRS, Montpellier, France (jean-baptiste.clement@umontpellier.fr)

**11:30–11:45: IAHS2022-679**

Innovative downhole geophysical methods, petrophysical characterization and high frequency downhole monitoring of seawater intrusion dynamics in a coastal aquifer. The Me Distraes project, Argenton, Spain.

**Philippe Pezard**, Gilles Henry, Laurent Brun, Ryan Gee, Albert Folch, Tybaud Goyetche, Laura Martinez, Jesus Carrera, Linda Luquot

Geosciences Montpellier, CNRS, Montpellier, France

**11:45–12:00: IAHS2022-646**

Role of the riparian groundwater in a pristine Mediterranean micro-estuary catchment to quantify nutrient fluxes

**Emilie Garel**, Christiane Dufresne, Sebastien Santoni, Frederic Huneau, Nathalie Malet

UMR 6134 SPE CNRS, University of Corsica, Corte, France

**12:00 Lunch break / Exhibition for the public****S14****Groundwater sustainability in a changing climate: modeling and experimental analyses from urban, agricultural and ecological contexts**

**Convener:** Daniele Pedretti

**Co-Conveners:** Michelle Newcomer; Barry Croke; Amir AghaKouchak

**13:30–13:45: IAHS2022-102**

Influence of intensive agriculture and geological heterogeneity on the recharge of an arid aquifer system (Saq-Ram, Arabian Peninsula)

**Pierre Séraphin**, Julio Gonçalves, Bruno Hamelin, Thomas Stieglitz, Pierre Deschamps

Aix Marseille Université, CNRS, IRD, CDF, CEREGE UM 34, 13545 Aix-en-Provence, France

**13:45–14:00: IAHS2022-56**

Review of groundwater age of a transboundary aquifer system using <sup>14</sup>C and <sup>36</sup>Cl, case of the Continental Intercalaire aquifer in Algerian Sahara and Southern Tunisia

**Youcef Hakimi**, Philippe Orban, Pierre Deschamps, Serge Brouyère

University of Liège, ArGEnCo, Belgium (y.hakimi@uliege.be)

**14:00–14:15: IAHS2022-157**

Climate Risk Analysis for Water Resources in Dryland Area of West Bengal

**Dr. Kartic Bera**, Dr. Michelle E. Newcomer, Prof. Pabitra Banik

IAHS ECC ICRS & UGC-PDF Indian Statistical Institute, Agricultural and Ecological Research Unit, Kolkata, India (1kbrsgis@gmail.com)

**14:15–14:30: IAHS2022-401**

Artificial Recharge of Shallow Alluvial Aquifer as an Adaptation Strategy in the Garonne Valley, France

**Nazeer Asmael**, Alain Dupuy

Géoresources & Environnement, Institut National Polytechnique de Bordeaux, ENSEGID, 1 allée F. Daguin, F-33607 Pessac, France

**14:45–15:00: IAHS2022-221**

Interpretative approach of electrical resistivity data for efficiency implantation of drilling on basement zone: Case of Case of Guibéroua (Côte d'Ivoire)

**Adama Coulibaly**, Kouamé Auguste Kouassi, Francis Williams Kouassi

Unité de formation et de recherche des sciences de la terre et des ressources minières; Université Félix Houphouët-Boigny; Abidjan; Côte d'Ivoire (cooladok57@gmail.com)

**15:00 Break****15:00–16:30: Poster Presentations****16:45–17:00: IAHS2022-318**

Feasibility assessment of MAR

Wendy Merriitt, Joseph Guillaume, Natasha Harvey, Jenifer Ticehurst, **Barry Croke**

Fenner School of Environment and Society, The Australian National University, Canberra, Australia, Mathematical Sciences Institute, The Australian National University, Canberra, Australia

**17:15–17:30: IAHS2022-508**

Deciphering groundwater flowpaths at a geologically complex riverbank filtration site

**Coralie Pontoreau**, Paul Baudron, Florent Barbecot, Gabriel Fabien-Ouellet

Département des génies civil, géologique et des mines, Polytechnique Montréal, Canada, Geotop, Montreal, Canada, CentrEau, Quebec, Canada

**17:30–17:45: IAHS2022-726**

Quantifying the impact of rapid urban development on groundwater recharge (case study Qatar)

**Salah Basem Ajjur**, Sami G. Al-Ghamdi

Division of Sustainable Development, College of Science and Engineering, Hamad Bin Khalifa University, Qatar Foundation. PO Box: 34110, Doha, Qatar. Lecture Room: Rondelet 1

**Convener:** Gilles Boulet

**Co-Conveners:** Kartic Bera; Yangbo Chen; Amir AghaKouchak; Yaning Chen; María José Polo; Chris Hopkinson

**Water resources management****08:30–08:45: IAHS2022-499**

Scale influence in water resources management for heterogeneous oak-savanna distinctive microclimates.

