

## Multi-basin modelling using World-Wide HYPE (WWH) at the local/regional scale

### THEMES:

- Introduction to the HYPE model and HYPE model tools
- Improving the existing WWH model setup for a part of the world (your area of interest can be delivered by SMHI)
- Including your own data (river flow observations, catchment delineation, routing, land use, water bodies, forcing data P/T)
- Calibration strategies and stepwise parameter estimation

*NOTE: The course is held online. Be prepared to discuss your area of interest and HYPE modelling plans, e.g. observational data available for calibration, catchment delineation, routing, land-cover, waterbodies, regulation/irrigation, forcing data P/T.*

### Tuesday 31<sup>st</sup> August

Time CEST	Task	Lead
11:00	Welcome and introduction to the course, examples of HYPE applications, Open Source Community	RC, KN, BA
11:20	Presentation round	RC, All participants
11:40	HYPE model overview (3 Sections, 15 + 5 minutes each)	GL
12:40	COFFEE BREAK	
12:50	HYPE hands-on: Run a model, open files (10 + 5 minutes)	JS
13:05	Basic HYPE exercise with a very simple model: Introduction (20 + 5 minutes) - Get familiar with HYPE files - Representation of model setup by the different files - Output files	DG, CB
13:30	HYPE process description (2 Sections, 15 + 5 minutes each)	GL
14:10	COFFEE BREAK	
14:20	Setup HYPE: HYPE model setup processing chain introduction (10 minutes)	RC, DG
14:30	HYPE tools: HYPE processing tools, installation and use (HYPETools, AnalysQ, modelview) (2 Sections, 15 + 5 minutes each)	RC, JS
15:00	SOCIAL SESSION (Scavenger hunt in gathertown)	CB
15:20-17:30	Individual exercise and technical installation support (Discord and Pexip)	ALL, RC, JR, CP, KI

## Wednesday 1<sup>st</sup> September

Time CEST	Task	Lead
9:00-11:00	<b>Individual exercise support</b>	ALL, CB
11:00	<b>Plenary discussion session on Tuesday's course content</b> - Frequent questions from exercise support as starting point	ALL, RC
11:20	<b>WHIST introduction</b> (2 Sections, 15 + 5 minutes each)	DG, JR, KI
12:00	<b>World-Wide HYPE introduction</b> (15 + 5 minutes) - Set-up, performance, future	JA
<i>12:20</i>	<i>COFFEE BREAK</i>	
12:30	<b>Introduction to WW-HYPE submodel and optional exercises</b> (2 Sections, 15 + 5 minutes each) - WW-HYPE set-up files hands-on introduction - WW-HYPE set-up questions	JA, KI, ALL
<i>13:10</i>	<i>SOCIAL SESSION: Present your river basin</i> <i>Volunteer to share your favourite river basin, or the one you currently work on, with all participants (1 to 3 minutes each)</i>	<b>ALL</b>
<i>13:50</i>	<i>COFFEE BREAK</i>	
14:00	<b>Round-the-table session on participants' HYPE model set-up plans:</b> - Model goals - River basin/model region properties and hydrological features - Available data, i.e how many stations, what kind of time series, routing,etc. - Plans to request WWH setup and possible future collaboration	ALL, RC, JA, DG, KN
15:00-17:30	<b>Individual exercise support</b>	ALL, CB

## Thursday 2<sup>nd</sup> September

Time CEST	Task	Lead
9:00-11:00	<b>Individual exercise support</b>	<b>ALL</b>
11:00	<b>Plenary discussion session on Wednesday's course content</b> - Frequent questions from exercise support as starting point	<b>ALL, JA, RC</b>
11:20	<b>Automatic Calibration in HYPE</b>	<b>JA, JM</b>
11:40	<b>Exercise introduction: automatic calibration in practice</b>	<b>JA, RC, JS, JM, CP</b>
<i>12:00</i>	<i>COFFEE BREAK</i>	
12:15	<b>Short introduction to some individual exercises:</b> - Return periods for high flows - Duration curves - Plot runoff maps etc.	<b>RC, CB</b>
12:30	<b>Individual work on exercises with open plenary discussion channel</b>	<b>ALL</b>
14:30	<b>Wrap-up and closing remarks</b> - Course feedback and open discussion of potentials for the WW-HYPE community - HYPE spring conference	<b>BA, KN, RC</b>
15:00-17:00	<b>Individual exercise support</b>	<b>ALL</b>

### Lecturers and coordinators:

AB: Dr Alena Bartosova	JM: Dr Jude Musuuza
BA: Dr Berit Arheimer	JR: MSc Jörgen Rosberg
CB: Dr Conrad Brendel	JS: MSc Johan Strömqvist
CP: Dr Lotta Pers	KI: MSc Kristina Isberg
DG: Dr David Gustafsson	KN: MSc Katja Nilsson
GL: Lic Göran Lindström	RC: Dr René Capell
JA: Dr Jafet Andersson	