

NWC SAF GEO-I v2025.2 Release Note

On 31 March 2026, the NWC SAF releases a new version of the GEO-I software package named "NWC SAF GEO v2025.2", to generate geostationary satellite derived products on support to Nowcasting and Very Short Range Forecasting. The new version of NWC SAF GEO v2025.2 is already available in our website (<http://nwc-saf.eumetsat.int>).

The changes in GEO-I v2025.2 with respect to GEO-I v2025.1 are summarized below:

New Features:

- Support for ICON model (see note below on the use of a regional NWP model to run NWC SAF GEO-I software package)

Improvements:

- High Resolution Winds product (NWC/GEO-HRW v7.0.1) in patch v2025.2 has improvements in the "pixel time" definition for both MTG-I and GOES-R satellites:
 - For MTG-I, different "pixel time" matrices (obtained from the original MTG-I satellite input data) have been defined for the different satellite channels, in contrast to the rest of satellites, in which the same "pixel time" matrix is used for all channels
 - For GOES-R, "pixel times" are now obtained using LUTs provided by James L. Carr in the framework of an Associated Visiting Activity (which are similar for all satellite channels), defining better values than the ones defined previously through a scanning speed rate method"

An updated HRW Validation report is provided in https://www.nwcsaf.org/web/guest/sci_doc_2025

- Include in the MTG auxiliary data a LAND-SEA map in High Resolution
- In case of solar intrusion, the tests using the channel IR3.8 are not used to avoid false clouds detections, in Cloud Mask (CMA) and Cloud Type (CT) products
- The channel IR3.8 is now "Optional" for MTG/FCI, to fix the issue of negative radiances for this channel in Cloud Mask (CMA) and Cloud Type (CT) products
- Tuning of the "temporal" thresholds for MTG in Cloud Mask (CMA) product
- Optimization changes when computing attributes over the cloud cells in Rapid Developing Thunderstorms Convection Warning (RDT-CW) product
- Upgrade of ecCodes third party software from version 2.30.2 to version 2.42.0
- Update of NetCDF Satellite Data format (FSD) to manage string type as unit

Bug corrections:

- Fix issue with logging writing when hostname size is too big
- Fix issue with cleaning temporal files
- Fix bug with GOES real time configuration
- Fix bug with time covered metadata when region contains parts outside of the satellite covered
- Fix bug with mandatory nature of the VIS06 in CRR

Note on the use of regional NWP models, such as ICON:

1. If a NWP model with levels up to 200 hPa is used, there are two important consequences on the GEO cloud products:
 - The cloud top pressure retrieved by the software cannot be less than 200 hPa, and therefore the estimated altitude of the top of the clouds cannot be greater than approximately 11 800 meters.
 - To perform reliable clear-sky and overcast simulations, RTTOV needs data up to 10 hPa at least (ideally up to 1 hPa). Using data only up to 200 hPa introduces strong biases, especially in the simulations of the sounding channels which are crucial for the altitude estimation of semi-transparent clouds. If you still want to use a regional NWP model (such as ICON), to tackle this problem I strongly encourage you to provide to the software NWP data for levels higher than 200 hPa, from the NWP model used for coupling for instance.
2. Using a high-resolution NWP model such as ICON, which is able to simulate explicitly the convection, can introduce significant error in the vertical profile used as input due to the mispositioning of convective cells.

Important note on COTS file for the NWC/GEO package

An updated COTs file is provided to include the upgrade of ecCodes library from ECMWF from version 2.30.2 to version 2.42.0.

Following the ECMWF changes planned for late 2026, versions earlier than 2.42.0 will stop working.

Important note on AUXDATA:

AUXDATA packages have been updated with respect to previous versions for

- MT11: include a LAND-SEA map in High Resolution
- GOES-16,17,18,19 satellites: include LUT for the pixel time calculation

For the rest of supported satellites, all MSG and Himawari 8, 9 satellites, the AUXDATA packages have not been modified. Therefore, the download of AUXDATA packages for these satellites is not required if the user already downloaded them for any previous installation

For any questions or issues with the installation of the patch: [Contact Us - NWCSAF](#)

Installation of the NWC SAF GEO in a clean environment

This section presents a short summary of the procedure to install the NWC/GEO application for the first time in a clean environment. Please refer to the Software User Manual (NWC/CDOP3/GEO/AEMET/SW/UM v1.3.2, 31 March 2026) for a detailed description of the installation procedure (note that you must use nwcgeo_v2025.2 installation script!)

1. Change to the directory containing the packages (COTS, CODE and AUXDATA) and installation scripts, and execute the installation script

```
> cd <path_storing_packages>
> chmod +x nwcgeo_v2025.2
> nwcgeo_v2025.2 install
```

The following message is shown

```
.....
Welcome to the NWC/GEO <version> Installation Procedure
=====

This script will guide you to successfully install and
configure the NWC/GEO <versions> software package

Press any key to continue...
.....
```

2. Follow the installation procedure and instructions displayed on the screen. Typically use default configuration, just pressing <ENTER>
3. After successful installation of the software, the following message should appear

```
.....
The NWC/GEO v2025.2 has been properly installed and
configured in your system

For additional details in the configuration and execution of the application
please refer to the NWC/GEO User's Manual NWC/CDOP3/GEO/AEMET/SW/UM

Please access to http://nwc.saf.eumetsat.int for additional information and support

IMPORTANT NOTE:
You must logout and login your account in order to set the required environment to execute the
NWC/GEO application
After re-login, just execute "SAFNWCTM" to initiate the NWC/GEO with the
default configuration
.....
```