

Higher 2	Tropical Environments – Flooding	TMJC
9173	Tutorial 8	2025

Tropical Cyclone in USA

- 1** Resource 1 shows the track and development of Hurricane (Tropical cyclone) Katrina in August 2005. Resource 2 shows areas of flooding brought about by Katrina in the city of New Orleans, Louisiana, USA. Resource 3 shows a photo of the flood aftermath from Hurricane Katrina.
 - (a)** Describe the track and development of Katrina from 23 to 30 August 2005 shown in Resource 1. [5]
 - (b)** Explain why Katrina was downgraded to a tropical storm at 20:00 on 29 August as shown in Resource 1. [3]
 - (c)** Using Resource 2, explain how the physical and human features of the Mississippi river and New Orleans contributed to the impact of Katrina on New Orleans [6]
 - (d)** Using Resource 3, explain possible impacts that could arise in the aftermath of Hurricane Katrina [4]
 - (e)** Using Resource 2 and your own knowledge, recommend possible strategies that would help minimize the damage to New Orleans by future hurricanes. [7]

Flooding in the Tropics

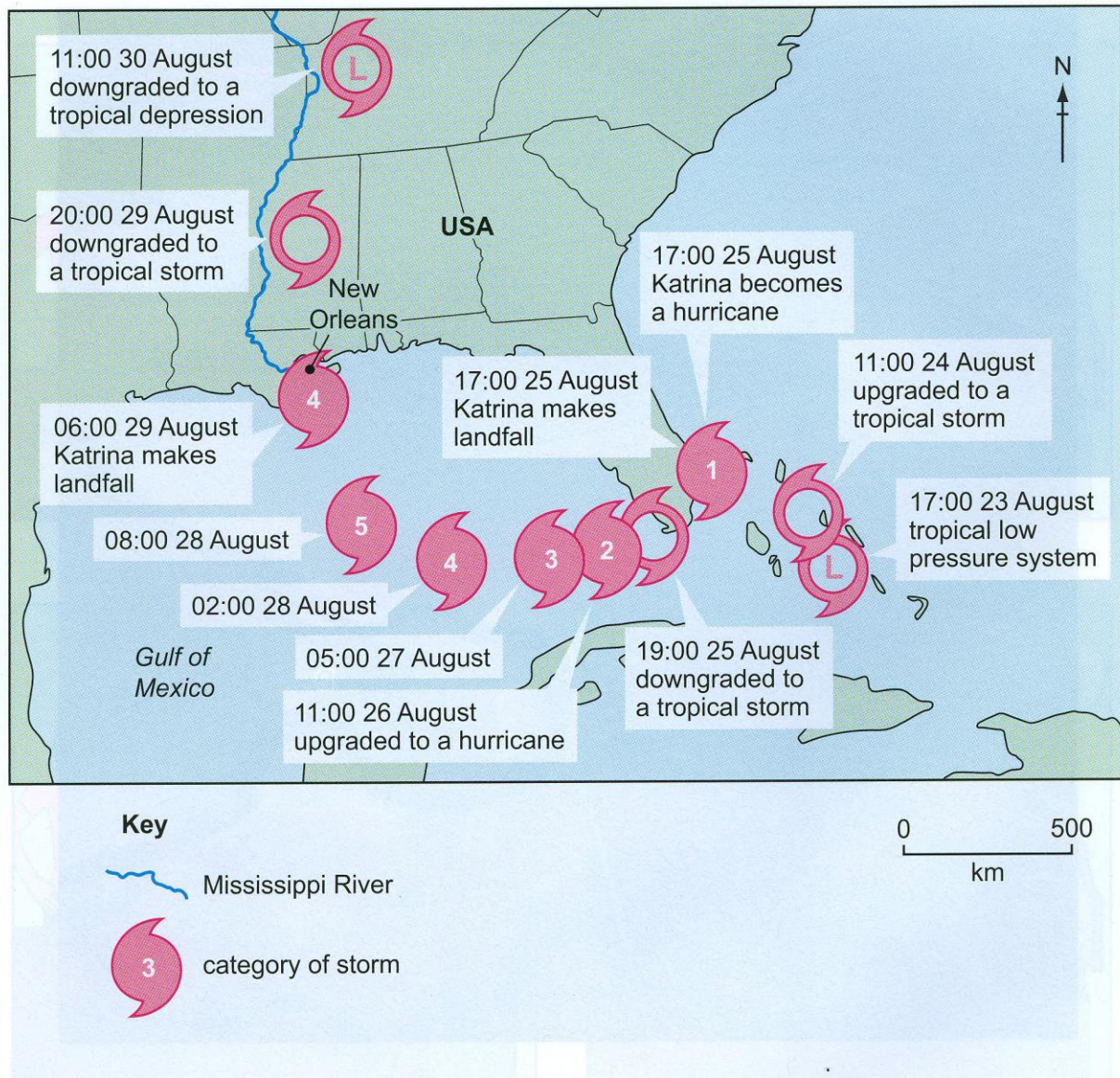
- 2** Study Resources 4, 5 and 6. Resource 4 shows a flood risk map of the Niger River in Nigeria, West Africa. Resource 5 shows flood risk at Tallé on the Sirba River, a tributary of the Niger River. Resource 6 shows discharge of the Niger River at Niamey, Niger, in 2012–2013.
- (a) Compare the location and extent of the low flood risk and the high flood risk areas shown in Resource 4. [4]
- (b) Suggest how flooding would impact Tallé as shown in Resource 5. [6]
- (c) With reference to Resource 5, suggest possible strategies to manage flooding in Tallé. [5]
- (d) Using Resource 6, describe the main features of the hydrograph shown. [3]
- (e) With reference to Resources 4, 5 and 6, explain the possible challenges of managing floods in the Niger River drainage basin. [7]

