HOW TO HOW TO USE GLONASS RINEX EXTRAPOLATOR TOOL FOR SKYDEL ?

Topic raised by SKYDEL users :

Current architecture of SKYDEL cannot manage some of GLONASS Rinex files when they contains gaps. SKYDEL expects rigorous Rinex files of 24 hours with all blocks updated every 30mn for each satellite in a File record. This is often the case when the GLONASS Rinex files has been extracted from real-sky records from external Rinex servers getting their data from local GNSS receivers.

SKYDEL SOLUTION

Orolia provides a specific Tool Kit, including an easy to use Python Script to read recorded GLONASS Rinex navigation file and provide a new version with extrapolated data (filling the gaps from the original Rinex file).

This Technical note describes how to easily use the tool kit to "fill the gaps of GLONASS Rinex files".

PROCESS

Download the Tool kit

The RINEX EXTRAPOLATOR Tool Kit is available on OROLIA web site from the following https://github.com/learn-orolia.

Follow the installation recommendation

1. **Python installation:**
   Make sure you have a python from version 3.7 or download the latest python version from https://www.python.org/downloads/.

2. **Open a terminal and check your python version:**
   $ python –version

3. **Packages installation:**
   $ pip install -r requirements.txt

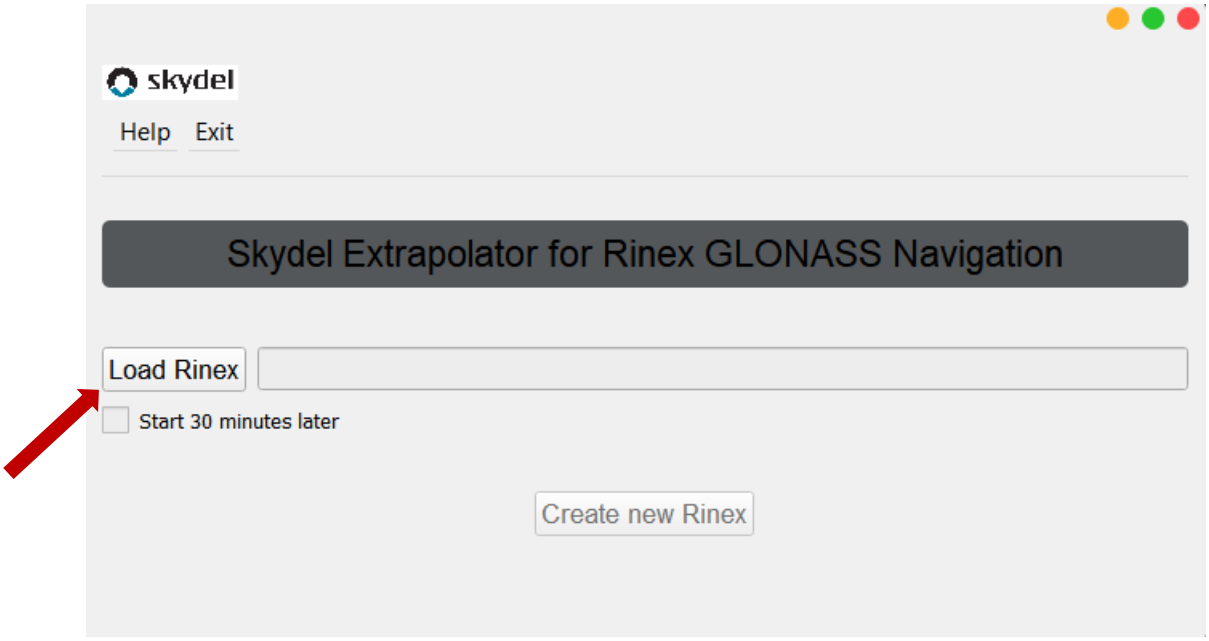
4. **Navigate to the directory in which the tool kit was installed on the system.**

Run and operate with the script

1. **Run Antenna Convertor script**
   $ python main.py

```
C:\Users\RINEX EXTRAPOLATOR\Rinex_extrapolator>python main.py
```

The following window opens:



