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# European Severe Storms Laboratory
## Newsletter 2015-2

**No. 12 December 2015**

## EWOB - European Weather OBserver


**ESSL has now launched its long-awaited free app for to report and see the weather where you are!**

EWOB will show users what people around them are reporting. In this way, one can get an idea of how the weather nearby is behaving and be aware early when severe weather approaches. At the same time, individuals can support researchers and weather forecasters as well as other interested parties.

For ESSL, an important goal of EWOB is to add information to the European Severe Weather Database (ESWD). In contrast to EWOB, ESWD is a quality-controlled database and EWOB reports can be checked manually for quality and be added to the ESWD.

To find the app, search simply for „EWOB“ in Google Play or in the App Store. EWOB is available for Android and iOS.

## 8th European Conference on Severe Storms - ECSS 2015


**From 14 to 18 September 2015, ESSL organized a new edition of the ECSS conference series. This time the venue was in Wiener Neustadt, Austria, location of ESSL's Research and Training Centre.**

The Conference took place in the baroque Sparkassensaal Ballroom located in the centre of town.

The Scientific Programme Committee was lead by co-chairs Johannes Dahl, Bogdan Antonescu and David M. Schultz. The programme that they put together ranged from remote sensing to numerical modelling and from forecast applications to severe weather impacts. The programme of 74 oral presentations and 108 poster presentations was of a very high scientific level and included a panel and forum discussion about the advances in storm forecasting and warning. The Conference had a total attendance of 172 persons from 29 countries.

**Conference photo taken at the ECSS2015.**

The scientific programme was complemented by a social programme that included a tour to the part of Wiener Neustadt that was destroyed by a violent tornado in 1916, a visit to a nearby spa and a conference dinner.

The best oral and poster conference contributions were given awards (right). In addition, ESSL for the third time presented the prestigious Nikolai Dotzek Award. Winner of the award was Dr. Harold Brooks for his innumerable and diverse contributions to the science of severe storms.

The Nikolai Dotzek Award was established in 2011 in the memory of ESSL's first director and founding father, Dr. Nikolai Dotzek, who passed away in May 2010. On Friday it was announced that the next edition of the ECSS conference will take place in Pula, Croatia from 18 to 22 September 2017.

**Awards for contributions at the ECSS2015**

Heino Tooming Award
for the best international contribution:

**Alexander Keul***

Jury award for best oral presentation:

**Matthew Clark***

Jury award for best student contribution:

**Kenta Sueki***

Jury award for best poster and
Audience award for best poster:

**Lisa Schielicke***

Audience award for best oral presentation:

**Christoph Gatzen*** and
**Bogdan Antonescu** and
**Tomáš Púčik*** (ex aequo)

* and their respective co-authors


**Dr. Harold Brooks holding the Nikolai Dotzek award trophy: a large hailstone.**
Photo: Mateusz Taszarek.

## General Assembly 2015

The ESSL General Assembly took place on 13 September 2015. At this occasion, a number of important decisions were made by the ESSL members including the acceptance of the Executive Board's Annual Report over 2014.

Two new members of the Advisory Council were elected, namely Dr. Martin Benko, Director of the Slovak Hydro-Meteorological Institute and Prof. Dr. Uwe Ulbrich of the Institute for Meteorology of the Free University of Berlin.

The current members of the ESSL Executive Board, Pieter Groenemeijer (Director), Alois M. Holzer (Treasurer) and Kathrin Riemann-Campe (Deputy Director) were re-elected for a period of three years until 31 December 2018. In addition, Bogdan Antonescu was elected as Deputy Director. He will strengthen the Board with respect to communication with partners, dissemination and the ESWD database.

Other topics of discussion included the next ECSS and the status of the new EWOB app. More details regarding the General Assembly can be found in the meeting minutes.

## Risk of Extreme Weather on Critical Infrastructure: RAIN

**In the recent months, ESSL has continued to work within the project *Risk Analysis of Infrastructure Networks in response to extreme weather* or RAIN in which ESSL leads the Work Package "Hazard Identification".**

ESSL has conducted a survey among European weather services and analysed the responses. In combination with the analyses of the project partners at the Free University of Berlin, the Finnish Meteorological Institute and the Technical University Delft a number of conclusions were drawn. For instance, the use of probabilistic forecasts is still open to improvement. It was also found that critical infrastructure operators are not very aware of some low-risk high impact events. The monitoring of such events, which include coastal floods, convective hazards and forest fires could be improved at a European level.

*Photo: Rainer Klute*

Furthermore, a potential was discovered for stimulating innovation regarding weather warnings for particular user groups, that could be driven by academics and the commercial sector, provided that more meteorological data, warning data and data on warning verification were to be made publicly available.

