



Rijkswaterstaat
*Ministry of Infrastructure
and Water Management*

RELEASE NOTES
BASELINE 7.2.0
(July 2026)

Deltares voert het beheer en onderhoud aan de Baseline-software uit op basis van de Service Level Agreements (SLA) met het Ministerie van Infrastructuur en Waterstaat





Table of Contents

1	<u>Overview</u>	<u>3</u>
2	<u>Documentation.....</u>	<u>4</u>
3	<u>Major changes.....</u>	<u>4</u>
3.1	In Baseline 7.2.0	4
3.2	In Baseline 7.1.2	4
3.3	In Baseline 7.1.1	4
3.4	In BASELINE 7.1.0	5
3.5	In BASELINE 7.0.2	5
3.6	In BASELINE 7.0.1	5
3.7	In BASELINE 7.0.0	6
4	<u>Requirements</u>	<u>7</u>
5	<u>Known issues.....</u>	<u>7</u>
6	<u>Tips and tricks.....</u>	<u>7</u>
6.1	Baswaq.exe	7
6.2	Intermediate results	7
6.3	Protocol check	8
6.4	Installing Baseline in Program Files	8
6.5	Closing dockpanes after running a tool succesfully	8
7	<u>Overview of improvements (on reported bugs)</u>	<u>9</u>



1 Overview

Name : BASELINE
Version : 7.2.0
Date : July 2026
Classification : release
Distribution : <https://iplo.nl/thema/water/applicaties-modellen/watermanagementmodellen/baseline/> (see Downloads)

Baseline comes with a package of Python tools and an executable:

- Baseline Tools (baseline_tools_8.0.0):
 - Bas2FM
 - Baseline7 Input Module (BIM6)
 - Baseline7 Validation tools
 - Baseline7 Convertor
 - Baseline7 Waterlevel tool
 - Baseline7 Fetch tool
 - Baseline7 Special Elevation Model tool
 - Baseline7 Raster1x1 To Points5x5
 - Baseline7 Applying Subgrid Method
- Baswaq.exe (conversion to SWAN), version 2.68

Baseline 7 is intended to generate input for the sixth-generation models of Rijkswaterstaat.

Baseline 7 is the successor of Baseline 6. It was necessary to replace Baseline 6, as it is based on ArcMap and ESRI stopped the support of ArcMap in 2024. Therefore the migration of Baseline to ArcGIS Pro was started. The approach has been a one-to-one migration of functionalities and dataprotocol. In July 2024 Baseline 7.0.0 became available and an update was scheduled for December 2024. This lead to Baseline 7.0.1 and 7.0.2, in which most of the known defects of the final Baseline 6 release (6.3.4) were addressed and solved.

Baseline 7.1.0 is an upgrade release with new functionalities and fixes. Baseline 7.1.2 fixes the installation problems that were reported.

Baseline 7.2.0 again is an upgrade release that is compliant with D-Grid Editor, the new grid editor by Deltares, which will be released in the fall of 2026.

Baseline 7.2.0 is compatible with D-HYDRO Suite 2023.01 (and higher), D-Grid Editor 8.3.0 (and higher) and with ArcGIS Pro 3.0 and up.

Please, take good notice of the “*Known issues*”.



2 Documentation

1. Baseline7_Installation_Manual.pdf
2. Baseline7_Dataprotocol.pdf
3. Baseline7_Help.pdf

3 Major changes

3.1 In Baseline 7.2.0

The main changes are:

- The conversion to D-HYDRO Suite / D-Flow FM (Bas2FM) now only uses the grid (*_net.nc) file. From now on, the user does not have to load the grid file in D-HYDRO Suite and generate the *_netgeom.nc file.
- All (Python) tools are now gathered in one package: Baseline Tools.
- The installation has been simplified:
 - Added a help panel that lets the user clone the default python environment
 - Baseline Tools now require a cloned environment 'arcgispro-py3-baseline' to run (including the new Baseline Tools package).
 - A prompt will be shown when this package can't be found in the cloned environment.
 - This cloned environment is automatically activated when ArcGIS Pro starts with Baseline installed.
 - Moved the installation folder to '..\Deltares/Baseline'
 - Moved the user data folder to 'C:/Users/<USER>/AppData/Local/Deltares/BaselineUserData'.
 - Templates & Executables are now included as zip files.
 - Templates & Executables will now be recopied if a new Baseline version is detected.
 - Log file location has been moved to 'C:/Users/<USER>/AppData/Local/Deltaris/BaselineUserData'.

3.2 In Baseline 7.1.2

The main changes are:

- The Baseline tools folder does not get copied anymore to the user installation folder if installed per machine.
- The templates are now installed as files instead of in a .zip format. Therefore they do not need to be extracted anymore when Baseline opens.

