NATIONAL CONSORTIUM FOR REMOTE SENSING EDUCATION, RESEARCH, AND APPLICATIONS

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PROJECT FACT SHEET

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MultiSpec: Freeware for Technology Transfer

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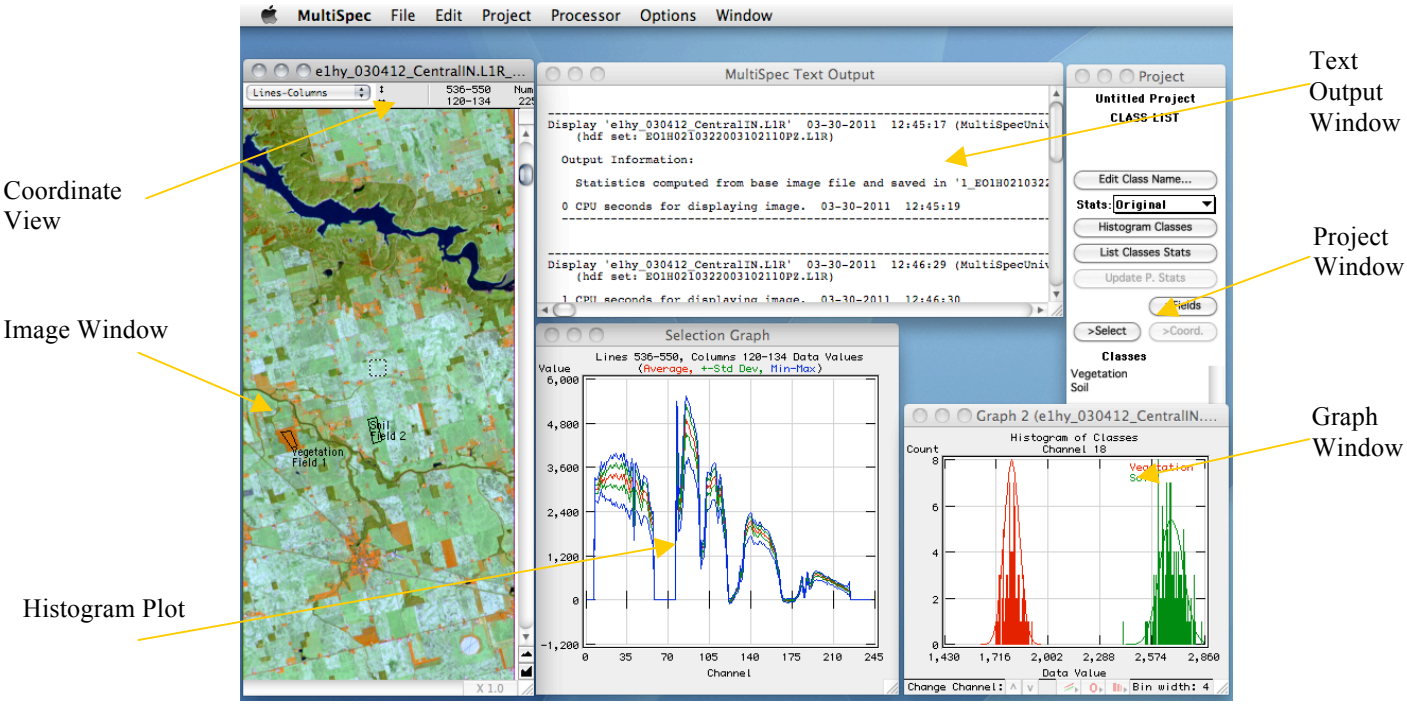

Introduction: A need was recognized in the late 1980's for a low cost, easy-to-use software package that remote sensing practitioners and students could use on inexpensive personal computers. The primary objective of this software package was to aid in the export of the results of the research into devising sound methods for analyzing multispectral and hyperspectral image data. Another objective was to provide a package that students in remote sensing classes could easily use on campus and/or their own personal computers to learn the fundamentals of remote sensing analyses.

Goals: MultiSpec satisfies the following design goals:

- The implementation should be on a readily available computer platform that has adequate processing power, but is financially within the reach of any Earth science researcher (i.e., computer platforms < $2000).
- The system should be easy to learn and easy to use, even for the infrequent user, using a modern software environment.
- The system should provide for easy import of data in a variety of formats, and easy export of results, both in thematic map and in tabular form.

Results: MultiSpec contains basic capabilities for Importing data, Displaying multipectral images in grayscale or color, Generating histograms, Reformatting image files to other image formats, Creating new channels, Clustering, Defining classes, Determine the best spectral features, Classification and Listing the classification results. MultiSpec is not meant to compete with the more complete commercial remote sensing analysis packages, but to provide users with some of the basics of remote sensing that they can try out on their own personal computers.

Significance: MultiSpec can be used for interactively analyzing Earth observational multispectral image data such as that produced by the Landsat series of Earth satellites and hyperspectral image data from airborne and spaceborne systems such as AVIRIS & EO-1. It has also found significant use in other applications such as multiband medical imagery and in K-12 education (e.g. the Globe Program, www.globe.com). There are currently in excess of several thousand known, registered users from more than 80 countries. MultiSpec is available for both Macintosh and Windows platforms and an online version is available (mygeohub.org/resources/multispec). Tutorials are also available.

FOR FURTHER READING:

Biehl, L.L. and D.A. Landgrebe. 2002, MultiSpec – A Tool for Multispectral-hyperspectral Image Data Analysis, pp. 1153-1159. Journal of Computers & Geosciences, Elsevier Science. Vol. 28

Also see: engineering.purdue.edu/~biehl/MultiSpec/

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