

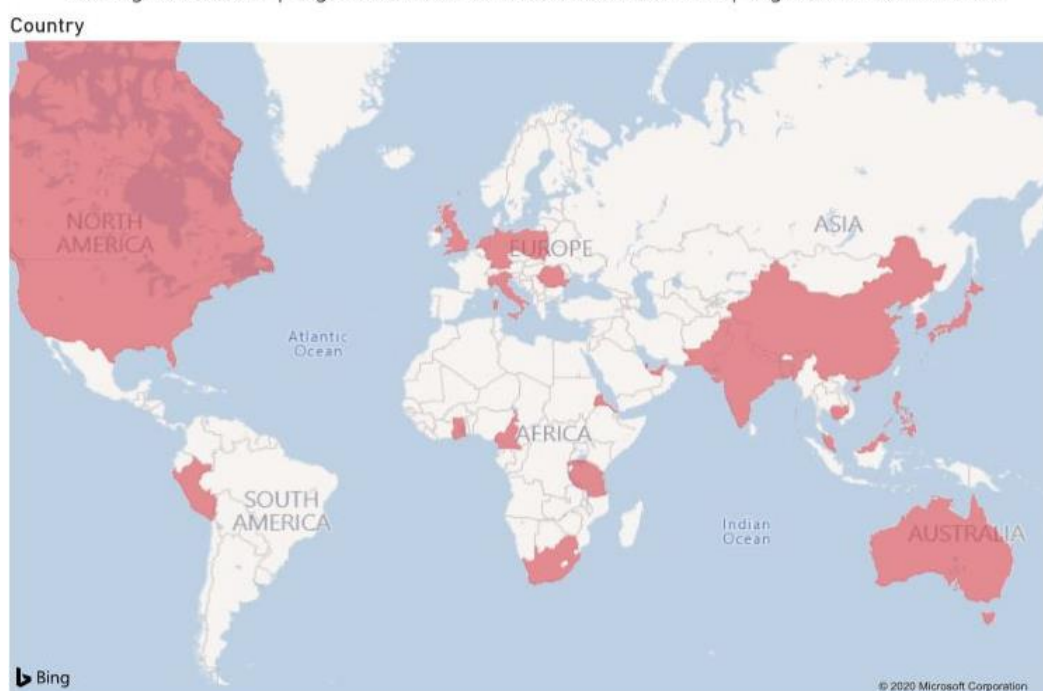
## Proceedings of the Webinar

A webinar titled 'Going Digital in Stormwater Management: Towards Water Sensitive Cities', was organised by the Urban Water Unit of Centre for Science and Environment (CSE). The webinar introduced the Polish Atlas for Rainfall Intensities (PANDa) and the WaterFolder.com initiative from Poland, which is using innovative models for providing rainfall statistics, and supplement implementation of water sensitive features.

CSE invited Prof. Pawel Licznar (Wroclaw University for Science and Technology, Poland) and Mr Jacek Zalewski (Director, RetencjaPL, Poland) to share the workings of PANDa model and the WaterFolder initiative. Prof. A.K. Gosain (Emeritus Professor, IIT Delhi) and Mr Vijay Chaurasia (Joint Advisor, CPHEEO) joined as Discussants and Dr Rohilla was the moderator. The webinar was attended by more than 420 participants from 181 cities across 30 countries.

### Participant's Details

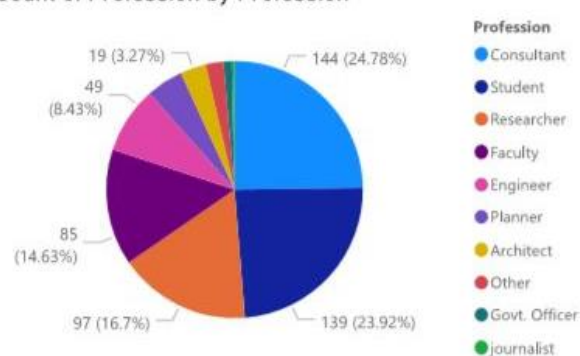
Total registrations: 644 | Registrations from 181 cities across 30 countries | Registrations from India: 572



City



Count of Profession by Profession



There is a clear need for city-specific spatial rainfall statistics – these are key for planning and designing for effective stormwater management,” said Suresh Rohilla, Senior Director, water and wastewater management, CSE, and started the webinar with introducing the speakers and discussants, along with the agenda and objectives of the webinar.