The issue that is fixed:

- The Add-in prioritizes a machine installation over a user installation. It will check the 'program files' folder first for the Baseline tools & templates.

3.3 In Baseline 7.1.1

The issues that are fixed:

- The installation for multiple users has been fixed.
- An alternate function has been implemented avoiding the – reported bug in – 'Interpolate shape' geoprocessing tool. This is automatically activated in case Baseline is used with ArcGIS Pro version 3.4.3 and higher.



- The Dataprotocol document that can be activated from the application has been updated to the correct version.

3.4 In BASELINE 7.1.0

The main changes are:

- Added new (python) tool: Raster 1x1 To Points 5x5 in the Advanced tools section
- Added new (python) tool: Applying Subgrid Method in the Model section
- Updated Set Crest Elevation tool to include a new method (cross section for determining maximum value)
- Improved logging, while running multiple messages are now displayed
- Added Save option in the Batch tool to save the currently selected variants in a variant_list.txt
- A variant_list.txt file can now be selected in the Batch tool to add multiple variants (instead of the directory)
- Added licenses check per tool in the toolbar
- The toolbar is now only enabled in supported ArcGIS Pro versions
- Improvements in the Baseline Python toolbox
- Improved validation for the Clip, Assimilation and Merge tools
- Improved installer. Files are removed correctly when installed and deinstalled

The issues that are fixed:

- Assimilate sometimes fails to merge land use polygons due to corrupted geometries
- Appending operation sometimes fails while not giving an error
 - This operation should be more stable and improves the appending of event tableRequirements

3.5 In BASELINE 7.0.2

The main changes are:

- It is now possible to choose the “Program files” folder in the installer (see 6.4).
- Digital signing issues resolved.
- Other add-ins won’t be removed when Baseline 7 is de-installed.
- Preparation tool Add variant/measure renamed to Create variant/measure.
- TOC is updated when the Preparation tools 01 to 06 are executed using the toolbar.
- Preparation tools 01 and 06 back up the input data in \data\source\elevation.gdb
- Preparation tools 03, 04 and 05 generate elevations in 2 decimals.
- Various improvements of Preparation tools 01 to 06.
- Preparation tool 11 Create lists aborts when non-valid featureclasses are found.
- Preparation tool 12 Create land use polygons improved.
- Various errors Content / Protocol check resolved.
 - Assimilaten validation updated and improved;
 - Check if measures exists;
 - Protocol check for each measure;
- Assimilation aborts when errors are found during validation.
- Error checking (empty feature classes) added to Conversion to D-Flow FM
- The output of Conversion to D-Flow FM is equal to Baseline 7.0.1.
- Dockpanes can be closed after a successful run (disabled by default) (see 6.5).

3.6 In BASELINE 7.0.1

The main changes are:

- Tool ‘Set active variant’: on activation the legend of terrains in the database is updated / adjusted automatically.



- Assimilate tool: improved error message for example in case of an erroneous measure or in case a variant is mixed.
- Selections are now processed correctly in Preparation tools 02, 03, 04 and 05.
- Event points are now correctly loaded in a Measure.
- Logging of Python tools now includes the version information.
- Running the Preparation tool 01 (*Routes & events to lines & points*) en tool 06 (*Lines & points to routes & events*) will make a backup of the input data in the submap data\source\elevation.
- Preparation tool 08 (*Create measure contour*) has been improved.
- Preparation tool 05 (*Add terrain edge within open water bodies*) has been improved.
- Generation of trachytopes, calibration_sections and bed_characteristics (*Convert to D-Flow FM*) has been improved and accelerated.
- Protocolcheck now also checks for wrong projections.

3.7 In BASELINE 7.0.0

As stated in Overview, the application is unchanged in functionality and dataprotocol compared to Baseline 6. All functions are migrated to ArcGIS Pro.

The following has been changed:

- The look and feel of ArcGIS Pro has been adopted:
 - The Baseline menu has been changed to a tab in the toolbar
 - Tools are opened in Dockpanes
- Some tools are removed or displaced:
 - *Clip* is displaced to *Data management*
 - *Check variant* is displaced to *Preparation*
 - *Add variant/measure* is displaced to *Preparation*
 - *Advanced tool* is placed in a separate section
 - *Add schematization* is displaced to *Models*
 - *Erase* is removed
 - *Add area* is removed
 - *3D Vertices* tool is displaced to *Tools*



