



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **SISOOPS509A Interpret weather for mountain environments**

**Release: 2**

## **SISOOPS509A Interpret weather for mountain environments**

### **Modification History**

Not Applicable

### **Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to collect information from a weather map, make forecasts, and record and interpret weather conditions in a specific alpine region in order to apply this to the conduct of alpine activities.

### **Application of the Unit**

This unit applies to those working autonomously and with supervisory roles in various alpine environments.

This may include outdoor recreation leaders working for outdoor education or adventure providers; volunteer groups; not-for-profit organisations or government agencies.

### **Licensing/Regulatory Information**

No licensing, regulatory or certification requirements apply to this unit at the time of endorsement.

### **Pre-Requisites**

Nil

### **Employability Skills Information**

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

### Elements and Performance Criteria

#### ELEMENT

#### PERFORMANCE CRITERIA

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the Evidence Guide.

- |   |  |
|---|--|
| <p>1. Interpret information from a weather map.</p>   | <p>1.1. Identify characteristics of <i>map types</i> and their different uses.</p> <p>1.2. Identify differences between general and alpine forecasts.</p> <p>1.3. Identify weather map <i>symbols</i> and associated weather <i>conditions</i>.</p> <p>1.4. Outline and justify a weather prediction over a multi-day period for a specific alpine region using information gained from weather maps and forecasts.</p>  |
| <p>2. Collect, record and interpret weather conditions in an alpine region.</p>                     | <p>2.1. Identify major <i>cloud types</i> and altitude level.</p> <p>2.2. Collect <i>weather and environmental information</i> at regular intervals for a specific area over a multi-day period.</p> <p>2.3. Record weather <i>data</i> and identify patterns.</p> <p>2.4. Compare and identify the differences between current weather conditions and a current weather forecast.</p> <p>2.5. Determine the possible effects of <i>landforms</i> on alpine weather conditions.</p> <p>2.6. Identify and explain seasonal variations in <i>weather patterns</i> for a specific alpine area.</p> <p>2.7. Determine differences between large scale and localised weather conditions for a specific alpine area.</p> |
| <p>3. Interpret weather and environmental information for alpine activities at an alpine venue.</p> | <p>3.1. Determine the suitability and <i>limitations</i> of the activity in relation to current local weather conditions and weather forecast.</p> <p>3.2. Identify strategies to ensure the safety and well being of individuals and or group in weather conditions according to <i>relevant legislation and organisational policies and procedures</i>.</p> <p>3.3. Identify weather conditions commonly associated</p>  |

**ELEMENT****PERFORMANCE CRITERIA**

with the onset of *life threatening weather hazards*.

3.4. Identify characteristics of life threatening alpine weather hazards and their possible impact on recreational *alpine activities*.

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills

- planning and organising skills to:
  - collect weather and environmental information at regular intervals
  - record and interpret weather and environmental information
  - justify suitability and safety of an activity area
- problem-solving skills to:
  - determine the impact of meteorological data on planned activities
  - predict and anticipate weather for a specific alpine environment
  - compare the differences between various weather attributes
- literacy and numeracy skills to:
  - interpret and analyse weather and environmental information
  - record weather data patterns.

### Required knowledge

- legislation and organisational policies and procedures to enable safe conduct of weather interpretation activities
- map types and symbols to predict weather for a specific alpine region
- differences between general and alpine forecasts to anticipate additional hazards and risks
- methods of predicting and forecasting weather to determine its impact on recreational alpine activities
- influence of cloud types, local air masses, seasons, topography and landforms on the weather and the implications of these on alpine activities
- methods of recording weather data to identify patterns and apply this information to plan safe alpine activities
- life threatening alpine weather hazards and their possible impact on recreational alpine activities
- factors affecting global, regional and local climatic conditions and the impact of these on alpine activities.

## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Overview of assessment

#### Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- makes weather predictions for an alpine area using weather maps and forecasts, and identifies the difference between general and alpine forecasts
- assesses the short and long term implications of meteorological data on a specific alpine activity.

#### Context of and specific resources for assessment

Assessment must ensure interpretation of weather signs and conditions for mountain environments relevant to the candidate's current or intended work environment, on multiple occasions to demonstrate competency and consistency of performance.

Assessment must also ensure access to:

- meteorological data to read and interpret
- an alpine activity environment in which to conduct weather interpretation activities.

#### Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- oral or written questioning to assess knowledge of the impact of meteorological data on planned activities
- observation of interpreting weather for a specific alpine environment using information gained from weather maps, predictions and forecasts
- portfolio of weather predictions covering five day periods
- third-party reports from a supervisor detailing performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- Activity-specific units relevant to participation in outdoor recreation alpine activities such as bushwalking and skiing.

## Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- Map types*** may include:
- prognosis maps
  - analysis maps.
- Symbols*** may include:
- cyclones
  - anti-cyclones
  - depressions
  - highs
  - troughs
  - ridges
  - frontal bands
  - isobars.
- Conditions*** may include:
- cloud cover
  - wind direction, speed and strength
  - barometric pressure
  - precipitation type and intensity
  - sunshine trends and duration
  - temperature range and intensity
  - humidity trends.
- Cloud types*** may include:
- cirrus
  - stratus
  - cumulus
  - nimbus.
- Weather and environmental information*** may include:
- satellite images
  - daily and weekly forecasts
  - maximum and minimum temperatures
  - weather warnings
  - event warnings
  - river levels
  - synoptic charts
  - high and low tide predictions.
- Data*** may include:
- cloud cover
  - wind direction and speed
  - barometric pressure
  - precipitation type and intensity.

- Landforms*** may include:
- alpine ranges
  - large bodies of water
  - valleys.
- Weather patterns*** may include:
- wind direction and speed
  - precipitation form and distribution
  - sunshine trends and duration
  - temperature range and intensity
  - humidity trends
  - anticyclones and depressions.
- Limitations*** may include:
- duration and intensity of activity
  - exposure to prevailing conditions
  - elevation
  - ability of individual and or group
  - technical difficulty of activity.
- Relevant legislation*** may include:
- occupational health and safety
  - permits or permission for access
  - environmental regulations
  - marine regulations.
- Organisational policies and procedures*** may include:
- occupational health and safety
  - safety and emergency procedures
  - risk management
  - minimal impact environmental codes
  - code of ethics.
- Life threatening weather hazards*** may include:
- floods
  - cyclones
  - snow storms
  - electrical storms
  - limited visibility
  - hail
  - thunderstorms.
- Alpine activities*** may include:
- bushwalking
  - alpine trekking
  - resort skiing
  - ski touring
  - cross country skiing
  - alpineeering
  - snow caving.

## **Unit Sector(s)**

Outdoor Recreation

## **Competency Field**

Field Operations