**Ana Andreu**, Elisabet Carpintero, Maria J. Muñoz-Gomez, Angel Blazquez-Carrasco, Maria P. González-Dugo IFAPA, Centro Alameda del Obispo, Córdoba, Spain (anandream@posteo.net)

**08:45–09:00: IAHS2022-648**

Multi Scale Assimilation of NDVI and radar data for soil moisture and Leaf Area Index Predictions in an Heterogeneous Mediterranean Ecosystem

**Andrea Gaspa**, Nicola Montaldo

University of Cagliari, Engineering, DICAAR, Italy (andreamgaspa14@gmail.com)

**09:00–09:15: IAHS2022-495**

Spatial assessment of surface-atmosphere fluxes in the Mediterranean region: synergy between satellite estimates and local observations

**Laurent Prévot**, Blanca Mateo-Herrera, Frédéric Jacob, Jérôme Demarty, Jean-Marc Limousin, Jean-Marc Ourcival, Cédric Champollion, Albert Olioso

INRAE - UMR LISAH, Univ. Montpellier, Montpellier, France (laurent.prevot@inrae.fr)

**09:15–09:30: IAHS2022-747**

Long-term NDVI series analysis for water management in irrigated areas

**Zoubeida Bargaoui**, Inès Boussetta, Nesrine Abid, Ahmed Ezzine

National school of engineers of Tunis (ENIT), University Tunis El Manar, Civil engineering department, Water, and environment research laboratory LMHE, ENIT, BP 37 1002, Tunis, Tunisia

**09:30–09:45: IAHS2022-531**

Use of spatial data for water resources monitoring

**Gilles Rocquelain**, Thomas Legay, Yoann Aubert BRL ingénierie, France (gilles.rocquelain@brl.fr)

**Soil Moisture****09:45–10:00: IAHS2022-482**

Global downscaling and assimilation of soil moisture

**Venkataraman Lakshmi**, Bin Fang, Hyunglok Kim (vlakshmi@virginia.edu)

**S13**

## Recent and future satellite missions for observation of the continental water cycle

**10:00 Coffee break****Evapotranspiration****10:30–10:45: IAHS2022-194**

Advantages and opportunities in using multisensor remote sensing data for evapotranspiration retrieval as well as better partitioning between evaporation and transpiration

**Gilles Boulet**, Samuel Mwangi, Albert Olioso, Valérie Le Dantec, Olivier Merlin, Jérôme Demarty, Kanishka Malick, Eswar Rajasekaran, Athira Karal Valiyaparambath, Zouhair Rafi, Salah Er-raki  
CESBIO, Université de Toulouse, CNES, CNRS, INRAE, IRD, UT3, Toulouse, France (gilles.boulet@ird.fr)

**10:45–11:00: IAHS2022-354**

Improving continuous monitoring of evapotranspiration with future thermal infrared missions

**Albert Olioso**, Simon Carrière, Phillipe Gamet, Emilie Delogu, Marie Weiss, Pierre Guillevic, Gilles Boulet  
UMR EMMAH, INRAE, Avignon Université, Avignon, France (correspondance to albert.olioso@inrae.fr)

**11:00–11:15: IAHS2022-481**

Hydrologic model calibration using MODIS-ET data: The impact on predictions at gauged and ungauged locations

**Saranya Jeyalakshmi**, Tirupati Boliseti, Ram Balachandar  
University of Windsor, Civil and Environmental Engineering, Windsor, Canada (jeyalak@uwindsor.ca)

**11:15–11:30: IAHS2022-121**

Assess evapotranspiration over Sahelian regions: Review and evaluation of available products and alternative methods.

