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.



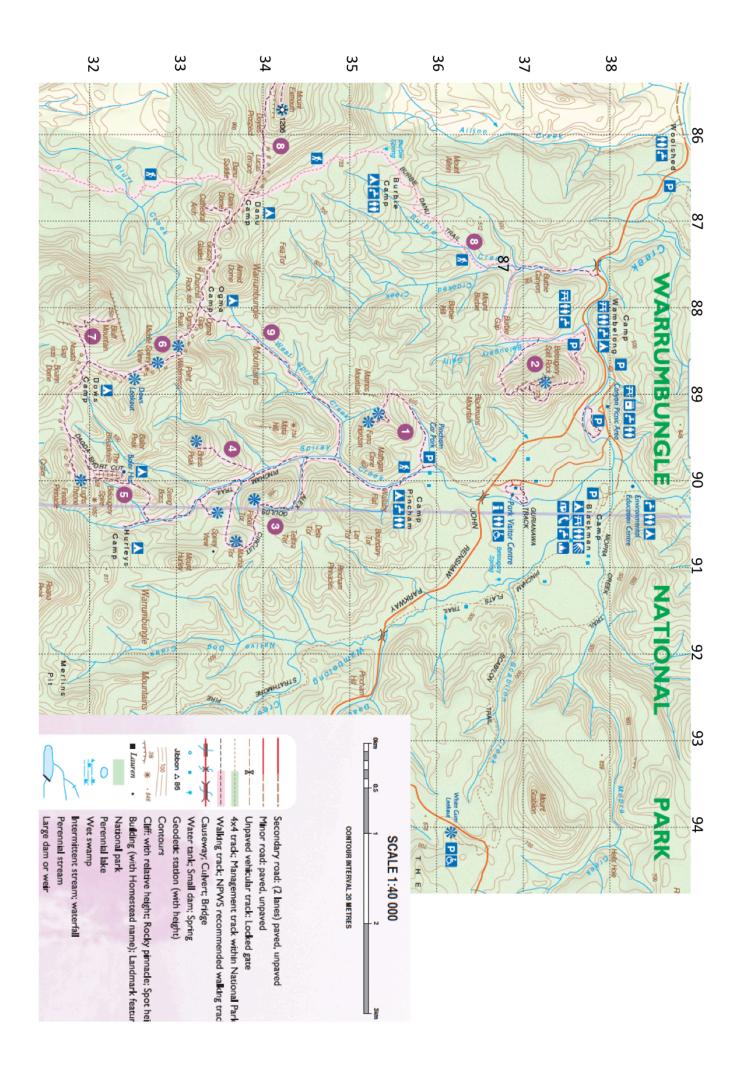




Stage 4 Geography - Pre-excursion, Fieldwork and Post-excursion worksheets

Name:	
Class:	





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. <u>Plot</u> the location of the Warrumbungle National Park and label <u>three</u> (3) towns near by the National Park.

New South Wales



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

I.		
II.		
III.		
11.7		
IV.		

- 12. What was the date of the catastrophic Warrumbungle Bushfire? _____
- 13. Identify the conditions which allowed this fire to be so devastating?
 - _____
 - •
 - _____

Rainfall (mm

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.

Date

- 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?

Table 1.

Bureau of Meteorology Australian Government

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@born.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.

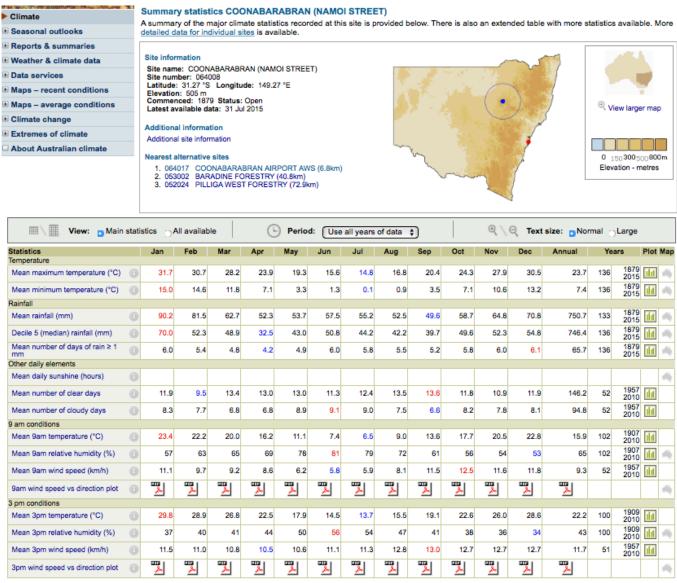
Daily Meteorological Observations for Coonabarabran Airport AWS for January 2013

