

Copernicus FICE 2025

Training on
In situ Ocean Colour Above-Water Radiometry towards Satellite Validation

Setting up your laptop for ThoMaS, and EUMETSAT learning kit

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6-20 July 2025
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1. Conda: Install the latest Anaconda Python distribution.
 - If conda is running slow, alternatives:
 - Libmamba solver
 - Mamba
2. EUMETSAT Data Store: Create EO Portal user and get API consumer key and secret.
 - Demo
3. **NASA's Earthaccess credentials:** Create Earthaccess user
 - Demo



- Git way:

```
cd ~  
mkdir ThoMaS  
cd ThoMaS  
git clone --depth 1 https://gitlab.eumetsat.int/eumetlab/oceans/ocean-science-studies/ThoMaS .
```

- Direct download:

<https://gitlab.eumetsat.int/eumetlab/oceans/ocean-science-studies/ThoMaS>

Likely some updates will be done on the code some days before the training, keep it up to date with:

```
git pull
```

- Once conda and ThoMaS are installed, create the thomas env:

```
cd ~  
cd ThoMaS  
conda env create -f environment.yml  
conda activate thomas
```

libmamba is the best choice for those of you who are stuck in the “Solving environment step”. Please ask us.



1. EUMETSAT Data Store, Earthaccess (NASA) credentials obtained and stored?
2. ThoMaS code cloned?
3. thomas conda environment set up and activated?
4. Required inputs in place? (config_file.ini, insitu input file?, lat-lon-time ranges file?) [Check example 1 in ThoMaS README]



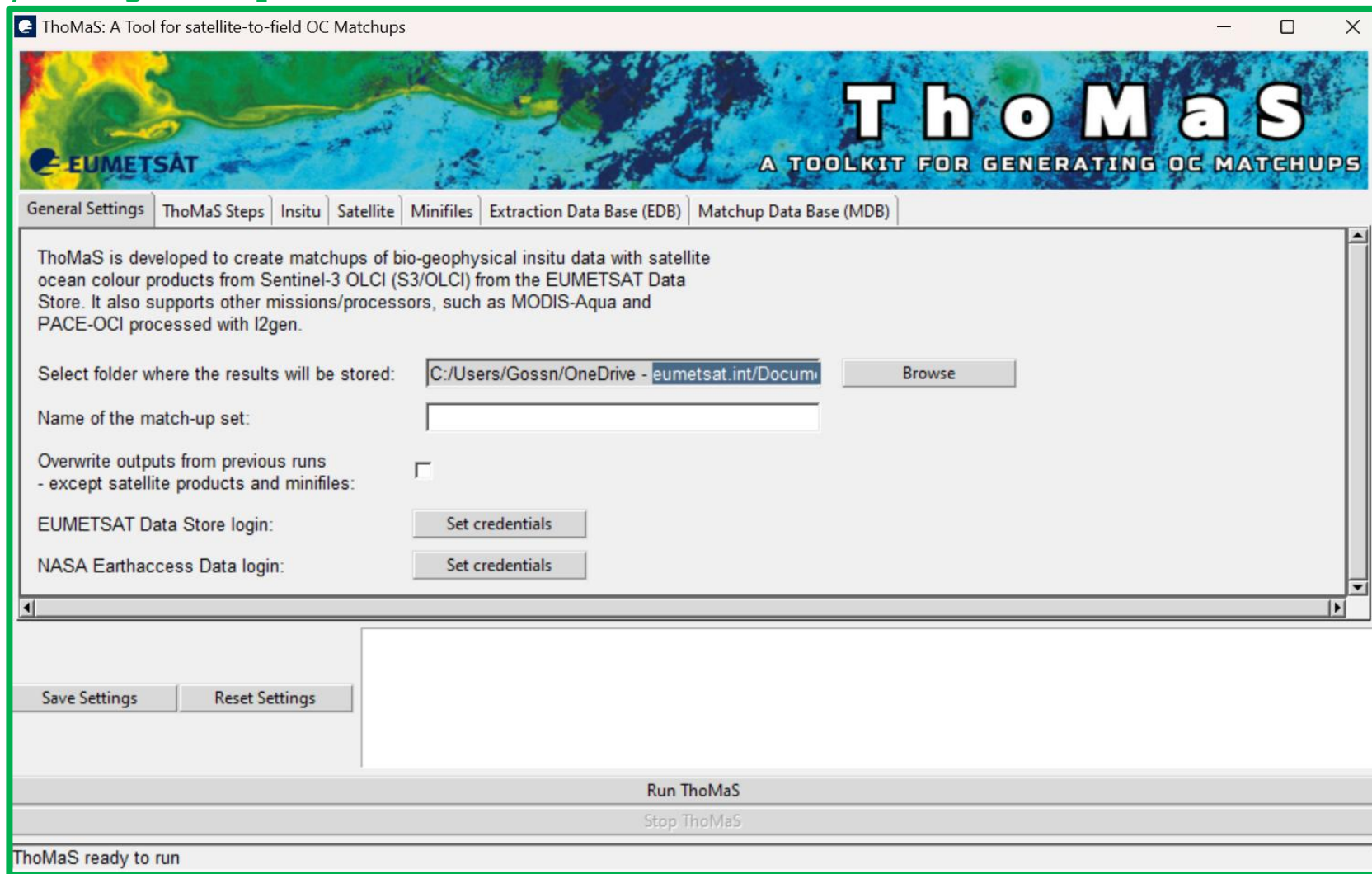
If YES.. run by executing this command:
`python /path/to/ThoMaS/main.py -cf /path/to/config_file.ini`



