Warrumbungle National Park

Environmental Education Centre

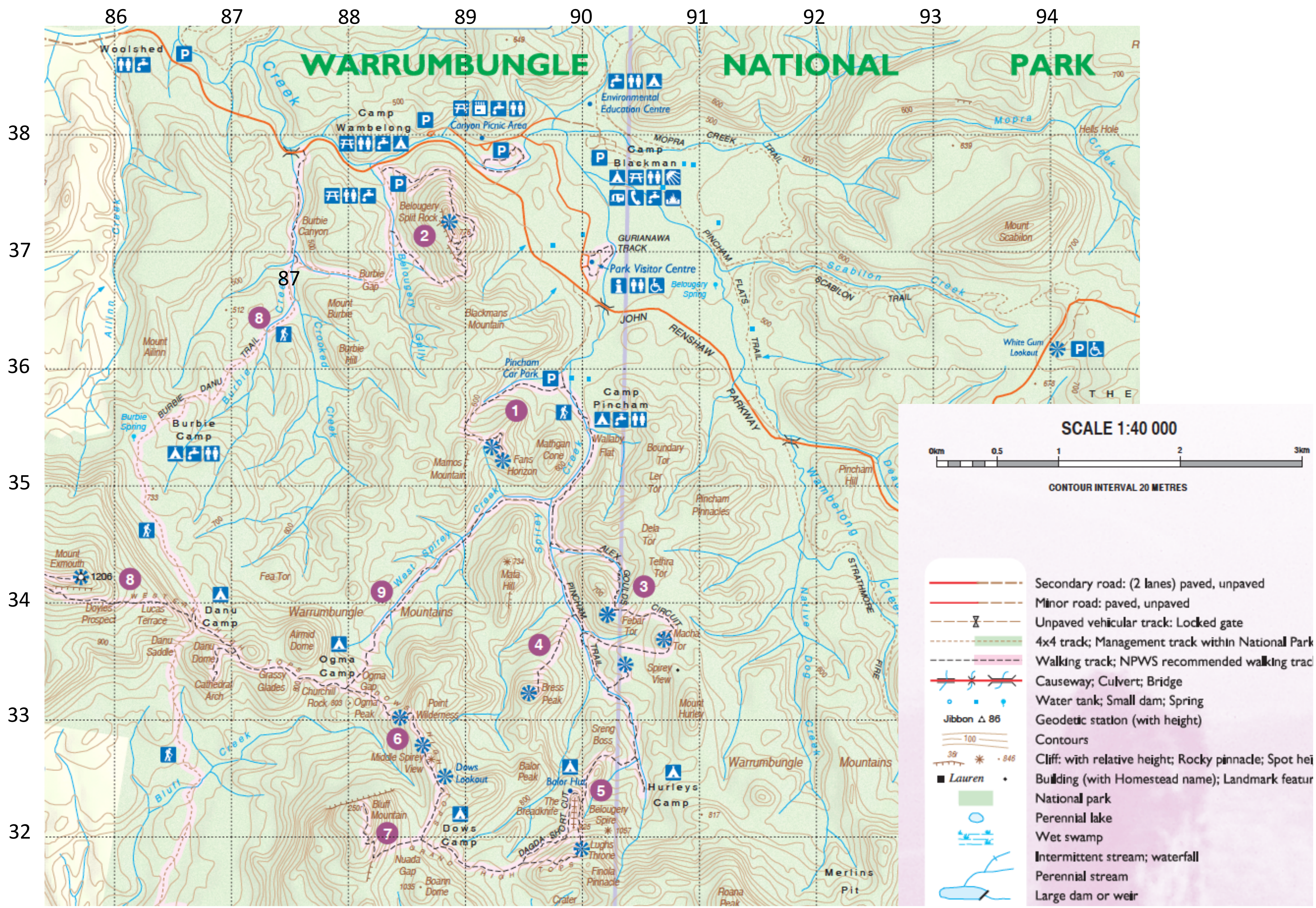
Landforms and Landscapes

Warrumbungle National Park

Stage 4 Geography - Pre-Excursion Worksheets and Fieldwork Worksheets

Name: _____

Class: _____


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
Belougery Split Rock
Burbie Canyon
Burbie Gap
Mount Burbie
Burbie Hill
Blackmans Mountain
Gurianawa Track
Park Visitor Centre
Belougery Spring
John Renshaw Parkway
Pincham Car Park
Camp Pincham
Mount Ailinn
Burbie Spring
Burbie Camp
Fans Horizon
Mathgan Cone
Mamos Mountain
Wallaby Flat
Boundary Tor
Ler Tor
Pincham Pinnacles
Dela Tor
Tethra Tor
Pincham Hill
White Gum Lookout
Mount Scabilon
Hells Hole
Mount Exmouth
1206
Fea Tor
Mata Hill
Warrumbungle Mountains
Danu Camp
Doyles Prospect
Lucas Terrace
Danu Saddle
Danu Dome
Airmid Dome
Ogma Camp
Grassy Glades
Cathedral Arch
Churchill Rock
Ogma Gap
Ogma Peak
Point Wilderness
Febar Tor
Macha Tor
Spirey View
Bress Peak
Mount Hurley
Sreng Boss
Middle Spirey View
Dows Lookout
Balor Peak
Balor Hut
The Breadknife
Belougery Spire
Hurleys Camp
Bluff Mountain
