



The International Commission for the Hydrology of the Rhine basin

## CHR Symposium 1.+ 2. June 2022 in Olten, Switzerland

### The River Rhine in a future climate: Changes from headwaters to lowlands



At the symposium, results from the CHR project on snow and glacier melt components of streamflow of the River Rhine under climate change (ASG-Project) and their implications for operational water management will be presented.

Climate change will strongly affect the hydrology and the water management along the River Rhine. With its headwaters in the Alps and several major tributaries from other central European mountain ranges, the hydrological regime is particularly influenced by changes in glaciers and snow. The international Commission for the Hydrology of the Rhine Basin (CHR) has therefore initiated a project with the aim to analyse and simulate the changes in the streamflow components of the River Rhine from glacierized and non-glacierized parts of the basin together (ASG-Project). The results of the ASG project will be presented and discussed during the symposium.



## The International Commission for the Hydrology of the Rhine basin

### Program Day 1: 1.6.22

Time	Program								
13 – 13.30	Registration / Preparation of conference venue / upload of presentations								
13.30 – 14.00	<p><b>Welcome and Introduction</b></p> <table border="1"> <tr> <td>Opening and welcome by CHR President</td> <td>Prof. H. Habersack (CHR President)</td> </tr> <tr> <td>Welcome by Switzerland</td> <td>Dr. C. Scapozza (Bundesamt für Umwelt CH)</td> </tr> <tr> <td>The ideas behind the CHR-ASG project</td> <td>Dr. P. Schmockler-Fackel (CHR project manager)</td> </tr> <tr> <td>Overview on general approach, results and highlights of the CHR-ASG project.</td> <td>Prof. K. Stahl (Uni Freiburg D)</td> </tr> </table>	Opening and welcome by CHR President	Prof. H. Habersack (CHR President)	Welcome by Switzerland	Dr. C. Scapozza (Bundesamt für Umwelt CH)	The ideas behind the CHR-ASG project	Dr. P. Schmockler-Fackel (CHR project manager)	Overview on general approach, results and highlights of the CHR-ASG project.	Prof. K. Stahl (Uni Freiburg D)
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14.00 – 15:00	<p><b>Session 1 : Modelling climate change in the Rhine basin: the big picture</b></p> <table border="1"> <tr> <td>Current and future challenges in climate modelling and implications for future research in hydrology</td> <td>Dr. Sven Kotlarski (MeteoSwiss CH)</td> </tr> <tr> <td>ASG: Bi-and multi-variate bias correction: effect on compound climate indices and specifically on snow/rain partitioning for hydrological impact modelling</td> <td>Dr. Andreas Hänslér (Uni Freiburg D)</td> </tr> <tr> <td>Future changes in weather patterns and implications for low flow</td> <td>PD Dr. Christoph Beck (Uni Augsburg D)</td> </tr> </table>	Current and future challenges in climate modelling and implications for future research in hydrology	Dr. Sven Kotlarski (MeteoSwiss CH)	ASG: Bi-and multi-variate bias correction: effect on compound climate indices and specifically on snow/rain partitioning for hydrological impact modelling	Dr. Andreas Hänslér (Uni Freiburg D)	Future changes in weather patterns and implications for low flow	PD Dr. Christoph Beck (Uni Augsburg D)		
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15:00 – 15:30	<i>Coffee break</i>								
15:30 – 16:50	<p><b>Session 2: Climate change impact on hydrology: challenges in modelling the cryosphere</b></p> <table border="1"> <tr> <td>Glacier change in the Alps</td> <td>Prof. D. Farinotti (ETHZ/WSL CH)</td> </tr> <tr> <td>Snow trends/changes in snowpack: how well are these simulated with models?</td> <td>Prof. W. Schöner (Uni Graz A)</td> </tr> <tr> <td>ASG <math>Q_{ice}</math>, <math>Q_{snow}</math>, <math>Q_{rain}</math>: modelling streamflow components in the Rhine's headwaters with a modified HBV</td> <td>Dr. Daphné Freudiger (Uni Zürich CH)</td> </tr> <tr> <td>ASG: Modelling future streamflow components along the Rhine (LARSIM)</td> <td>Dr. Kai Gerlinger (Hydron AG D)</td> </tr> </table>	Glacier change in the Alps	Prof. D. Farinotti (ETHZ/WSL CH)	Snow trends/changes in snowpack: how well are these simulated with models?	Prof. W. Schöner (Uni Graz A)	ASG $Q_{ice}$ , $Q_{snow}$ , $Q_{rain}$ : modelling streamflow components in the Rhine's headwaters with a modified HBV	Dr. Daphné Freudiger (Uni Zürich CH)	ASG: Modelling future streamflow components along the Rhine (LARSIM)	Dr. Kai Gerlinger (Hydron AG D)
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16:50 – 17:20	<b>Discussion Session 1 &amp; 2</b>								
17:20 – 17:30	<b>Synthesis first day, closing</b>								
18.30	<i>Conference Dinner (Terminus Restaurant, Frohburgstrasse 7, 4600 Olten)</i>								



