European Severe Storms Laboratory
Newsletter 2018-2

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Promotion of Anja Rädler

On 18 July, collaborator of the ESSL scientific team Anja Rädler, successfully defended her Ph.D. thesis at the Ludwig-Maximilians-University of Munich. Her thesis "Modeling of convective storm hazard occurrence, taking convective initiation explicitly into account" describes the development and application of a statistical method, named AR-CHaMo, to infer severe convective occurrence from climate models and reanalyses. Using AR-CHaMo, she has shown that the environment has become more conducive for severe convection since the beginning of the satellite era. Anja did her Ph.D. work within the project ARCS (Analysis of Risk of Convective Storms in central Europe), a collaborative project between ESSL and Munich Re, funded by the German Ministry of Research and Education and by Munich Re. Her promotors are Prof. Dr. Robert Sausen and Prof. Dr. Peter Höppe and her direct supervisor at ESSL has been Dr. Pieter Groenemeijer.

At the celebration after her defense, together with her supervisor, Anja posed with decorations from friends and colleagues including an extravagant "doctor's hat".
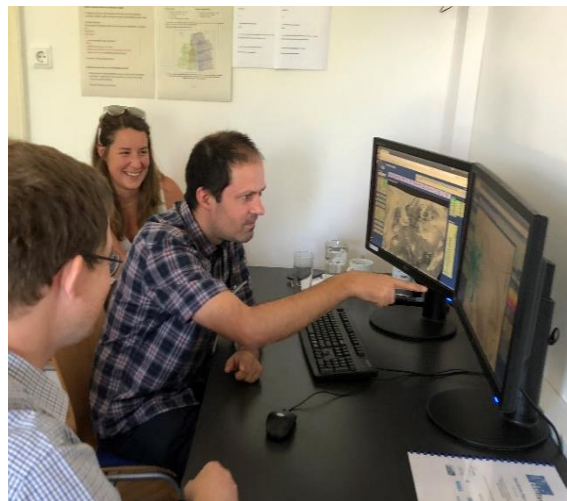
ESSLTestbed   ESSL Testbed 2018

