

PROCLIAS/ISIMIP workshop Potsdam May 2022

TG1.2 Automatic QC/QA of impact model output – introduction and invitation to the breakout group

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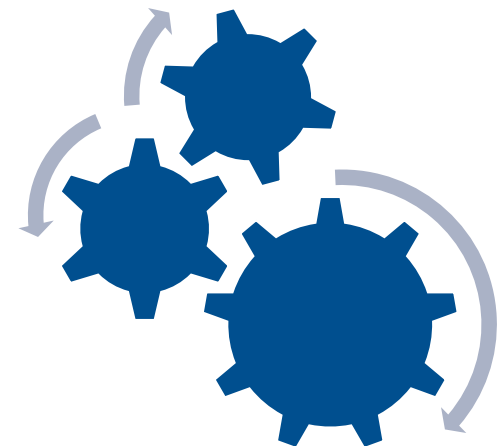


Motivation

- High qualitative impact assessments and model evaluation should be based on high qualitative model output
- BUT: errors in unit conversion can occur or models can have bugs
→ sometimes such errors appear years after data submission and are found out by chance
- Tools to detect problems at an early stage support high qualitative model output can be of benefit

Objective of this Task group

- **Establish a QC/QA workflow with tools to**
 - check plausibility of the model output and proper data format (Quality control, QC), and afterwards
 - assess key variables with benchmark data (Quality assessment, QA)
- Serves model development (e.g. QC tool can be run at own institution)
- Avoids publishing incorrect data at ISIMIP repository
- supports model intercomparison



Status of the QC tool

- QC-tool is existing (created by ISIMIP data management team) and in operational use with each data submission
 - It checks
 - file name against the protocol schemas and patterns
 - variables, dimensions and global attributes
 - consistency of NetCDF time axis
 - if the data is within a valid value range
- **Tool is easy-to-use also at modeller's institution** (saves data transfer and time)
- NOW: Collecting valid value ranges for each variable

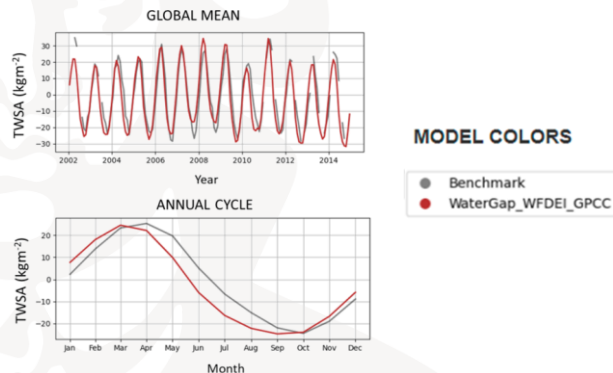


<https://github.com/ISI-MIP/isimip-qc>

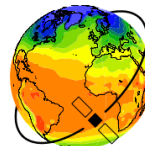
Status of the QA tool

- Specific ISIMIP QA-tool is not yet existing
 - First steps:
 - Review of existing QA tools (e.g. ILAMB, ESMValTool)
 - VMT grant to use ISIMIP model output with ILAMB and ESMValTool (focus on global water sector)
 - Establishing a streamflow gauging network for consistent evaluation of global water models*
- Reports are available (* in preparation) via <https://proclias.eu>

→ We recently got a „home“: <https://github.com/ISI-MIP/isimip-qa>



ILAMB



ESMValTool
Earth System Model Evaluation Tool



Invitation to the breakout group

- **In the break: live demonstration of the QC-tool**
- **QC-tool**
 - Introduction, demonstration as operational tool, experiences
 - The goal to fill in the valid variable ranges within this week
 - Collecting ideas and wishes for QC-tool
- **QA-tool**
 - Introduction to the work up to now and examples from the global water sector
 - Discussion about ideas and sharing experiences with existing tools across sectors
 - Develop next steps for qc/qa tools and involvement in the TG