Essay question

3. “The main cause of flood is the climate” [20]
To what extent do you agree with this statement?
4. “Damage to the natural environment is the worst impact of flooding” [20]
To what extent do you agree with this statement? 2017 A level
5. Evaluate the success of strategies to manage fluvial flooding in the tropics. [20]

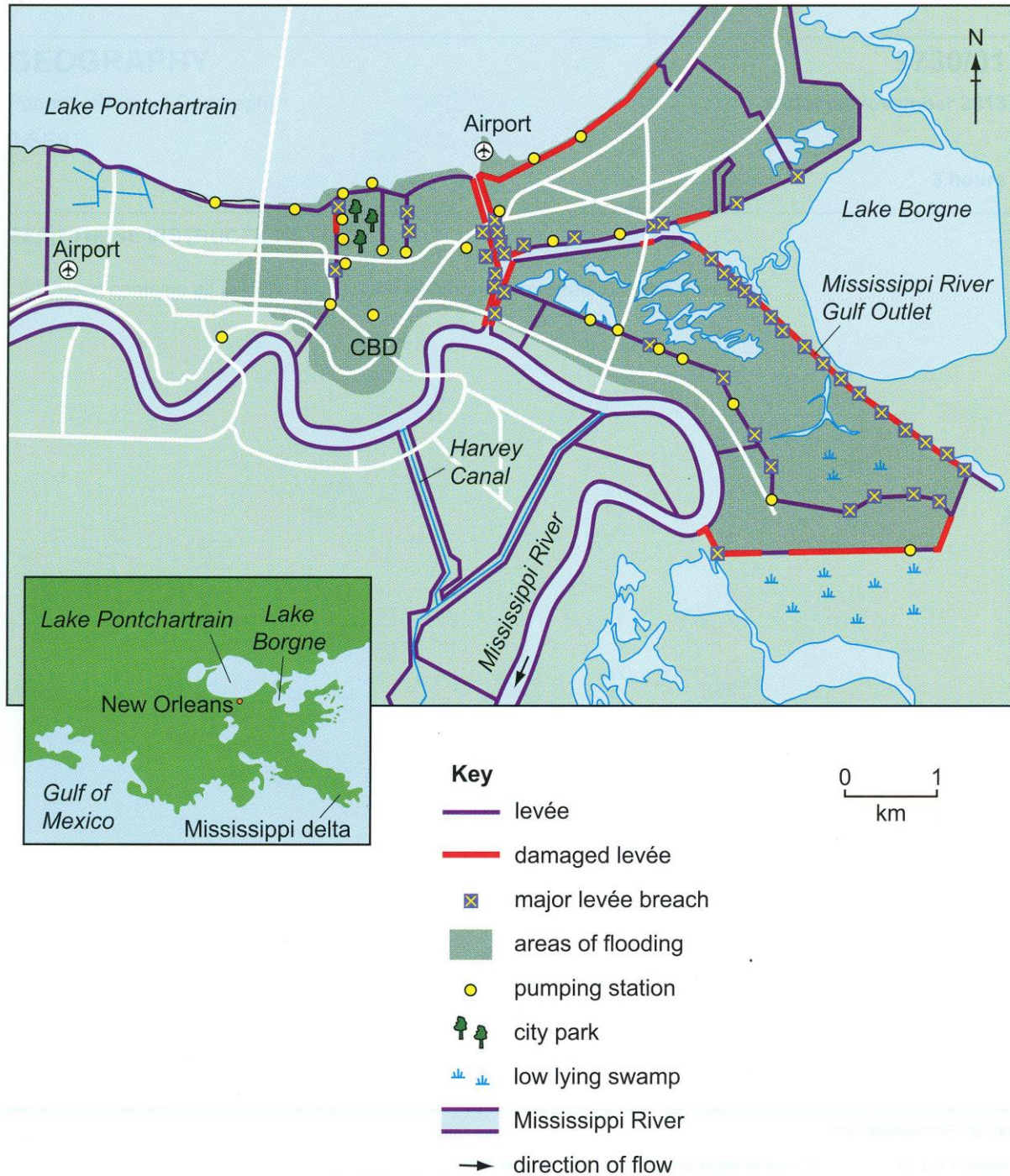
