



UNESCO/IHA research project on the

GHG status of freshwater reservoirs

# The GHG Reservoir Tool (G-res) Version updates



**In cooperation with:**



**With financial support from:**



## Version 1.1

**(2017-10-18 10:00 AM EDT)**

Phosphorus concentration calculation issues solved.  
Minors calculation issues solved.

## Version 1.12

**(2018-02-06 8:00 AM EDT)**

Phosphorus concentration calculation issues solved.  
Thermocline depth calculation issues solved.  
Drained peatland empty cell added  
Visual updates for more clarity

## Version 1.13

**(2018-10-25 12:00 PM EDT)**

Default Wastewater treatment: None for least developed country and Secondary for developed country (UNDESA 2018)  
Automatic Annual wind speed correction calculation using Wind measurements height (m)  
New email confirmation system  
Now including Power density and Allocated GHG emission intensity in the GHG results PDF report  
Now suggesting to provide Full water supply level reservoir area (km<sup>2</sup>) instead of Mean reservoir area (km<sup>2</sup>) to obtain more conservative emissions  
G-res Tool - Terms and conditions for Use

## Version 1.14

**(2019-04-01 9:00 PM EDT)**

Mean depth calculation issues solved  
G-res Tool - Terms and conditions for Use Update

## Version 2.0

**(2019-05-09 9:00 AM EDT)**

New CO<sub>2</sub> model calculation (To include a new and more precise Soil Carbon Content layer available)  
Emissions Results 95% Confidence Intervals  
Histogram to present the Emissions results  
New design  
% for Land Use Intensity  
Possibility to add directly Release of phosphorus from community sewage  
Update of the Earth Engine functionality

## Version 2.1

**(2019-08-21 9:00 AM EDT and 2019-09-10 4:00 PM EDT)**

CH4 EF from water bodies calculation issues solved. (2019-08-20)

95% Confidence Intervals calculation issues solved. (2019-08-10)

Construction Equipment Power Connection emission calculation issues solved.  
(2019-08-10)

## Version 3.0

**(2021-10-27 9:00 AM EDT)**

Update to the 4 pathways models

Visual updates to the layout for more clarity and better user interface.

Now including depth and discharge for secondary intakes

Provide the choice to include or not UAS emissions

Minor revisions to inputs variables calculation.

## Version 3.1

**(2022-01-12 9:00 PM EDT)**

Update to Pre-Impoundment CO2 emission factor conversion.

Minor technical issues solved.

## Version 3.11

**(2022-06-27 2:30 PM EDT)**

Minor technical issues solved for:

- WRT calculation when secondary intake discharge
- Effective temperature coefficient of CO2 diffusive modified
- CO2 pre-impoundment organic wetland EF was not included and is now