2. **Click the button "Load Rinex" to load your Rinex file.**

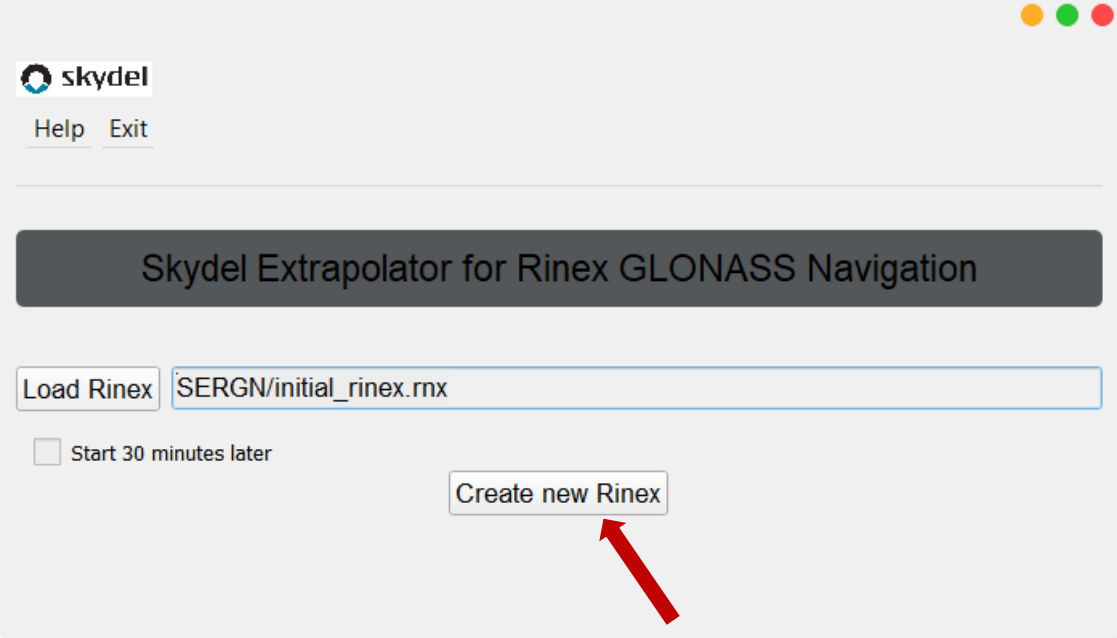
When the file is loaded, the tool takes a few seconds to read and analyze the data.

Indeed, we have added an option allowing to extrapolate the time blocks 30 minutes before the start time.

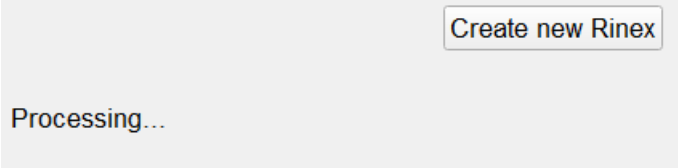
If you check the box “Start 30 minutes later”, your Rinex file will start 30 minutes before your normal time.

3. **Click "Create new Rinex" to generate a the new Rinex.**

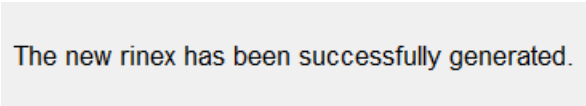
The tool will open a window for you to select a destination folder to save your new Rinex file. Then, the extrapolation function will be launched after closing the destination window.



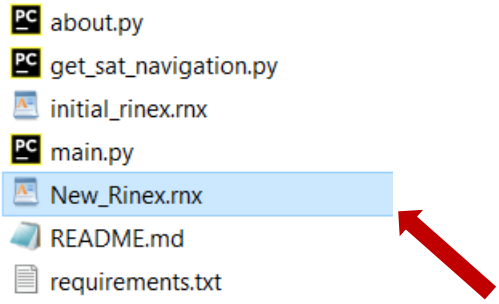
Wait few second for processing :



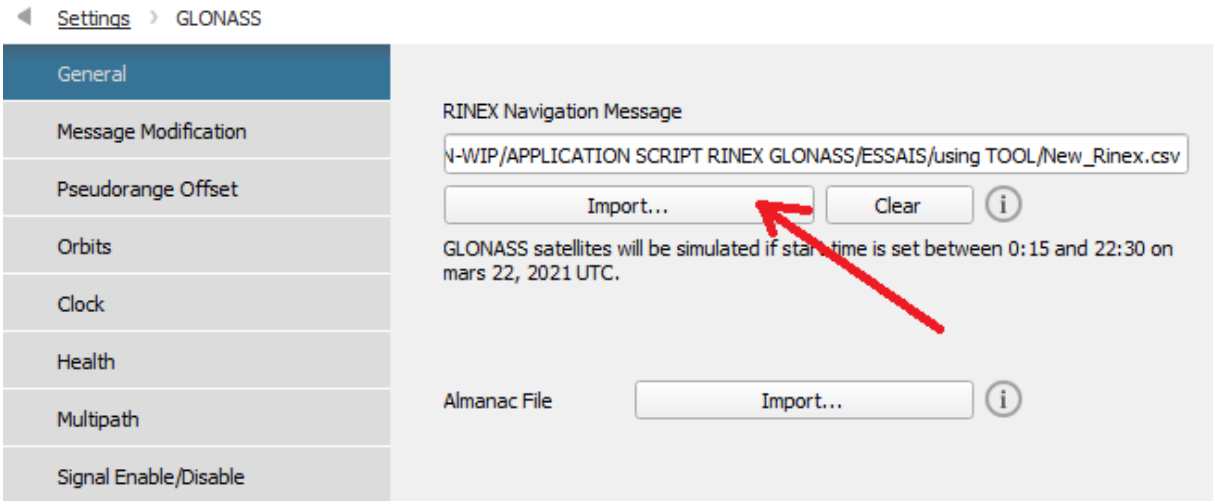
When the new Rinex file is generated, you will see the following message appear in the tool window:



Then you can manage from your folder, your new Rinex files generated in txt format.



You can now import your new extrapolated file in your Skydel Scenario.
SKYDEL will give you appropriate recommendation about the use of this file.



Note : this information is also provided in the README file, attached to the tool kit:

Orolia team hopes this note has been useful for your application. For any additional support need, please reach our support pages dedicated to GSG products :

Link : https://www.orolia.com/support/testing-simulation