Resource 1 for Question 1

The Track and Development of Hurricane Katrina, August 2005



Resource 2 for Question 1

Areas of Flooding Brought about by Katrina in New Orleans



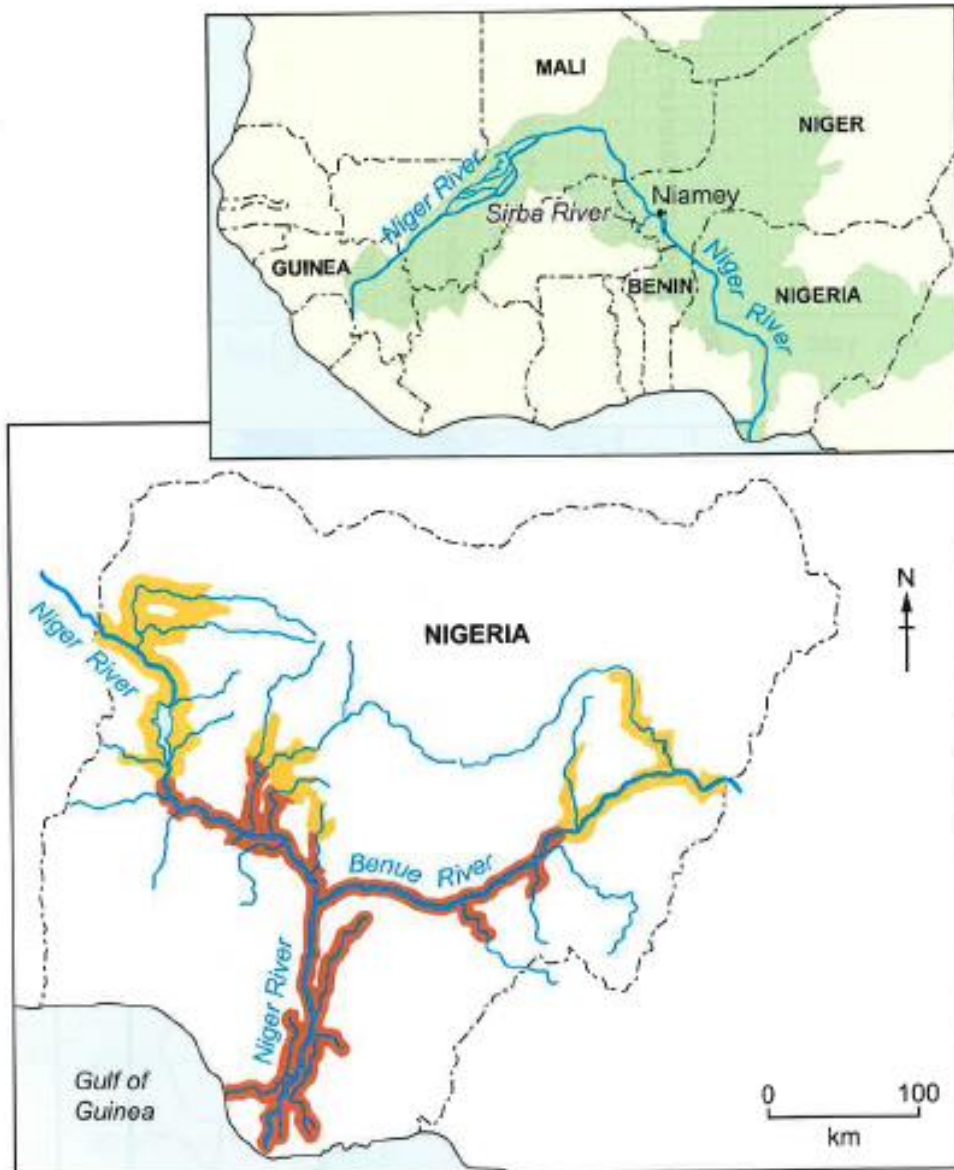
Resource 3 for Question 1

Photo of the flood aftermath of Hurricane Katrina



Resource 4 for Question 2

Flood risk map of the Niger River

