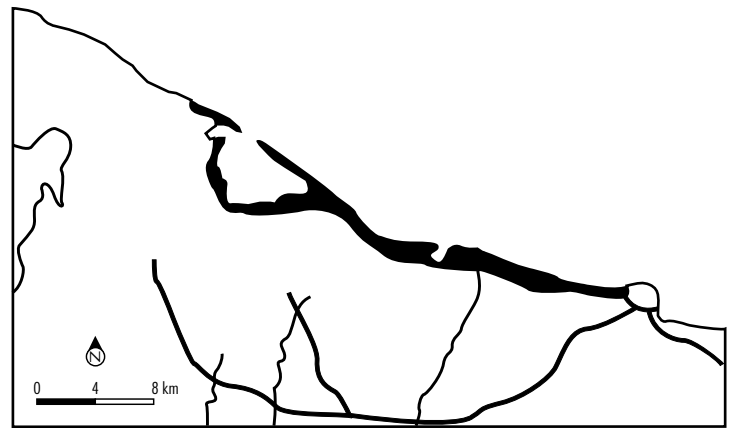


**DATELINE:** On July 17 1998 an earthquake with a magnitude of 7 on the Richter Scale occurred about 35 km offshore from Aitape in Papua New Guinea. Within ten minutes of the 7.30 pm earthquake, 30 kilometres of coastline experienced 3 main tsunamis, causing surges up to 10 metres high. The area around the Sissano Lagoon, with a population of approximately 10000 people, took the bulk of the impact. 2200 people were killed.

- Using the outline map of the Aitape area on the right and page 135 of the *Jacaranda Atlas*, mark in the following features:
  - Aitape, Sissano Lagoon, Warapu, Arop, Malol, Bismarck Sea, Ramu, Po
  - the tsunami affected areas
  - the seven care centres
  - the new settlement sites of Barapu and New Arop, and the other possible resettlement sites.
  - the deaths and injuries at Warapu, Arop and Malol
  - the existing roads



Aitape area

- Study the topographic map extract of the Aitape region.

- Give the grid reference for Aitape.  
\_\_\_\_\_
  - How far by air is it from the care centre at Aitape to the Arop villages at GR255621?  
\_\_\_\_\_
  - What is the approximate area of the Sissano Lagoon? Count each grid completely covered by the lagoon as one square kilometre. Count all partially covered squares as 0.5 square kilometres.  
\_\_\_\_\_
  - What sort of road transport would be needed for travel between the Sissano Lagoon and Ramu?  
\_\_\_\_\_
  - What is the difference in elevation between the Sissano Lagoon area and the highest point on the map?  
\_\_\_\_\_
- The people of Warapu could be re-settled at Barapu. List the following as either advantages or disadvantages of such a re-settlement: fishing would not be possible; they would be outside the tsunami-affected area; they would need a four-wheel drive vehicle to travel to the coast; they would be closer to relatives at Ramu.

**ADVANTAGES**

**DISADVANTAGES**

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- Using the information and the diagram on page 135 of the *Jacaranda Atlas*, add the following labels to the blank diagram to explain the formation of a tsunami:

earthquake causes seabed to rise or fall, waves are formed by the displaced water, bottom of wave slows in shallow water but top of wave continues at full speed.

