



Australian Government

NWPHYS003 Manage and analyse water levels and flows

Release: 1

NWP HYS003 Manage and analyse water levels and flows

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 manage and analyse water levels and flows.

It includes applying the principles of water levels, explaining water level measurement methods and analysing water level data. It also includes explaining the process of water movement.

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 Apply principles of water levels

PERFORMANCE CRITERIA

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

- 1.1 Analyse tidal characteristics in terms of tide raising forces and local and regional morphological features in hydrographic survey
- 1.2 Evaluate the effect of non-tidal influences on tidal water levels in hydrographic survey

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| | 1.3 | Evaluate the impact of sources of water level variations occurring in inland waters |
| 2 Use water level measurement methods | 2.1 | Determine the appropriate type of electronic water level gauge when calculating water level measurements according to manufacturer instructions |
| | 2.2 | Configure electronic water level gauges for logging data, data communication, data download and for network operation with appropriate quality control measures |
| | 2.3 | Compute tidally based reference levels on the basis of tide time series |
| | 2.4 | Determine vertical reference levels in rivers and lakes according to workplace procedures |
| | 2.5 | Determine uncertainty in water levels to uncertainties in measurement, duration and distance from the electronic water level gauge according to workplace procedures |
| 3 Analyse water level data | 3.1 | Obtain and interpret water level and flow data according to workplace procedures |
| | 3.2 | Use tidal information and vessel parameters to reduce soundings to a specified datum |
| | 3.3 | Configure and calibrate Global Navigation Satellite System (GNSS) to reduce soundings to a specified survey datum |
| 4 Analyse water movement | 4.1 | Determine the forces behind currents, change in currents and tidal streams |
| | 4.2 | Calculate current measurement using appropriate techniques and methods for acquiring and displaying current data |

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>