ThoMaS - Run the code with GUI

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Alternatively run GUI with: `python /path/to/ThoMaS/main.py`
[Not specifying any config file 😊]





Basic (Linux) terminal commands that you may use

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Command	Description
cd dir_name	Change directory to “dir_name”
cd ~	Change directory to home dir
mkdir dir_name	Make new directory “dir_name”
ls	List files in current directory
ls -a	List files including hidden ones
nano filename	Check/edit file “filename”
conda	Check conda is installed
conda env create -f env_file	Create environment “env_name” from “env_file” file
conda activate env_name	Activate environment “env_name”
git	Check git is installed
git clone --depth 1 url .	Clone repository from URL to current directory



- Follow the repository README instructions at <https://gitlab.eumetsat.int/eumetlab/oceans/ocean-training/sensors/learn-olci>
- `git clone --recurse-submodules --remote-submodules https://gitlab.eumetsat.int/eumetlab/oceans/ocean-training/sensors/learn-olci.git`
- `conda env create -f environment.yml` (add: “`--solver=libmamba`” if you have – its faster!)

In a nutshell: getting started...

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- Installing **Anaconda**
 - If you don't have Python...
 - Create EO Portal user (for EUM Data Store) and Eaerthaccess user (for NASA OBPG)
 - Cloning repositories
- OR {
- **On windows:** Open Anaconda, find and launch the powershell.exe application. This will open a command line window.
 - **On Linux or OSx:** Open a terminal window
 - **Clone the repositories:** (you may wish to change directory first)
 - **learn-olci:** *git clone --recurse-submodules --remote-submodules <https://gitlab.eumetsat.int/eumetlab/oceans/ocean-training/sensors/learn-olci.git> /path/to/convenient/directory*
 - **ThoMaS:** *git clone --depth 1 <https://gitlab.eumetsat.int/eumetlab/oceans/ocean-science-studies/ThoMaS.git> /path/to/convenient/directory*
 - **HyperCP:** *git clone --depth 1 <https://github.com/nasa/HyperCP.git> /path/to/convenient/directory*
- Setting up Python environments
 - To create the required Python environments, you should copy and paste the following lines into your terminal and hit "enter"
 - **learn-olci:** *conda env create -f /path/to/learn-olci/environment.yml*
 - **ThoMaS:** *conda env create -f /path/to/ThoMaS/environment.yml*
 - **HyperCP:** *conda env create -f /path/to/HyperCP/environment.yml*