**Jordi Etchanchu**, Jerome Demarty, Alain Dezetter, Albert Olioso, Aubin Allies, Felix Marlio, Ansoumana Bodian, Gilles Boulet, Lamine Diop, Hassane Bil-Assanou Issoufou, Ibrahim Mainassara, Andrew Ogilvie, Hélène Barral, Jean-Philippe Chazarin, Monique Oï, Bernard Cappelaere  
Institut de Recherche pour le Développement, Hydrosciences Montpellier, Montpellier, France (jordi.etchanchu@umontpellier.fr)

**11:30–11:45: IAHS2022-241**

Topography-based estimation of evapotranspiration at high altitudes in semi-arid regions

**Badreddine Sebbar**, Olivier Merlin, Said Khabba, Vincent Simonneaux, Marine Bouchet, Abdelghani Chehbouni  
Mohammed VI Polytechnic University, Center for Remote Sensing Applications, Benguerir, Morocco

**11:45–12:00: IAHS2022-733**

Comparison of Actual Evapotranspiration assessment by satellite-based models (SEBS/LSA SAF) and hydrological modeling (BBH)

**Nesrine Abid**, Zoubeida Bargaoui, Chris M. Mannaerts  
Ecole Nationale d'Ingénieurs de Tunis ENIT, Université de Tunis El Manar, Tunis, Tunisia

**12:00 Lunch break / Exhibition for the public****Streamflow****13:30–13:45: IAHS2022-315**

A novel streamflow estimation using L-band passive microwave

**Hae Na Yoon**, Lucy Marshall, Ashish Sharma, Seokhyeon Kim  
University of New South Wales, Civil and Environmental Engineering, Sydney, Australia (h.yoon@student.unsw.edu.au)

**13:45–14:00: IAHS2022-111**

River discharge estimation from satellite observations. Application in the Congo River basin

**Pierre Olivier Malaterre**, Christophe Brachet, Georges Gulemvuga Guzanga, Blaise Leandre Tondo, Alice Andral, David Dorchies, Mathias Chouet (pierre-olivier.malaterre@inrae.fr) UMR G-eau, Inrae, Montpellier, France

**14:00–14:15: IAHS2022-657**

Assimilation of SWOT discharge versus water level into CTRIP-12D over the Congo Basin

**Simon Munier**, Aaron Boone, Sylvain Biancamaria, Patrick Le Moigne  
CNRM, Météo-France, Toulouse, France

**14:15–14:30: IAHS2022-644**

Long-term satellite-derived observations unveiled the spatio-temporal hydrological variations in the Congo River Basin

**Benjamin Kitambo**, Fabrice Papa, Adrien Paris, Raphael Tshimanga, Stéphane Calmant, Frédéric Frappart  
Laboratoire d'Etudes en Géophysique et Océanographie Spatiales (LEGOS), UMR 5566, CNES/CNRS/IRD/UPS, 14 Avenue Edouard Belin, Toulouse, France (kitambobenjamin@gmail.com)

**14:30–14:45: IAHS2022-54**

River discharge estimation from SWOT satellite using Hybrid Bayesian-Variational method

**Hind Oubanas**, Igor Gejadze, Pierre-Olivier Malaterre  
INRAE, UMR G-eau, Montpellier, France

**Surface water****14:45–15:00: IAHS2022-268**

Monitoring seasonal and interannual water level variability using sentinel-3 radar altimetry data: Application to Lake Bujo from 2016 to 2020.

**Sekouba Oularé**, Fernand Koffi Kouamé, Christian Armel Kouassi Komenan, Serge Deh Kouakou, René Therrien  
Université Félix Houphouët-Boigny, UFR Sciences de la Terre et des Ressources Minières, Laboratoire des Sciences du Sol, de l'Eau et des Géomatériaux, 22 BP 582, Abidjan 22, Côte d'Ivoire (oulare\_sekouba@yahoo.fr)

**15:00 Break**

**15:00–16:30: Poster Presentations****16:30–16:45: IAHS2022-671**

Monitoring of the wetland hydrology using remote sensing and historical data series: The case of Palos lagoon (Southwestern Spain)

**Eva Contreras**, Rafael Pimentel, Cristina Aguilar, Javier Aparicio, María José Polo

Fluvial Dynamics and Hydrology Research Group, Andalusian Institute for Earth System Research, University of Córdoba, Córdoba, Spain (o02coare@uco.es)

**16:45–17:00: IAHS2022-570**

Imaging flood depth from space: a method based on the fusion of topography and synthetic aperture radar data

**Vita Ayoub**, Carole Delenne, Ramona-Maria Pelich, Marco Chini, Patrick Matgen, Renaud Hostache

Luxembourg Institute of Science and Technology, Environmental Research and Innovation Department, Luxembourg., HydroSciences Montpellier, Université de Montpellier, CNRS, IRD, Montpellier, France., Inria Lemon, CRISAM - Inria Sophia Antipolis - Méditerranée, France.

