



**DUNMAN HIGH SCHOOL
PRELIMINARY EXAMINATION
Year 6**

HIGHER 2 GEOGRAPHY

9173/02

INSERT

READ THESE INSTRUCTIONS FIRST

This Insert contains all the Resources referred to in the questions.

This document consists of **8** printed pages and **2** blank pages.

[Turn over

Resource 1 for Question 1

Land use map of survey area along Sungei Bedok



Resource 2 for Question 1

Photograph of section of Sungei Bedok taken on 15 August



Resource 3 for Question 1

Bi-polar survey crafted by the students

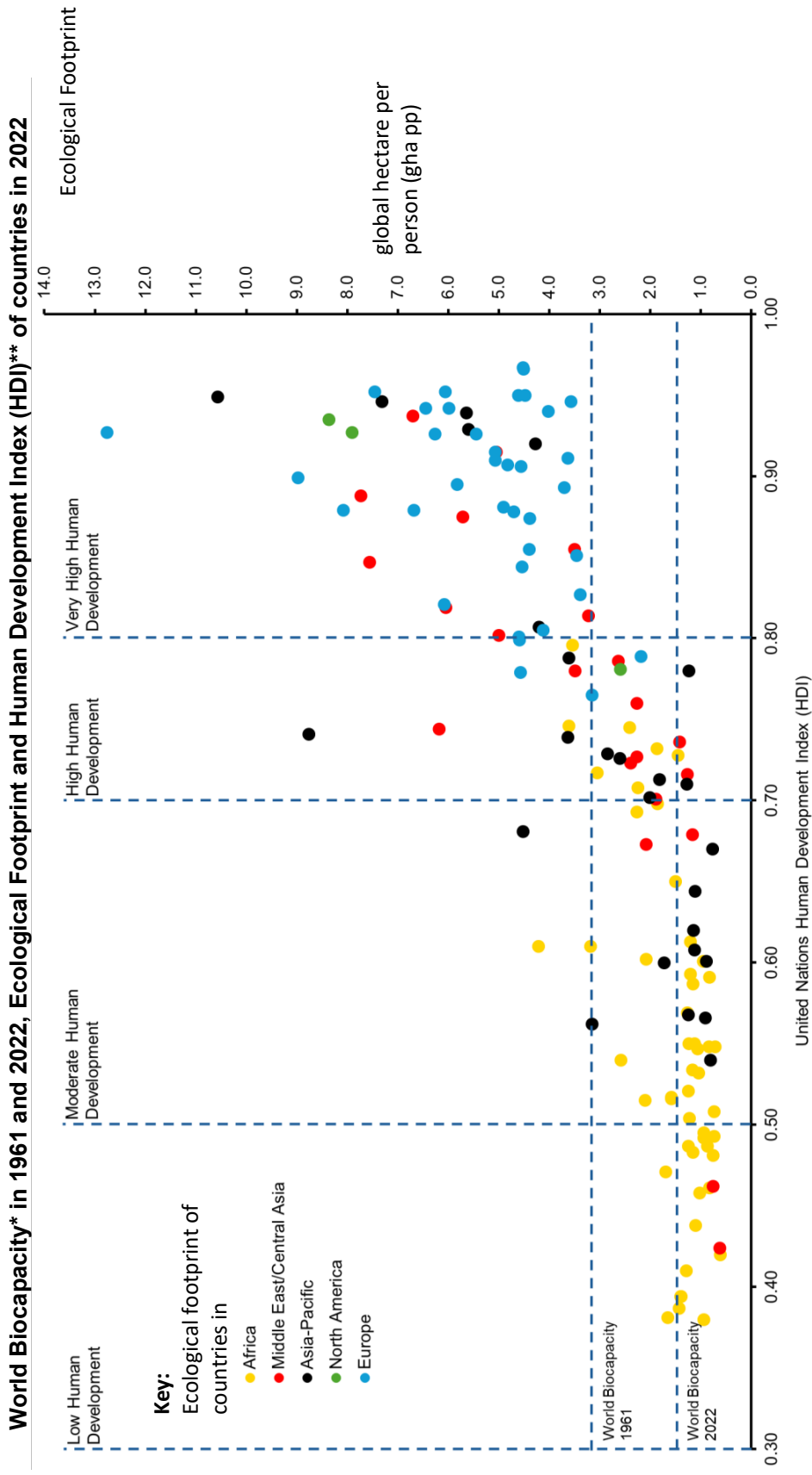
Location:				Date/Time:		
Low Risk	+2	+1	0	-1	-2	High Risk
<i>High percentage of vegetation cover</i>						<i>Low percentage of vegetation cover</i>
<i>High percentage of permeable surfaces</i>						<i>Low percentage of permeable surfaces</i>
<i>Lowest occupied floor of building is above channel height at bankfull discharge</i>						<i>Lowest occupied floor of building is below channel height at bankfull discharge</i>
<i>Presence of drainage system</i>						<i>Absence of drainage system</i>
Total score:						

