

External assessment 2021

Stimulus book

Earth & Environmental Science

Paper 1

General instruction

- Work in this book will not be marked.



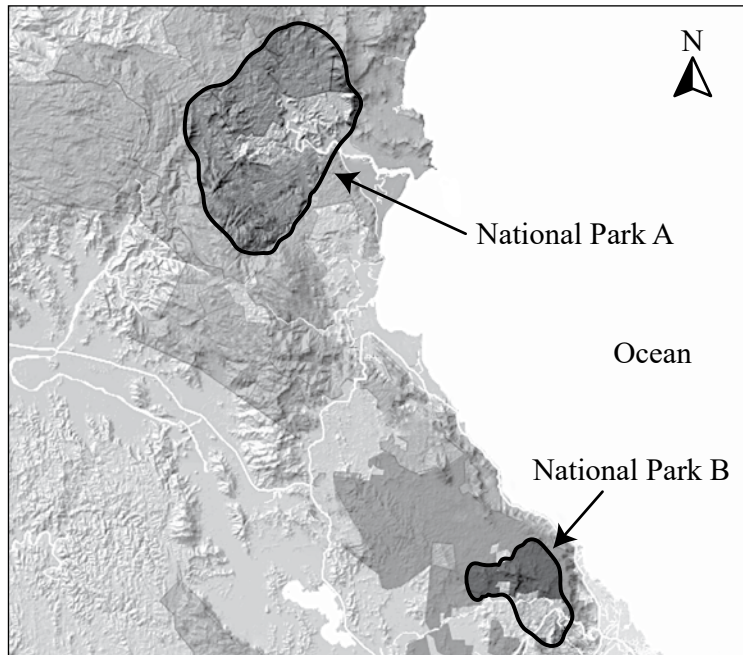
Queensland
Government



Queensland Curriculum
& Assessment Authority

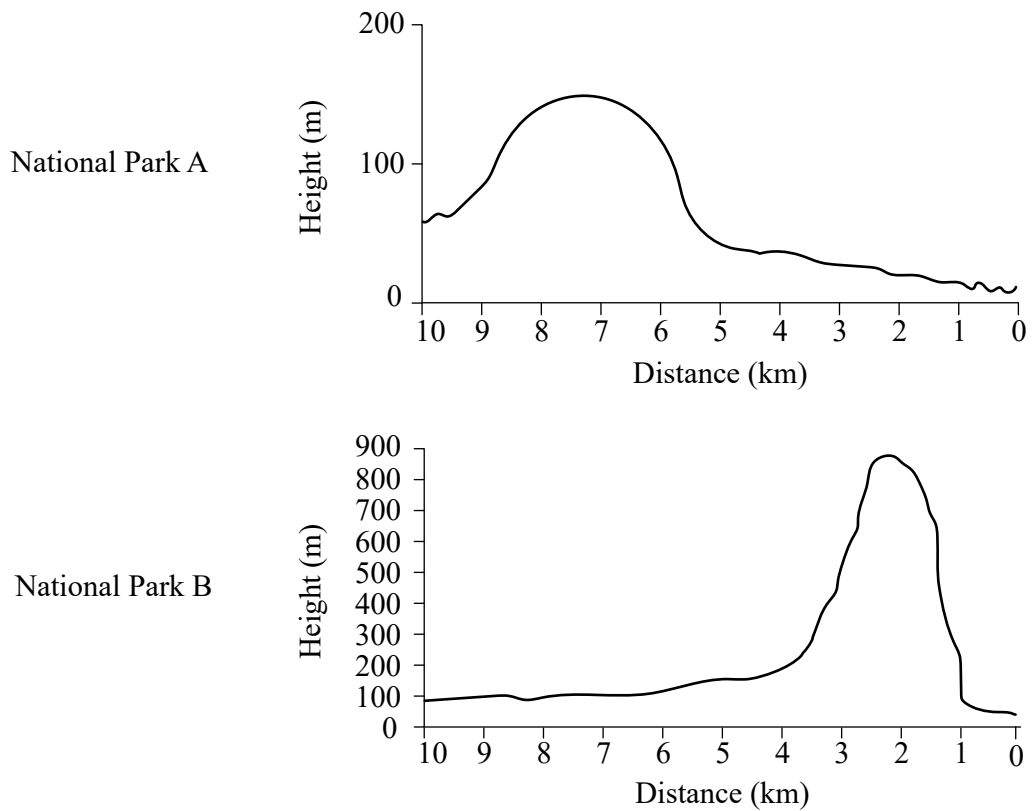
Stimulus 1

The map shows National Parks A and B. Both parks consist of rainforest-covered mountain ranges.



