

Koeberg Nuclear Power Station

On 4 December 1809, an earthquake that would probably have measured 6 on the Richter scale shook Cape Town. The area marked JB experienced the maximum destruction in the mapped area. The fault line on the map is commonly known as the Milnerton Fault. If you track its path, you will notice that it runs straight across the Cape Peninsula, near Robben Island and about 80 km from the site of the Koeberg Nuclear Power Station, Africa's only nuclear power station.

On 11 March 2011, a devastating earthquake hit Japan, with a magnitude of 9,0. The earthquake created a tsunami with waves in excess of 10 m high. The death toll is estimated at 15 000. Japan has 54 nuclear reactors, but the Fukushima Daiichi plant experienced the most damage.

The following is important to know about nuclear fallout, especially if you live close to a nuclear power plant such as Koeberg:

- 5 km radius of the source: People in this area would be at highest risk of radiation exposure.
- 16 km radius of the source: People could be harmed by direct radiation exposure.
- 40 km radius of the source: Radioactive materials may contaminate water supplies, crops and livestock.

Activity

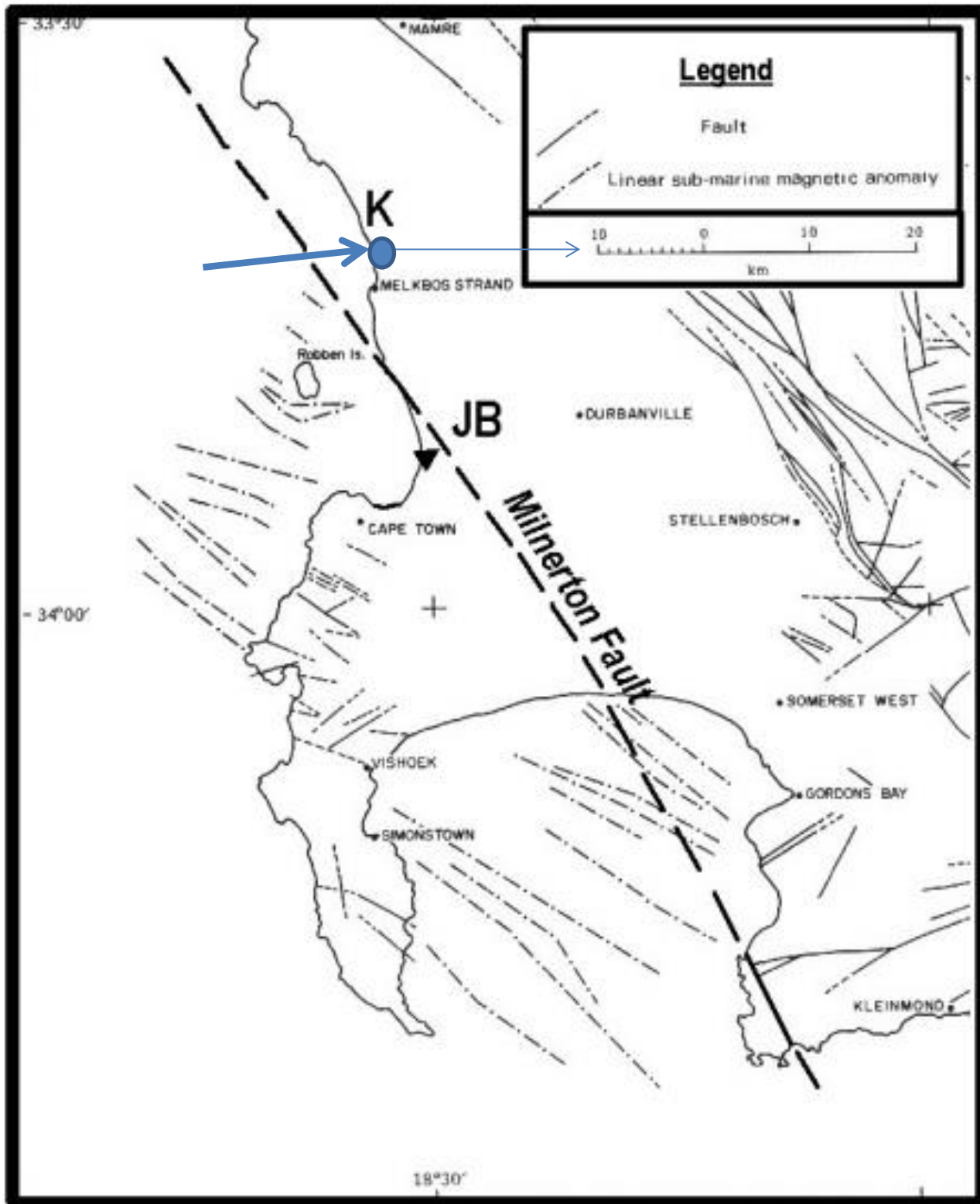
1. With a partner, draw a table of the positive and negative factors associated with nuclear energy.
2. On the map, create buffer zones around Koeberg (at the arrow below K on the map). The zones must have a radius of 5 km, 16 km and 40 km. Use different colours and shading for the zones. Add these zones to the Key below the map.
3. Refer to Google maps or an atlas and draw in the location routes of the following roads: the N7, N1, N2, and any arterial roads that may assist with an evacuation plan. Add Cape Town International Airport to your map, as well as any major hospitals in the area.
4. Identify the towns and municipal areas of Cape Town that may fall into each buffer zone. You could use a table.

