

WILD 5750/6750

LAB 6 – 10/08/2007

PRINCIPAL COMPONENT ANALYSIS

PCA

&

BRIGHTNESS – GREENNESS – WETNESS

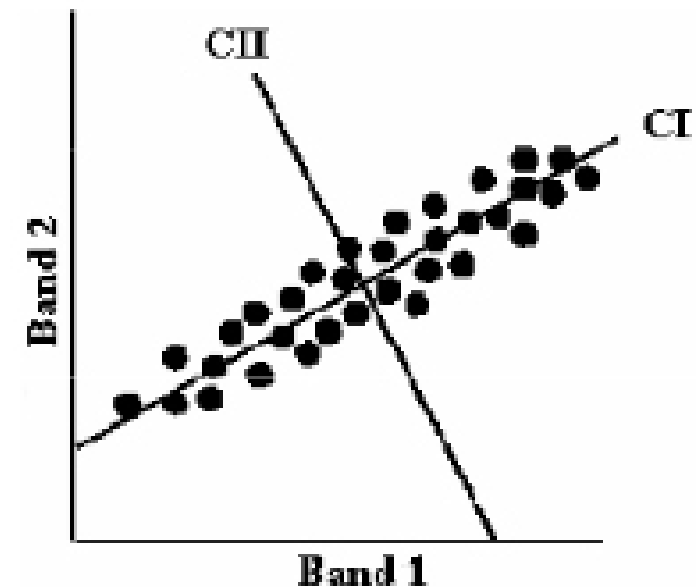
BGW

Principal Component Analysis

Lecture review...

Transformation of a set of correlated variables (i.e. bands) into a new set of uncorrelated variables (PC).

Rotation of the original axes to new orientations that are orthogonal to each other with little or no correlation between variables



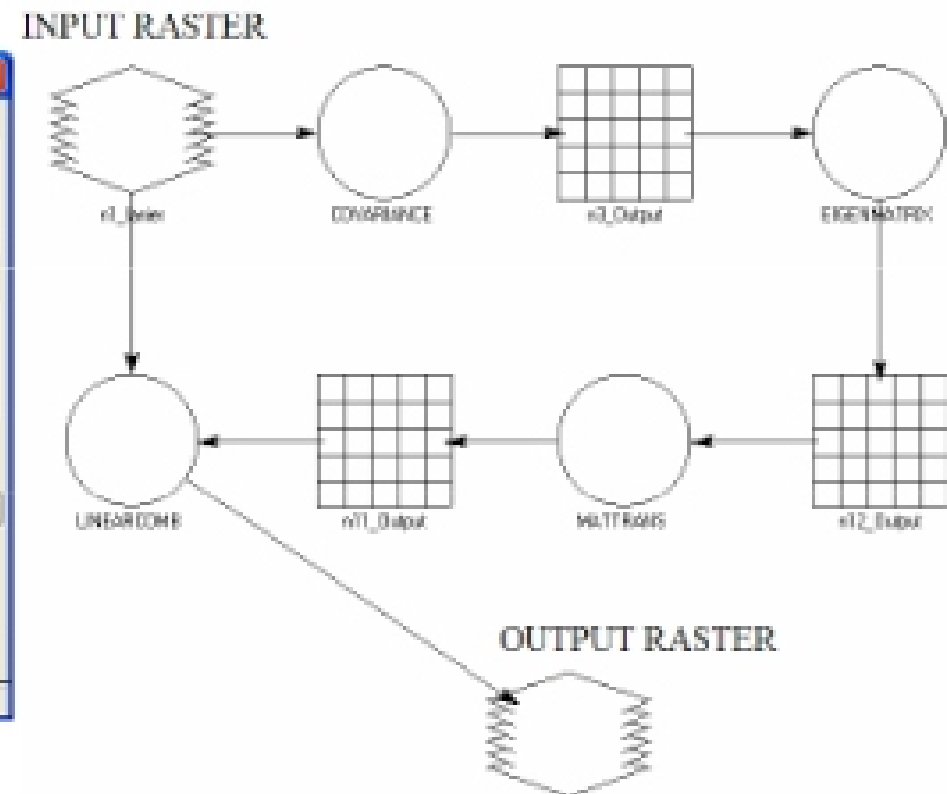
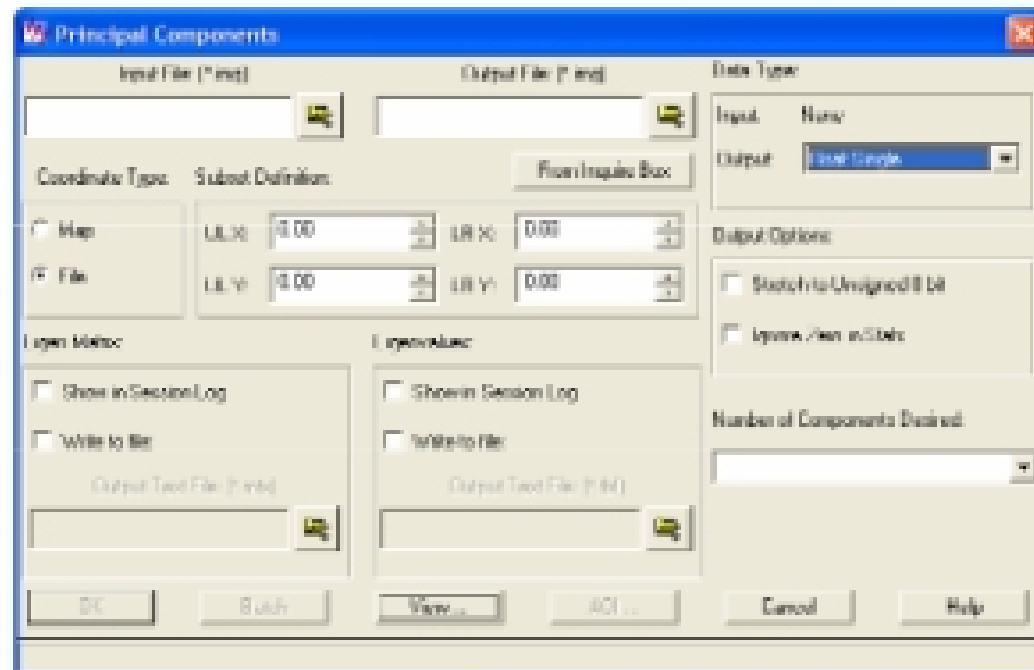
For remote sensing studies = predominantly exploratory in nature

Used to help in the extraction of features and to reduce dimensionality of data

Principal Component Analysis

Imagine... inputs + process

Interpreter → Spectral Enhancement → Principal Components



- ✓ Save disk space: Stretch (0 – 255) but no further math post-processing
- ✓ Obtain Eigenvectors matrix + Eigenvalues table