In June and July, the seventh edition of the on-site phase of the ESSL Testbed has taken place at the Research and Training Centre in Wiener Neustadt. During four weeks, 47 external participants from 14 countries and ESSL staff evaluated several tools to support forecasting and, especially, nowcasting. They included products from EUMETSAT's Nowcasting SAF and the German Weather Service DWD. For the NowcastingSAF, products were eveluated that showed the difference between satellite-derived moisture content and model estimates. One DWD product called NowcastSAT-Aviation is specifically targeted at the aviation community, and the participants included many aviation forecasters. Starting in 2019, ESSL will offer special seminars targeted at aviation forecasting.
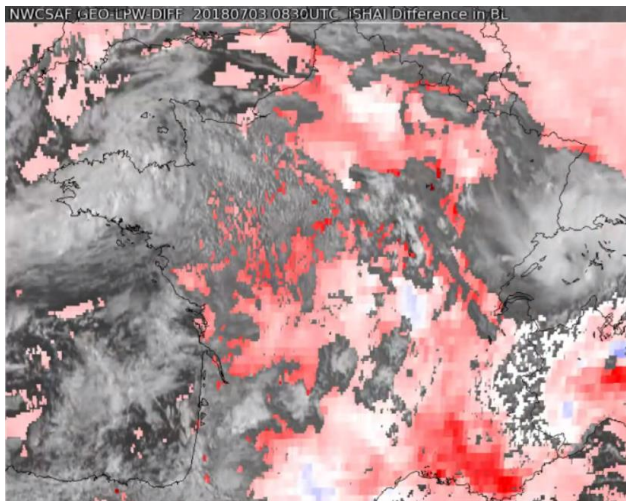
NowcastingSAF moisture product showing low-level moisture difference between satellite and model data (red = in satellite data less moisture than in model; blue = in satellite data more moisture than in model output)
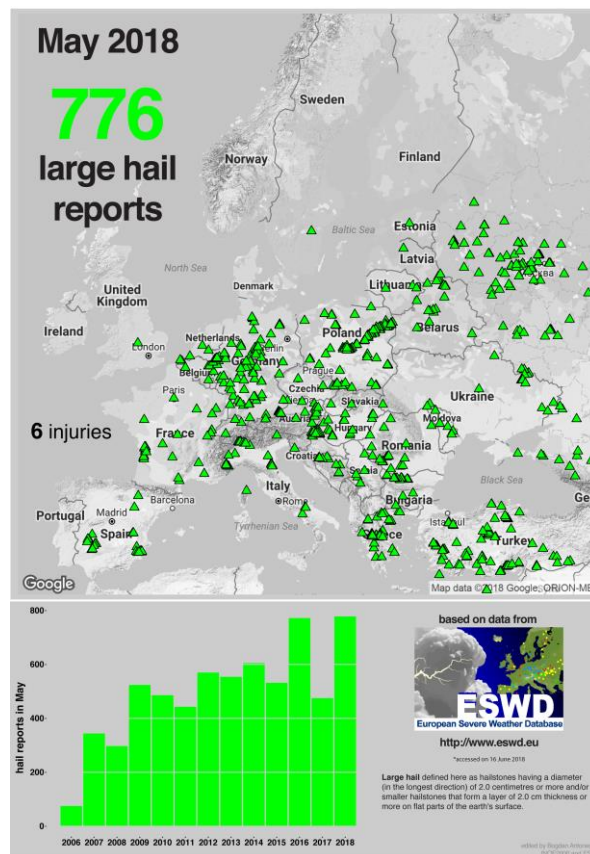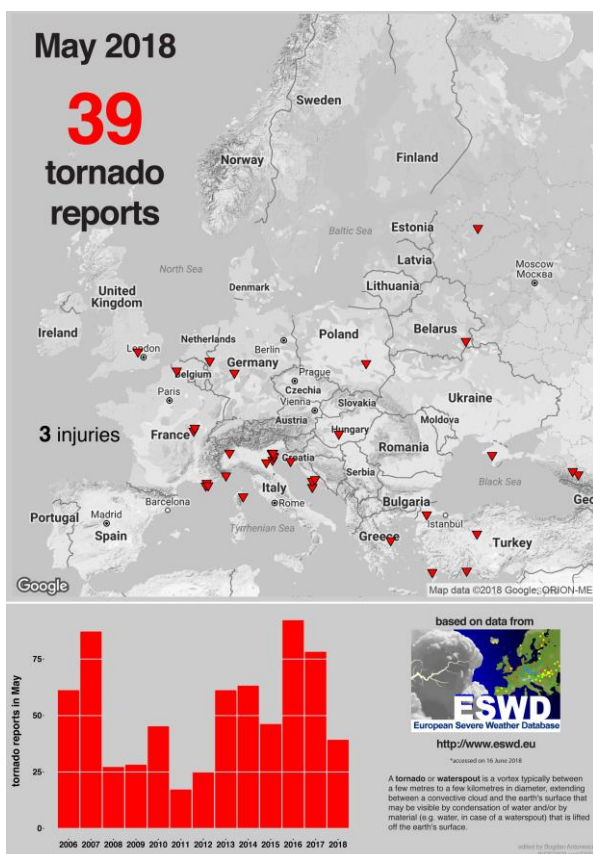