Stimulus 2

The side view of a topographical map shows the distance of each national park from the coast. 0 represents the ocean.



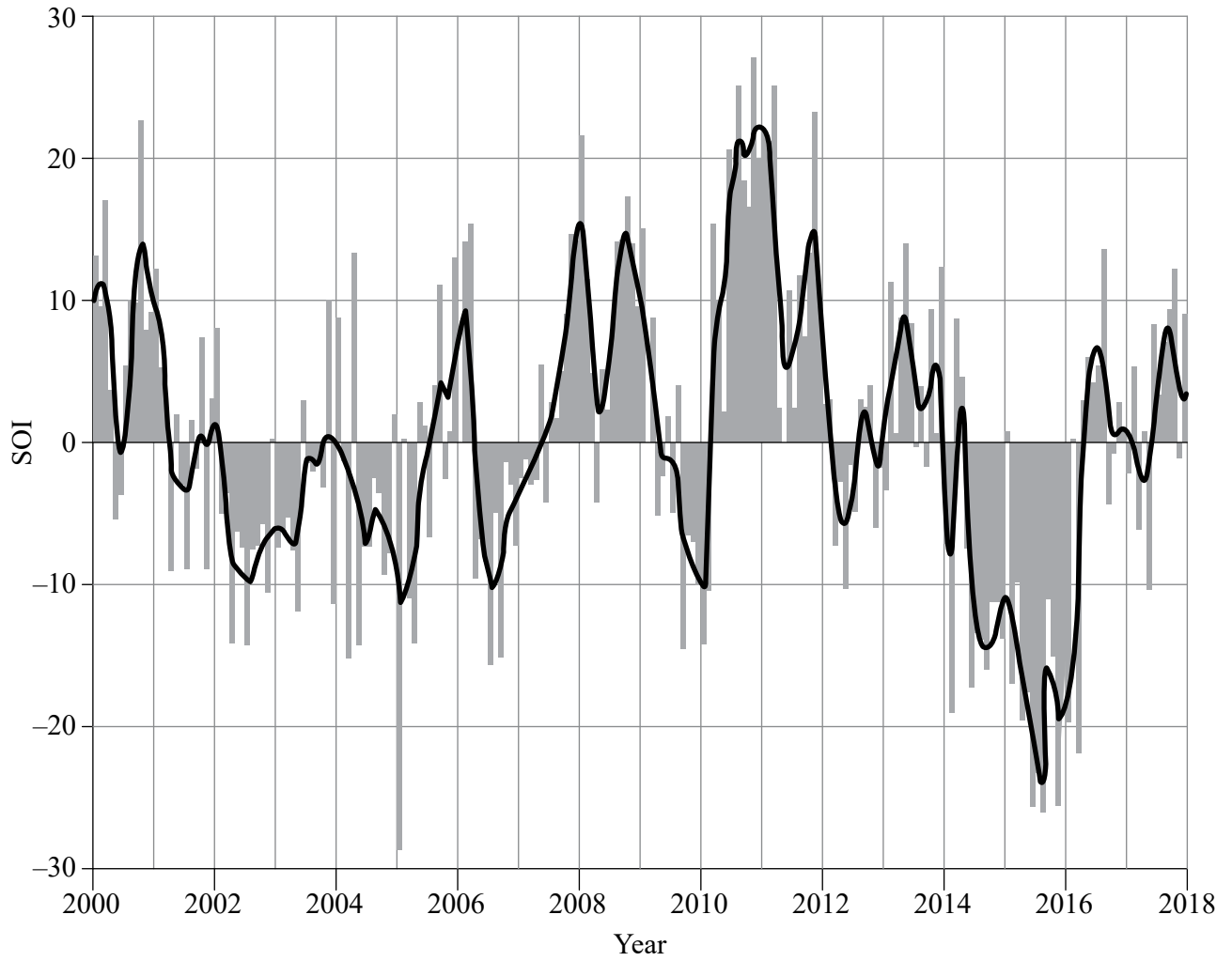
Stimulus 3

A tropical cyclone hit the area containing National Parks A and B. The table shows damage to trees before and after the cyclone. Damage included broken branches, broken trunks and uprooting.