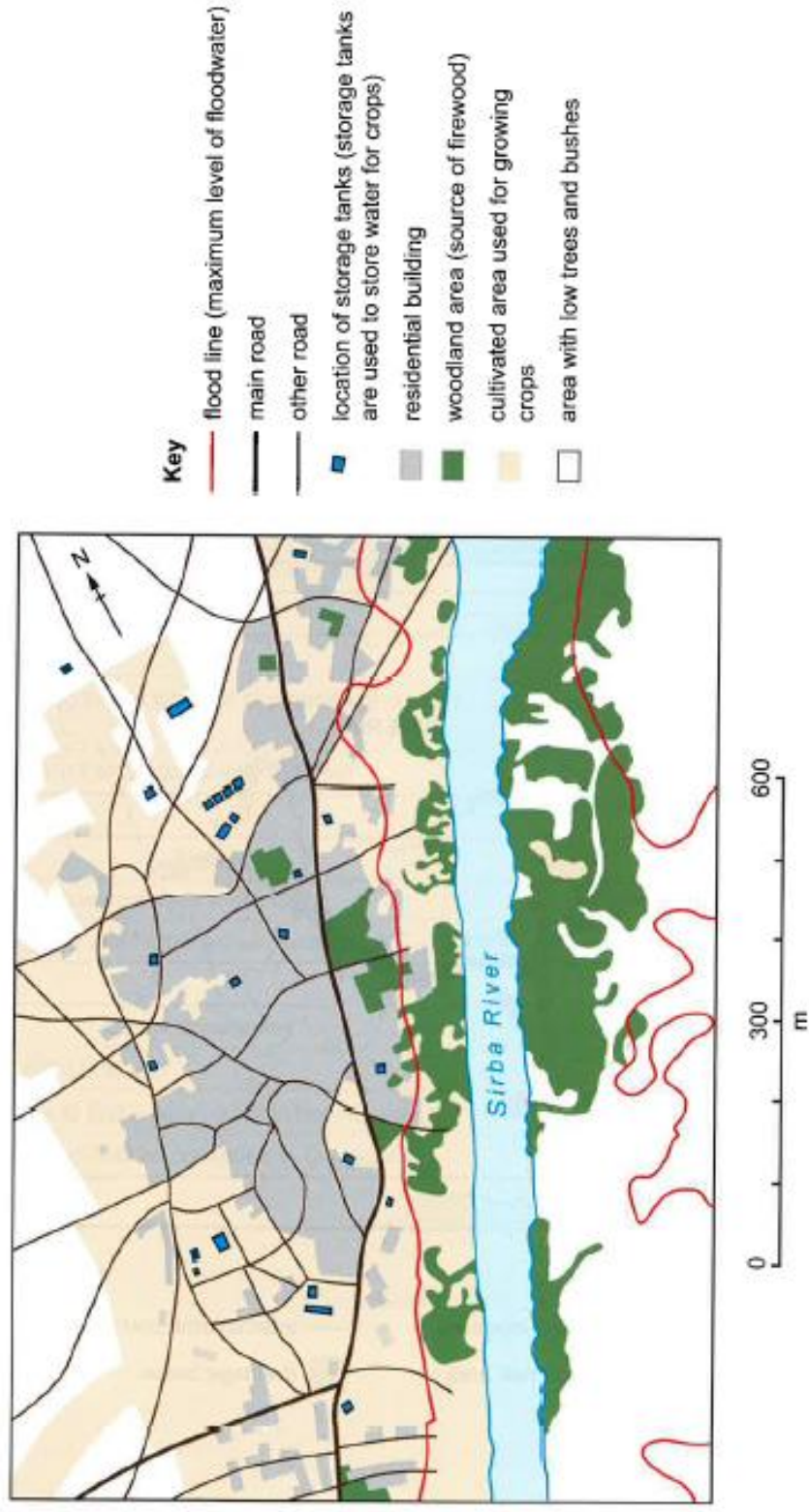


Key

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|--|--|
|  high flood risk area |  international boundary |
|  low flood risk area |  drainage basin |
|  river | |

Resource 5 for Question 2

Flood risk at Tallé on the Sirba River, a tributary of the Niger River



Resource 6 for Question 2

Discharge of Niger River at Niamey, Niger, 2012–2013