Testbed participants identifying hot spots for severe convection
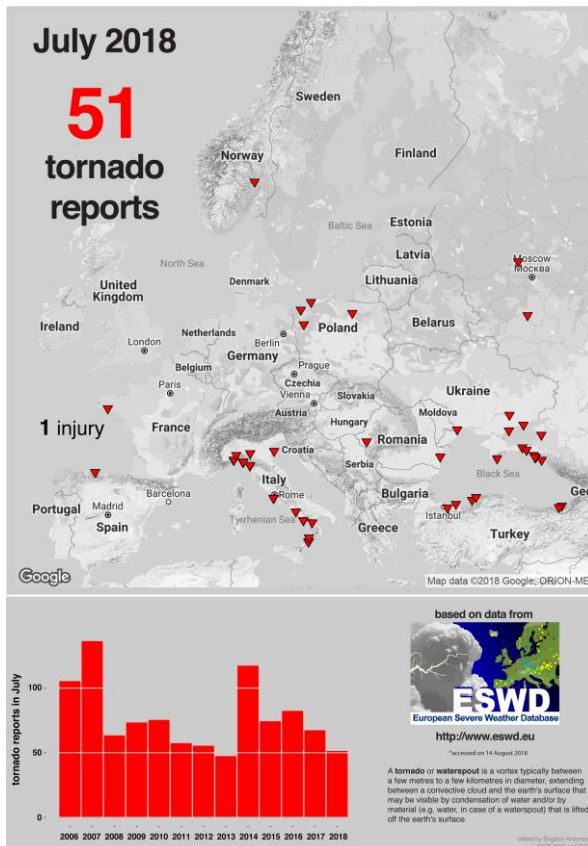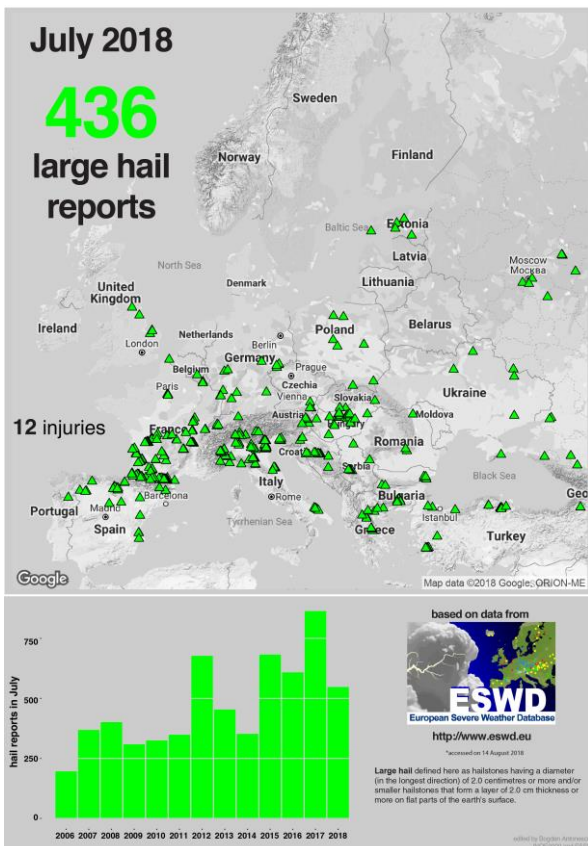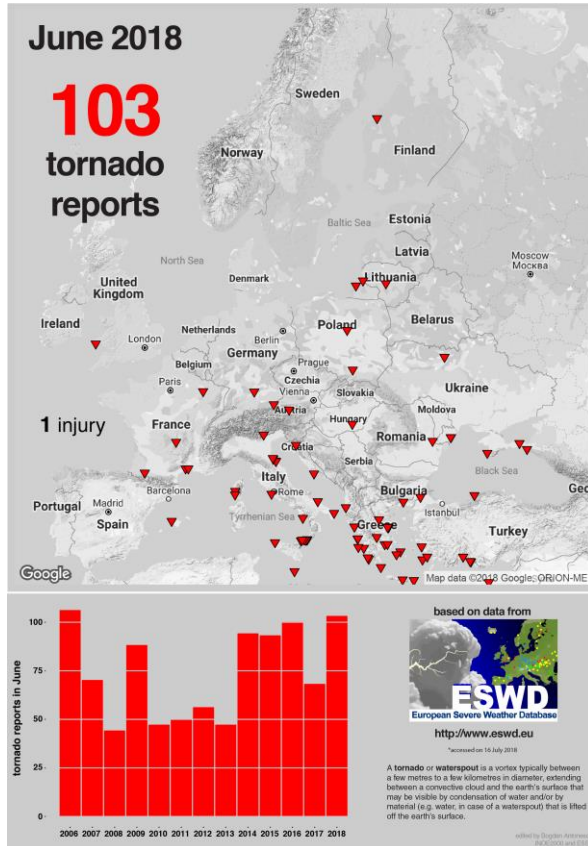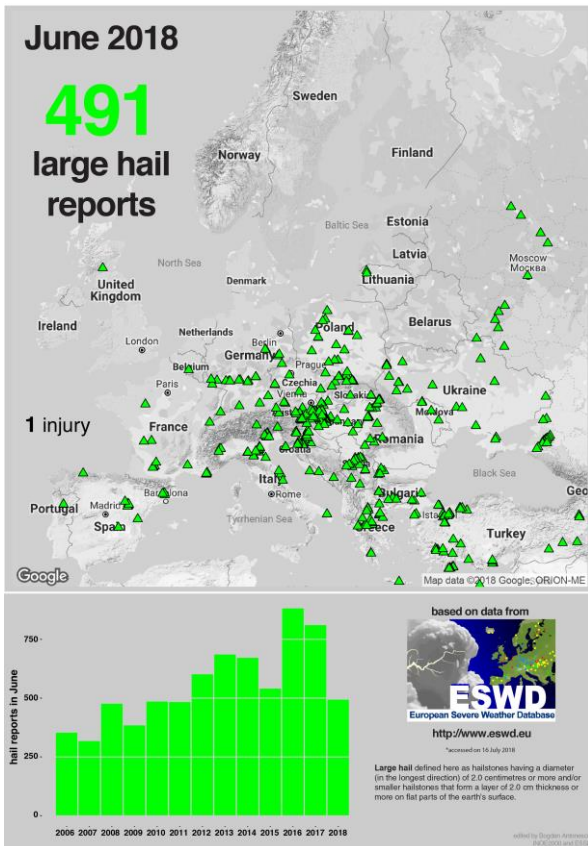
ESWD early summ*er summary of 2018*