Resource 4 for Question 1

Bi-polar survey results for all land uses

Land use	Vegetation	Permeable surfaces	Floor level vs bankfull	Drainage	Net Score
Business	-2	-2	0	+1	-3
Civic & Community Institution	+1	+1	+1	-1	+2
Commercial & Residential	-1	-1	0	0	-2
Education Institution	+1	+1	+1	0	+3
Park	+2	+2	0	0	+4
Residential	0	-1	+1	-1	-1
Transport Facilities	-2	-2	0	0	-4

Resource 5 for Question 2

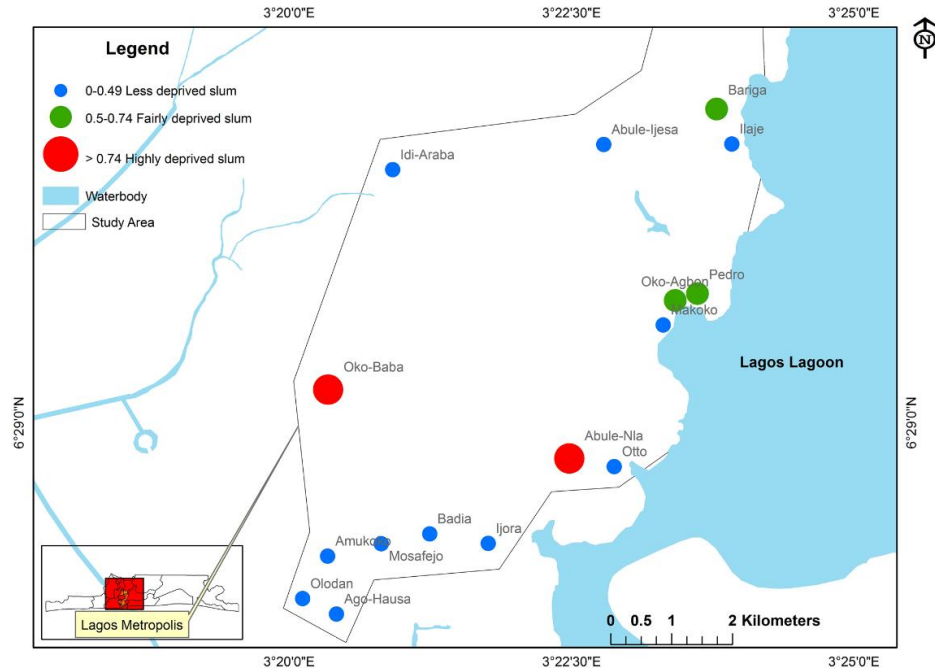


*Biocapacity is the capacity of biologically productive areas to provide for human demand. A value below the biocapacity is feasible for environmental regeneration.

**HDI is a measure of achievement of development in the areas of life expectancy, literacy and economic growth. A high value indicates greater achievement.

