



**Australian Government**

# **NWPHYS006 Use remote sensing for hydrographic surveying**

**Release: 1**

# NWPHY006 Use remote sensing for hydrographic surveying

## Modification History

Release 1. This is the first release of this unit of competency in the NWP National Water Training Package.

## Application

This unit involves the skills and knowledge required to use remote sensing for hydrographic survey.

It includes using light detection and ranging (LiDAR) for data collection and analysis. It also includes analysing collected data and selecting the most appropriate methods to use.

This unit supports the attainment of skills and knowledge required for leaders with responsibility for performing hydrographic surveying and may lead to certification as a hydrographic surveyor.

## Pre-requisite Unit

Not applicable.

## Competency Field

Hydrographic Surveyor

## Unit Sector

Not applicable.

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

#### 1 Use LiDAR for data collection and analysis

### PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Collect and analyse data using topographic and bathymetric LiDAR for a hydrographic survey according to workplace procedures
- 1.2 Analyse the environmental and operational environments in which bathymetric LiDAR surveys are

complementary to echo sounder surveys

- 1.3 Use appropriate hydrographic equipment to gather data for survey
  - 1.4 Extract high and low water lines from LiDAR data sets
  - 1.5 Use computer aided design (CAD) to graphically represent data sets
  - 1.6 Determine the level of turbidity using appropriate equipment
- 2 Use remotely sensed data**
- 2.1 Calculate data sources in remotely sensed bathymetric data and determine the associated spatial parameters
  - 2.2 Create a shoreline map from images and aerial photographs using geometrical properties
  - 2.3 Analyse the optical characteristics of coastal terrain and floors
  - 2.4 Analyse methods of bottom detection in forming a hydrographic survey
  - 2.5 Analyse remote sensing techniques according to workplace procedures

## Foundation Skills

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

## Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

## Unit Mapping Information

This is a new unit. No equivalent unit.

## Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