**17:00–17:15: IAHS2022-541**

SAR Altimetry Processing Over the Coastal Zone and Inland Water - the ESA HYDROCOASTAL Project

**Jérôme Benveniste**, David Cotton, Hydrocoastal Team European Space Agency, Earth Observation Science, Applications and Climate Department, Frascati, Italy (jerome.benveniste@esa.int)

**17:15–17:30: IAHS2022-205**

Retro- and forecasting inundation extents for trend analysis in the Cambodian Mekong Delta - a new method combining Sentinel-1 and 2 and local water level measurements

**Christina Anna Orieschnig**, Gilles Belaud, Jean Philipp Venot, Sylvain Massuel

UMR G-EAU, UMR Hydrosciences, IRD, University of Montpellier, Montpellier, France (christina.orieschnig@ird.fr)

**Rainfall****17:30–17:45: IAHS2022-526**

Long-term climatological SM2RAIN datasets for rainfall spatiotemporal analysis

**Hamidreza Mosaffa**, Paolo Filippucci, Christian Massari, Luca Ciabatta, Luca Brocca

Research Institute for Geo-Hydrological Protection, National Research Council, Perugia, Italy (hamidreza.mosaffa@irpi.cnr.it)

**17:45–18:00: IAHS2022-263**

Assessing the accuracy of SM2RAIN (Soil Moisture to Rainfall) products in poorly gauged countries: the case of Burkina Faso in the West African Sahel.

**Roland Yonaba**, Axel Belemtougri, Fowe Tazen, Lawani Adjadi Mounirou, Mahamadou Koïta, Harouna Karambiri, Hamma Yacouba

Laboratoire Eaux, Hydro-Systèmes et Agriculture (LEHSA), Institut International d'Ingénierie de l'Eau et de l'Environnement (2iE), Ouagadougou, Burkina Faso (roland.yonaba@gmail.com)

**Lecture Room: Rondelet 2****S6****Understanding the human footprint on the hydrological cycle/processes in a changing world**

**Convener:** David Hannah

**Co-Conveners:** Gil Mahé; Guillaume Thirel; Honeyeh Irvani; Anil Mishra

**10:30–10:45: IAHS2022-81**

Human footprint on the global hydrological cycles

**Taikan Oki**, Naota Hanasaki, Hyungjun Kim, Qiang Guo, Daisuke Tokuda

Graduate School of Engineering, The University of Tokyo, Tokyo, Japan (oki@civil.t.u-tokyo.ac.jp)

**10:45–11:00: IAHS2022-82**

Rainfall-runoff modelling approaches for investigating the role of human factors in influencing hydrological drought

**Tesfaye Belay Senbeta**, Krzysztof Kochanek, Emilia Karamuz, Renata Julita Romanowicz

Department of Hydrology and Hydrodynamics, Institute of Geophysics Polish Academy of Sciences, Warsaw, Poland (tsenbeta@igf.edu.pl)

**11:00–11:15: IAHS2022-39**

Urban wet weather discharges and pollutant dynamic in the Djibi River (Abidjan – Côte d'Ivoire)

**Jean-Louis Perrin**, Aïssatou Ghislaine Koné, Luc Séguis, Marthe Yéo-Soro, Chrystelle Montigny, Droh Lanciné Goné

HydroSciences Montpellier, IRD, Université de Montpellier, CNRS, Montpellier, France

**11:15–11:30: IAHS2022-7**

Spatial Influence of Urban Areas on Surface Water Loss Across the Contiguous United States

Irene Palazzoli, Alberto Montanari, **Serena Ceola** Department of Civil, Chemical, Environmental and Materials Engineering, University of Bologna, Bologna, Italy (irene.palazzoli@unibo.it)

**11:30–11:45: IAHS2022-86**

Flows variability in a forest watershed undergoing accelerated urbanization: the case of Mefou (South Cameroon)

**Valentin Brice Ebodé**, Gil Mahé, Jean-jacques Braun, Jean-guy Dzana, Jules Remy Ndam Ngoupayou, Bernadette Nka Nnomo

University of Yaounde 1, Geography, Cameroon (dzana1@yahoo.fr)

**11:45–12:00: IAHS2022-172**

How does the relationship between soil moisture and runoff evolve with increasing urbanization?

**Mohamed Saadi**, Ludovic Oudin, Pierre Ribstein Forschungszentrum Jülich, Institute for Bio- and Geosciences (IBG-3, Agrosphere), Jülich, Germany (m.saadi@fz-juelich.de), Sorbonne Université, CNRS, EPHE, UMR METIS, Paris, France

**12:00 Lunch break / Exhibition for the public**

**13:30–13:45: IAHS2022-127**

Untangling land use and climate impacts on catchment water quality: Decadal trends in catchment dissolved organic carbon export in response to wind farm development on peatland

**Kate Heal**, Amira Elayouty, Susan Waldron, E. Marian Scott, Amy Pickard

School of GeoSciences, University of Edinburgh, Edinburgh, UK (k.heal@ed.ac.uk)

**13:45–14:00: IAHS2022-199**

Understanding uncertainties in future evapotranspiration projections to study the impact of climate change on hydrology over France.