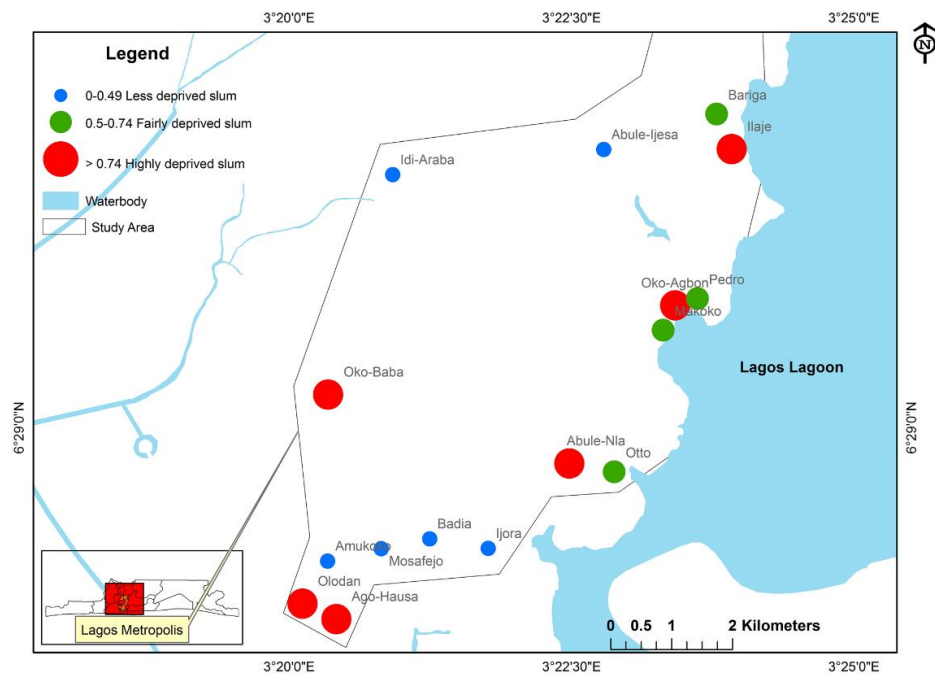
Resource 6A for Question 2

Performance of sanitation indicator of the slum deprivation index Lagos metropolis, Nigeria



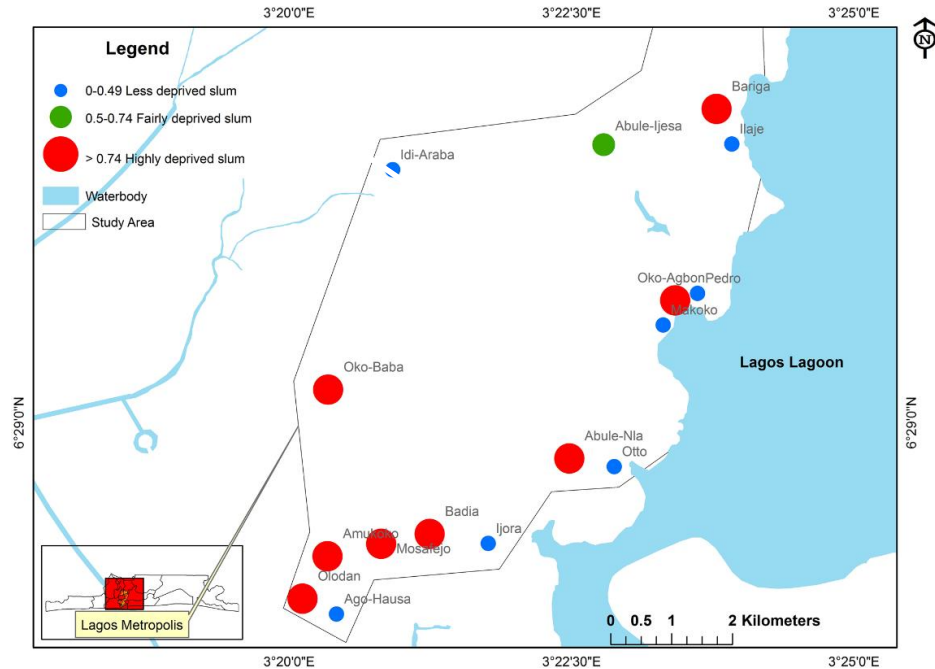
Resource 6B for Question 2

Performance of waste disposal indicator of the slum deprivation index Lagos metropolis, Nigeria



Resource 6C for Question 2

Performance of dwellings indicator of the slum deprivation index Lagos metropolis, Nigeria