Dows Camp
Nuada Gap
Boorn Dome
Lughs Throne
Finola Pinnacle
Crater
Roana Peak
Merlins Pit
1
2
3
4
5
6
7
8
9
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 track
Causeway; Culvert; Bridge
Water tank; Small dam; Spring
Jibbon △ 86
Geodetic station (with height)
Contours
Cliff: with relative height; Rocky pinnacle; Spot height
Lauren
Building (with Homestead name); Landmark feature
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 2 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.
   _____

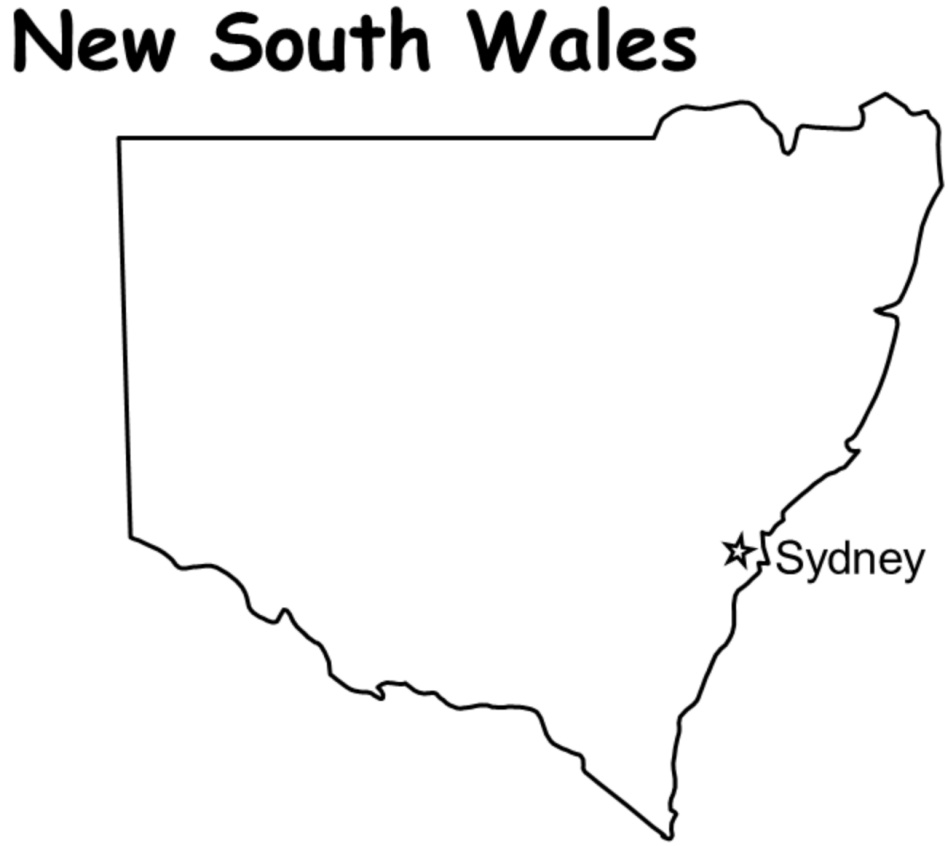
8. Identify West Spirey's Creek and estimate the length of the creek from where it intercepts Spirey Creek to the headwaters at Ogma Camp.
   _____

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

10. How far is it **return** 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 nearby 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. _____
_____
_____

13. What was the date of the catastrophic Warrumbungle Bush Fire? _____

14. Identify the conditions which allowed this fire to be so devastating?
    - _____
    - _____
    - _____
    - _____