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

Evaporation Sunshine	_	36		99.4					Г										Total
Machinum Melimum Mel				63.2	65		31		100	39.9		35		100	29.9		25.1	41.4	Highest Daily
Machinum Melminum						998.0	8		10	18.6		0		29	18.3		13.5	20.6	Lowest Daily
Macinium Marinium						1008.1	17.4		35.5	31.3		18.0		61.4	23.6		19.0	33.2	Mean Daily
Macinium Minimum Minimum Mamma	4			0.0	WNW 61	1008.5			35	31.1		NNW 30		83	21.7		17.8	31.9	Thu 31
Maximum Maxi	30			0.0	WSW 28	1009.9	S 9		18	31.5	1011.3	SSE 7		47	22.0		17.8	32.8	Wed 30
Machinum Maminum Mam	29	71.		63.2	W 46	1004.6			40	29.4		SW 19	,	89	20.6		17.6	30.5	
Maximum Marimum Mari	28	31.		5.0	SSE 56	1000.9			100	18.6			-	98	18.9		18.5	20.6	
Macimum Marimum Mari	27			7.6	S 31	1005.6			96	20.6			-	100	18.8		17.2	22.8	
Maximum Minimum Mini	26			0.0	NE 46	1006.1			34	31.8				61	24.1		19.9	33.7	Sat 26
Maximum Minimum Mini	25			0.0	ENE 43	1007.0			35	32.5				68	22.6		17.4	33.9	Fri 25
Maximum Minimum Mini	24			0.0	E 37	1010.8			38	28.9				72	21.1		17.4	31.1	Thu 24
Maximum Minimum Mini	23			17.0	NNW 41	1009.7			36	30.7				74	21.2		17.0	32.3	Wed 23
Maximum Minimum Mini	22			0.0	SSE 48	1008.4	ENE 7		46	29.3		NNW 17		68	24.1		21.3	31.4	Tue 22
Importatury	21			0.0	E 35	1008.8			38	30.1		NE 15		70	22.0		16.2	33.6	Mon 21
Maximura Maimura Maima Mai	20			3.6	E 35	1010.9	ENE 15		57	26.5		ENE 20		83	19.5		16.1	28.4	Sun 20
Maximum Maximum Minimum Mini	19			2.2	S 52	1008.2	SW 15		83	23.6	1008.7	Calm		60	26.5		23.0	31.7	Sat 19
Maximum Maximum Minimum Mini	18			0.0	NNW 48	1004.2	W 11		25	36.8		NNW 30		37	29.5		25.1	37.3	Fri 18
Maximum Marimum Mari	17			0.0	WNW 41	1007.8	NW 28	N T	26	34.6		N 22		42	27.2		22.0	36.0	Thu 17
Maximum Maximum Minimum Mini	16			0.0	N 43	1011.3	W 11		39	30.5		NNW 22		62	22.6		18.3	31.7	Wed 16
Maximum Marimum Mari	15			0.0	E 41	1011.8			38	27.6		ENE 17		58	18.3		13.6	29.1	Tue 15
Maximum Minimum Mini	14			0.0	SSE 48	1009.0			32	28.0				63	21.3		18.2	30.1	Mon 14
Maximum Minimum Mini	13			0.8	N 65	1002.5	N 31		29	36.8				38	29.9		22.7	39.9	Sun 13
Maximum Maxi	12			0.0	N 50	1007.8	NNW 20		20	39.9		N 35		49	29.3		24.5	41.4	Sat 12
	=			0.0	NW 48	1006.2	NNW 17	Vi -	24	35.7		N 20		60	24.5		17.0	37.8	Fri 11
Maximum Minimum Mini	10			0.0	NW 43	1003.0			16	33.5				65	21.2		13.5	35.2	Thu 10
Maximum Minimum Mini	9			0.0	NNW 54	998.0	SW 22		16	32.2				34	27.8		23.0	32.7	Wed 9
Maximum Minimum Mini	8			0.0	NNW 48	1005.6	NW 28	- 6	21	33.5				53	23.7		20.1	34.4	Tue 8
Maximum Minimum Mini	7			0.0	NE 30	1015.7			18	32.8				59	22.7		17.1	34.3	Mon 7
Maximum Minimum Mini	6			0.0	ESE 37	1014.9	SE 11		14	36.2				52	25.5		21.2	37.3	Sun 6
Maximum Minimum Mini	51	-11		0.0	N 46	1013.5			29	34.5		NNW 26		52	25.2		21.7	36.9	Sat 5
Maximum Minimum Mini	4			0.0	NNW 31	1010.8	WNW 7		31	33.4				58	23.9		16.8	34.5	Fri 4
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Maximum Minimum Maximum Hainfall in Evaporation Bright		Sunsnine	9am			MSL		-	r Relative Humidity	Temperatur e	MSL	Wind		Relative	28	Temperature	Temperature	Temperature	Day
	_	Bright	Evaporation			00 10		1								Minimum	Minimum	Maximum	

