

IELTS PRACTICE TASK**Rising seas**

*As the planet warms, the sea rises. Coastlines flood. What will we protect? What will we abandon?
How will we face the danger of rising seas?*

An extremely altered planet is what our fossil-fuel-driven civilization is creating, a planet where massive flooding will become more common and more destructive for the world's coastal cities. By releasing carbon dioxide and other heat-trapping gases into the atmosphere, we have warmed the Earth by more than a full degree Fahrenheit over the past century and raised sea level by about eight inches. This warming of our planet affects sea level in two ways. About a third of its rise comes from thermal expansion – from the fact that water grows in volume as it warms. The rest comes from the melting of ice on land. So far it's been mostly mountain glaciers, but for the future the big concern is the giant ice sheets in Greenland and Antarctica. These areas combined have lost on average about 50 cubic miles of ice each year since 1992. Many think sea level will be at least three feet higher than today by 2100. Even that figure might be too low.

Coastal cities now face a twin threat: rising oceans will gradually flood low-lying areas, and higher seas will extend the destructive reach of storm surges. Using a conservative prediction of a half meter (20 inches) of sea-level rise, the Organisation for Economic Co-operation and Development (OECD) estimates that by 2070, 150 million inhabitants of the world's large port cities will be at risk from coastal flooding, along with \$35 trillion worth of property, an amount that will equal 9 % of the global GDP. How will they cope?

Malcolm Bowman, a physical oceanographer at the State University of New York, has been trying for years to persuade anyone who will listen that New York City needs greater protection from flooding. He proposes two barriers: one constructed at Throgs Neck, to keep floods from Long Island Sound out of the East River, and a second one spanning the harbor south of the city. Gates would be adjusted for ships and tides, closing only during storms. Another way to safeguard New York might be to revive a bit of its past, according to landscape architect Kate Orff. She explains how the islands and shallows along the coastline vanished long ago, demolished by harbor-dredging and landfill projects that added new real estate to a growing city. Orff suggests that throughout the harbor, there would be dozens of artificial reefs built from stone, rope, and wood pilings and seeded with oysters and other shellfish. These would continue to grow as sea levels rose, helping to lessen the impact of storm waves – and the shellfish, being filter feeders, would also help clean the harbor. '25 % of New York Harbor used to be oyster beds,' Orff says.

TASK TYPE 8 Sentence Completion

The Netherlands has taken other approaches to the issue of flooding. In Rotterdam, Arnoud Molenaar is the manager of the city's Climate Proof program, which aims to make Rotterdam resistant to future sea levels. He describes the assorted flood-control structures that have been constructed there, including an underground car park designed to hold 10,000 cubic meters – more than 2.5 million gallons – of rainwater. He also mentions Rotterdam's Floating Pavilion, a group of three connected, transparent domes on a platform in a harbor off the Meuse river. These are about three storeys tall, and made of a plastic that's a hundred times as light as glass. Though used for meetings and exhibitions, their main purpose is to demonstrate the wide potential of floating urban architecture. By 2040 the city anticipates that as many as 1,200 homes will float in the harbor.

Among the most vulnerable low-lying cities in the U.S. is Miami in the state of Florida. There is no obvious engineering solution to flooding on this peninsula as it sits on top of a foundation of highly porous limestone – meaning that sea water just flows through the foundation, gradually eroding it. Even now, during unusually high tides, seawater spouts from sewers in Miami Beach, Fort Lauderdale, and other cities, flooding streets. In a state exposed to hurricanes as well as rising seas, people like John Van Leer, an oceanographer at the University of Miami, worry that one day they will no longer be able to acquire insurance for their houses. 'If buyers can't insure it, they can't get a mortgage on it. And if they can't get a mortgage, you can only sell to cash buyers,' Van Leer says. 'What I'm looking for is a climate-change denier with a lot of money.'

Questions 1–8

Complete the sentences below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

- 1 The process of is one reason why sea levels are rising.
- 2 In the future, it is the water released from enormous that may contribute most to rising sea levels.
- 3 The OECD is concerned about the impact of flooding on coastline, as well as people living in port cities.
- 4 Malcolm Bowman has proposed erecting some to reduce the effects of flooding in New York City.
- 5 Kate Orff believes that would prevent flooding and lead to a cleaner harbour.
- 6 In Rotterdam, rainwater can be contained in a massive built below ground level.
- 7 Plastic in Rotterdam give an idea of how flood-proof buildings could be designed.
- 8 In Miami, people may no longer be able to get house, which limits the number of potential buyers.