### Snapshots of presentation by Dr Suresh Kumar Rohilla, CSE

**CSE Webinar: Going Digital in Stormwater Management**

**MEET THE SPEAKERS, DISCUSSANTS AND ANCHOR**

**Speakers**

- Prof. Pawel Licznar, PhD, Eng., Wrocław University of Science and Technology, Poland
- Jack Zalewski, Director at Retencja.pl, Poland
- Prof. A. K. Desain, Emeritus Professor, IIT Delhi
- Vijay Chaurasia, Joint Advisor (PHEE), CPHEEO, MOHUA - Govt. of India

**Anchor**

Dr Suresh Kumar Rohilla, Senior Director, Centre for Science and Environment, New Delhi (Academic Director, School of Water and Waste)

**Building a Community of Practice: School of Water & Waste**  
Mainstreaming Rainwater Harvesting & Stormwater Management -

CSE pushing to get different approach in water-waste management - Decentralized, cost-effective technologies

Need capacity in society – training of real users and implementers

Need strategies to experiment / practice and scale-up

<https://youtu.be/xiCAvKY6tjg>  
<https://youtu.be/NH1UC-Xs3Uw>

Taking the webinar forward Prof. Licznar introduced the PANDa model, citing the need for better rainfall data in a world that is ravaged by climate change, and to address the issue of urban flooding in Polish cities. He showcased the methodology of how the PANDa model uses data recorded over 30 years from 100 rain gauges across Poland, which are digitised into a RainBrain database. Using various analysis, they have prepared the spatial rainfall atlas for Poland on a 5km x 5km grid for different intensities, and time intervals.

### Snapshots of presentation by Prof. Pawel Licznar (Wroclaw University for Science and Technology, Poland)

**PARIs (PANDa) project**

Project title: Development and introduction of the Polish Atlas of Rainfall Intensities (PARIs - PANDa)

Grant number POIR.01.01.01-00-1428/15  
Operational Program of Intelligent Development 2014-2020

Logos: National Centre for Rain Retention, retencja.pl, PANDa

✓ 100 gauges  
✓ a 30-year record (1986-2015)  
✓ high resolution time series (single minutes)

**Verification of maximum rainfall intensities**

- 1) Independent records of daily gauges
- 2) Synoptic records (eg. Climate Forecast System (CFS) wetter3.de/Archiv)
- 3) Weather radar data (2007-2015)

**Geostatistical simulations – allowance for uncertainty**

Direct Sequential Simulation – DSSIM

Sym 1, Sym n, Sym n+1

Q1, Q3, E-mean

24 h, 1-year

**Why to talk about extremes?**

Change in temperature relative to 1850–1900 [°C]

