

Tuesday 8th September 2026 – afternoon session

Snow-related exercises:

1. If you have not already done so, register with the **CDSE** and create your **login credentials** in https://dataspace.copernicus.eu/.
2. Open https://dataspace.copernicus.eu/analyse/jupyterlab, then select a **Medium** or **Large Server**.
3. Navigate to **mystorage** and open a terminal.
4. Clone the first repository containing **Exercise 1 on Snow Classification** by entering in the terminal

```
git clone https://github.com/vpremier/SnowFLAKES_stac.git
```

This repository contains **SnowFLAKES**, our code that is currently under development for classifying Snow Cover Fraction (SCF) in optical imagery.

For this tutorial, we will run the notebook **exercise_01_snow_classification.ipynb** in **SnowFLAKES_stac/eotraining.**

5. Before going on with the exercise, we need to install a specific **Conda environment**. In the terminal, run the following commands:

```
mkdir -p /tmp/mamba-pkgs

CONDA_PKGS_DIRS=/tmp/mamba-pkgs \
  mamba env create \
  --prefix /tmp/snow \
  --file /home/jovyan/mystorage/SnowFLAKES_stac/snow.yml
```

The environment **snow** is created on the local disk to make the installation and execution faster. However, /tmp is a temporary location: the environment remains available only while the CDSE Jupyter server is running. Therefore, **do not stop or restart the server** while using it. If the server is stopped, you will need to recreate the environment.

6. Once the environment has been created, register it as a **Jupyter kernel**:

```
/tmp/snow/bin/python \
  -m ipykernel install \
  --user \
  --name snow \
  --display-name "Snow Kernel"
```

7. Now we can open the notebook, select the Jupyter kernel and we can go on with the first exercise about snow classification.
8. **Exercise 2** deals with **Snow Cover Downscaling and Gap-filling**. Similarly, we clone the whole repository in mystorage

```
git clone https://github.com/vpremier/dailyHR_SCA.git
```

This repository contains our code that is currently under development for merging high-resolution and low-resolution snow cover maps to be combined for reconstructing **daily high-resolution snow cover maps.**

For this tutorial, we will only run the notebook **exercise_02_gapfilling.ipynb** in **dailyHR_SCA/eotraining.** Before running the notebook, select the Snow Kernel.

9. **Exercise 3** deals with the **Snow Water Equivalent Reconstruction**. Similarly, we clone the whole repository in mystorage

```
git clone https://github.com/SNOWCOP/SWE_reconstruction.git
```

This repository contains our code that is currently under development for the SWE reconstruction.

For this tutorial, we will only run the notebook **exercise_03_swe_reconstruction.ipynb** in **SWE_reconstruction/eotraining.** Before running the notebook, select the Snow Kernel.

For questions, contact valentina.premier@eurac.edu