**Thibault Lemaitre-Basset**, Ludovic Oudin, Guillaume Thirel, Lila Collet

Sorbonne Université, CNRS, EPHE, UMR METIS, Case 105, 4 place Jussieu, F-75005 Paris, France

**14:15–14:30: IAHS2022-155**

Assessing robustness of large-scale hydrological and sediment modeling using nested domains under current and changing climate

**Alena Bartosova**, Berit Arheimer, Alban de Lavenne, René Capell, Johan Strömqvist

Swedish Meteorological and Hydrological Institute (SMHI), Norrköping, Sweden (alena.bartosova@smhi.se)

**14:30–14:45: IAHS2022-430**

Reconstruction of the evolution of the hydro-sedimentary signal to the sea from the study from the study of the sedimentary archive: Case of the Cheliff wadi, Algeria.

**Ali Hadour**, Gil Mahe, Mohamed Meddi

National High School of Hydraulics

**14:45–15:00: IAHS2022-591**

Le rôle hydrologique de l'intensification de l'agriculture dans le Fouta Djallon

Luc Descroix, Sylvie Paméla Manga, **Safietou Soumaré**, El Hadj Kourahoye Diallo, Fatoumata Binta Diallo, Mamadou Sow, Yaya Sakho, Ababacar Fall, Amadou Hamath Dia

**15:00 Break****15:00–16:30: Poster Presentations****16:30–16:45: IAHS2022-587**

Data rescue of reservoir management data on the example of Bleiloch Reservoir, Germany

**Thomas Recknagel**, Valery Vuglinsky, Claudius Fleischer  
Global Runoff Data Centre, Federal Institute of Hydrology, Koblenz, Germany (recknagel@bafg.de)

**16:45–17:00: IAHS2022-672**

The influence of a dense network of small reservoirs on drought evolution in a semiarid region

**Germano Ribeiro Neto**, Paolo Colombo, Louise Cavalcante, Sarra Kchouk, Lieke Melsen, Alexandre Cunha Costa, David W. Walker, Eduardo Martins, Pieter van Oel

Wageningen University

**17:00–17:15: IAHS2022-656**

Evaluating water Ecosystem Services Footprint of agricultural production under climate change scenarios

**Tommaso Pacetti**, Jerome El Jeitany, Enrica Caporali  
University of Florence, Department of Civil and Environmental Engineering, Firenze (FI), Italy (tommaso.pacetti@unifi.it)

**17:15–17:30: IAHS2022-598**

Holistic analysis of the carbon and water cycles to quantify the human footprint in basin-wide hydrological processes in the Amazon

**Rodolfo Nobrega**, Iain Colin Prentice

Imperial College London, Department of Life Science, Silwood Park campus, Ascot, UK.

**17:30–17:45: IAHS2022-456**

Prediction in quantitative hydrological modelling: a small step away from uncertainty

**Djigbo Félicien Badou**, Yacouba Yira, Jean Hounkpè  
Ecole d'Horticulture et d'Aménagement des espaces Verts, Université Nationale d'Agriculture, Kétou, Benin

**17:45–18:00: IAHS2022-722**

Building and evaluating a set of hydrological signatures

**Flora Branger**, Ivan Horner, Isabelle Braud, Hilary McMillan, Claire Lauvernet  
INRAE, UR RIVERLY, Villeurbanne, France

## Friday posters

**Poster Area: Poster Area**  
**Attendance Time: 15:00–16:30**

### S6

## Understanding the human footprint on the hydrological cycle/processes in a changing world

**Convener:** David Hannah

**Co-Conveners:** Gil Mahé, Guillaume Thirel, Honeyeh Irvani, Anil Mishra

#### P1: IAHS2022-252

Climate change attribution in the river runoff using model-based approach

**Andrey Kalugin**, Sergey Lupakov

Water Problems Institute, Russian Academy of Sciences, Moscow, Russia (andrey.kalugin@iwpr.ru)

#### P2: IAHS2022-253

Assessment of Climate Change Impact and Comparison of Downscaling Approaches: A Case Study in a Semi-arid River Basin

**Yali Woyessa**

Department of Civil Engineering, Central University of Technology, Bloemfontein, South Africa (ywoyessa@cut.ac.za)

#### P3: IAHS2022-569

Attribution of streamflow changes to future climate projections across Europe

**Ilaria Clemenzi**, Yiheng Du, Pechlivanidis Ilias

Swedish Meteorological and Hydrological Institute, Norrköping, Sweden

#### P4: IAHS2022-285

Simulation of the hydrological impacts of climate change on the Zayanderud River Basin and the implications for the Gavkhuni Ramsar wetland, Iran.