In addition to this work, ESSL is presently working on evaluating the effects of climate change on severe weather using an ensemble of regional climate simulations. We will keep you updated on the ESSL website.

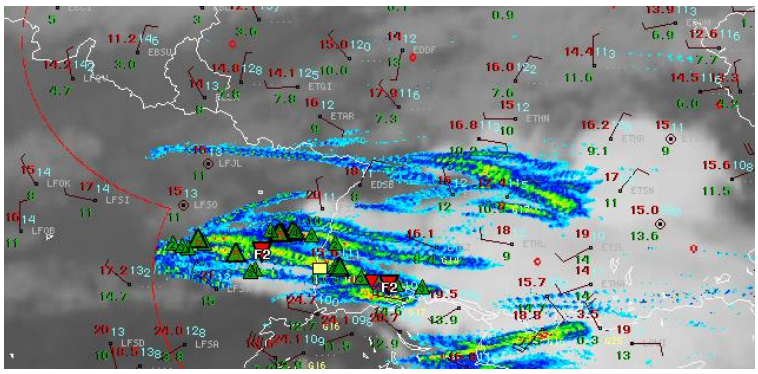
For more background information on the RAIN project, please check: http://www.rain-project.eu

## ESSL Testbed 2015

**The fourth edition of the ESSL Testbed has taken place in June 2015. The ESSL Testbed is a project to enhance severe weather forecasting across Europe.**

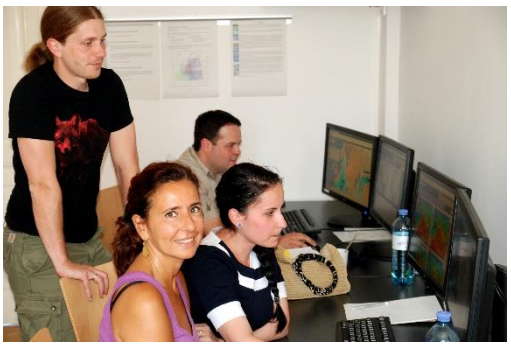
The Testbed provides forecaster training, testing of forecasting tools, and is a platform for interaction for researchers and forecasters, who attend the Testbed typically for one week.

The 2015 edition of the Testbed included a number of new and improved forecast tools, such as the high-resolution COSMO-1 model with 1 km grid-spacing run at MeteoSwiss. The Swiss also provided a high resolution ensemble model that provided forecasts up to 120 hours. The evaluation showed that this model indeed was skilful to a few days in advance, and sometimes surprisingly accurate two or three days ahead. A number of very interesting weather situations occurred, including an outbreak of tornadic supercells in southern Germany on 13 May.



**VIL tracks and severe weather reports on the evening of 13 May 2015 in Southwest Germany.**
**Source: ESSL/DWD**

ESSL evaluated several tools, such as the NowcastMIX, the mesocyclone detection algorithm and other radar-derived products of the German Weather Service, various NWP visualizations and Vaisala's GLD360 Lightning Detection. For more details on the Testbed 2015, you can visit the blog at http://www.essl.org/testbed/blog



In 2016 and 2017, the ESSL Testbed will be involved in project *Application oriented analySIS and very short range forecasT environment* (ASIST) within EUMETNET's Nowcasting programme.

The Testbed will take place 6 – 10 Jun, 13 – 17 Jun, 27 Jun – 1 Jul and 4 – 8 Jul 2016 and registration is opened at:

