Organization of the users hands-on session

Seppo (red)
Ruben (green)
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Introduction slides (in Google Drive)
20-25 minutes, 3-4 minutes for each slide

Overview of pysteps modules → The workflow for generating a nowcast → Deterministic nowcasts → Ensemble nowcasts → Visualization tools → Verification tools → More advanced functionality

The workflow for generating a nowcast
- read the input time series
- use optical flow to estimate the advection field
- apply data transformations
- call the nowcast function
- write the output

Deterministic nowcasts / Ensemble nowcasts
- what method to use for what purpose?
- brief introduction to the differences of the methods with illustrations

Visualization tools
- introduction to different visualization methods

Verification tools
- what metric to use for what purpose?

More advanced functionality
- cell tracking
- blending with NWP

Exercises (assignments in GitHub + notebooks in Google Colab)

Block 1: Setup
- Setup Colab environment — 15 minutes

Block 2: Reading, transforming and visualizing input data
- Read and visualize input data — 10 minutes
- Data transformations — 5 minutes

Block 2: Optical flow and extrapolation

Optional exercises
- Advection-based interpolation

- Optical flow — 10 minutes
- Extrapolation — 10 minutes

Two parallel groups

a)
- Compute and visualize deterministic nowcasts — 15 minutes
- Calculate and plot verification metrics — 10 minutes
- Export the output — 10 minutes

b)
- Compute and visualize ensemble nowcasts — 15 minutes
- Calculate and plot verification metrics — 10 minutes
- Export the output — 10 minutes

Block 3: Nowcasting methods

Block 4: Other pysteps functionality
- Blending with NWP
- Cell tracking — 15 minutes