ESSL has posted monthly overviews of the European Severe Weather Database (ESWD) reports on large hail and tornadoes via Twitter and Facebook. Here comes a summary of the period May to July 2018.

June 2018

491
large hail reports

1 injury

hail reports in June

based on data from

ESWD
European Severe Weather Database

http://www.eswd.eu

*accessed on 16 July 2018

Large hail defined here as hailstones having a diameter (in the longest direction) of 2.0 centimetres or more and/or smaller hailstones that form a layer of 2.0 cm thickness or more on flat parts of the earth's surface.

edited by Bogdan Antonescu
INOE/ESSL and ESSL

June 2018

103
tornado reports

1 injury

tornado reports in June

based on data from

ESWD
European Severe Weather Database

http://www.eswd.eu

*accessed on 16 July 2018

A **tornado** or **waterspout** is a vortex typically between a few metres to a few kilometres in diameter, extending between a convective cloud and the earth's surface that may be visible by condensation of water and/or by material (e.g. water, in case of a waterspout) that is lifted off the earth's surface.

edited by Bogdan Antonescu
INOE/ESSL and ESSL

July 2018

436
large hail reports

12 injuries

hail reports in July

based on data from

ESWD
European Severe Weather Database

http://www.eswd.eu

*accessed on 14 August 2018

Large hail defined here as hailstones having a diameter (in the longest direction) of 2.0 centimetres or more and/or smaller hailstones that form a layer of 2.0 cm thickness or more on flat parts of the earth's surface.

edited by Bogdan Antonescu
INOE/ESSL and ESSL

July 2018

51
tornado reports

1 injury

tornado reports in July

based on data from

ESWD
European Severe Weather Database

http://www.eswd.eu

*accessed on 14 August 2018

A **tornado** or **waterspout** is a vortex typically between a few metres to a few kilometres in diameter, extending between a convective cloud and the earth's surface that may be visible by condensation of water and/or by material (e.g. water, in case of a waterspout) that is lifted off the earth's surface.

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Introduction of: ESWD user support - Thomas Schreiner

We want to give you a view behind the scenes by introducing our ESSL employees. In this issue, we would like to introduce our ESWD user support, Thomas Schreiner.

ESSL: *Thomas, what was your first impression about ESSL and its activities, when you first got in touch with us?*

Thomas Schreiner

TS: Since my childhood, thunderstorms have been a source of great fascination for me. As a teenager, I got in touch with the SKYWARN Austria Association. Via their online forum I first became aware of the wide range of activities of ESSL through the European Severe Weather Database (ESWD) about ten years ago. The reports from ESWD were and are still displayed in the daily severe storms forecast map of the European Storm Forecast Experiment (ESTOFEX). I was impressed by the professionality of the job the people at ESSL and ESTOFEX are doing, even in their leisure time. At SKYWARN Austria I met Mathias, one of my very best friends nowadays, who already was in touch with Alois Holzer from ESSL. He told me about a historical violent tornado case that hit our home town Wiener Neustadt in 1916 and about his and Alois' plans to do a re-analysis of this event and its implications. This tornado was of one of the deadliest in European History. I was thrilled by this opportunity and joined the project team at ESSL.