Page 1 of 1

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



red = highest value | blue = lowest value

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

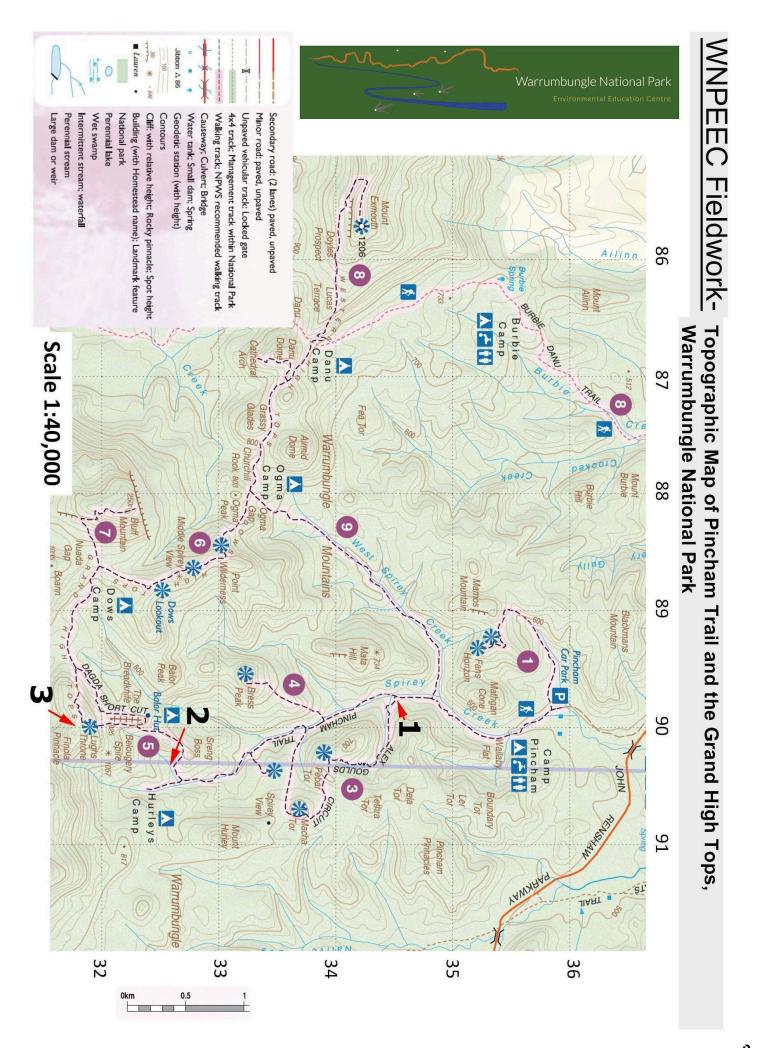
Excursion Worksheets

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



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. °C	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. °C	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. °C	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

	Г	
	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 anvironmental and human processes have formed and transformed
What environmental and human processes have formed and transformed landscapes and landforms in the 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.?