



## **ESSL-EUMETSAT Testbed on Severe Convective Storms**

The ESSL has started a minimum three-year cooperation with [EUMETSAT](#) to train the meteorologists of national ('hydro') meteorological services. As part of this collaboration, ESSL will organize testbeds involving work with "proxy data" for the new Meteosat Third Generation (MTG) satellites. In 2022, the testbeds will include data from the polar-orbiting satellites carrying systems (VIIRS & MODIS) with similar capabilities as the Flexible Combined Imager or FCI on the new MTG satellites, the main difference being that the new MTG satellites will be stationary relative to Earth rather than only pass overhead a few times a day. By using the many more channels that the FCI will provide, we expect that meteorologists will be better able to detect, for example, low altitude moisture, convective initiation and cloud icing. At

the testbeds we hope to find out how much better and which RGB (red-green-blue) combinations are most helpful. In addition to this, the Testbeds will also include forecast-supporting products from DWD, ZAMG, and other centres. See the [ESSL Event Calendar online](#) for more information on registration for the testbeds.

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## **Online Mini-Conference on Severe Storms**

Every two years, the international scientific community gets together to exchange the newest developments in severe storm research at the European Conference on Severe Storms (ECSS) organized by ESSL. Unfortunately, our plans to organize the next ECSS in 2021 were perturbed by the COVID-19 pandemic and thus we have postponed the conference. But now we are happy to announce that the next ECSS will be held in Bucharest, Romania in Spring 2023.

In anticipation of the ECSS 2023, ESSL will organize a two-day event between 27–28 September 2022. This event will be an opportunity for young scientists to show their research on severe storms. Also, a series of invited speakers will present their latest research. The registration for this event will open in January 2022.

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## **New team member - researcher Homa Ghasemifard**

We asked Homa to introduce herself and her role in ESSL as CHECC researcher (CHECC - Convective Hazard Evolution under Climate Change, see: <https://www.essl.org/cms/checc/>), part of the German research programme ClimXtreme (see: <https://www.climxtreme.net/>).



"I received the B.Sc. (Bachelor of Science) degree in physics from the Plasma Physics Research Centre, Azad University in Tehran, Iran, in 2009 and the M.Sc. (Master of Science) degree from the Institute of Environmental Physics (IUP) at the University of Bremen in Germany in 2013. The master's program began with an intensive focus on the physics and chemistry of the atmosphere and continued with a treatment of the complex relationships between the atmosphere, hydrosphere, cryosphere, and the solid body of the Earth. I was particularly fascinated by Atmospheric science and the climate system. I continued my education as a Ph.D. student at the Department of Ecoclimatology at the Technical University of Munich under the guidance of Professor Anette Menzel and Professor Jia Chen.

My Ph.D. dissertation entitled "tracing atmospheric carbon dioxide: pollution sources and air-mass transport influencing high Alpine areas in Central Europe" was part of the Virtual Alpine Observatory (VAO) and Global Atmospheric Watch (GAW). I studied the measurements of atmospheric CO<sub>2</sub> and its stable isotope <sup>13</sup>C at the Schneesfernerhaus Environmental Research Station/Zugspitze (UFS), as well as the analysis of short-term air pollution events to trace back the air masses that had travelled over hundreds of kilometres to detect the geographical distribution of sources and sinks of atmospheric CO<sub>2</sub>. Using the backward trajectory model, coal-mining areas in eastern Germany and the industrial regions of northwestern Europe, such as the Netherlands and the German Ruhr area were identified as emission sources. During this time, I was also responsible for the operation and maintenance of measuring instruments at the UFS in close collaboration with scientists, from whom I learned a lot. After my Ph.D. I worked as a research associate in the same group, where I used insights from a backward trajectory model to explain the long-range atmospheric transport of airborne pollen, and aim to discover the impact of ongoing warming on the harmful pollen seasons that can start earlier, end later, and be more intense.

In Spring 2021, before I started my new career, I took part in a Bootcamp in data science for three months at Spiced Academy in Berlin which levelled up programming and modelling skills. After I became more interested in atmospheric physics and climate change and more skilful in programming, working as a postdoctoral researcher at the European Severe Storm Laboratory is a great opportunity that brings all interesting topics and ideas together to find out the effects of climate change on the occurrence of

severe thunderstorms. Today I examine and evaluate the changes of synoptic-scale weather patterns on the probability of lightning and hail and hopefully soon will be able to share valuable results with the community.”

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## **ESSL contribution to SEEMET course**

ESSL has again contributed to the SEEMET course with an expert lecture given by Tomas Pucik and Christoph Gatzen. In October the sixth course in the series was organized by SEEMET (South Eastern European Meteorological Training) community. The course was held online and targeted mostly operational staff of the Eastern European Meteorological and Hydrological Services. The topic of the course was an analysis and forecast of winter weather conditions. The special emphasis was put on the use of satellite data and the course was supported by EUMETSAT and EUMETCAL. Winter convection often presents a challenge to the operational forecasters so Tomas and Christoph covered this topic with the lecture titled „Severe convective storms in winter“. Lecture covered the differences in the evolution of three basic ingredients compared to more standard summer situations and the importance of low-level wind shear in determining the severity of low-topped winter convective storms. Presented concepts were demonstrated on a case of electrified and severe convection in the winter time using the ESSL data displayer.

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**[Check out the full ESSL Event Calendar](#)**

Date(s)	Event (click on the respective link for more information)	Remarks
21–25 March 2022	<b>Course:</b> <a href="#">Forecasting Severe Convection I</a> by Dr Tomáš Púčík and Dr Christoph Gatzen	in Wiener Neustadt or online
4–8 April 2022	<b>Course:</b> <a href="#">Aviation Forecasting of Severe Convection</a> by Dr Tomáš Púčík and Dr Christoph Gatzen	in Wiener Neustadt or online
13–17 June 2022	<a href="#">ESSL Testbed 2022</a>	in Wiener Neustadt or online
27 June–1 July 2022	<b>ESSL-EUMETSAT Testbed on Severe Convective Storms</b>	in Wiener Neustadt or online Application and support through EUMETSAT
4–8 July 2022	<a href="#">ESSL Testbed 2022</a>	in Wiener Neustadt or online
11–15 July 2022	<b>ESSL-EUMETSAT Testbed on Severe Convective Storms</b>	in Wiener Neustadt or online Application and support through EUMETSAT
29 August – 1 September 2022	<b>Tornado and Wind Damage Workshop</b>	in Wiener Neustadt or online
27–28 September 2022	<b>Online Mini-Conference on Severe Storms</b>	More information follows in early 2022
rescheduled! 4–6 October 2022	<b>Workshop:</b> <b>Severe Weather Warnings</b>	in Wiener Neustadt or online
10–14 October 2022	<b>ESSL-EUMETSAT Testbed on Severe Convective Storms</b>	in Wiener Neustadt or online Application and support through EUMETSAT
Spring 2023	<b>ECSS – 11th European Conference on Severe Storms</b> in Bucharest, Romania	To be scheduled later



**ESSL training activities**

Unsure which [course](#) to attend?

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For further information about the registration for these events, please contact us at:

[events@essl.org](mailto:events@essl.org)

Or approach us for [tailored trainings](#) or [forecaster training on-the-job](#).



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