Common name	Tree size (1 = smallest, 5 = largest)	Dataset 1		Dataset 2	
		Existing damage before cyclone (%)	Damage after cyclone (%)	Existing damage before cyclone (%)	Damage after cyclone (%)
Black wattle	2	10	15	7	9
River she-oak	2	5	12	5	15
Narrow-leaved ironbark	3	15	61	10	43
Grey bloodwood	5	16	75	11	63
River red gum	5	3	93	1	52
Weeping fig	5	2	95	0	72

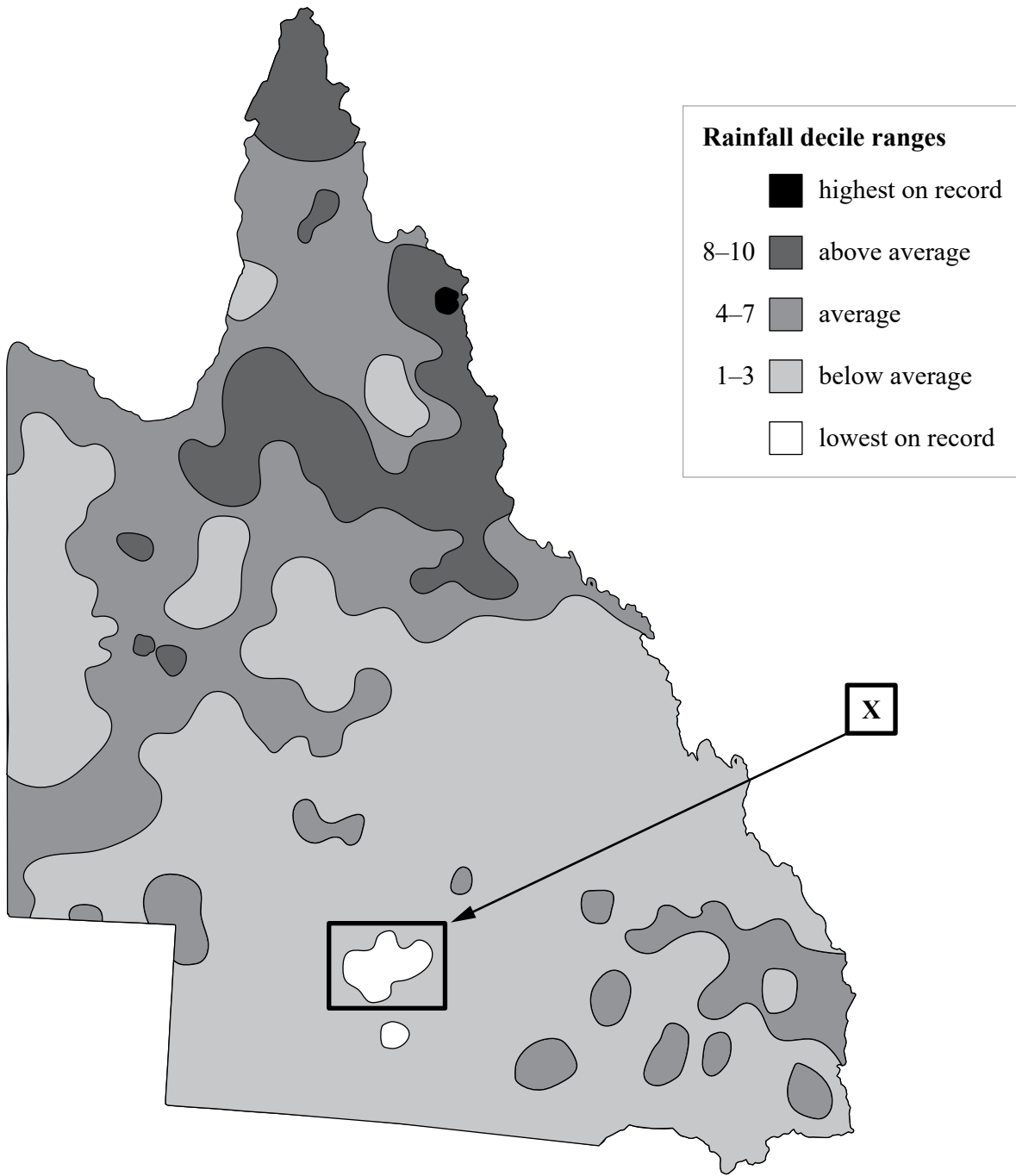
Stimulus 4

The graph shows monthly Southern Oscillation Index (SOI) values for 2000–2018.