15. Coonabarabran climate statistics (annual and January 2013)

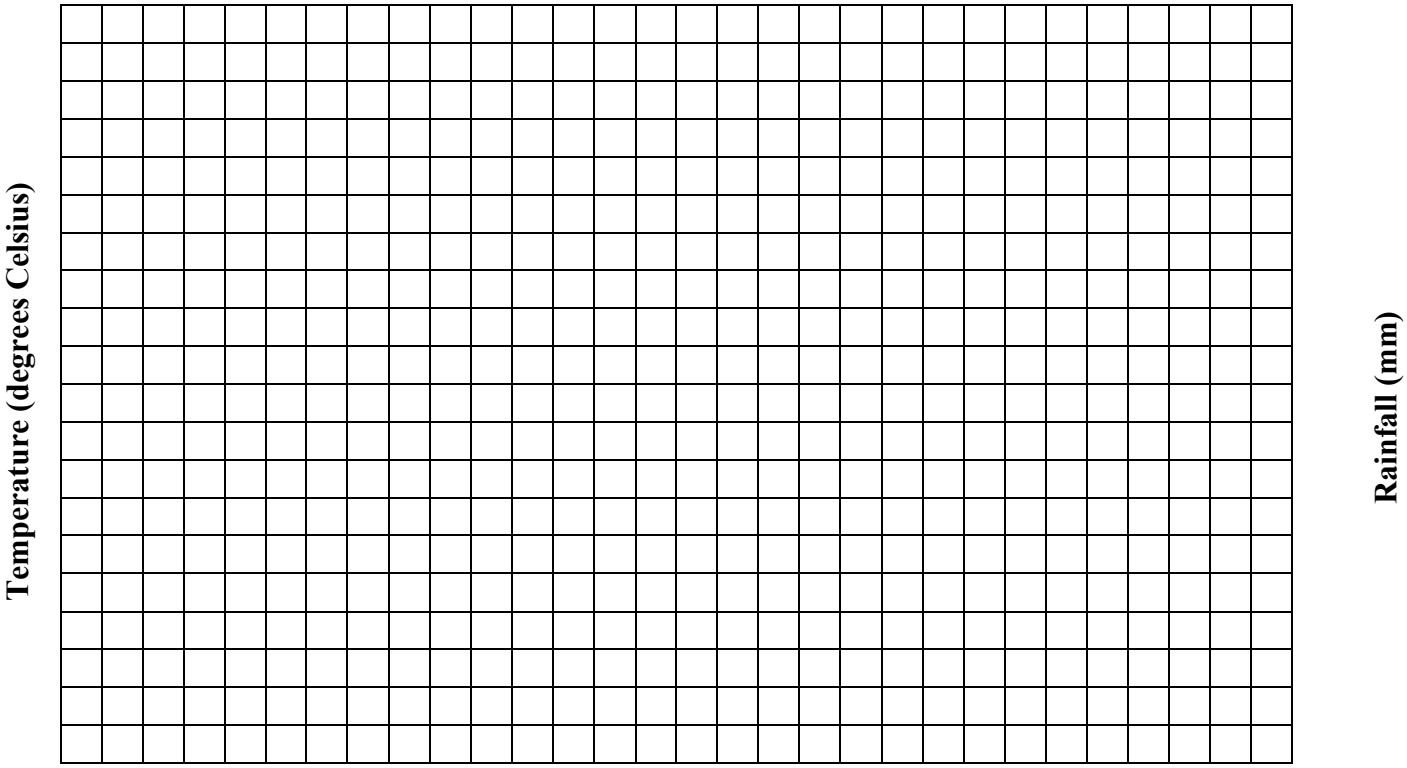
Using Table 1 and Table 2 complete the questions below:

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

_____

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

Title: _____



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?

_____

_____

_____

_____

_____

Table 1.

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 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

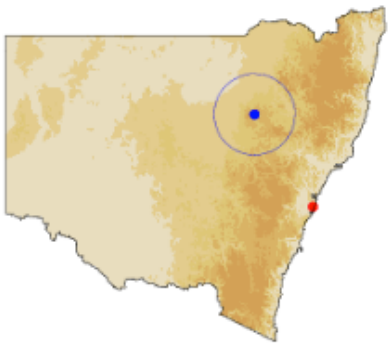
Site name: COONABARABRAN (NAMOI STREET)
Site number: 064008
Latitude: 31.27 °S **Longitude:** 149.27 °E
Elevation: 505 m
Commenced: 1879 **Status:** Open
Latest available data: 31 Jul 2015

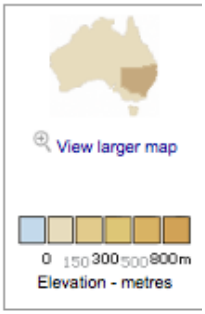
Additional information

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

During the WNPEEC visit you will undertake these activities:

Day 1

- Altitude transect using a range of geographical tools.
- Field sketch identifying natural and human formed landscapes from the Grand High Tops.
- Reading the topographic map and identifying coordinates
- Group filming using WNPEEC's IPads for a documentary which may be used as an assessment.
    - Inquiry questions that you must incorporate and focus on in your group filming include:

        - 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.?
        - Also explain some geographical tools that you've used and what information they tell you about the environment you are investigating.

