**Readme** for eLVB61 database

Supplementary to:

**East African Community Water Vision**   
Regional scenarios for human - natural water system transformations

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# Title

Data related to research project: East Africa Water Scenarios to 2050

We have analysed two possible development scenarios (Table 1) for the extended Lake Victoria Basin (eLVB.) Each scenario combines a plausible socio-economic development pathway with climate change impacts calculated for the GHG concentration pathway RCP6.0 (i.e. medium climate change).

Table 1. Development scenarios for East Africa

|  |  |  |  |
| --- | --- | --- | --- |
| Scenario | Acronym | Socio-economic development | Climate change |
| Reference Scenario | **REF** | The ‘Middle of the Road’ (SSP2) scenario of the Shared Socio-economic Pathways | Ensemble of two GCMs (MIROC5, HadGEM2-ES) calculated for the emissions pathways of RCP 6.0 (i.e. medium climate change) |
| East Africa -  Regional Vision Scenario | **EA-RVS** | Based on regional vision documents and co-developed with stakeholders (Box 1 in main manuscript); many aspects similar to ‘Sustainability’ scenario (SSP1) |

Data of scenario results are presented in tables in Excel files. They represent a supplementary to the paper *Tramberend et al (2020*), see Reference above*.*

# General information

## Authorship

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## Disclaimer

This document reports on work of the International Institute for Applied Systems Analysis. Views or opinions expressed herein do not necessarily represent those of the institute, its National Member Organizations, or other organizations supporting the work.

## Cooperation’s

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Ministry of Water and Environment of the Government of Uganda

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# Data Description

Grid-cell results were tabulated for the 61 interconnected sub-basins of the eLVB. See ‘Modelling study area’ in main manuscript.



Figure. The 61 sub-basins of the eLVB and their water flow connections

## Results from the CWATM model

http://www.iiasa.ac.at/cwatm

#### 1\_precipitation.xlsx

Data compare the pattern of precipitation between different RCPs and General Circulation Models (GCMs); see section ‘Climate change impacts on hydrology’ in main manuscript

#### 2\_precipitation\_flooddrought.xlsx

Data show projections of low and strong rain events; see section ‘Climate change impacts on hydrology’ in main manuscript

#### 3\_effective\_precipitation.xlsx

Effective precipitation = precipitation - percolated water - surface runoff = available water supply

The fraction of precipitation that is stored in the soil and can be used by plants.

#### 4\_runoff.xlsx

The fraction of precipitation that flows into the next river at the surface.

#### 5\_discharge.xls

River discharge at the outlet of each sub-basin; see section ‘River streamflow development’ in main manuscript

#### 6\_population.xlsx

Population projections; Key input data for water demand models

#### 7\_GDP.xlsx

Gross Domestic Product (GDP) projections; Key input data for water demand models

#### 8\_discharge\_landuse\_wateruse.xlsx

Effect of landuse and water use change on river discharge; see section ‘River streamflow development in main manuscript.

## Results from ECHO model

http://www.iiasa.ac.at/echo

#### ECHO\_README\_DB\_eLVB61.xlsx

Description and metaddata of the results of the ECHO model

#### ECHO\_output\_Scenario\_REF.xlsx

Echo results for the REF-scenario (see Table 1 above)

#### ECHO\_output\_Scenario\_EA-RVS.xlsx

Echo results for the EA-RVS-scenario (see Table 1 above)