**Honeyeh Irvani**, Julian R. Thompson

University College London (UCL) Geography, London, UK

#### P5: IAHS2022-435

Uncertainty propagation in the modelling chain of the impact of climate change on a specific site on French subsurface drainage

**Alexis Jeantet**, Julien Tournebize, Philippe Martin, Guillaume Thirel

INRAE, AQUA / UR HYCAR, France (alexis.jeantet@inrae.fr)

#### P6: IAHS2022-400

Modelling water needs: from past to present. Case study: The Municipality of Western Mani

**G.-Fivos Sargentis**, Ilias Taygetos Meletopoulos, Theano Iliopoulou, Panayiotis Dimitriadis, Efthimis Chardavellas, Dimitra Dimitrakopoulou, Aimilia Siganou, David Markantonis, Konstantina Moraiti, Konstantinos Kourous, Maria Nikolinakou, Demetris Koutsoyiannis

National Technical University of Athens, Civil Engineering, Athens, Greece (fivos@itia.ntua.gr)

#### P7: IAHS2022-32

How much can we simplify irrigation in an integrated modelling purpose? A case study in southern France

**Myriam Soutif-Bellenger**, Guillaume Thirel, Olivier Therond, Jean Villerd

AgroParisTech, 75005, Paris, France, Université Paris Saclay, INRAE, UR HYCAR, Antony, France

#### P8: IAHS2022-421

Impact of water withdrawals and releases on the parameters of a bucket-type rainfall-runoff model

**Léonard Santos**, Guillaume Thirel, Charles Perrin

INRAE, UR HYCAR, Antony CEDEX, France (leonard.santos@inrae.fr)

#### P9: IAHS2022-520

Fluvial sediment transport degradation after dam construction in North Africa.

**Rajae El Aoula**, Nadia Mhammdi, Laurent Dezileau, Gil Mahe, Alexander Kolker

University Mohammed V in Rabat, Institut Scientifique, GEOPAC Research Center, Geophysic and Naturels Hazards Laboratory, Morocco

### S7

## Grounded socio-hydrology

**Convener:** Olivier Barreteau

**Co-Conveners:** Andrew Ogilvie, Margreet Zwarteveen

#### P10: IAHS2022-337

Controlling or rewilding the river: local expressions of a tension between revitalization and risk control, case study of the Vistre plain

**Ghita Serrhini-Naji**

HSM, IMT Mines Alès, France (ghita.serrhini-naji@mines-ales.fr)

#### P12: IAHS2022-582

Farmers' risk reduction strategies during drought events in the Po River basin: an assessment from surveys.

**Iolanda Borzi**, Beatrice Monteleone, Brunella Bonaccorso, Mario Martina

Department of Engineering, University of Messina, Italy

#### P13: IAHS2022-529

Estimating Land Use Changes due to Levee Improvement: A Case Study of the Kiso River Basin in Japan from the 1890s to 2000s

**Fuko Nakai**, Ryo Matsukawa, Shinichiro Nakamura

Nagoya Institute of Technology, Nagoya, Japan (nakai.fuko@nitech.ac.jp)

### S13

## Recent and future satellite missions for observation of the continental water cycle

**Convener:** Gilles Boulet

**Co-Conveners:** Kartic Bera, Yangbo Chen, Amir AghaKouchak, Yaning Chen, María José Polo, Chris Hopkinson

**P15: IAHS2022-251**

Assessing the Accuracy of Multiple Algorithms Combining Sentinel-1 and Sentinel-2 for the Citrus Classification and spatialization of the Actual Evapotranspiration Obtained from Flux Tower Eddy Covariance: Case Study of Cap Bon, Tunisia.