	5 km	16 km	40 km
Towns, suburbs and municipal areas			

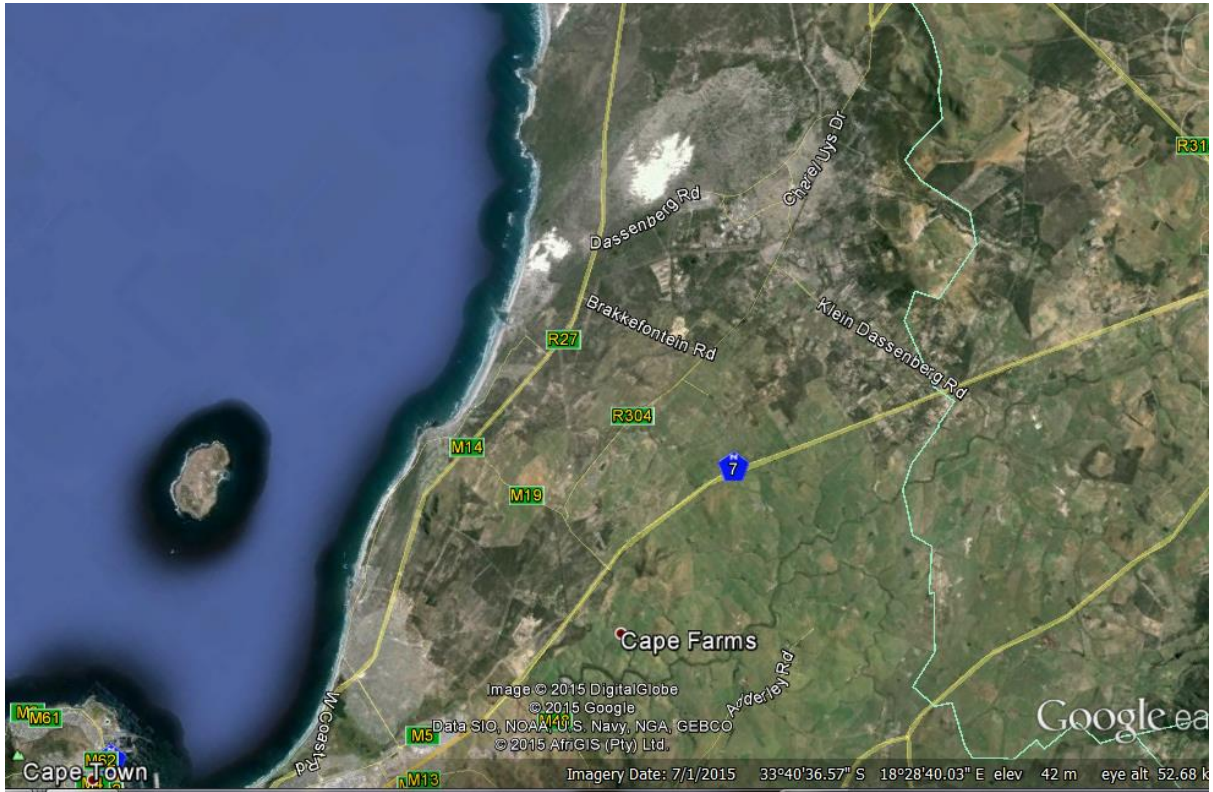
5. Consult the City of Cape Town's Disaster Risk Management Centre at www.capetown.gov.za and the emergency plan of Koeberg Nuclear Power Station at www.eskom.co.za.