ESSL: *What do you think is the most fascinating part of ESSL?*

TS: Both, the ESSL Testbed and the European Conference on Severe Storms (ECSS) play in the same league of fascination to me. It really fulfils me with excitement to get in touch with a large diversity of people from all over Europe and beyond (e.g. the United States) seeing them work on the same goals with different approaches and focus. Taking part in these events organized by ESSL is clearly one of my personal highlights throughought the year. ESSL gives me the opportunity to personally get in touch with idols from my youth, pioneers in severe weather and especially tornado research in the United States. Seeing these people attending or leading workshops at ESSL Science & Training office in Wiener Neustadt is a unique opportunity to me, right on the doorstep of my home town.

ESSL: *Why did you want to start working for ESSL?*

TS: My starting point at ESSL was the re-analysis project of the Wiener Neustadt tornado of 1916, which we called the TORNeustadt project. I wanted to get familiar with scientific methods of windstorm and tornado damage assessments and ratings. After some time, Pieter informed me about the necessity of having an employee at ESSL systematically dealing with ESWD data and membership requests, which required someone working well-structured and with the skill of maintaining the overview at all time, to reduce the workload of our ESSL director with this daily business. It became the position of the ESWD User Support. This was back in 2013, when I also started with my studies on renewable energy technologies such as wind power and photovoltaics, which are also directly affected by the weather. Since I have an engineering background, I thought that working with severe weather additionally here at ESSL would complete my fascination of the weather and especially thunderstorms. Thinking about this decision today, it clearly has been one of my best decisions I took during the last five years.

ESSL: *What are the main challenges you see within your area of responsibility within the coming year?*

TS: As the ESSL employee responsible for providing the ESWD User Support I personally foresee two main challenges:

First, increasing the number of people and networks reporting from their individual countries on a voluntary basis to the ESWD, which we call the Voluntary Observer Persons (VOP) and Voluntary Observer Networks (VON). In the past few years we managed to establish a steady increase in the number of those persons and networks, which are exceptionally valuable and important to raise the overall quality and completeness of the ESWD dataset year by year. Without these volunteers, the ESWD certainly would lack something.

Second, the number of ESWD dataset requests by students, professors, scientists as well as commercial users increases from year to year. This is a very positive development for ESSL, but an increasing personal challenge for myself.

For the ESSL itself a main challenge within the next few months will be the progress of the new versions of ESWD as well as EWOB, the European Weather OBserver. After many workshops, meetings of the working group and feedback loops with stakeholders, we now have a sound EWOB reporting options document ready and are now intensively focused to broaden the target audience in collaboration with various national meteorological services all over Europe.

ESSL: Thomas, thank you for the interview!

Upcoming Activity Calendar

1 – 5 Oct 2018	**Seminar: Forecasting Severe Convection** by Dr. Tomáš Púčik (ESSL/ESTOFEX)	
18 – 22 Feb 2019	**Specialized Seminar: Forecasting and Climatology of Convective Windstorms and Tornadoes** *NEW!* by Dr. Tomáš Púčik and Dr. Pieter Groenemeijer	Early bird fee until 31 Dec 2018.
11 – 15 Mar 2019	**Seminar: Dynamics and Prediction of Severe Convection** by Prof. Yvette Richardson, Penn State University, USA	Early bird fee until 31 Dec 2018.
25 – 29 Mar 2019	**Seminar: Forecasting Severe Convection** by Dr. Tomáš Púčik (ESSL/ESTOFEX)	Early bird fee until 31 Dec 2018.
8 – 12 Apr 2019	**Seminar: Aviation Forecasting of Severe Convection** *NEW!* by Dr. Tomáš Púčik (ESSL/ESTOFEX)	Early bird fee until 31 Dec 2018.
3 – 7 Jun 24 – 28 Jun 1 – 5 Jul 15 – 19 Jul 2019	**ESSL Testbed 2019**	Early bird fee until 31 Jan 2019.

The full and current calendar can always be found on our website: www.essl.org

For more information, feel free to contact us at events@essl.org