Warrumbungle National Park

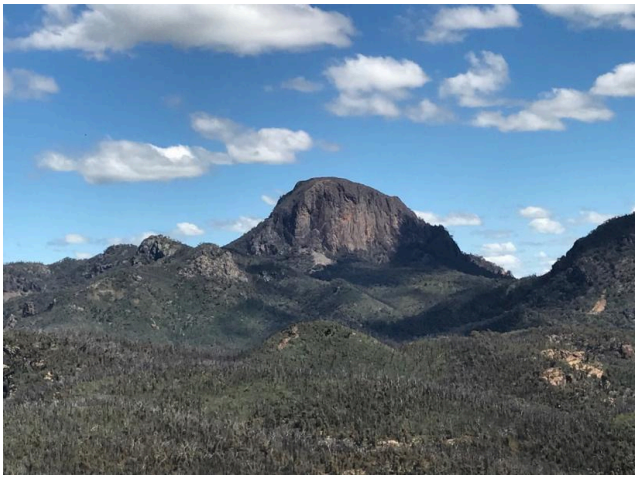
Environmental Education Centre

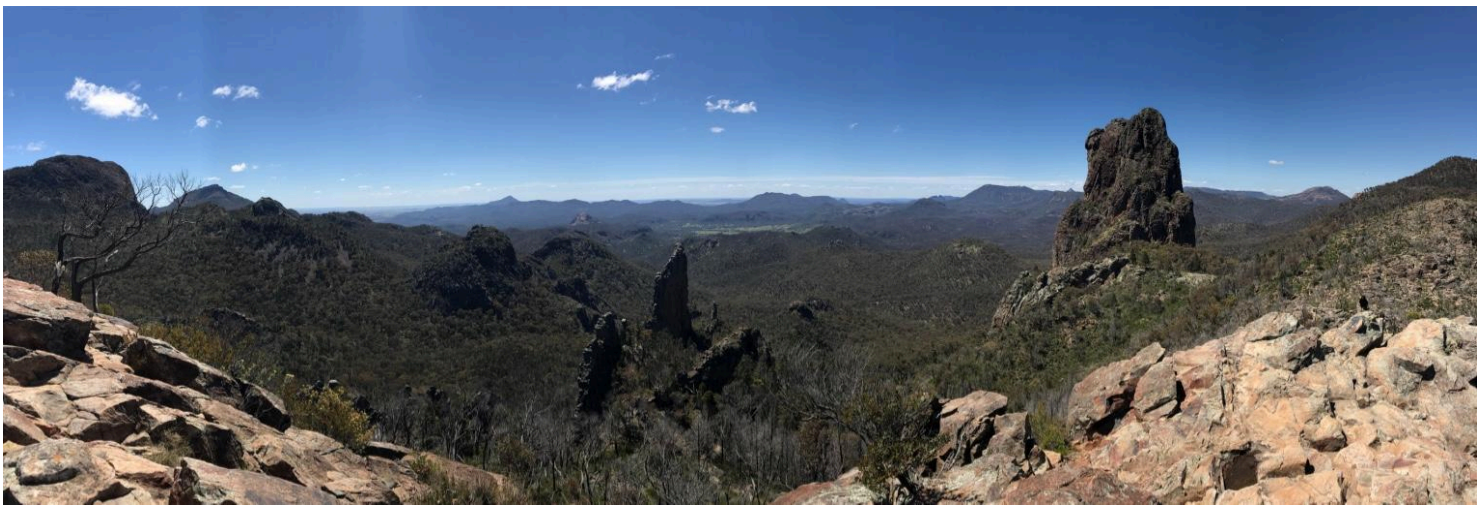
# Landforms and Landscapes - Grand High Tops

## Warrumbungle National Park

**For a successful day of learning please allow 8-9 hours for this program.**
**High fitness levels are required for all participants.**