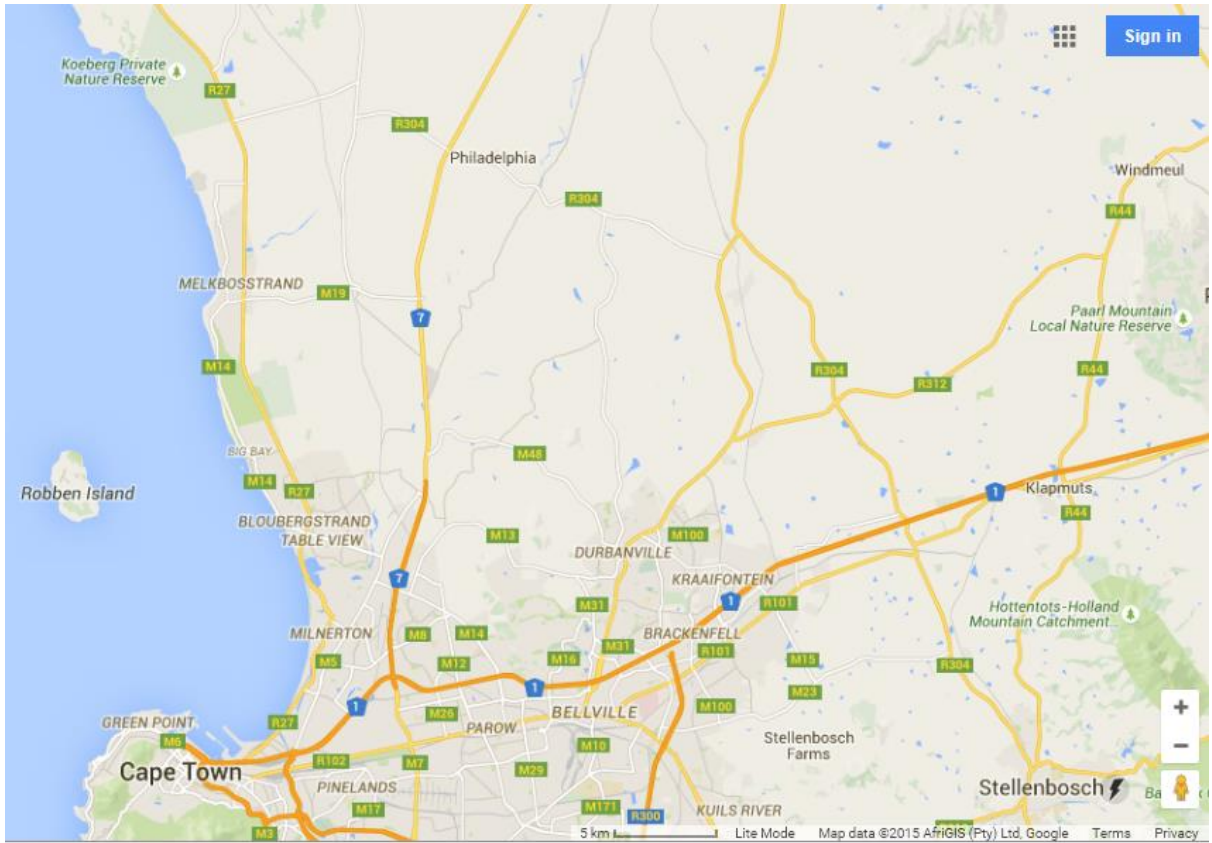
In the event of a nuclear disaster, compile a brief evacuation route for residents living in the areas under risk (up to 16 km radius). PLEASE NOTE: If the nuclear disaster is the result of an earthquake, you would need to draw on your knowledge from Grade 10 to see how this will affect your evacuation plan, especially if the earthquake causes a tsunami.

