Comparing the Effect of Atmospherically Corrected Satellite Imagery

Satellite imagery can be a useful tool for various studies and a wide range of land analyses. Unfortunately, raw satellite imagery can be contaminated with a number atmospheric effects. To obtain an accurate view of the earth's surface, atmospheric correction is important. Atmospheric correction is used to adjust the imagery for effects such as molecular and aerosol scattering and absorption by gases, such as water vapor, ozone, oxygen, and various aerosols. Imagery that is not corrected can show substantial differences in resulting analysis (figure 1). Although the images may not be entirely accurate, it is still possible to use the uncorrected imagery to assess areas of concern when it is placed in context of the surrounding area (figure 2).

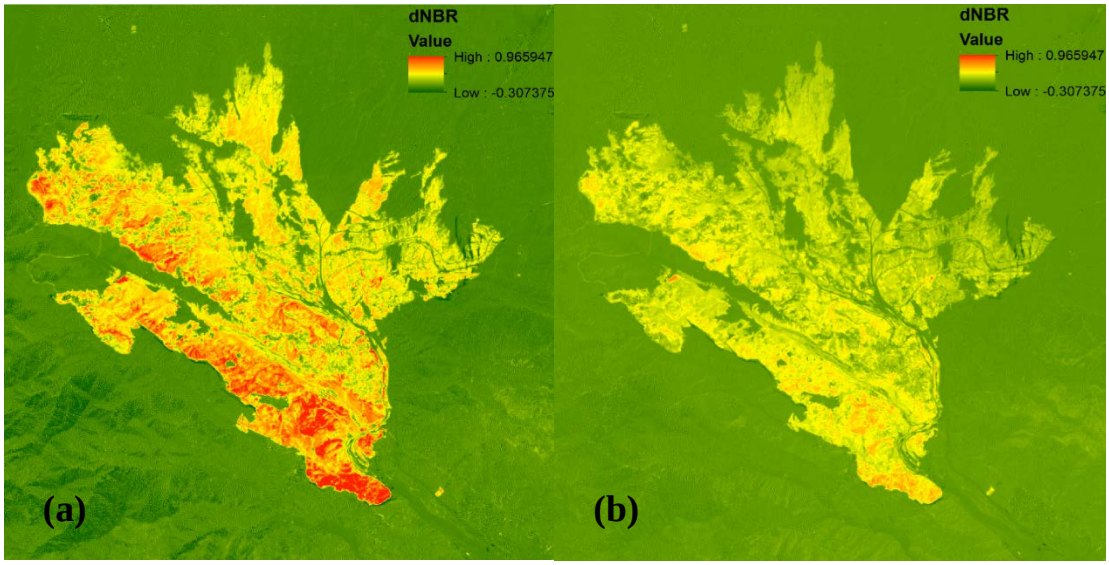

Figure 1. Differenced Normalized Burn Ratio (dNBR) of the Blue Cut fire in California. Red areas indicate a high degree of fire affected vegetation while dark green areas suggest unburned regions. In the first image (a) atmospherically corrected Landsat 8 data was used. In the second image (b) raw Landsat 8 image was used. Images are displayed using an *absolute* a percent clip gradient of the corrected Landsat 8 image with identical display ranges (-0.30 – 0.96).

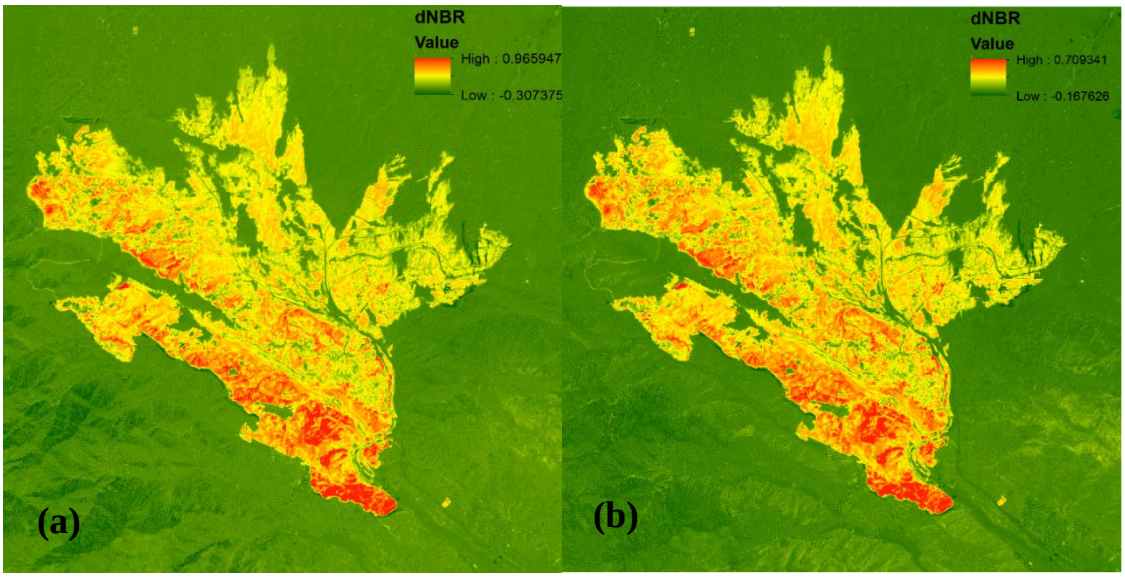

Figure 2. Differenced Normalized Burn Ratio (dNBR) of the Blue Cut fire in California. Red areas indicate a high degree of fire affected vegetation while dark green areas suggest unburned regions. In the first image (a) an atmospherically corrected Landsat 8 image was used. In the second image (b) raw Landsat 8 imagery was used. Images are displayed on a *relative* percent clip gradient (note the difference in values shown in the legend).