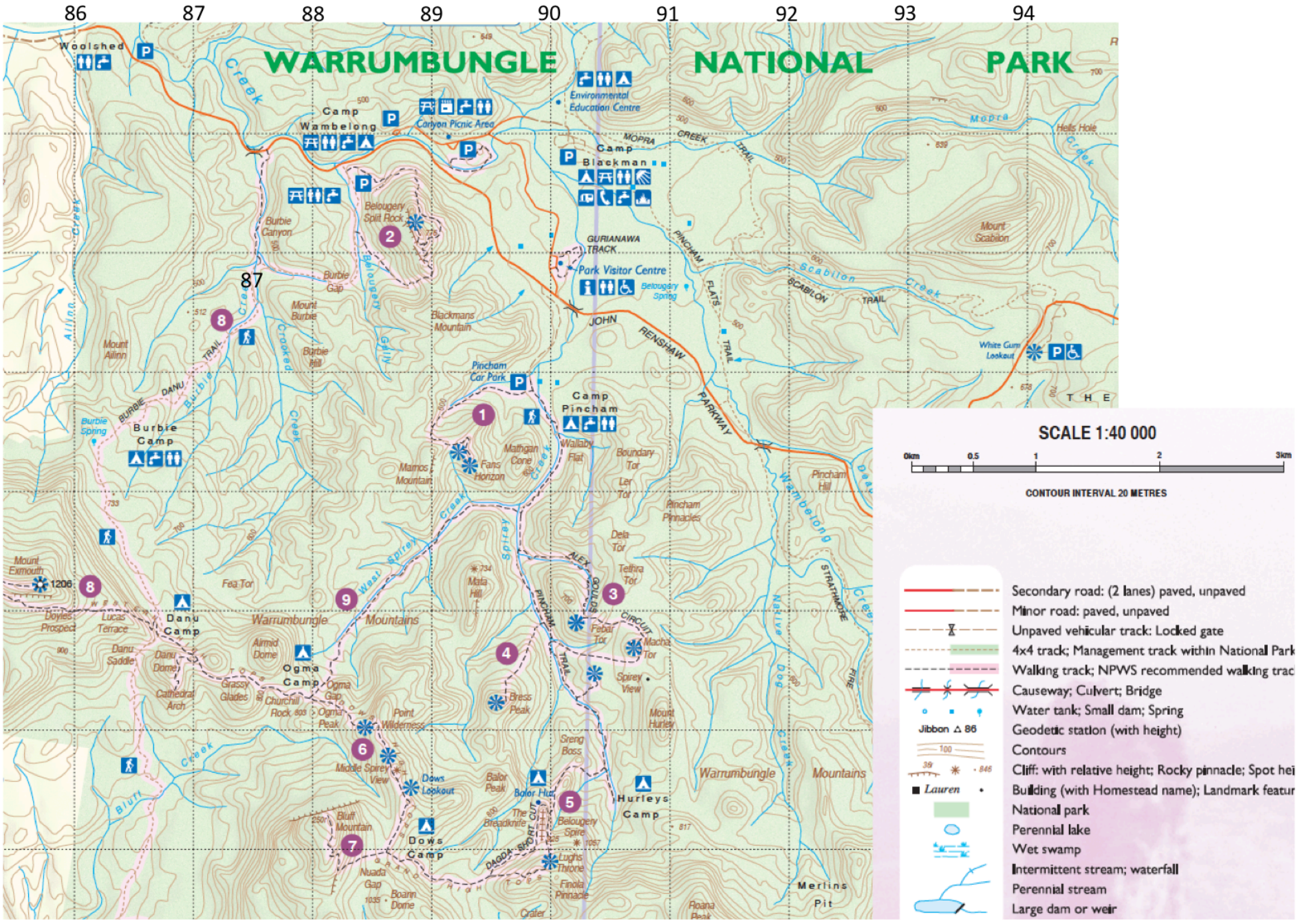


## Stage 4 Geography - Pre-excursion, Fieldwork and Post-excursion worksheets

**Name:** _____

**Class:** _____

NSW GOVERNMENT Education


WARRUMBUNGLE NATIONAL PARK
86
87
88
89
90
91
92
93
94
38
37
36
35
34
33
32
Woolshed
Camp Wambelong
Canyon Picnic Area
Environmental Education Centre
Camp Blackman
Park Visitor Centre
Pincham Car Park
Camp Pincham
Burbie Camp
Danu Camp
Ogma Camp
Dows Camp
Hurleys Camp
Burbie Canyon
Belougery Split Rock
Burbie Gap
Mount Burbie
Burbie Hill
Blackmans Mountain
Mount Ailinn
Mount Exmouth
Mount Scabilon
White Gum Lookout
Belougery Spring
Burbie Spring
Mamos Mountain
Fans Horizon
Mathgan Cone
Wallaby Flat
Boundary Tor
Ler Tor
Pincham Pinnacles
Pincham Hill
Dela Tor
Tethra Tor
Mata Hill
Feat Tor
Doyles Prospect
Lucas Terrace
Danu Saddle
Danu Dome
Airmid Dome
Grassy Glades
Cathedral Arch
Churchill Rock
Ogma Gap
Ogma Peak
Point Wilderness
Middle Spirey View
Dows Lookout
Bluff Mountain
Nuada Gap
Boarin Dome
Febal Tor
Macha Tor
Spirey View
Mount Hurley
Bress Peak
Sreng Boss
Balor Peak
Balor Hut
The Breadknife
Belougery Spire
Lughs Thione
Finola Pinnacle
Crater
Merlins Pit
Roana Peak
Warrumbungle Mountains
Mopra Creek
Hells Hole Creek
Scabilon Creek
Wambelong Creek
Crooked Creek
Spirey Creek
West Spirey Creek
Bluff Creek
Dagda Creek
Ailinn Creek
Belougery Creek
Dead Dog Creek
Gurianawa Track
John Renshaw Parkway
Pincham Flats Trail
Scabilon Trail
Mopra Creek Trail
Burbie Trail
Danu Trail
Pincham Trail
Alex Gould Circuit
Strathmore Fire Trail
Dagda Short Cut
Dagda Long Track
Dagda High Tops Track
SCALE 1:40 000
0km 0.5 1 2 3km
CONTOUR INTERVAL 20 METRES
Secondary road: (2 lanes) paved, unpaved
Minor road: paved, unpaved
Unpaved vehicular track: Locked gate
4x4 track; Management track within National Park
Walking track; NPWS recommended walking trac
Causeway; Culvert; Bridge
Water tank; Small dam; Spring
Geodetic station (with height)
Contours
Cliff: with relative height; Rocky pinnacle; Spot hei
Building (with Homestead name); Landmark featur
National park
Perennial lake
Wet swamp
Intermittent stream; waterfall
Perennial stream
Large dam or weir