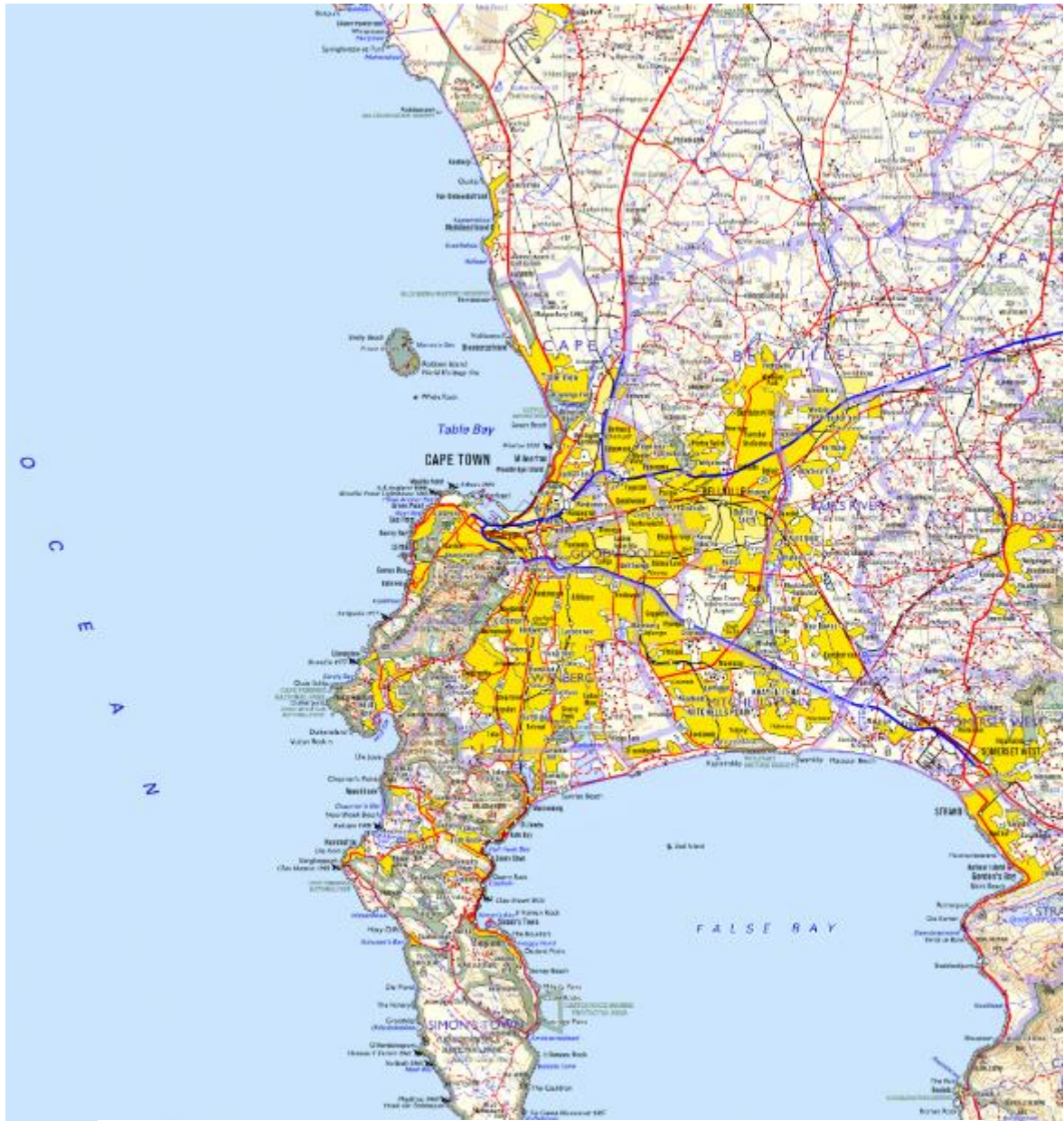
6. Your final task: Risk management is a possible career choice for you when you leave school. Consult the two websites referred to in paragraph 5 to find out more about career options.



Key: Koeberg Nuclear Power Station 







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