**Amal Chakhar**, Rim Zitouna-Chebbi, David Hernández-López, Rocío Ballesteros, Imen Mahjoub, Miguel A. Moreno

Institute of Regional Development, University of Castilla-La Mancha, 02071Albacete, Spain

**P17: IAHS2022-322**

Mapping Permanent irrigated Grasslands Using Sentinel-2 Data based on temporal patterns

**Mukhtar Abubakar**, André Chanzy, Dominique Courault, Fabrice Flamain, Guillaume Pouget

INRA, EMMAH, Avignon, France (andre.chanzy@inrae.fr)

**P18: IAHS2022-346**

Performance evaluation of GPM IMERG precipitation over the tropical oceans

**Rajani Kumar Pradhan**, Yannis Markonis

Czech University of Life Sciences Prague, Faculty of Environmental Sciences, Department of Water Resources and Environmental Modeling, Praha, Czechia (pradhan@fzp.czu.cz)

**P19: IAHS2022-364**

Evaluation of soil moisture products and Sentinel 1 & 2 data from THEIA platform for monitoring water status of agricultural plots and orchards in the Vaucluse department.

**Dominique Courault**, Urie Zohoré, Claude Doussan, Arnaud Chapelet, Guillaume Pouget, André Chanzy, Mukhtar Abubakar, Raul Lopez-Lozano, Fabrice Flamain, Stéphane Ruy

INRAE, UMR 1114 EMMAH, Université d'Avignon, France (dominique.courault@inrae.fr)

**P20: IAHS2022-498**

Impact of water stress on Mediterranean oak savanna grasslands productivity

**María J. Muñoz-Gómez**, Ana Andreu, Pedro J. Gómez-Giráldez, María D. Carbonero, Ángel Blázquez-Carrasco, María P. González-Dugo

IFAPA, Centro Alameda del Obispo, Córdoba, Spain (mariap.gonzalez.d@juntadeandalucia.es)

**P21: IAHS2022-519**

High-Resolution (SAR) Altimetry Processing on Demand for Cryosat-2 and Sentinel-3 at ESA's Altimetry Virtual Lab

**Jérôme Benveniste**, Salvatore Dinardo, Christopher Buchhaupt, Michele Scagliola, Marcello Passaro, Luciana Fenoglio-Marc, Giovanni Sabatino, Marco Restano, Américo Ambrózio, Beniamino Abis, Carla Orrù

European Space Agency, Earth Observation Science, Applications and Climate Department, Frascati, Italy (jerome.benveniste@esa.int)

**S14****Groundwater sustainability in a changing climate: modeling and experimental analyses from urban, agricultural, and ecological contexts**

**Convener:** Daniele Pedretti

**Co-Conveners:** Michelle Newcomer, Barry Croke, Amir AghaKouchak

**Poster Area:** Poster area

**Attendance Time:** Friday, 03 June 2022, 15:00–16:30

**P22: IAHS2022-84**

Rôle hydrogéologique des linéaments dans l'optimisation de la productivité des forages en milieu de socle : cas de la région du Bounkani (Nord-est de la Côte d'Ivoire)

**Rock Armand Michel Bouadou**, Kouamé Auguste Kouassi, Théophile Gnagne, Adama Coulibaly  
Université Nangui Abrogoua, UFR Sciences et Gestion de l'Environnement, Laboratoire Géosciences et Environnement, Abidjan, Côte d'Ivoire (rockarmand22@gmail.com)

**P27: IAHS2022-429**

Changes in groundwater spring yield patterns in Czechia

**Ondrej Ledvinka**, Anna Lamacova, Radek Vlnas  
Czech Hydrometeorological Institute, Hydrology Division, Prague 4, Czechia (ondrej.ledvinka@chmi.cz)

**P28: IAHS2022-511**

Is there any trend in groundwater level in South India? Case study from Telangana State, India.

**Adrien Selles**, Abhilash Paswan, Sylvain Ferrant, Benoit Dewandel, Jean-Christophe Maréchal  
BRGM, Univ Montpellier, Montpellier, France (a.selles@brgm.fr), G-eau, UMR 183, INRAE, CIRAD, IRD, AgroParisTech, Supagro, BRGM, Montpellier, France

**P29: IAHS2022-549**

Contribution of an organochlorine transport model in the evaluation of groundwater contamination risks in the Abidjan aquifer.

**Serge Kouakou Deh**, Kan Jean Kouame, Konan Alexandre Aka  
Félix Houphouët Boigny Cocody, Sciences de la Terre et des Ressources Minières, Laboratoire des Sciences du Sol, de l'Eau et des Géomatériaux, Côte d'Ivoire (deh.serge@yahoo.fr)

**S22****Tropical Hydrology**

**Convener:** Alain Dezetter

**Co-Conveners:** Ernest Amoussou, Pedro Luiz Borges Chaffe, Gil Mahé, Giovanni Mosquera

**P31: IAHS2022-79**

Utilisation de la Géostatistique pour l'Estimation de Paramètres des Modèles Hydrologiques sur des sous-bassins versants du haut Niger à Koulikoro

