



Environmental Science Seminar Series

Thursday, October 27, 2022

4:00-5:00 pm in S203

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TITLE

Are Bison the Climate Resilient Animals that We Need to Confront Climate Change in the 21st Century?

SPEAKER

Dr. John Church, Associate Professor, BC Regional Innovation Chair in Cattle Industry Sustainability, Faculty of Science, TRU

ABSTRACT

Lately humanity has experienced an increasing litany of costly and destructive disasters fueled by climate change, including record-breaking wildfires from Australia to British Columbia; scorching heat waves from Siberia to Death Valley; devastating floods across China, Bangladesh, Germany and the Midwest; and supercharged hurricanes, typhoons, and cyclones, from Texas to Japan. Last year's drought has forced many ranchers across North America to sell off their future, with record-setting heat and sparse rain leaving most of the continent with too little grass or hay to feed their livestock. And increased mortalities and production losses are being reported across the livestock sector from poultry to dairy cattle. In the context of these extreme climactic impacts, bison are exceptionally well positioned for a future severely impacted by climate change. Bison have inhabited North America for approximately 200,000 years and have occupied Beringia for nearly 300,000 years. Bison have previously survived at least a 6o C temperature warming since the Last Glacial Maximum; and are one of only eight ungulate genera to have survived the most recent deglaciation in North America. More recently, bison have also survived a near-extinction level event from over hunting in the late 19th century. Bison historically have had the largest distribution of any contemporary ungulate, from east to west coasts, and from the arctic, to arid, and to tropical ecoregions. Despite the dire future climate predictions outlined in the latest IPCC assessment, bison as a species are survivors. Bison undoubtedly have epi-genetic advantages over cattle and, while they are considered obligate grazers, have demonstrated to be adaptable and variable in diet selection, which holds well for an uncertain future due to climate change.

ESSS Fall 2022 Schedule – <https://www.tru.ca/science/news/mscseminar.html>