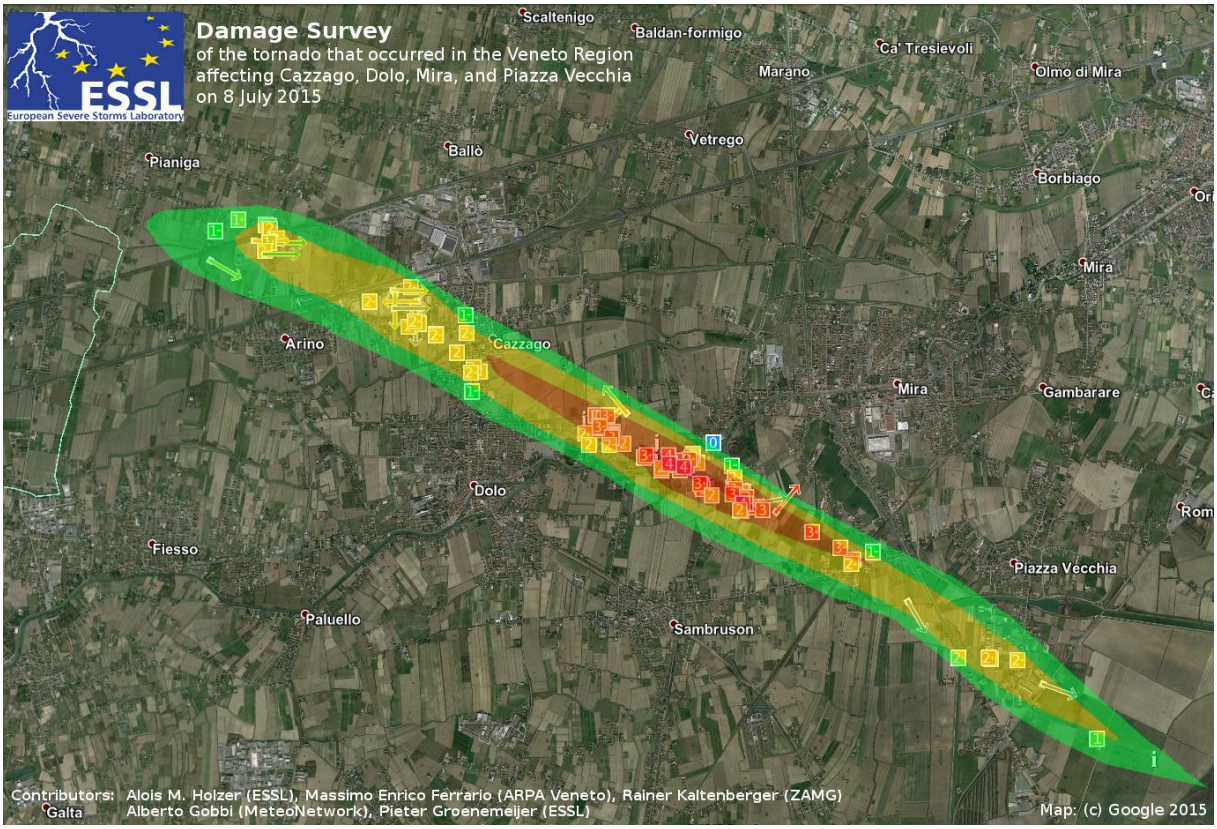
http://www.essl.org/testbed.

Please visit the web site for more information, or contact Magdalena Pichler, e-mail: testbed@essl.org

## Mira, Italy: Survey of a violent tornado

Shortly after reports came in that a deadly tornado had taken place in Italy's Veneto region, a team of ESSL and several partners was formed to assess the damage of the tornado. The team consisted of Alois M. Holzer (ESSL), Massimo Enrico Ferrario (ARPA-Veneto), Rainer Kaltenberger (ZAMG) and Alberto Gobbi (MeteoNetwork) who jointly surveyed the damaged area.

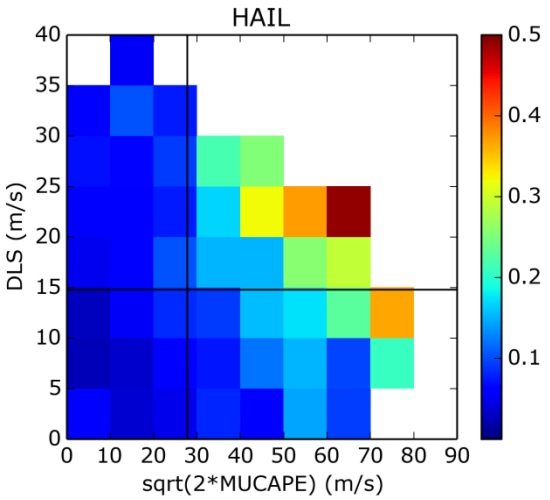
The effort of mapping damage from broken branches to fully destroyed homes lead to the conclusion that a rare violent F4 tornado had occurred that, within approximately 20 minutes produced a damage track of 11 kilometres length and 700 to 1000 metres wide, in the region right between the large cities of Padua and Venice. One person was killed as the driver's car was picked up by the winds of the tornado and at least 72 people were injured. The full report can be found on the ESSL Website under News or by following this link: [http://www.essl.org/cms/mira-ve-italy-f4-tornado-report/](http://www.essl.org/cms/mira-ve-italy-f4-tornado-report/)




**Top: Map of damage locations and F-scale intensity.**
**Bottom: F4 damage in Mira (Photos: Alberto Gobbi).**

## ESSL publishes study on proximity soundings

ESSL has published a study on the environments of severe and non-severe thunderstorms in Europe, the first such study that does not focus exclusively on a single country.




