

Capitol Reef Ecological Conservation

Mapping Vegetation Functional Groups to Inform Invasive Vegetation Management, Ecological Conservation, and Restoration in Capitol Reef National Park



Invasive exotic plants are non-native plants that cause harm to an ecosystem. Many invasive plant species produce large quantities of seeds and spread quickly, have aggressive root systems that smother the root systems of native plants, and act as fuel for wildfires. Capitol Reef National Park has determined that intervention is needed in order to encourage native plant communities and to mitigate the harm of invasive plants. This is where remote sensing and satellite observations can help. Remote sensing gives scientists a way to study and monitor invasive plants over very large areas and develop plans for intervention.

Earth Observations & Methods









plants. The RAP is useful

Classification accuracy – This means that when comparing the model's predictions to ground truth data, the model was accurate 92% of the time.





Rangeland Analysis Platform



Random Forest Classification



but has limitations. The Classification model provides a much more detailed view of the land cover of the park and can be used in conjunction with historical classifications to model future changes to the

landscape.



Kappa Coefficient – The Kappa coefficient measures the agreement between the model's predictions and the actual classifications, considering that agreement may happen by chance alone. A Kappa coefficient of 0.90 indicates a very high level of agreement beyond what would be expected by random chance. Typically, a Kappa value above 0.80 is excellent.

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