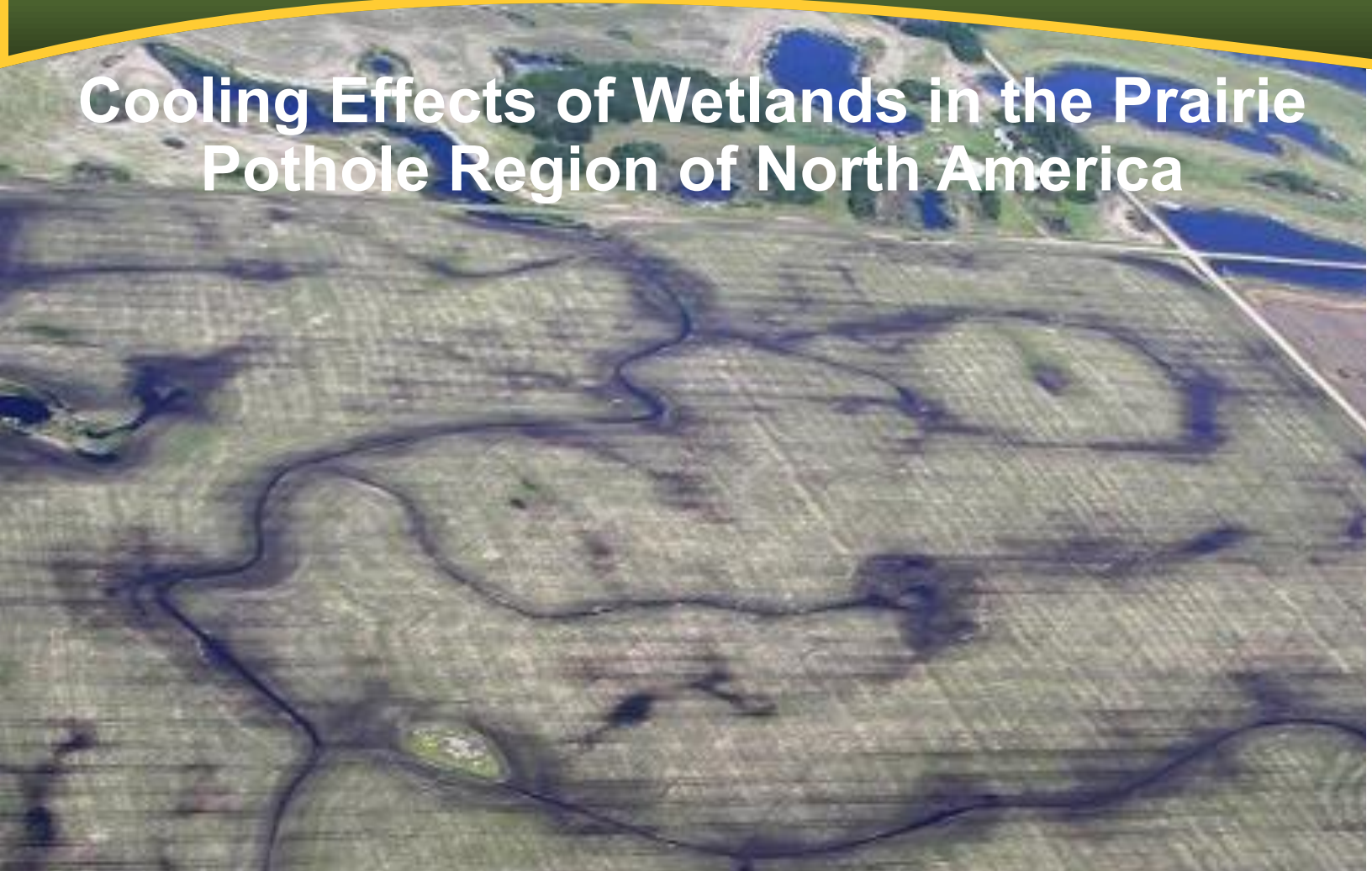




Saskatchewan
Prairie Conservation
Action Plan

Prairie's Got the Goods Week!

Cooling Effects of Wetlands in the Prairie Pothole Region of North America



Monday March 6th, 2023 at 12:00pm CT

Presenter: Zhe Zhang, Postdoctoral Researcher,
National Center for Atmospheric Research

Register for Free: <https://attendee.gotowebinar.com/register/1214036088569253726>

FREE! Everyone welcome! Watch from anywhere!

More Information: SK PCAP: 306.352.0472 pcap@sasktel.net or www.pcap-sk.org

Presenting Sponsors:



Supporting Sponsors:



Global Institute for
Water Security
USASK



In-kind Support Provided By:



Saskatchewan
Prairie Conservation
Action Plan

Prairie's Got the Goods Week!

Presenter: Zhe Zhang, Postdoctoral Researcher, National Center for Atmospheric Research

Presentation Summary:

The retreat of the last glacial period over 11,000 years ago left non-permeable deposits a few meters deep in the soil, creating numerous small wetlands in vast areas of North America. These wetlands, known as prairie pothole wetlands, provide crucial ecosystem functions to the regional environment and human society, regulating flooding, recharging groundwater resources, and serving as habitats for migratory waterfowl. Additionally, these small water bodies on land surface can cool and humidify the local climate, buffering climate extremes during heatwaves and droughts.

In this seminar, I will provide a summary of a recent modeling study focused on the prairie wetlands' water cycle and their cooling effect on regional climate. Previous global model studies have neglected the seasonal dynamics and small-scale features of prairie pothole wetlands, making this study particularly challenging. We demonstrate that explicitly representing the wetland water cycle can lower atmospheric temperatures by 1-1.5°C, resulting in more cloudy days and fewer instances and intensity of heatwave events. This cooling effect is beneficial to nearby ecosystems and human society, especially given that croplands are located in surrounding areas. The study provides strong evidence for better wetland conservation efforts.

About the Presenter:

Zhe Zhang is a postdoctoral researcher at the National Center for Atmospheric Research (NCAR) in Boulder, CO, USA. He received his PhD in Environment and Sustainability from the University of Saskatchewan in Canada. His research focuses on the impacts of climate change on the water cycle and ecosystems in North America, with special interests in groundwater resources and prairie wetlands. During his PhD, he completed an internship with Ducks Unlimited Canada, where he applied results from climate models to ecological studies and conservation strategies. Zhe's research is contributing to the understanding and management of the important wetland environment in the Canadian Prairies, with the goal of ensuring a sustainable future for wetland conservation, which requires collective efforts from all stakeholders.