



Australian Government

MSS024005 Collect spatial and discrete environmental data

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS024005A Collect spatial and discrete environmental data

Application

This unit of competency covers the ability to obtain and store spatial and discrete environmental data using handheld global positioning system (GPS) equipment.

This unit of competency is applicable to environmental technicians working in a range of industry sectors, such as environmental monitoring, sampling and field testing (e.g. air, water, soil and noise); geotechnical services; natural resource management; occupational hygiene monitoring (e.g. air, noise and radiation); groundwater and clean water (e.g. catchments, supply and environmental flows); water treatment, storm and wastewater management; site remediation and rehabilitation.

While no specific licensing or certification requirements apply to this unit at the time of publication, environmental monitoring and management operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

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.

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| 1 | Prepare for data collection | 1.1 | Locate and review relevant legislative/regulatory, workplace requirements and background information for site/project. |
| | | 1.2 | Locate and interpret specifications for spatial and environmental data collection. |
| | | 1.3 | Develop a data collection plan in accordance with specifications and relevant requirements. |
| | | 1.4 | Establish codes for environmental attributes. |
| | | 1.5 | Assemble equipment and check that it is fit for purpose. |
| | | 1.6 | Confirm plan with supervisor, as necessary. |
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| 2 | Safely collect GPS and environmental data | 2.1 | Set up environmental measuring instruments on site and perform pre-use/calibration checks. |
| | | 2.2 | Set up GPS equipment with correct datum and projection settings. |
| | | 2.3 | Operate instruments/equipment in accordance with manufacturer specifications and workplace procedures. |
| | | 2.4 | Determine conditions for obtaining optimum GPS positions. |
| | | 2.5 | Collect point positional data in accordance with data collection plan. |
| | | 2.6 | Attribute environmental data for each location. |
| | | 2.7 | 'Ground truth' GPS data using maps, aerial photos and/or satellite imagery. |
| | | 2.8 | Verify environmental data, identify atypical results and review procedures/troubleshoot equipment, as necessary. |

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| 3 | Report data and finalise documentation | 3.1 | Use appropriate GPS software to download and process GPS and environmental data and extract required information |
| | | 3.2 | Use specified quality tests and workplace procedures to check acceptability of environmental data. |
| | | 3.3 | Complete all required documentation. |
| | | 3.4 | Maintain the security and confidentiality of data and documentation in accordance with workplace requirements. |

Foundation Skills

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

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Legislation, regulations, standards, codes, workplace procedures and requirements include the latest version of one or more of:

- federal legislation, such as the Environment Protection and Biodiversity Conservation Act, Australian Heritage Council Act, Native Title Act and National Environmental Protection Measures
- state/territory government legislation and local government by-laws, policies, regulations and plans dealing with land use; environmental protection; cultural/heritage sites; vegetation management; nature conservation and wildlife/plant protection; water management; soil conservation; pollution and contaminated sites; fisheries, forestry and mining operations
- legislation, standards and codes of practice for work health and safety (WHS) and handling of dangerous goods
- Australian and international standards covering environmental management such as AS/NZS ISO 14000 Basic Set:2007 Environmental Management Basic Set
- registration/licensing and/or accreditation requirements
- workplace procedures for sampling, monitoring and in-field testing; recording, processing, presenting and reporting data
- workplace documents, such as standard operating procedures (SOPs), work schedules, recording and reporting procedures, equipment manuals and warranties; safety data sheets (SDS) and safety procedures; waste minimisation, containment, processing and safe disposal procedures.

Background information includes one or more of:

- site or project history and client history
- records of consultations with stakeholders
- site access protocols and permits
- site utilities/services (e.g. water, sewer, electricity and gas)
- maps (e.g. road, topographical and survey marks)
- existing data sets (e.g. vegetation, topography, soils and regional ecosystem maps)
- hazards and safety risks
- emergency plans and safety procedures.

- Specifications include one or more of:**
- purpose of data collection
 - detailed descriptions of spatial and environmental data requirements, such as:
 - positional data, metadata, calculated information
 - environmental measurements
 - sampling
 - data processing requirements
 - data quality requirements
 - data presentation/reporting requirements.
- Equipment includes one or more of:**
- any handheld GPS receiver
 - sampling and environmental monitoring equipment
 - communications equipment (e.g. radio and phone)
 - safety equipment.
- Project parameters include one or more of:**
- coordinate systems
 - datum
 - display formats
 - information displays
 - data outputs, formats and protocols.
- Verifying environmental data includes one or more of:**
- comparison with expected or reference values
 - conducting repeat tests, and using duplicate samples or locations.
- Required documentation includes one or more of:**
- map of GPS data locations
 - sampling, monitoring or in-field test data and results
 - records of vehicle/equipment use
 - records of time spent and approved expenditure
 - emails and correspondence
 - records of site consultations
 - final report/briefing.
- WHS requirements include:**
- compliance with relevant federal/state/territory WHS legislation at all times
 - assuming that samples are potentially hazardous and applying standard precautions
 - accessing and applying current industry understanding of infection control issued by the National Health and

Medical Research Council (NHMRC) and state/territory
Departments of Health, where relevant.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>