# Pre-Excursion Worksheets

**Using the topographic map of the Warrumbungle National Park on page 1 complete the following:**

1. Use your compass to place North on the map.

2. Use the topographic map to give the grid coordinates for the following (the first is done for you):
   a. Environmental Education Centre (EEC): 901383
   b. White Gum Lookout: _____
   c. Lughs Throne: _____
   d. Ogma Camp: _____
   e. Fans Horizon: _____

3. Identify the name and height of the highest natural geographical feature.
   _____ at _____metres above sea level.

4. What is the altitude difference between White Gum Lookout and the Environmental Education Centre? _____

5. Describe the direction Mount Burbie is from the Environmental Education Centre.
   _____

6. Describe the direction the Environmental Education Centre is from White Gum Lookout.
   _____

7. Estimate the distance the Environmental Education Centre is from White Gum Lookout.
   _____

8. Identify West Spirey Creek and estimate the length of the creek from where it intercepts Spirey Creek to the headwaters at Ogma Camp. _____

9. What distance and direction is Lughs Throne from the Environmental Education Centre?
   _____ and _____

10. Measure the **return** distance from Pincham Carpark to Lughs Throne on the walking trail?
    _____

**Using secondary sources research the following questions:**

11. Plot the location of the Warrumbungle National Park and label three (3) towns near by the National Park.




12. The Warrumbungle National Park is geographically unique. Identify four (4) geographical features of the park and explain how they contribute to making it such a special place.