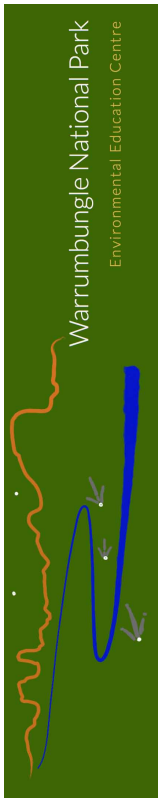
- Documentary Editing session using IMovie

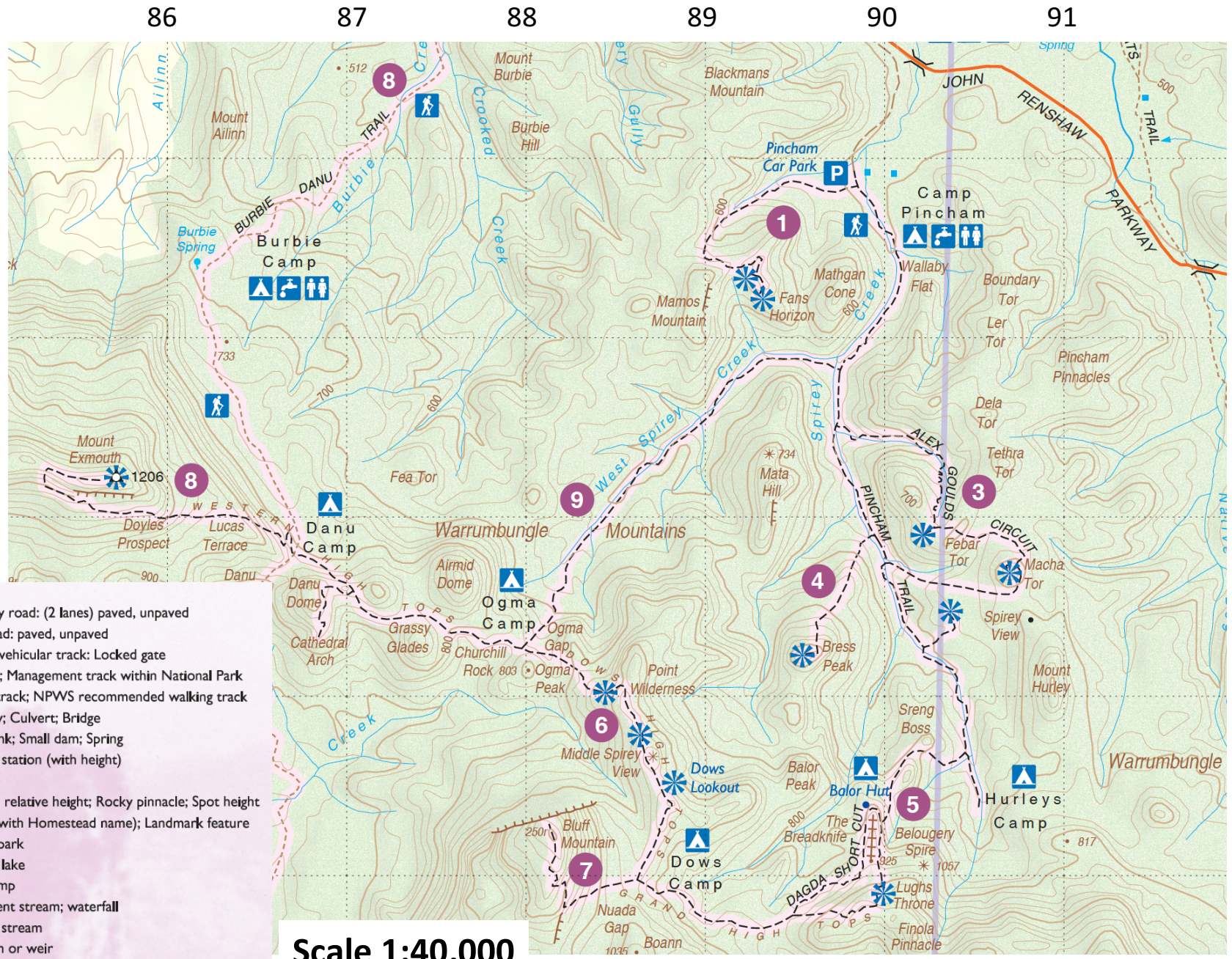
Day 2

- Complete final editing
- Students documentary screening session

WNPEEC Fieldwork-

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





Warrumbungle National Park – Grand High Tops Walk Altitude Transect **Date_____**

Physical/ Abiotic Factors

Elevation (m above Sea level)	Map Coordinates	Time	Humidity %	Temperature (^{0}C)	Wind speed (m/s)	Aspect	Gradient
450							
550							
650							
750							
850							
950							
1050							

Rock Type and Dominant Vegetation

Elevation (m above Sea level)	Dominant Vegetation	Dominant Rock Type (Sedimentary – Sandstone, conglomerate) (Igneous – Basalt)
450		
550		
650		
750		
850		
950		
1050		

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

Fieldwork Recordings - Notes