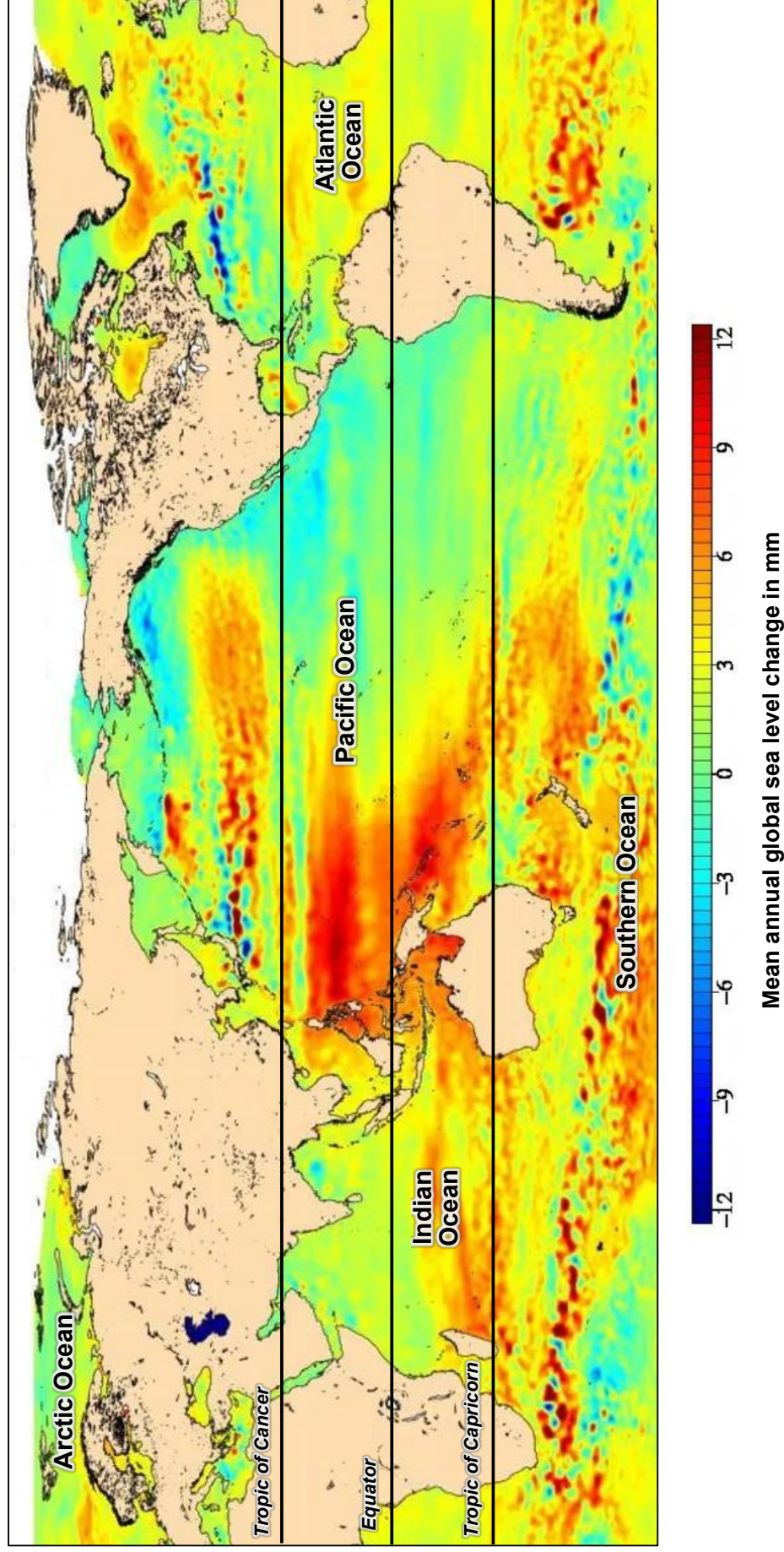
Resource 7 for Question 2

A 'highly deprived' slum in the Lagos metropolis, Nigeria



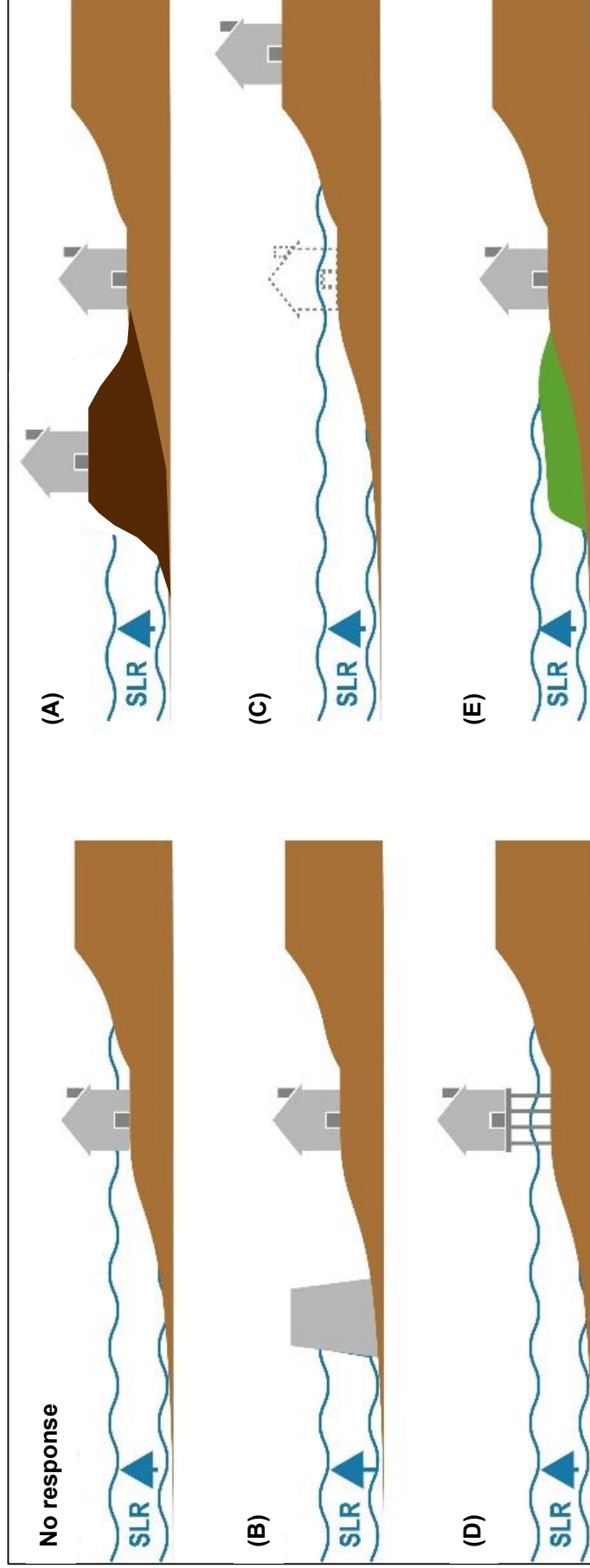
Resource 8 for Question 2

Mean annual global sea level change from 1992 to 2010



Resource 9 for Question 2

Strategies to manage sea level rise in the low-lying South Pacific islands



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Copyright Acknowledgements

Question 1	Resource 1	© Urban Redevelopment Authority. "Urban Redevelopment Authority Singapore website." Accessed 10 August 2025. https://eservice.ura.gov.sg/maps/ .
Question 1	Resource 2	© Wzhkevin. "Sungei Bedok canal, taken from point it passes under Upper Changi Road East." Wikimedia Commons image. Accessed 10 August 2025. https://commons.wikimedia.org/wiki/File:Sungei_Bedok.jpg .
Question 2	Resource 5	© Lo, K., E. Miller, P. Dworatzek, N. Basnet, J. Silva, J. L. Van Berkum, R. B. Halldórsdóttir, and M. D. R. Dyck. <i>National Ecological Footprint and Biocapacity Accounts, 2025 Edition: Data and Metadata Version 1.0</i> . Footprint Data Foundation, 2025, https://footprint.info.yorku.ca/data/ .