I. _____
_____
_____

II. _____
_____
_____

III. _____
_____
_____

IV. _____
_____
_____

12. What was the date of the catastrophic Warrumbungle Bushfire? _____

13. Identify the conditions which allowed this fire to be so devastating?

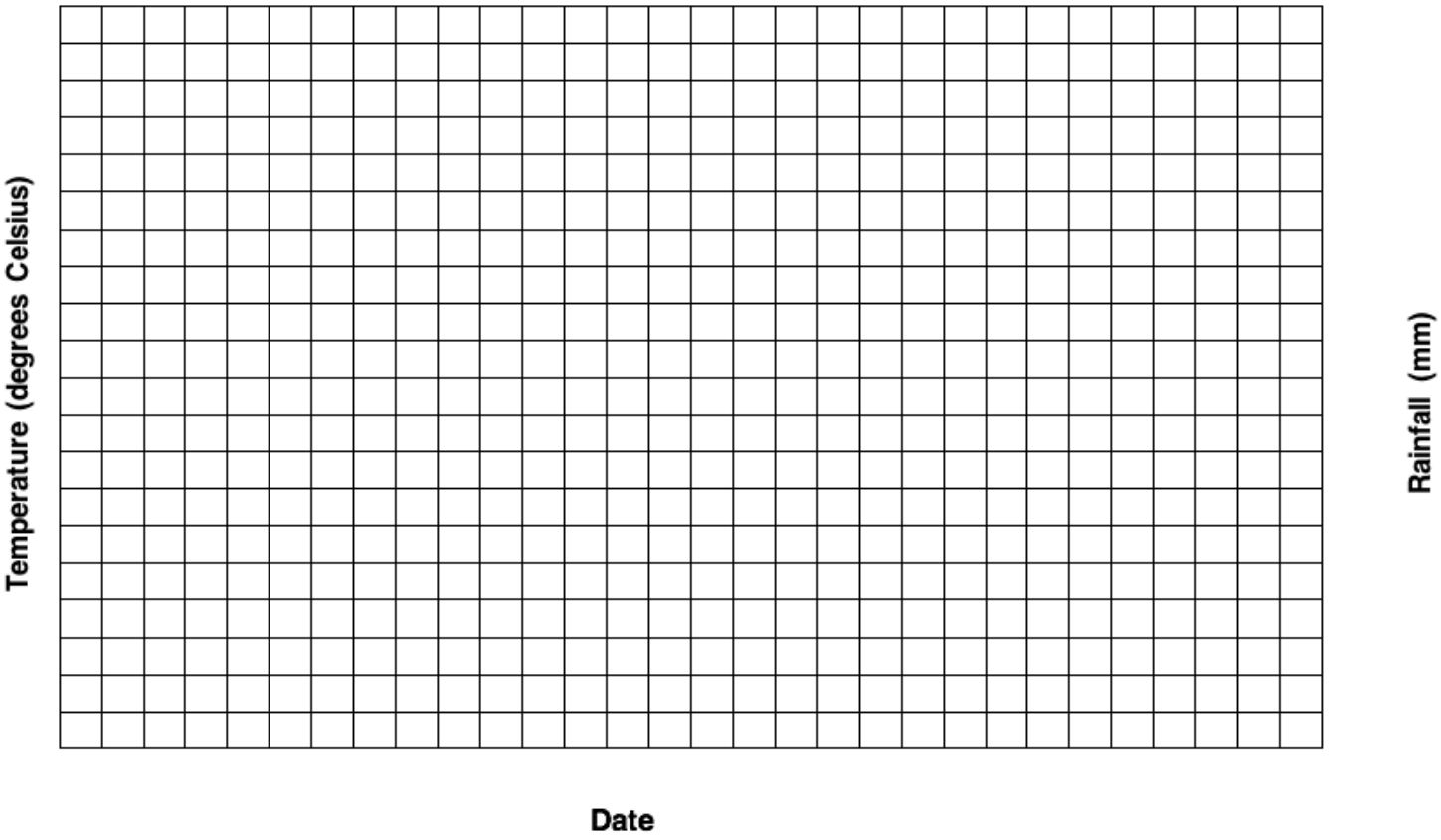
- _____
- _____
- _____
- _____

**14. Coonabarabran climate statistics (annual and January 2013**

Using Table 1 and Table 2 complete the questions below:

a. Calculate how much rain fell between 1st – 18th January 2013. _____

Title: _____




b. On the graph below plot January 2013's maximum and minimum temperatures and rainfall.

c. Calculate the average maximum temperatures for 1st – 18th January 2013.

_____

d. Describe how the average maximum temperatures shown in Q.15.c compares to the mean maximum January temperature shown in Table 2.

_____

_____

_____

e. Explain what time of the year would be best suited in planning a camping/ hiking trip to the Warrumbungle National Park?

_____

_____

_____

# Daily Meteorological Observations for Coonabarabran Airport AWS for January 2013

Site Number 064017 • Locality: Coonabarabran • Opened Jul 2001 • Still Open • Latitude 31°19'59"S • Longitude 149°16'12"E • Elevation 645m

