**An Innovative Flood Warning Tool: Integrated Nowcast and Forecast Operation** **System (INFOS)** **for** **the Yahara River Chain of Lakes (RCL)**

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Historic flood events in the Yahara River Chain of Lakes (RCL) have resulted in millions of dollars of damages. Flooding events would be more frequent and severe due to the projected increasing extreme rainfalls caused by climate change. As a result, there is a great desire to issue timely warnings for the public and lake level managers. In this talk, we will show an innovative tool, Integrated Nowcast Forecast Operation System (INFOS), for providing flood warnings for the Yahara RCL, Wisconsin. Specifically hourly real-time rainfall map, obtained from over 60 weather stations and forecasted precipitation from the National Weather Service, are shown. The rainfall information would be used in a series of watershed hydrologic, river hydraulic, and lake hydrodynamic models to delineate flood inundations for the Yahara RCL. Lake water levels and river discharges would be projected for the purpose of providing timely and future flood outlooks and warnings. INFOS is a valuable tool for flood warnings. Furthermore INFOS can also yield outcome of flood scenarios, which can be used for flood adaptation and mitigation.