

## Wrap-up

We focused on our approaches and tools. Preliminary results can be found elsewhere, and final results will be delivered within the next year

A harmonized and fully-scripted approach to modeling is highly attractive but quite demanding

Scaling up? Possible, but major effort needed for land object layer preparation (SWATbuildR input)

# Tool usage recommendations



**SWATbuildR**  
An object connectivity  
based SWAT+ model builder

Recommended for small catchments, requiring high quality input maps



**SWATprepR**  
SWAT+ input data preparation

Most functions applicable to any SWAT+ setup



**SWATfarmR**  
Simple rule based management  
operation scheduling

Applicable to any SWAT+ setup



**SWATrunR**  
Running SWAT simulations in R

Applicable to any SWAT+ setup



**SWATdoctR**  
Model diagnostics tool  
for SWAT+ model setups

Applicable to any SWAT+ setup



**SWATtunR**  
Tuning SWAT+ model parameters

Applicable to any SWAT+ setup



**SWATmeasR**  
Implementation of NSWRMs in  
SWATbuildR model setups

Dependent on SWATbuildR and SWATfarmR

# Further resources (R tools)



To be published (workaround: <https://zenodo.org/records/12564534>)

[biopsichas.github.io/SWATprepR](https://github.com/biopsichas/SWATprepR) +

[chrisschuerz.github.io/SWATfarmR](https://github.com/chrisschuerz/SWATfarmR)

[chrisschuerz.github.io/SWATrunR](https://github.com/chrisschuerz/SWATrunR)

[git.ufz.de/schuerz/swatdoctr](https://git.ufz.de/schuerz/swatdoctr) +

[biopsichas.github.io/SWATtunR](https://github.com/biopsichas/SWATtunR)

[git.ufz.de/schuerz/swatmeasr](https://git.ufz.de/schuerz/swatmeasr)

Plunge et al. Environmental Sciences Europe (2024) 36:53  
<https://doi.org/10.1186/s12302-024-00872-1> Environmental Sciences Europe

RESEARCH Open Access  
SWAT + input data preparation in a scripted workflow: SWATprepR  
Svajunas Plunge<sup>1,2\*</sup>, Brigitta Szabó<sup>3</sup>, Michael Strauch<sup>4</sup>, Natalja Čerkasova<sup>5,6</sup>, Christoph Schürz<sup>2</sup> and Mikolaj Piniewski<sup>1</sup>

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SWAT+ model setup verification tool: SWATdoctr  
Svajunas Plunge<sup>a, b, R, E</sup>, Christoph Schürz<sup>c</sup>, Natalja Čerkasova<sup>e, f</sup>, Michael Strauch<sup>c</sup>, Mikolaj Piniewski<sup>g</sup>

# Further resources (OPTAIN deliverables)



1. SWAT+ modelling protocol for the assessment of NSWORMs in small agricultural catchments (D4.2)
  2. Assessment of NSWORM effectiveness under current and future climate at the catchment scale (D4.4)
  3. Common optimisation protocol (D5.1)
- + many other (e.g. script documentations, SWAP model-related deliverables)



D4.4: Assessment of NSWORM effectiveness under current and future climate at the catchment scale

D5.1: Common optimisation protocol

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Authors: Mikołaj Piniewski (WULS), Michael Strauch (UFZ), Svajunas Plunge (WULS), Christoph Schürz (UFZ), Natalja Čerkasova (KU), Enrico Chiaradia (UNIMI), Felix Witing (UFZ)

Authors:  
Michael Strauch (UFZ), Christoph Schürz (UFZ)

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Christoph Schürz<sup>1</sup> Natalja Čerkasova<sup>2</sup> Csilla Farkas<sup>3</sup> Attila Nemes<sup>4</sup>  
Svajunas Plunge<sup>5</sup> Michael Strauch<sup>6</sup> Brigitta Szabó<sup>7</sup> Mikołaj Piniewski<sup>8</sup>

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<sup>1</sup>Helmholtz Centre for Environmental Research - UFZ, christoph.schuerz@ufz.de  
<sup>2</sup>Klaipeda University, Marine Research Institute, natalja.cerkasova@ku.lt  
<sup>3</sup>Norwegian Institute of Bioeconomy Research, csilla.farkas@nibio.no  
<sup>4</sup>Norwegian Institute of Bioeconomy Research, attila.nemes@nibio.no  
<sup>5</sup>Warsaw University of Life Sciences, svajunas\_plunge@sggw.edu.pl  
<sup>6</sup>Helmholtz Centre for Environmental Research - UFZ, michael.strauch@ufz.de  
<sup>7</sup>Centre for Agricultural Research, Institute for Soil Sciences, szabo.brigitta@atk.hu  
<sup>8</sup>Warsaw University of Life Sciences, mikolaj\_piniewski@sggw.edu.pl

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## Speaker contact list

Name	Institution	Country	Email
Michael Strauch	Helmholtz-Centre for Environmental Research - UFZ	Germany	<a href="mailto:michael.strauch@ufz.de">michael.strauch@ufz.de</a>
Mikołaj Piniewski	Warsaw University of Life Sciences (SGGW)	Poland	<a href="mailto:mikolaj_piniewski@sggw.edu.pl">mikolaj_piniewski@sggw.edu.pl</a>
Svajunas Plunge	Warsaw University of Life Sciences (SGGW)	Poland	<a href="mailto:svajunas_plunge@sggw.edu.pl">svajunas_plunge@sggw.edu.pl</a>
Brigitta Szabó	Institute for Soil Sciences, HUN-REN Centre for Agricultural Research	Hungary	<a href="mailto:szabo.brigitta@atk.hun-ren.hu">szabo.brigitta@atk.hun-ren.hu</a>