| Day | Maximum Temperature | Minimum Temperature | Minimum Terrestrial Temperature | 9am | | | | | 3pm | | | | | Maximum Wind Gust | Rainfall in 24 hours to 9am | Evaporation in 24 hrs to 9am | Bright Sunshine | Day |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Temperature | Relative Humidity | Total Cloud | Wind | MSL pressure | Temperature | Relative Humidity | Total Cloud | Wind | MSL pressure | | | | | |
| | °C | °C | °C | °C | % | oktas | km/h | hPa | °C | % | oktas | km/h | hPa | km/h | mm | mm | hours | |
| Tue 1 | 34.8 | 20.2 | | 23.6 | 56 | | NNW 28 | 1014.7 | 32.0 | 28 | | N 20 | 1011.0 | N 46 | 0.0 | | | 1 |
| Wed 2 | 36.1 | 21.6 | | 28.8 | 29 | | W 7 | 1011.1 | 34.8 | 10 | | WSW 11 | 1008.8 | WSW 61 | 0.0 | | | 2 |
| Thu 3 | 33.5 | 14.1 | | 22.5 | 62 | | ENE 17 | 1013.8 | 31.8 | 29 | | E 15 | 1010.7 | NE 30 | 0.0 | | | 3 |
| Fri 4 | 34.5 | 16.8 | | 23.9 | 58 | | NNE 13 | 1013.8 | 33.4 | 31 | | WNW 7 | 1010.8 | NNW 31 | 0.0 | | | 4 |
| Sat 5 | 36.9 | 21.7 | | 25.2 | 52 | | NNW 26 | 1015.0 | 34.5 | 29 | | ESE 22 | 1013.5 | N 46 | 0.0 | | | 5 |
| Sun 6 | 37.3 | 21.2 | | 25.5 | 52 | | N 15 | 1017.2 | 36.2 | 14 | | SE 11 | 1014.9 | ESE 37 | 0.0 | | | 6 |
| Mon 7 | 34.3 | 17.1 | | 22.7 | 59 | | NE 15 | 1019.9 | 32.8 | 18 | | NE 19 | 1015.7 | NE 30 | 0.0 | | | 7 |
| Tue 8 | 34.4 | 20.1 | | 23.7 | 53 | | N 28 | 1011.4 | 33.5 | 21 | | NW 28 | 1005.6 | NNW 48 | 0.0 | | | 8 |
| Wed 9 | 32.7 | 23.0 | | 27.8 | 34 | | NW 17 | 998.2 | 32.2 | 16 | | SW 22 | 998.0 | NNW 54 | 0.0 | | | 9 |
| Thu 10 | 35.2 | 13.5 | | 21.2 | 65 | | SE 11 | 1004.6 | 33.5 | 16 | | NNE 13 | 1003.0 | NW 43 | 0.0 | | | 10 |
| Fri 11 | 37.8 | 17.0 | | 24.5 | 60 | | N 20 | 1008.7 | 35.7 | 24 | | NNW 17 | 1006.2 | NW 48 | 0.0 | | | 11 |
| Sat 12 | 41.4 | 24.5 | | 29.3 | 49 | | N 35 | 1009.3 | 39.9 | 20 | | NNW 20 | 1007.8 | N 50 | 0.0 | | | 12 |
| Sun 13 | 39.9 | 22.7 | | 29.9 | 38 | | N 19 | 1008.1 | 36.8 | 29 | | N 31 | 1002.5 | N 65 | 0.8 | | | 13 |
| Mon 14 | 30.1 | 18.2 | | 21.3 | 63 | | SSE 22 | 1010.3 | 28.0 | 32 | | SSE 28 | 1009.0 | SSE 48 | 0.0 | | | 14 |
| Tue 15 | 29.1 | 13.6 | | 18.3 | 58 | | ENE 17 | 1015.2 | 27.6 | 38 | | ENE 11 | 1011.8 | E 41 | 0.0 | | | 15 |
| Wed 16 | 31.7 | 18.3 | | 22.6 | 62 | | NNW 22 | 1014.0 | 30.5 | 39 | | W 11 | 1011.3 | N 43 | 0.0 | | | 16 |
| Thu 17 | 36.0 | 22.0 | | 27.2 | 42 | | N 22 | 1010.7 | 34.6 | 26 | | NW 28 | 1007.8 | WNW 41 | 0.0 | | | 17 |
| Fri 18 | 37.3 | 25.1 | | 29.5 | 37 | | NNW 30 | 1007.3 | 36.8 | 25 | | W 11 | 1004.2 | NNW 48 | 0.0 | | | 18 |
| Sat 19 | 31.7 | 23.0 | | 26.5 | 60 | | Calm | 1008.7 | 23.6 | 83 | | SW 15 | 1008.2 | S 52 | 2.2 | | | 19 |
| Sun 20 | 28.4 | 16.1 | | 19.5 | 83 | | ENE 20 | 1012.7 | 26.5 | 57 | | ENE 15 | 1010.9 | E 35 | 3.6 | | | 20 |
| Mon 21 | 33.6 | 16.2 | | 22.0 | 70 | | NE 15 | 1012.9 | 30.1 | 38 | | SSW 9 | 1008.8 | E 35 | 0.0 | | | 21 |
| Tue 22 | 31.4 | 21.3 | | 24.1 | 68 | | NNW 17 | 1010.4 | 29.3 | 46 | | ENE 7 | 1008.4 | SSE 48 | 0.0 | | | 22 |
| Wed 23 | 32.3 | 17.0 | | 21.2 | 74 | | S 15 | 1011.8 | 30.7 | 36 | | S 15 | 1009.7 | NNW 41 | 17.0 | | | 23 |
| Thu 24 | 31.1 | 17.4 | | 21.1 | 72 | | E 19 | 1012.9 | 28.9 | 38 | | ENE 24 | 1010.8 | E 37 | 0.0 | | | 24 |
| Fri 25 | 33.9 | 17.4 | | 22.6 | 68 | | E 13 | 1010.8 | 32.5 | 35 | | ESE 13 | 1007.0 | ENE 43 | 0.0 | | | 25 |
| Sat 26 | 33.7 | 19.9 | | 24.1 | 61 | | E 17 | 1009.6 | 31.8 | 34 | | E 19 | 1006.1 | NE 46 | 0.0 | | | 26 |
| Sun 27 | 22.8 | 17.2 | | 18.8 | 100 | | NNE 6 | 1007.2 | 20.6 | 96 | | ENE 19 | 1005.6 | S 31 | 7.6 | | | 27 |
| Mon 28 | 20.6 | 18.5 | | 18.9 | 98 | | SE 19 | 1003.4 | 18.6 | 100 | | SSE 26 | 1000.9 | SSE 56 | 5.0 | | | 28 |
| Tue 29 | 30.5 | 17.6 | | 20.6 | 89 | | SW 19 | 1003.2 | 29.4 | 40 | | SW 22 | 1004.6 | W 46 | 63.2 | | | 29 |
| Wed 30 | 32.8 | 17.8 | | 22.0 | 47 | | SSE 7 | 1011.3 | 31.5 | 18 | | S 9 | 1009.9 | WSW 28 | 0.0 | | | 30 |
| Thu 31 | 31.9 | 17.8 | | 21.7 | 83 | | NNW 30 | 1012.1 | 31.1 | 35 | | N 20 | 1008.5 | WNW 61 | 0.0 | | | 31 |
| **Mean Daily** | **33.2** | **19.0** | | **23.6** | **61.4** | | **18.0** | **1010.7** | **31.3** | **35.5** | | **17.4** | **1008.1** | | | | | |
| **Lowest Daily** | **20.6** | **13.5** | | **18.3** | **29** | | **0** | **998.2** | **18.6** | **10** | | **8** | **998.0** | | | | | |
| **Highest Daily** | **41.4** | **25.1** | | **29.9** | **100** | | **35** | **1019.9** | **39.9** | **100** | | **31** | **1015.7** | **65** | **63.2** | | | |
| **Total** | | | | | | | | | | | | | | | **99.4** | | | |

Table 1.

Australian Government
Bureau of Meteorology

*Prepared by Climate Data Services Section in the Office of the Bureau of Meteorology. Contact us by phone on 03 9669 4082 by email on climatedata@bom.gov.au*
*Copyright © Commonwealth of Australia 2016 Prepared on 29 February 2016*
*We have taken all due care but cannot provide any warranty nor accept any liability for this information.*

# Table 2. Coonabarabran Climate Statistics (Source: BOM, 2016)

- Climate
- Seasonal outlooks
- Reports & summaries
- Weather & climate data
- Data services
- Maps – recent conditions
- Maps – average conditions
- Climate change
- Extremes of climate
- About Australian climate

## Summary statistics COONABARABRAN (NAMOI STREET)

A summary of the major climate statistics recorded at this site is provided below. There is also an extended table with more statistics available. More detailed data for individual sites is available.