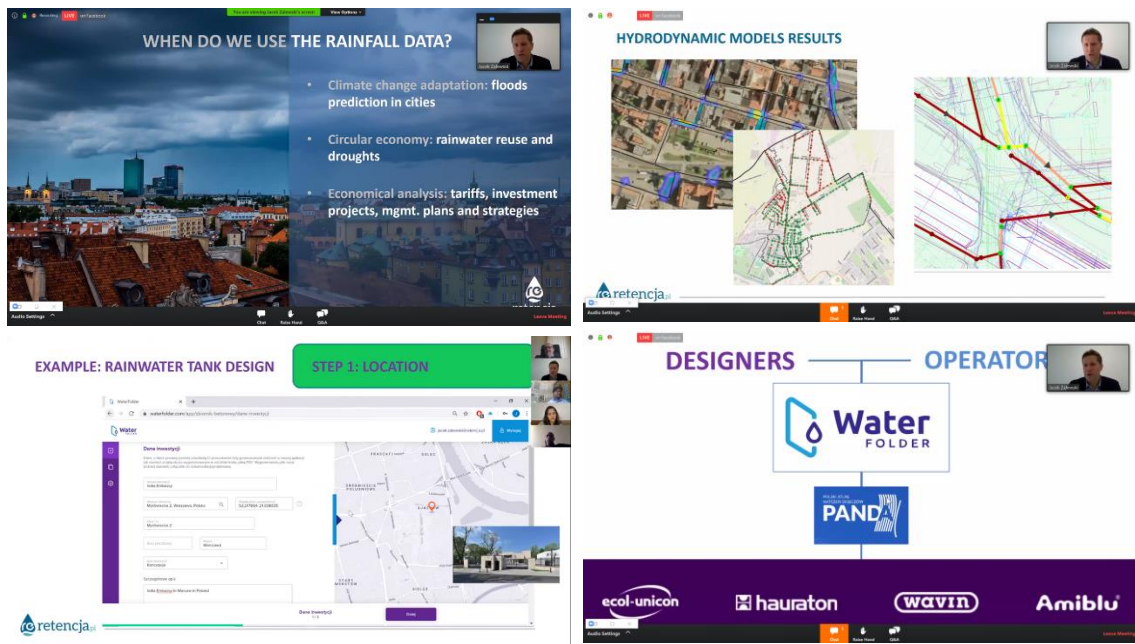
change in surface air temperature over land  
change in global (land-sea) mean surface temperature (GMST)

Observed record (20-yr return value) - 1980-2015  
PANDa model (20-yr return value) - 1980-2015

1950 1960 1970 1980 1990 2000 2010 2020

This was followed by Mr Zalewski provided insights about the practical usability of the PANDa model, using the WaterFolder.com initiative. The WaterFolder.com is an interface between designers, operators and PANDa, and provides a three-step process of determination of design specifics of water-sensitive features, using data from PANDa and other local design standards.

*Snapshots of presentation by Prof. Pawel Licznar (Wroclaw University for Science and Technology,*



While appreciating the PANDa model and the WaterFolder initiative, Prof Gosain highlighted the key challenges for such initiatives in Indian cities. He shared his views regarding the data gaps for rainfall statistics in India, and how these can be filled through the Smart Cities Mission. He also talked about the challenges related to calibration and data verification.

Taking the discussion ahead Mr. Chaurasia stressed on the need for such data and models in Indian cities, and how these can be useful in achieving the objectives of urban development missions like Smart Cities Mission and AMRUT. He also dwelled upon the potential of the India Urban Observatory to act as a repository of such a rainfall atlas, which can be used to prepare sustainable stormwater management strategies.

In the end, Dr. Rohilla, CSE, stated that the webinar provided significant inputs on how we can customise the PANDa model for implementation in cities in India, which have a mix of uses and a varied dimension of urban issues related to water resource management and urban flooding. He also said that CSE is looking forward to exploring PANDa-like models for Indian cities, working closely with key stakeholders, including MoHUA, academia and other players.

The Webinar was concluded with an interesting and interactive Q & A session between the participants and all speakers and discussants.

*Feedback from Attendees*

*"The session was excellent and all the resource persons presented their topics nicely. Learned many tools and techniques. Also, guided on various related topics and queries. Thanks a lot to you and your organising team", Dr Vinayak Dhulap*

*"Thanks to one and all for such thought provoking webinar", Dr Sandesh Yadav*

*"A very informative session", Vandana Khante*

*"Thank you for this webinar. It was a unique topic and something new to know."*, Tiasha Dutta

*"A very informative session"*, Poonam Sharma

*"A very useful webinar"*, Dr Vinay Kumar Gaddam

*"Highly appreciated, and a very interesting webinar"*, Pushpita Patnaik