



Co-funded by the
Erasmus+ Programme
of the European Union



GOLD CERTIFICATE

This is to confirm that

Olena Voloshkina

has attended and successfully completed
the Erasmus+ ClimEd Training (online)
on Digital Tools and Datasets for Climate Change Education

26 October – 12 November 2021



Erasmus+ ClimEd Project
**“Multilevel Local, Nation- and Regionwide Education and Training
in Climate Services, Climate Change Adaptation and Mitigation”**
(619285-EPP-1-2020-1-FI-EPPKA2-CBHE-JP)
<http://climed.network>

Hanna K. Lappalainen
University of Helsinki

Sergiy Stepanenko
Odessa State Environmental University

Olena Voloshkina

has been awarded three (3) credits according to the European Credit Transfer and Accumulation System (ECTS)

ClimEd Training included:

Lectures (L):

- L1. Regional focus of IPCC Assessment Report in Ukraine Context. Svitlana Krakovska, Ukrainian Hydrometeorological Institute (UHMI), Ukraine
- L2. UHMI activities in support climate related research: current status and perspectives. Svitlana Krakovska, UHMI, Ukraine
- L3. WMO integrated climate services: current status and perspectives. Wilfran Moufouma Okia, WMO, Switzerland
- L4. Observations for climatic variables: observation system, specifics, challenges. Antti Mäkelä, Finnish Meteorological Institute, FMI, Finland
- L5. Remote sensing/Satellite observations: current state, perspectives, databases, and applicability of results. Larisa Sogacheva, FMI, Finland
- L6. Global scale climate modelling: current state, perspectives, databases, and applicability of results. Putian Zhou, University of Helsinki / FMI, Finland
- L7. Regional scale climate modelling: current state, perspectives, data/databases, and applicability of results. Tomas Halenka, Charles University in Prague, the Czech Republic
- L8. Urban scale modelling for climate applications. Igor Esau, Nansen Environmental and Remote Sensing Center, Norway
- L9. Climate related datasets, Copernicus related data. Antti Mäkelä, FMI, Finland
- L10. Tools for visualization and analysis of climate related data. Antti Mäkelä, FMI, Finland

Home-Work-Assignment (Projects) & Defense:

Water Management

Obtained Competencies/ Training Learning Outcomes:

1. *Basic knowledge of regional focus of IPCC Assessment Report in Ukraine context*
2. *Basic knowledge of activities in support climate related research in Ukraine*
3. *Basic knowledge of WMO mechanisms and entities for provision of operational seasonal forecasts, current limitations of WMO regional climate outlook forums and reasons to expand portfolio of climate products, key features of objective seasonal forecasts*
4. *Basic knowledge of existing types, specifications and challenges of meteorological/climate observation systems*
5. *Basic knowledge of main principles, instruments, satellite Earth Observations products*
6. *Basic knowledge of Earth System Modelling, basic information of CMIP6 and its datasets*
7. *Basic knowledge of needs, use and advantages of regional climate models for local/regional impact studies*
8. *Basic knowledge of urban integrated system approach, principle modeling strategies at fine spatial resolution in the atmospheric boundary layer*
9. *Basic knowledge of datasets at Copernicus Climate Change Service (C3S) Climate Data Store (CDS)*
10. *Understanding possibilities of C3S CDS Toolbox in climate data visualisation and analysis*
11. *Skills in usage of C3S CDS Toolbox for group projects (as small-scale research projects)*
12. *Skills in group's (as the team) developing and realizing research plan, and presenting research project results*

Certificate Category: with Distinction