### Site information

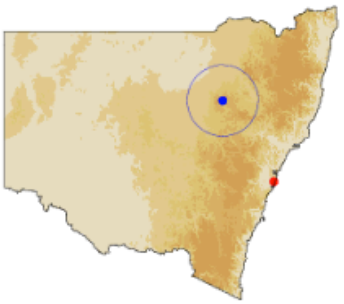
**Site name:** COONABARABRAN (NAMOI STREET)
**Site number:** 064008
**Latitude:** 31.27 °S **Longitude:** 149.27 °E
**Elevation:** 505 m
**Commenced:** 1879 **Status:** Open
**Latest available data:** 31 Jul 2015

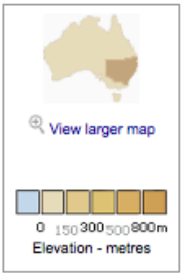
### Additional information

Additional site information

### Nearest alternative sites

1. 064017 COONABARABRAN AIRPORT AWS (6.8km)
2. 053002 BARADINE FORESTRY (40.8km)
3. 052024 PILLIGA WEST FORESTRY (72.9km)






View: Main statistics / All available | Period: Use all years of data | Text size: Normal / Large

| Statistics | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Years | | Plot | Map |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Temperature** | | | | | | | | | | | | | | | | | |
| Mean maximum temperature (°C) | 31.7 | 30.7 | 28.2 | 23.9 | 19.3 | 15.6 | 14.8 | 16.8 | 20.4 | 24.3 | 27.9 | 30.5 | 23.7 | 136 | 1879 2015 | | |
| Mean minimum temperature (°C) | 15.0 | 14.6 | 11.8 | 7.1 | 3.3 | 1.3 | 0.1 | 0.9 | 3.5 | 7.1 | 10.6 | 13.2 | 7.4 | 136 | 1879 2015 | | |
| **Rainfall** | | | | | | | | | | | | | | | | | |
| Mean rainfall (mm) | 90.2 | 81.5 | 62.7 | 52.3 | 53.7 | 57.5 | 55.2 | 52.5 | 49.6 | 58.7 | 64.8 | 70.8 | 750.7 | 133 | 1879 2015 | | |
| Decile 5 (median) rainfall (mm) | 70.0 | 52.3 | 48.9 | 32.5 | 43.0 | 50.8 | 44.2 | 42.2 | 39.7 | 49.6 | 52.3 | 54.8 | 746.4 | 136 | 1879 2015 | | |
| Mean number of days of rain ≥ 1 mm | 6.0 | 5.4 | 4.8 | 4.2 | 4.9 | 6.0 | 5.8 | 5.5 | 5.2 | 5.8 | 6.0 | 6.1 | 65.7 | 136 | 1879 2015 | | |
| **Other daily elements** | | | | | | | | | | | | | | | | | |
| Mean daily sunshine (hours) | | | | | | | | | | | | | | | | | |
| Mean number of clear days | 11.9 | 9.5 | 13.4 | 13.0 | 13.0 | 11.3 | 12.4 | 13.5 | 13.6 | 11.8 | 10.9 | 11.9 | 146.2 | 52 | 1957 2010 | | |
| Mean number of cloudy days | 8.3 | 7.7 | 6.8 | 6.8 | 8.9 | 9.1 | 9.0 | 7.5 | 6.6 | 8.2 | 7.8 | 8.1 | 94.8 | 52 | 1957 2010 | | |
| **9 am conditions** | | | | | | | | | | | | | | | | | |
| Mean 9am temperature (°C) | 23.4 | 22.2 | 20.0 | 16.2 | 11.1 | 7.4 | 6.5 | 9.0 | 13.6 | 17.7 | 20.5 | 22.8 | 15.9 | 102 | 1907 2010 | | |
| Mean 9am relative humidity (%) | 57 | 63 | 65 | 69 | 78 | 81 | 79 | 72 | 61 | 56 | 54 | 53 | 65 | 102 | 1907 2010 | | |
| Mean 9am wind speed (km/h) | 11.1 | 9.7 | 9.2 | 8.6 | 6.2 | 5.8 | 5.9 | 8.1 | 11.5 | 12.5 | 11.6 | 11.8 | 9.3 | 52 | 1957 2010 | | |
| 9am wind speed vs direction plot | | | | | | | | | | | | | | | | | |
| **3 pm conditions** | | | | | | | | | | | | | | | | | |
| Mean 3pm temperature (°C) | 29.8 | 28.9 | 26.8 | 22.5 | 17.9 | 14.5 | 13.7 | 15.5 | 19.1 | 22.6 | 26.0 | 28.6 | 22.2 | 100 | 1909 2010 | | |
| Mean 3pm relative humidity (%) | 37 | 40 | 41 | 44 | 50 | 56 | 54 | 47 | 41 | 38 | 36 | 34 | 43 | 100 | 1909 2010 | | |
| Mean 3pm wind speed (km/h) | 11.5 | 11.0 | 10.8 | 10.5 | 10.6 | 11.1 | 11.3 | 12.8 | 13.0 | 12.7 | 12.7 | 12.7 | 11.7 | 51 | 1957 2010 | | |
| 3pm wind speed vs direction plot | | | | | | | | | | | | | | | | | |

