

GEO 427/EVS 527

Exercise 12: Data Fusion

You may have noticed that some images contain a lot of spectral information, but at the cost of relatively poor spatial resolution. Correspondingly, other images may contain much less spectral information but at a much higher spatial resolution. It is often useful to combine the information content of two images so that one can get the spectral resolution of one and the spatial resolution of the other. The process of combining these two images is commonly referred to as data fusion. It typically results in a “prettier” image than either original, although the fusion process may have some unexpected results.

In this exercise, you will pick a Landsat-7 image from our archive. Subset it to a reasonable level. This image will contain band 8, which is the panchromatic band with a spatial resolution of 15 m and the multispectral bands with a spatial resolution of 30 m and the thermal band with a spatial resolution of 60m.

ERDAS has several algorithms for data fusion. Try each of them on your image. We will discuss the implications of some of the approaches as we go along.