**The fraction of events occurring in CAPE / deep-layer-shear space associated with hail of at least 2 cm diameter. From Pucik et al, 2015.**

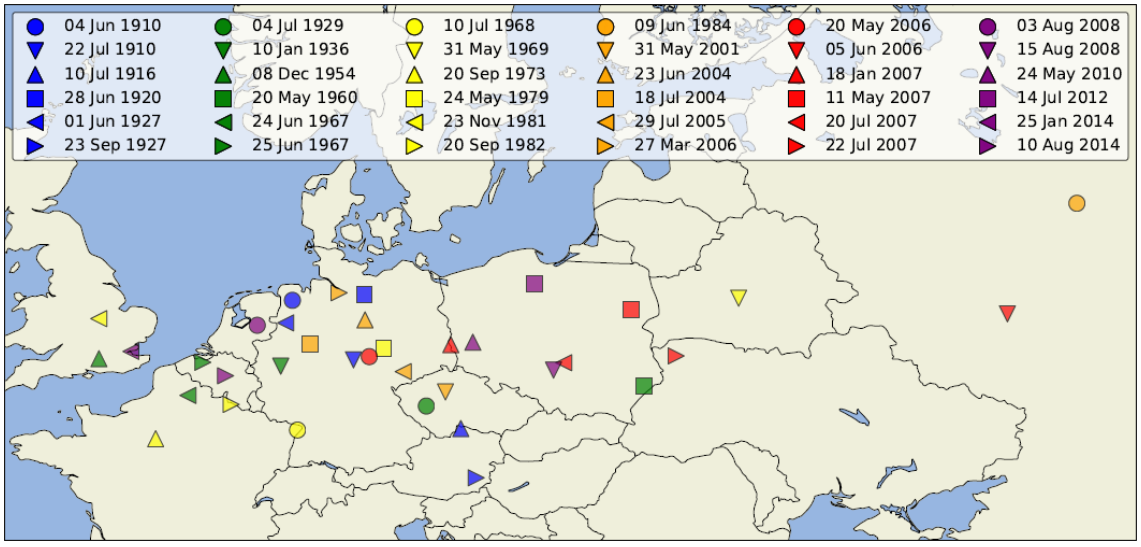
The article, that appeared in Monthly Weather Review, was lead authored by Tomáš Púčik and describes how the probability of severe weather depends on various parameters that describe the instability, wind shear and other characteristics of the troposphere.

It substantiates the finding that both CAPE and shear influence the probability of severe weather once a thunderstorm has formed.

The full name of the article is: *Proximity Soundings of Severe and Nonsevere Thunderstorms in Central Europe* by Tomáš Púčik, Pieter Groenemeijer, David Rýva, and Miroslav Kolař: http://dx.doi.org/10.1175/MWR-D-15-0104.1

## Inventory of European tornado outbreaks

Lars Tijssen from Utrecht University investigated the occurrence of tornado outbreaks in Europe according to the European Severe Weather Database as part of his M.Sc. research. The image below shows the tornado outbreaks detected.




**Geographical centres of all 36 outbreaks in the ESWD in the period 1900-2014.**

## Upcoming Activity Calendar

| Date | Event | Additional information | Registration deadline |
|---|---|---|---|
| 6 – 10 Jun<br>13 – 17 Jun<br>27 Jun – 1 Jul<br>4 – 8 Jul 2016 | ESSL Testbed 2016 | | Until fully booked.<br>Early bird rate until 14 Feb 2016. |
| 20 – 24 Jun 2016 | Seminar<br>Forecasting severe convection I | by Dr. C. A. Doswell III, USA;<br>in Wiener Neustadt, Austria | Until fully booked.<br>Early bird rate until 14 Feb 2016. |
| 5 - 8 Sep 2016 | Workshop on Tornado and Windstorm Damage Assessment | by ESSL staff and expert guests;<br>in Wiener Neustadt, Austria | Early rate until 1 Mar 2016, until fully booked |
| 11 - 16 Sep 2016 | EMS Annual Meeting and ECAC | co-sponsored by ESSL in Trieste, Italy | |
| 27 - 29 Sep 2016 | Identification and Classification of Subtropical and Tropical Storms in the Mediterranean | in Wiener Neustadt, Ausitria | |
| One week in summer 2017 t.b.d. | Seminar: Forecasting Severe Convection II: Dynamics and Prediction of Severe Thunderstorms | by Dr. J. Dahl, USA;<br>in Wiener Neustadt, Austria | |
| One week in September 2017 t.b.d. | ESSL Summer School on Severe Convection | | |
| 10 - 15 Sep 2017 | EMS Annual Meeting and ECAM | co-sponsored by ESSL in Dublin, Ireland | |
| 18 - 22 Sep 2017 | 9th European Conference on Severe Storms<br>ECSS 2017 | in Croatia | |
| 3 - 7 Sep 2018 | EMS Annual Meeting and ECAC | co-sponsored by ESSL, in Budapest, Hungary | |

The most current calendar can always be found on the website: www.essl.org

For further information on registration for these events, please contact Magdalena Pichler: phone: +43 664 59 35 330, email: magdalena.pichler@essl.org.