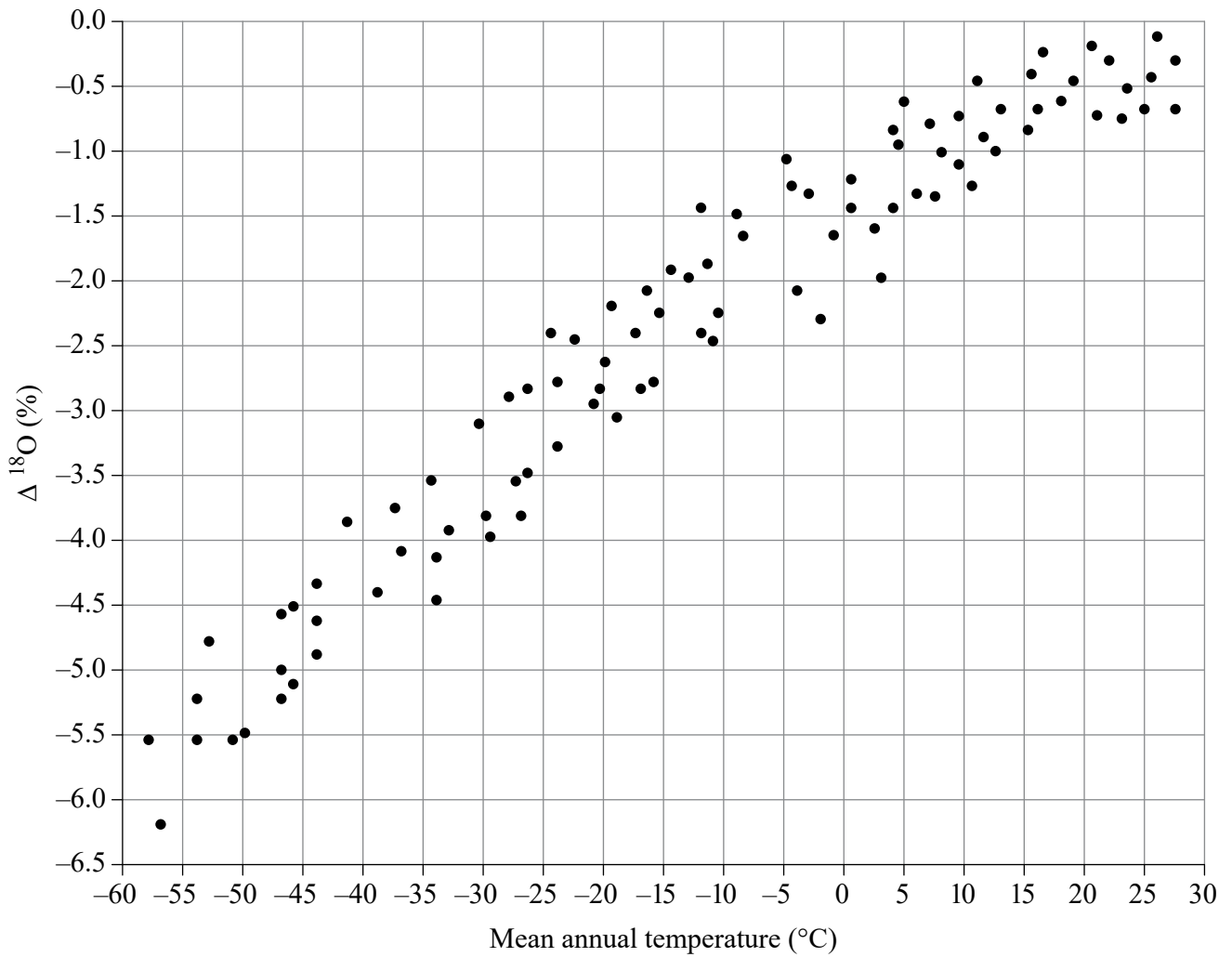
Stimulus 5

The map shows rainfall deciles for Queensland.



