



Australian Government

CPPSSI6037 Conduct advanced remote sensing analysis

Release: 1

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Modification History

Release 1 This version first released with CPP Property Services Training Package Release 12.0.

This unit supersedes and is equivalent to CPPSIS6037 Conduct advanced remote sensing analysis.

Application

This unit specifies the skills and knowledge required to conduct advanced remote sensing analysis on digital imagery. It includes using software and image processing systems to perform the required image enhancements, manipulations and analysis. The unit also includes performing supervised and unsupervised classifications on datasets and conducting related error analysis.

This unit is suitable for surveyors and skilled spatial information system (SIS) technicians who use broad theoretical and technical knowledge to analyse information as well as interpret and provide solutions to unpredictable and sometimes complex surveying/spatial information problems. The unit supports those who work in a technical management role in a spatial information services team, in areas such as cartography, town planning and mapping.

All work must be carried out to comply with workplace procedures, in accordance with relevant state/territory regulations that govern surveying work, as well as work health and safety (WHS) legislation and regulations that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Plan remote sensing analysis.

1.1 Analyse project specifications and determine appropriate remote sensing analysis methods.

- 1.2 Select suitable image sources according to project specifications.
 - 1.3 Identify suitable images and examine metadata to meet project specifications.
 - 1.4 Obtain image data required to meet project specifications.
 - 1.5 Assess constraints of use of remote sensing data and plan contingencies to meet project requirements.
 - 1.6 Apply legislative and organisational requirements for accessing and using spatial data.
- 2 Analyse image using spectral indices.
 - 2.1 Perform radiometric correction on image, including converting images to reflectance or radiance values to enhance quality of image data.
 - 2.2 Apply spectral indices to image data and interpret results.
- 3 Analyse image using image classification algorithms.
 - 3.1 Apply convolution matrices to enhance quality of image data.
 - 3.2 Determine information classes required according to project specifications.
 - 3.3 Create training samples for required information classes.
 - 3.4 Evaluate training areas and create spectral signature file.
 - 3.5 Apply supervised classification algorithms to signature file.
 - 3.6 Conduct error analysis to calculate approximate accuracy of classification.
 - 3.7 Interpret results according to project specifications.
- 4 Document image analysis.
 - 4.1 Write up the methodology used to compile and analyse image data.
 - 4.2 Write up interpretation of results, noting accuracy and limitations.

- 4.3 Present results in graphical, tabular or map format according to project requirements.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS6037 Conduct advanced remote sensing analysis.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>