Image Processing Software

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Introduction

- Works on PCs or Workstations
- Graphical User Interface (GUI)
- Windows format with icons
- Portability between software packages
- Import or export GIS data formats
- Macro language

- Disadvantages
  - More difficult to tailor to specific applications
  - Non-availability of source code

ERDAS Imagine

- Developed at Harvard Univ and Georgia Tech
- ERDAS Imagine 7.5
  - Easy to use
  - Full suite of
    - Image processing tools
    - Photogrammetry
    - GIS analysis
    - Database
    - Visualization tools
  - Particular Strengths
    - Land-use classification
    - Ortho-modelling
    - Compatibility with ESRI's ArcInfo GIS software

ERMapper

- Earth Resource Mapper (Perth, Australia)
- Initially developed for geographers
- More suitable for enhancing geological features in satellite and air born images
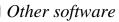- Works on different OS platforms

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EASI/PACE

- Marketed by PCI, Canada
- Advanced classification, and ortho-photo rectification functions
- It was also the first commercial general-purpose image processing package to produce a specialised and comprehensive module for effective radar image processing

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ENVI

- ENVI is supplied by Floating Point Systems
- Based on the programming language IDL
- Users can purchase ENVI as a 'runtime'-only license or opt for more flexibility and purchase IDL as well so that they can write their own routines
- ENVI is the first package to offer advanced spectral enhancement and manipulation capability so that users can perform hyperspectral modelling on multiband image datasets, such as CASI and the Airborne Thematic Mapper

Other software

- Dimple
  - Macintosh-based package
  - Developed and supplied by Cherwell Scientific, Oxford, UK
- TerraVue
  - Low-cost PC Windows package
  - Sophisticated filtering operations, atmospheric correction, mosaicing and rectification manipulations
- TNTmips
  - Developed by Microimages Incorporated, Nebraska, USA
  - Suite of packages that perform image processing (TNTmips), visualise and interpret data (TNTview) and publish spatial information (TNTatlas)
- Idrisi
  - Idrisi was developed by Dark University, Worcester, USA
- IGIS
  - Integrated Geospatial Information System