red = highest value blue = lowest value

Product IDCJCM0028 Prepared at Thu 21 Apr 2016 01:07:57 AM EST

# Excursion Worksheets

**After the WNPEEC Geography Excursion you will be able to address these inquiry questions:**

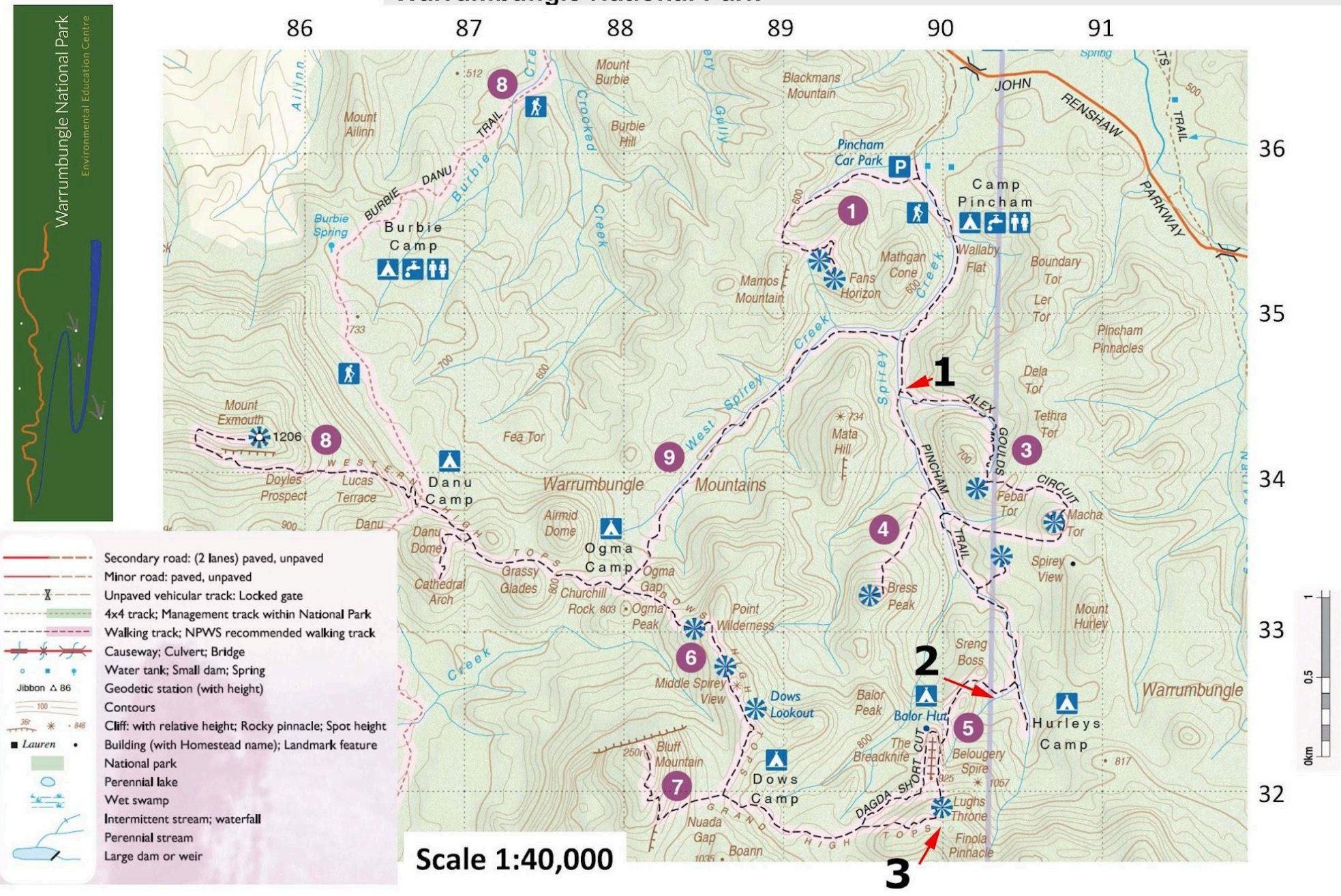
- Why is there a diversity of landscapes and landforms in the Warrumbungle National Park (W.N.P.)?
- What environmental and human processes have formed and transformed landscapes and landforms in the W.N.P.?
- Why do people value landscapes and landforms in the W.N.P.?
- To what extent are landscapes and landforms sustainably managed and protected within the W.N.P.?

