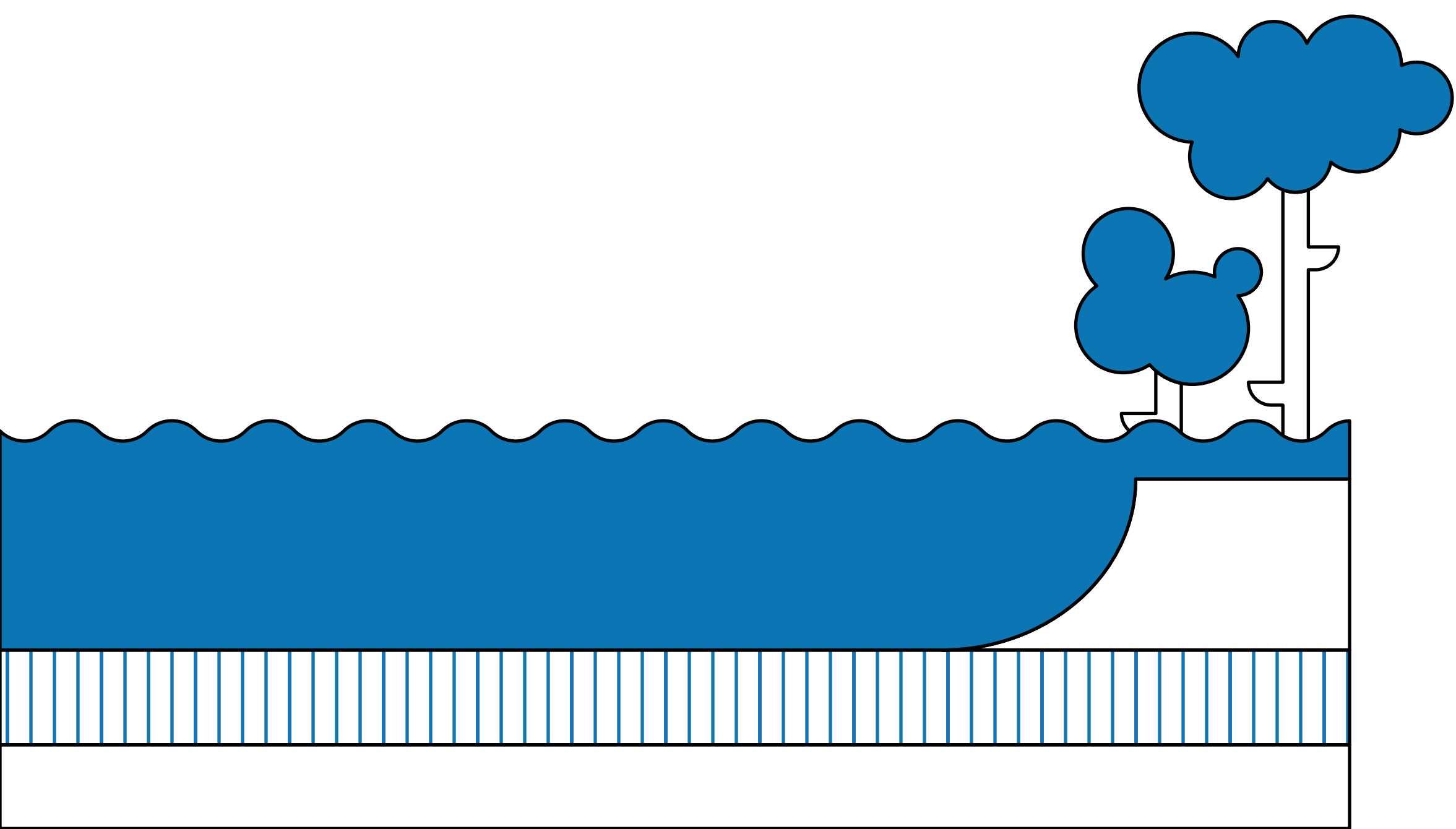


Sea Level Rise

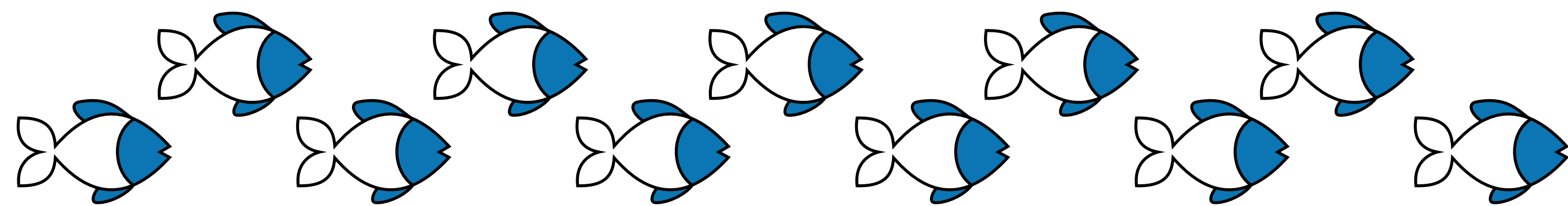
Why It Is Also Relevant for Austria



Consequences for Coastal Areas

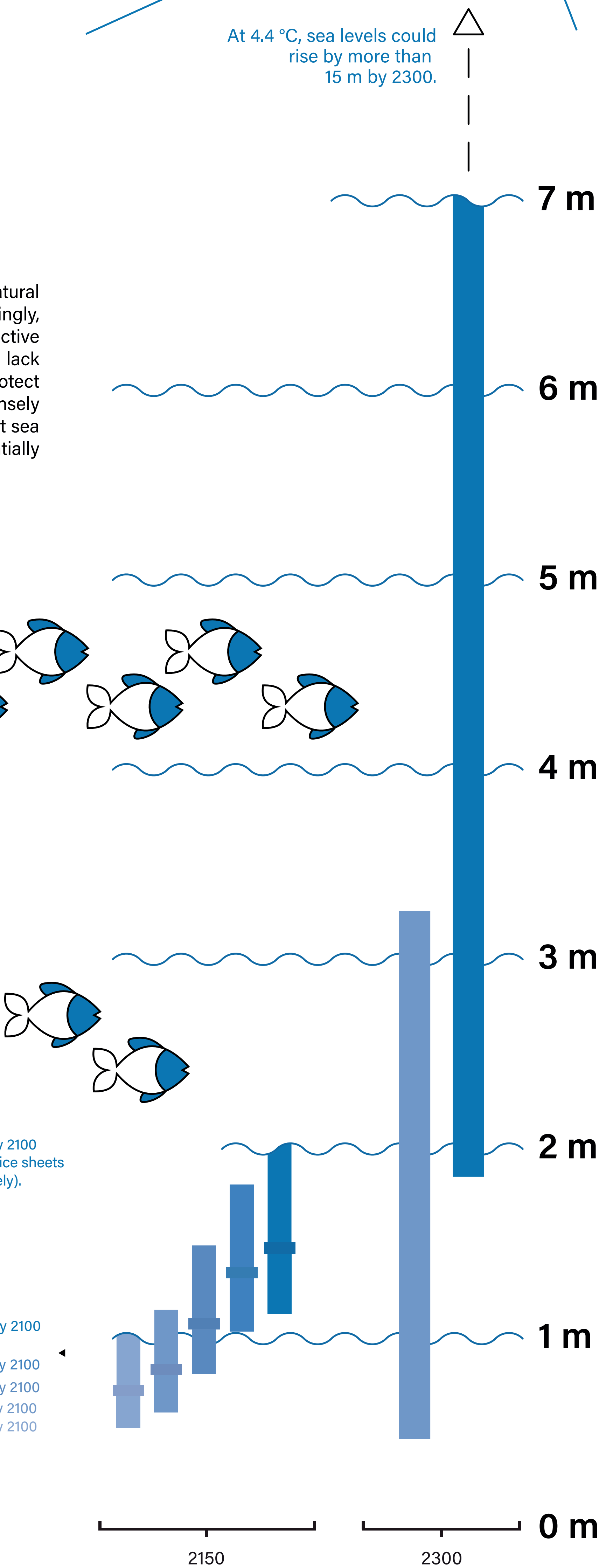
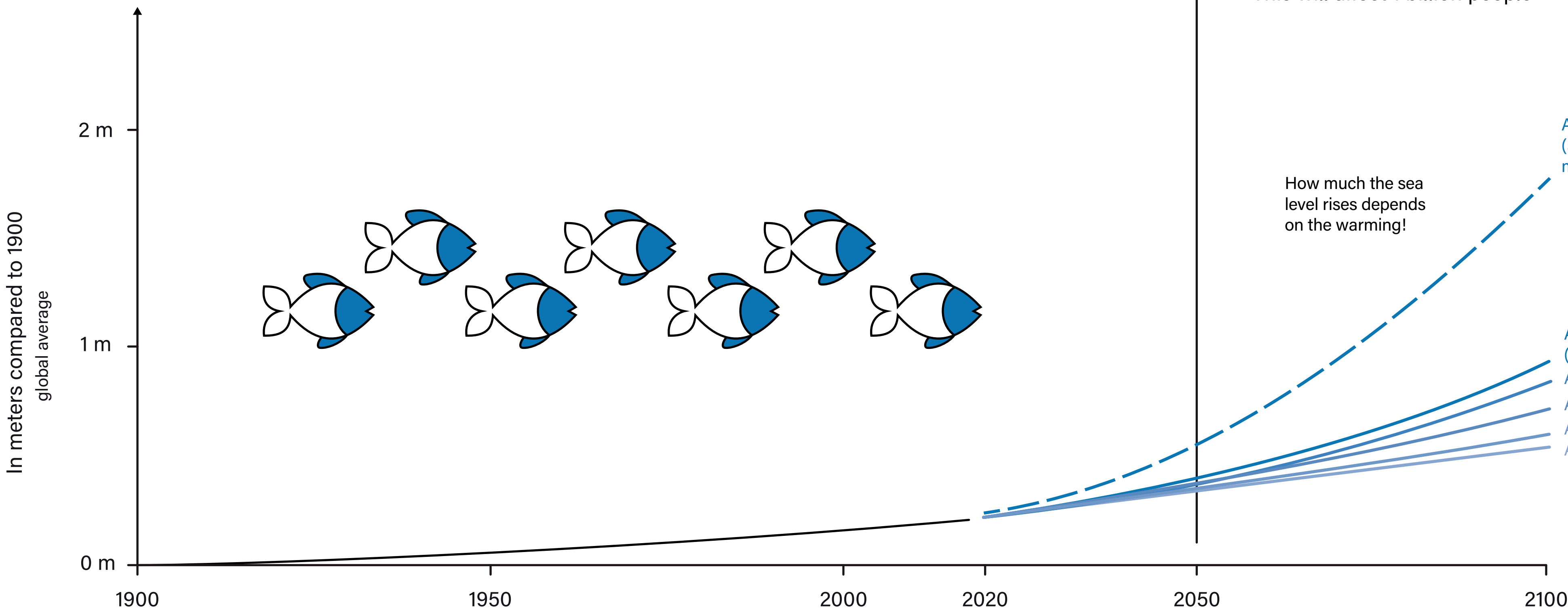
Due to further sea level rise, the risk along coasts of being exposed to natural disasters such as hurricanes and storm surges increases.^{1 2} Accordingly, adaptation and protective measures must be taken. However, building protective dams and other measures is expensive. Many countries in the Global South lack the financial resources for this.³ At the same time, not all countries can protect themselves. Many islands will disappear. Low-lying countries such as densely populated Bangladesh or the Netherlands, which is already below the current sea level, are particularly vulnerable. The consequences of sea level rise will potentially force many people to flee.^{4 5}