**Salif Koné**, Gil Mahé, Fatogoma Bamba, Jean Emmanuel Paturel, Alain Dezetter, Eric Servat

École Nationale d'Ingenieurs Abderhamane Baba Touré, Geology, Bamako, Mali (skonemaat@yahoo.fr)

**P32: IAHS2022-116**

Perceptions communautaires de la dynamique des ressources hydro-écologiques du sous bassin de l'Okpara dans la Commune de Tchaourou Centre du Bénin, Afrique de l'Ouest)

**Ibouraïma Yabi**, Talahatou Tabou, Tchabi Bruno Akin  
FASHS, University of Abomey-Calavi, Bénin  
(ibouyabi@gmail.com)

**P33: IAHS2022-118**

Interactions between energy, water, and carbon cycles: A new agro-eco-hydrological model to study impacts of global changes in the agropastoral Sahel

**Jérôme Demarty**, Hassane Bil-Assanou Issoufou, Jordi Etchanchu, Alain Dezetter, Ibrahim Mainassara, Monique Oï, Bassirou Adamou, Aubin Allies, Hélène Barral, Jean-Philippe Chazarin, Bernard Cappelaere  
HydroSciences, University of Montpellier, France

**P34: IAHS2022-135**

Impacts of climate change on surface water resource availability in Alibori sub-watershed at the Yankin outlet (Northern Benin/West Africa)

**Ibikunlé Alain Agué**, Cyr Gervais Eténé, Somiyabalo Pilabina, Ibouraïma Yabi  
"Pierre PAGNEY" Laboratory for Climate, Water, Ecosystems and Development, University of Abomey-Calavi, Benin

**P35: IAHS2022-332**

Applicability of VIC model for hydrological simulations over Upper Ganga Basin, India

**Deen Dayal**, Ashish Pandey, Praveen Gupta, Yogesh Mahanandaiah  
Water Resources Development & Management, Indian Institute of Technology Roorkee, Roorkee, India  
(ddayal@wr.iitr.ac.in)

**P36: IAHS2022-424**

Change of Rainfall Characteristics in Bangladesh and Sri Lanka using more than 100-years Record

**Masashi Kiguchi**  
The University of Tokyo, Institute for Future Initiatives, Japan (kiguchi@ifi.u-tokyo.ac.jp)

**P37: IAHS2022-544**

Characterisation of the morphology of Cavally River sediments in a context of anthropisation at Zouan-Hounien (West-Côte d'Ivoire)

**Loukou Alexis Brou**, Affoué Berthe Yao, Zilé Alex Kouadio, Bérenger Koffi, Kouakou Lazare Kouassi  
Jean Lorougnon Guède University, Environment, Daloa, Côte d'Ivoire (brou.alexis@ujlg.edu.ci)

**P38: IAHS2022-575**

Changement climatique et évolution de la mangrove en Casamance (Basse et Moyenne Casamance)

**Safiétou Soumaré**, Luc Descroix, Barnabé Ephrem Diémé, Julien Andrieu, Ababacar Fall, El Hadji Bamba Diaw

Doctorant à l'Université de Thiès (SENEGAL) celle de Nice Sophia Antipolis (France), Laboratoire des Sciences et Techniques de l'Eau et de l'Environnement (LaSTEE).

**P41: IAHS2022-608**

Adapting an Event-based, Distributed and Conceptual Model to the Hydrological Response of Small Catchments in the Island of Tahiti

**Garance Tanguy**, Lydie Sichoix, Christophe Bouvier  
University of French Polynesia, GEPASUD Laboratory, Physics & Geosciences, Faa'a - Tahiti, French Polynesia  
(garance.tanguy24@gmail.com)

**P42: IAHS2022-654**

Evap'Eau project: Estimating actual evapotranspiration from remote sensing in Senegal and Niger

**Alain Dezetter**, Jérôme Demarty, Jordi Etchanchu, Andrew Ogilvie, Ansoumana Bodian, Papa Malick Ndiaye, Lamine Diop, Hassane Bil Assanou Issoufou  
HydroSciences Montpellier, University of Montpellier, IRD, CNRS, CC 057, 163 rue Auguste Broussonnet ; 34090 Montpellier, France

**P43: IAHS2022-759**

Morphological characterization using South Rivers Toolbox in the Duqueco river: A support tool for river management

**Santiago Yépez**, Francisca Salas, José Vargas, Víctor Osoreo, Rolando Rodríguez  
Department of Forest Management and Environment, Faculty of Forestry, Universidad de Concepción, Calle Victoria, 500 Concepción, Bio-Bio, Chile