**To assist in answering the inquiry questions these will be completed during the day:**

- Walking Grand High Tops observing the natural and human managed environment.
- Altitude transect using a range of geographic/ scientific tools to complete recordings.
- Field sketch identifying natural and human formed landscapes from the top of Grand High Tops
- Reading of a topographic map and identifying coordinates

# WNPEEC Fieldwork-

## Topographic Map of Pincham Trail and the Grand High Tops, Warrumbungle National Park



# Fieldwork Recordings - Site 1 – Northern Intersection of Gould Circuit and Pincham Trail (~540m altitude)

## General Characteristics

| Factors | Notes | Results |
|---|---|---|
| **Grid Reference** | 6 digit reference + map on page 8 | |
| **Slope** | Flat <10, Gentle 10-20, Medium 20-30, Steep >30 | |
| **Aspect** | The direction the land is sloping | |
| **Landform** | eg. creek, hill, valley | |

## Vegetation Description

| Factors | Notes | Results |
|---|---|---|
| **Dominant Trees** | Discuss with WNPEEC teacher & peers | |
| **Dominant Shrubs** | Discuss with WNPEEC teacher & peers | |
| **Ground cover** | Estimate %cover of plants & leaf litter | |
| **Forest Type** | eg. Dry Sclerophyll | |

## Physical and Chemical Tests

| Factors | Notes | Results |
|---|---|---|
| **Air Temp.** ℃ | Use field multimeter | |
| **Wind Speed (  )** | Anemometer (check units) | |
| **Humidity %** | Use field multimeter | |
| **Rock Type** | Volcanic, Sedimentary, Metamorphic | |
| **Soil Moisture** | Dry, moist or wet | |
| **Soil Texture** | Sandy, clay, silty - Discuss with WNPEEC | |

| | | |
|---|---|---|
| | teacher + peers | |
| **Soil Colour** | Smear some soil onto paper as a record of soil colour | |
| **Soil Depth** | Use tent peg & compass ruler to determine depth | |

**Other site observations:**

# Fieldwork Recordings - Site 2
## Wilsons Rest (~670m altitude)

### General Characteristics

| Factors | Notes | Results |
|---|---|---|
| **Grid Reference** | 6 digit reference + map on page 8 | |
| **Slope** | Flat <10, Gentle 10-20, Medium 20-30, Steep >30 | |
| **Aspect** | The direction the land is sloping | |
| **Landform** | eg. creek, hill, valley | |

### Vegetation Description

| Factors | Notes | Results |
|---|---|---|
| **Dominant Trees** | Discuss with WNPEEC teacher & peers | |
| **Dominant Shrubs** | Discuss with WNPEEC teacher & peers | |
| **Ground cover** | Estimate %cover of plants & leaf litter | |
| **Forest Type** | eg. Dry Sclerophyll | |

### Physical and Chemical Tests

| Factors | Notes | Results |
|---|---|---|
| **Air Temp.** ℃ | Use field multimeter | |
| **Wind Speed (  )** | Anemometer (check units) | |
| **Humidity %** | Use field multimeter | |
| **Rock Type** | Volcanic, Sedimentary, Metamorphic | |
| **Soil Moisture** | Dry, moist or wet | |

| | | |
|---|---|---|
| **Soil Texture** | Sandy, clay, silty - Discuss with WNPEEC teacher + peers | |
| **Soil Colour** | Smear some soil onto paper as a record of soil colour | |
| **Soil Depth** | Use tent peg & compass ruler to determine depth | |

**Other site observations:**

# Fieldwork Recordings - Site 3
## Lughs Throne (~950m altitude)

### General Characteristics

| Factors | Notes | Results |
|---|---|---|
| **Grid Reference** | 6 digit reference + map on page 8 | |
| **Slope** | Flat <10, Gentle 10-20, Medium 20-30, Steep >30 | |
| **Aspect** | The direction the land is sloping | |
| **Landform** | eg. creek, hill, valley | |

### Vegetation Description

| Factors | Notes | Results |
|---|---|---|
| **Dominant Trees** | Discuss with WNPEEC teacher & peers | |
| **Dominant Shrubs** | Discuss with WNPEEC teacher & peers | |
| **Ground cover** | Estimate %cover of plants & leaf litter | |
| **Forest Type** | eg. Dry Sclerophyll | |

### Physical and Chemical Tests

| Factors | Notes | Results |
|---|---|---|
| **Air Temp.** ℃ | Use field multimeter | |
| **Wind Speed (  )** | Anemometer (check units) | |
| **Humidity %** | Use field multimeter | |
| **Rock Type** | Volcanic, Sedimentary, Metamorphic | |
| **Soil Moisture** | Dry, moist or wet | |

| | | |
|---|---|---|
| **Soil Texture** | Sandy, clay, silty - Discuss with WNPEEC teacher + peers | |
| **Soil Colour** | Smear some soil onto paper as a record of soil colour | |
| **Soil Depth** | Use tent peg & compass ruler to determine depth | |

**Other site observations:**

# Fieldwork Recordings – Line Drawing

Looking North-East from the Grand High Tops, sketch the horizon first, then the main landscape features and then finally the human elements

| Symbol | Description |
|---|---|
| | |
| | |
| | |

| Symbol | Description |
|---|---|
| | |
| | |
| | |

| Symbol | Description |
|---|---|
| | |
| | |
| | |

# Post-WNPEEC Excursion Worksheets

**Why is there a diversity of landscapes and landforms in the Warrumbungle National Park (W.N.P.)?**

**What environmental and human processes have formed and transformed landscapes and landforms in the W.N.P.?**

**Why do people value landscapes and landforms in the W.N.P.?**

**To what extent are landscapes and landforms sustainably managed and protected within the W.N.P.?**