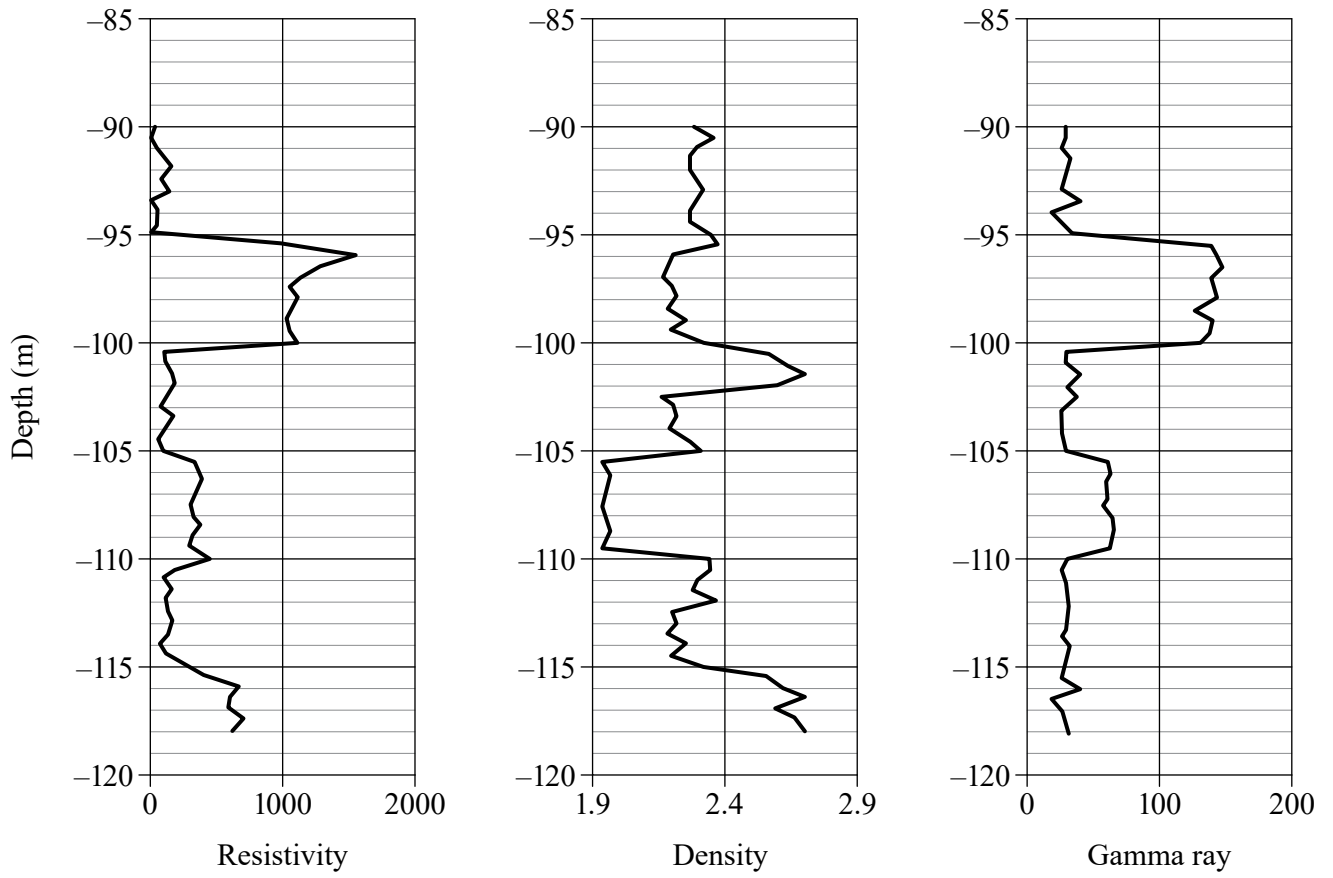
Stimulus 6

The graph shows the level of ^{18}O isotope in annual precipitation compared with the level of ^{18}O isotope in standard seawater at different average annual air temperatures measured at different sites.



Stimulus 7

The graphs show three types of geophysical data recorded during exploration for coal.



References

Stimulus 1

Google Maps 2021, *Mossman Gorge Queensland* (map), Map data @ 2021 Google
<https://www.google.com.au/maps>

Stimulus 4

Graph adapted from Bureau of Meteorology, 'Climate influences timeline', <http://www.bom.gov.au/climate/influences/timeline/> | CC BY 4.0

Stimulus 5

Adapted from Bureau of Meteorology, 122 years of Australian rainfall, <http://www.bom.gov.au/climate/history/rainfall/> Used under the Creative Commons Attribution Australia Licence

Stimulus 6

Modified from Jouzel, J., R. D. Koster, R. J. Suozzo, G. L. Russell. 1994. Stable water isotope behavior during the last glacial maximum: A general circulation model analysis. *Journal of Geophysical Research*, 99: 25791-25802. https://earthobservatory.nasa.gov/features/Paleoclimatology_OxygenBalance



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