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### Program Day 2: 2.6.22

Time	Program								
8.00 – 8.30	Preparation of conference venue/ upload of presentations								
8.30 – 9:30	<p><b>Session 3: Climate change impact on hydrology of large river basins: upstream-downstream linkages</b></p> <table border="1"> <tr> <td>ASG: Project results for low flows and examples of specific water use thresholds</td> <td>Prof. Markus Weiler (Uni Freiburg D)</td> </tr> <tr> <td>ASG: Combining climate scenario and stresstest modelling to understand upstream contributions to downstream low flows</td> <td>Dr. Marit van Tiel (Uni Freiburg D)</td> </tr> <tr> <td>Assessing the impacts of climate change and climate variability on hydro-meteorological extreme events - results and lessons learned from the ClimEx-projects in the Upper Danube and Main river basins</td> <td>Raul Wood (LMU München D)</td> </tr> </table>	ASG: Project results for low flows and examples of specific water use thresholds	Prof. Markus Weiler (Uni Freiburg D)	ASG: Combining climate scenario and stresstest modelling to understand upstream contributions to downstream low flows	Dr. Marit van Tiel (Uni Freiburg D)	Assessing the impacts of climate change and climate variability on hydro-meteorological extreme events - results and lessons learned from the ClimEx-projects in the Upper Danube and Main river basins	Raul Wood (LMU München D)		
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9:30 – 9:50	<b>Discussion Session 3</b>								
9:50 – 10:10	<i>Coffee break</i>								
10:10 – 11:30	<p><b>Session 4: Implications of climate change on water bodies and water management</b></p> <table border="1"> <tr> <td>How is the climate changing in rivers and lakes?</td> <td>Dr. M. Schmid (Eawag CH)</td> </tr> <tr> <td>Climate change and its implications for hydropower.</td> <td>Dr. Christian Dupraz (Bundesamt für Energie CH)</td> </tr> <tr> <td>Tracking climate impact chains across sectors in Germany - The case of low flow situations of the River Rhine.</td> <td>Dr. Enno Nilson (Bundesanstalt für Gewässerkunde D)</td> </tr> <tr> <td>Implications of climate change on water management in the Netherlands.</td> <td>Dr. Vincent Beijk (Rijkswaterstaat NL)</td> </tr> </table>	How is the climate changing in rivers and lakes?	Dr. M. Schmid (Eawag CH)	Climate change and its implications for hydropower.	Dr. Christian Dupraz (Bundesamt für Energie CH)	Tracking climate impact chains across sectors in Germany - The case of low flow situations of the River Rhine.	Dr. Enno Nilson (Bundesanstalt für Gewässerkunde D)	Implications of climate change on water management in the Netherlands.	Dr. Vincent Beijk (Rijkswaterstaat NL)
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11:30 – 12:15	<p><b>Moderated roundtable discussion on implications and future needs with CHR representatives or major stakeholder delegates</b> (<i>Moderator: Prof. H. Habersack</i>); Panel delegates are:</p> <ul style="list-style-type: none"> <li>• Petra Herzog (BfG D)</li> <li>• Christian Dupraz (Bundesamt für Energie CH)</li> <li>• Kerstin Stahl (ASG project team)</li> <li>• Vincent Beijk (Rijkswaterstaat NL)</li> <li>• Adrian Schmid-Breton (IKSR)</li> </ul>								
12:15 – 12:40	<b>Wrap-up and closing (Prof. H. Habersack)</b>								
12:40	<i>Lunch and travel back</i>								



## The International Commission for the Hydrology of the Rhine basin

### Registration

Deadline for registration: 15. May 2022

Please use the following link to register:

<https://www.chr-khr.org/en/event/chr-symposium-river-rhine-future-climate-changes-headwaters-lowlands>

Participation in the symposium and the conference dinner are free of charge. The number of participants is limited. Registrations will be considered in the order in which they are received.

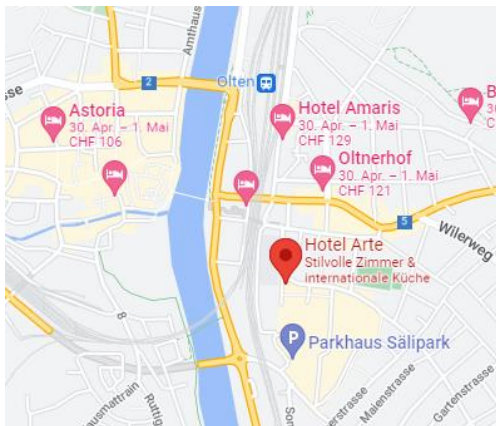
### Accommodation

Please book your own accommodation.

[Olten Tourismus - Übernachten in Olten und der Region Olten](#)

### Location

The symposium will take place at the Seminar- and Conferencehotel Arte in Olten, Switzerland  
[Seminar- und Konferenzhotel Arte](#)



ARTE Seminar- und Konferenzhotel  
Riggenbachstrasse 10  
CH - 4600 Olten  
+41 62 286 68 00  
[info@konferenzhotel.ch](mailto:info@konferenzhotel.ch)

### Arrival by train

From the railway station Olten exit at track 12, direction «Bifang», Tannwaldstrasse, turn into Von-Roll-Strasse (passing the Fachhochschule Nordwestschweiz) and then it's about 100 meters to the destination (8 minutes).

### Arriving by car

From Zurich, Berne, Basel and Lucerne via motorway:

Motorway exit Rothrist, bypass road towards Olten in the Aarburgerstrasse, direction Aarau, Unterführungsstrasse, Von-Roll-Strasse, Riggenbachstrasse or from Aarburgerstrasse in the 1st roundabout 1st exit direction Sälipark (Parkhaus Sälipark P1).