Question 2	Resource 6A, 6B and 6C	© Akoteyon, Isaiah Sewanu, Ibrahim Rotimi Aliu, and Olayemi Soladoye. "Household Levels of Deprivation to WaSH and Residential Conditions in Slum Settlements of Lagos, Nigeria." <i>Journal of Water, Sanitation and Hygiene for Development</i> , vol. 11, no. 1, 2021, pp. 60–74.
Question 2	Resource 7	© "Rangée de Bâtiments dans un Bidonville." <i>Pikbest</i> , https://fr.pikbest.com/backgrounds/rowing-row-of-buildings-in-a-slum_9581265.html . Accessed 26 Aug. 2025.
Question 2	Resource 8	© "Sea Level Rise." <i>CNN</i> , 2 Oct. 2012, https://edition.cnn.com/2012/10/02/tech/satellites-sea-level-rise/index.html . Accessed 26 Aug. 2025.
Question 2	Resource 9	© Oppenheimer, M., B. C. Glavovic, J. Hinkel, R. van de Wal, A. K. Magnan, A. Abd-Elgawad, R. Cai, M. Cifuentes-Jara, R. M. DeConto, T. Ghosh, J. Hay, F. Isla, B. Marzeion, B. Meyssignac, and Z. Sebesvari. "Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities." <i>IPCC Special Report on the Ocean and Cryosphere in a Changing Climate</i> , edited by H.-O. Pörtner, D. C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, and N. M. Weyer, Cambridge University Press, 2019, pp. 321–445. Cambridge, UK, and New York, NY. https://doi.org/10.1017/9781009157964.006 .