At 4.4 °C, sea levels could rise by more than 15 m by 2300.



Projection under different scenarios

Depending on the temperature increase, a further sea level rise of about half a meter is expected by the end of this century compared to the average sea level (1995–2014) if the Paris climate target of 2 °C is met. If no additional climate protection measures are taken, a rise of up to 81 cm is expected.⁶ In all scenarios, however, sea levels will continue to rise beyond 2100. Ecosystems and people in coastal areas⁶ and numerous islands⁷ are directly threatened by this sea level rise.



Pic. 1

Warming and acidification of the oceans

Around 25% of all anthropogenic CO₂ has been absorbed by the oceans,⁸ leading to ocean acidification.⁹ More than 91% of the additional heat energy has been absorbed by the oceans since 1971.¹⁰ The warming of the upper water layer has reached almost 0.9 °C from 1900 to today.¹¹ The same warming will occur again if we achieve the Paris climate goal. Otherwise, in the worst-case scenario, a rise of nearly 2.9 °C is imminent.¹² Even though this temperature increase might seem negligible to us, it has severe impacts. Marine ecosystems, such as coral reefs, are already being damaged.¹³

The global average sea level has risen by about 20 cm since 1900.¹⁴ In addition to the melting of glaciers and ice sheets in Antarctica and Greenland, the expansion of water due to ocean warming is responsible for the sea level rise.¹⁵