4 Requirements

- ArcGIS Pro 3.0 up to 3.4.2 - preferred¹
 - License: Advanced, with extensions:
 - 3D Analyst
 - Spatial Analyst (only for 'conversion to D-Flow FM' using the option 'elevation interpolation') and for Subgrid'
 - System requirements: <https://pro.arcgis.com/en/pro-app/latest/get-started/arcgis-pro-system-requirements.htm>
- Shapely 2.0.4+

5 Known issues

- The User Manual, which is available under the Help button is out_dated. Please use the User Manual that is delivered separately.
- Function 'Create initial waterlevel terrain' does not work in ArcGIS Pro 3.4.3 and higher due to a known bug in the 'Interpolate shape' geoprocessing tool.
- The same problem is present in function 'To D-Flow FM'; when updating the elevation in grid netCDF is activated. When using ArcGIS Pro 3.4.3 and higher automatically an alternate function is used at the cost of a significant longer processing time.
- The tool *To SWAN* is deactivated for a Sea variant and a Clip dataset. This is also a known defect in Baseline 6 and Deltares is investigating a new approach in the conversion of data to SWAN.
- In case the user activates the function *Convert to D-Flow FM* twice on the same variant, small differences (in the sixth decimal) can occur in the roughness fractions in the file *trachtytopes.arl*.
- The function *Maptool 3DLineLabels* shows the labels of all feature classes (*terrain_edge_3d_lines* and *terrain_jump_3d_routes*) which are loaded in the TOC and shown within the box, the user has drawn. So, also the labels of those feature classes which are not visible.
- Preparation tool 05 (*Add terrain edge within open water bodies*) only works on a selection; this in contrast to the tools 02, 03 and 04, which work on all features in case no selection has been made.

6 Tips and tricks

6.1 Baswaq.exe

It might happen that on activating the *To SWAN* tool the *Baswaq.exe* is not found or an error is thrown. In case this occurs, check the installation folder (C:\Users\<User>\AppData\Local\Baseline7) and remove the *settings.settings* file. This will imply a sort of reset. If this does not resolve the problem, you need to report it ...

6.2 Intermediate results

Intermediate results will be removed automatically with the tools: *Assimilate*, *Merge* and *To SWAN*. If you want to keep the results as a check, open the *settings.settings* file in the installation folder (C:\Users\<User>\AppData\Local\Baseline7) and change *SaveIntermediate* to 'True' (<add key="SaveIntermediate" value="True" />). This will leave the intermediate results:

¹ Mark that ArcGIS Pro 3.4.3 and higher have a bug in the 'Interpolate shape' geoprocessing tool. When using these ArcGIS Pro versions an alternate function is activated (automatically). The cost is a significant longer processing time.



for *Assimilate* the *Merged_measure*; for *Merge* the *Intermediate variants*; for *To SWAN* all Baswaq input files and the SWAN terrain.

6.3 Protocol check

The final result of a protocol check is stored in the *status.json* file. This file is stored for each variant in the <Variant>/Metainfo folder and is added every time a protocol check is activated in Baseline 7. You can set *last_protocol_result* to 'true' to avoid a mandatory protocol check in case the check goes wrong.

6.4 Installing Baseline in Program Files

To install Baseline in the program files directory, you need to select the 'Per machine' option in the installer. You are required to be an admin to do this. The installer will automatically ask for Admin rights when the installation starts. In case this does not happen, follow these steps to run the installer as admin:

- 1) Open a command prompt as an administrator
- 2) Paste the path of the installer in the command prompt (<path>/Baseline.Installer.msi)
- 3) Run the installer by pressing enter

This will install Baseline in the C:/Program Files/Baseline7. The Addin will still use the local user appdata folder (C:\Users\<user>\AppData\Local\Baseline7) for localized data (python toolbox, templates & settings). Those will be copied from the installation folder (if not present already).

6.5 Closing dockpanes after running a tool successfully

You can enable the setting to close dockpanes after running a tool successfully by editing the settings file. Open the settings.settings (C:\Users\<User>\AppData\Local\Baseline7) and change the value of "CloseToolAfterRun" to "True" (<add key="CloseToolAfterRun" value="False" />).



7 Overview of improvements (on reported bugs)

This overview is for the user who reported a bug in a previous release and wants to check whether it has been fixed.

The following issues have been fixed in **Baseline 7.2.0**:

Issue key	Summary	Resolution
BASELINE-1208	Generate mesh2d_netlink_contours (polygons) instead of reading from the mesh file	Fixed
BASELINE-1207	Omit reading mesh2d_face_x / _y_bnd and mesh2d_edge_x / _y (polygons) from the mesh file	Fixed
BASELINE-1206	Omit the use of *_netgeom.nc file and replace with *_net.nc file generated by D-Grid Editor	Fixed
BASELINE-1078	Update van de versienummering voor de python tools (Baseline Tools)	Done