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Assignment #1/ Prospectus
FRWS 6740

The project I wish to do coincides directly with my master's project. More specifically my objective is to explore the potential of classifying imagery by fuel loading. The objective is to classify fuel loading on Camp Williams Utah National Guard Training Installation.

I will use three separate approaches in attempting to do so. The first approach is to classify the landscape into the four wildland vegetation classifications, two non-vegetated classifications, and one agricultural classification. The wildland vegetation classifications will then be masked out one by one, and an attempt to sub-classify them based on fuel loading data collected in 2004.

The second approach will use only the imagery and the fuel load data points to make a direct classification of fuel load in tons per acre based on pixel value alone.

The third approach comprises using a model to estimate fuel load based on vegetation classification, soil productivity index, slope, aspect, and elevation. The model will have its foundation in SAS analysis.

The accuracy of the three models will then be compared using validation point data that was also collected during the 2004 field season.

The value of this type of data has the potential of being significant depending on its accuracy and the effect the added accuracy has on field managers' ability to predict fire behavior using the raster data produced by this process. The issue of product significance will be addressed in my thesis using such programs as FARSITE and BehavePLUS to assess variation in predicted fire behavior using the raster data created.

I will be using IKONOS imagery shot mid-summer of 2003, as well as NGA imagery shot September of 2003. Field data I am using is still being analyzed and was collected in the summer of 2004.