

## *Graduate Mathematics Seminar*

### ***Smokey the Beaver:***

Can beaver dams keep riparian corridors green during wildfire?

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**Abstract:** Beaver dams are gaining popularity as a low-tech, low-cost strategy to build climate resiliency at the landscape scale. They slow and store water that can be accessed by riparian vegetation during dry periods, effectively protecting riparian ecosystems from droughts. Whether or not this protection extends to wildfire has been discussed anecdotally but has not been examined in a scientific context. We used remotely sensed Normalized Difference Vegetation Index (NDVI) data to compare riparian vegetation greenness in areas with and without beaver damming during wildfire. We include data from five large wildfires of varying burn severity and dominant landcover settings in the western United States in our analysis. We found that beaver-dammed riparian corridors are relatively unaffected by wildfire when compared to similar riparian corridors without beaver damming. On average, the decrease in NDVI during fire in areas without beaver is 3.05 times as large as it is in areas with beaver. Perhaps instead of relying solely on human engineering and management to create and maintain fire-resistant landscape patches, we could benefit from beaver's ecosystem engineering to achieve the same goals at a lower cost.

*When:* Monday, October 26, 2020, 6:00 – 7:00 pm

*Where:* Zoom

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