



Australian Government

MSS024019 Collect and evaluate meteorological data

Release: 1

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Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to set up basic, ground level meteorological equipment and collect and record reliable data. It also includes the ability to assess data quality, interpret significant data features and use the data to assist with analysing or processing other environmental monitoring measurements.

This unit applies to environmental technicians working in a range of industry sectors, including environmental services; environmental compliance, auditing and inspection; solid and hazardous waste management, and site remediation; management of contaminated sites; geotechnical services and civil engineering; natural resource management.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Environmental monitoring

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.

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

- | | |
|---------------------------------|---|
| 1 Prepare for field work | 1.1 Review job request to identify the equipment required and the meteorological parameters to be measured |
| | 1.2 Identify hazards and read safe work procedures associated with the site, test methods and equipment used |
| | 1.3 Confirm site location, access, timing and any client |

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		requirements	
		1.4	Assemble all required equipment and materials and check that they are fit for purpose
		1.5	Stow equipment and materials to ensure their safe transport
		1.6	Arrange transport to site
		1.7	Liaise with appropriate personnel on arrival at site to ensure safety and minimise disruption to others
2	Perform basic meteorological measurements	2.1	Select a location for the meteorological equipment at the site to achieve valid readings for the required parameters
		2.2	Install and check instrumentation and any recording or data logging equipment to ensure it is functioning correctly
		2.3	Confirm calibration status of meteorological equipment
		2.4	Perform measurements using ground level meteorological equipment
		2.5	Collect meteorological data using physical or electronic methods
		2.6	Ensure wind direction sensors are aligned or corrected to true north rather than magnetic north
3	Verify meteorological data	3.1	Ensure that quality requirements for data are met
		3.2	Perform any required corrections, calculations and data manipulations and identify significant trends in data
		3.3	Check for anomalous data and take corrective action
		3.4	Verify that processed data meets requirements
4	Interpret and	4.1	Relate meteorological data to weather maps and other

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	apply meteorological information		sources of meteorological data
		4.2	Associate meteorological conditions with related weather maps
		4.3	Compare weather patterns and data for different time periods and geographic locations
		4.4	Read and interpret meteorological data in terms of local atmospheric conditions
		4.5	Use meteorological data to interpret and assist with processing air and noise monitoring data
5	Maintain a safe work environment	5.1	Use safe work procedures and protective equipment to ensure personal safety and that of others
		5.2	Minimise environmental impacts of meteorological measurements and generation of waste
		5.3	Collect and dispose of all waste in accordance with environmental and quarantine requirements and workplace procedures
6	Report data and finalise documentation	6.1	Report field data in the required formats and expected timeframe
		6.2	Complete all required documentation
		6.3	Maintain the security and confidentiality of data and documentation in accordance with workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS024007 Collect and evaluate meteorological data.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS024019 Collect and evaluate meteorological data

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- sighted and set up basic ground level meteorological monitoring equipment and collected reliable field data on at least 2 occasions
- analysed, interpreted and summarised the key features of at least 2 sets of meteorological data.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- site and meteorological instrumentation installation considerations, including:
 - topography
 - vegetation and built structures
 - exposure
 - availability of services
 - site security
- purpose and objectives of meteorological monitoring tasks, including:
 - information and analysis required
 - end users of information
 - significance of outcomes for broader programs
- operation, calibration and maintenance of meteorological equipment and instruments.
- distinction between weather and climate and an awareness of climate change science
- composition and structure of the atmosphere, especially the lower atmosphere
- solar energy spectrum and link to atmospheric conditions
- seasonality, effects of latitude and continental geography
- atmospheric motion (horizontal and vertical)
- lifting (orographic, convective and frontal)
- principles of pressure, temperature and volume
- high and low pressure cell formation
- weather effects (including precipitation, temperature and wind strength and direction)
- local wind effects (including sea breeze, city breeze, katabatic winds and anabatic winds)
- forms of atmospheric moisture and humidity

- atmospheric conditions related to wind direction
- measurement of atmospheric conditions (including precipitation, temperature, humidity, wind speed and direction)
- interpretation of weather maps (including symbols used, terminology, interpretation and forecasts)
- historical and geographic comparison of weather data
- scalar and vector wind speed and direction calculations
- wind run
- effects of instrument set-up, including different sampling intervals and averaging times.
- meteorological data collection hazards.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
 - access to sites and vehicle transport
 - meteorological monitoring equipment and instruments
 - site information and history, maps, aerial photos; workplace procedures governing siting and operation of meteorological monitoring equipment and data collection; and equipment manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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