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## The Hydrological Observatory of Mexico City (OH-IIUNAM): a unique setup for hydrological research within large urban environments

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The emergence of high-resolution observational tools, information and communication technologies, cloud computing and big data are disrupting the water sector in an unprecedented way. In the field of hydrological sciences, research calls aimed at observing, backcasting and forecasting terrestrial water resources at finer space-time resolutions have been made over the past years by the scientific community. Here, we introduce the Hydrological Observatory of Mexico City (OH-IIUNAM), an academic initiative consisting of a dense network of 55 state-of-the-art precipitation sensors (optical disdrometers and weighing rain gauges) located within Mexico City, one of the largest urban centers of the world. The objective of OH-IIUNAM, given its open-data philosophy, is to enable scientific research within urban environments by providing a real-time hydro-meteorological observational platform at the hyper-resolution ( $dt=1$  minute). Potential niches of opportunity ranging from atmospheric processes to hydrological modeling and design in urban areas are envisaged and discussed. Future expansion phases of OH-IIUNAM are expected to incorporate streamflow, groundwater and water quality.

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