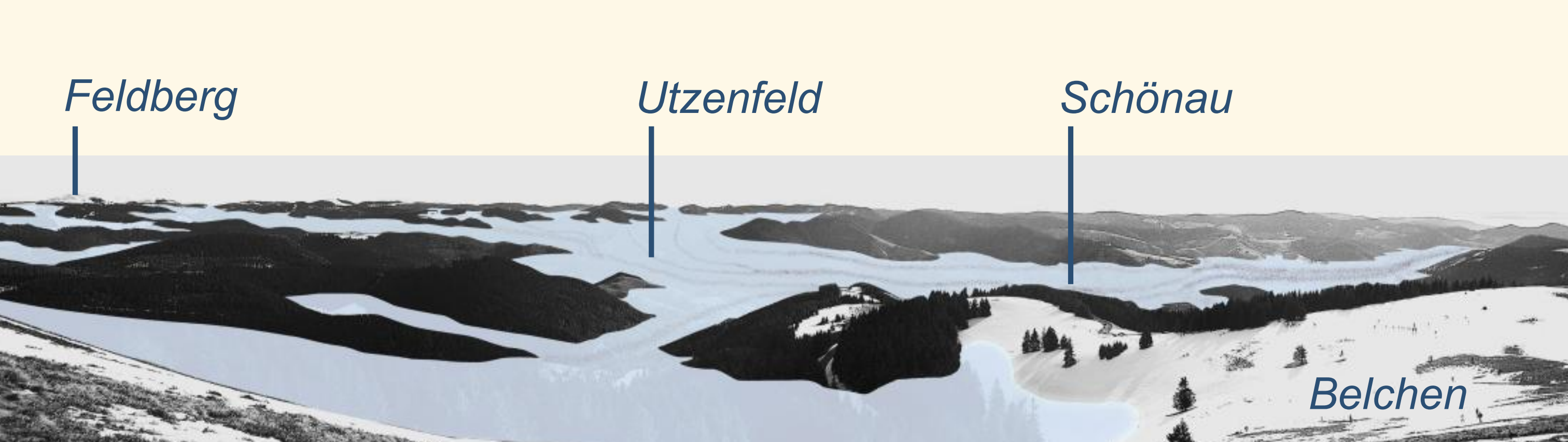


Ice Age in the greenhouse?



A ground down rock: it was scratched and polished by masses of ice of the pointed glaciers, which moved slowly into the valley down from Feldberg mountain via Schönau. This only happened less than 20 000 years ago. However, cold and warm spells have already been alternating since 2.5 million years.

Is there a connection with greenhouse gases?



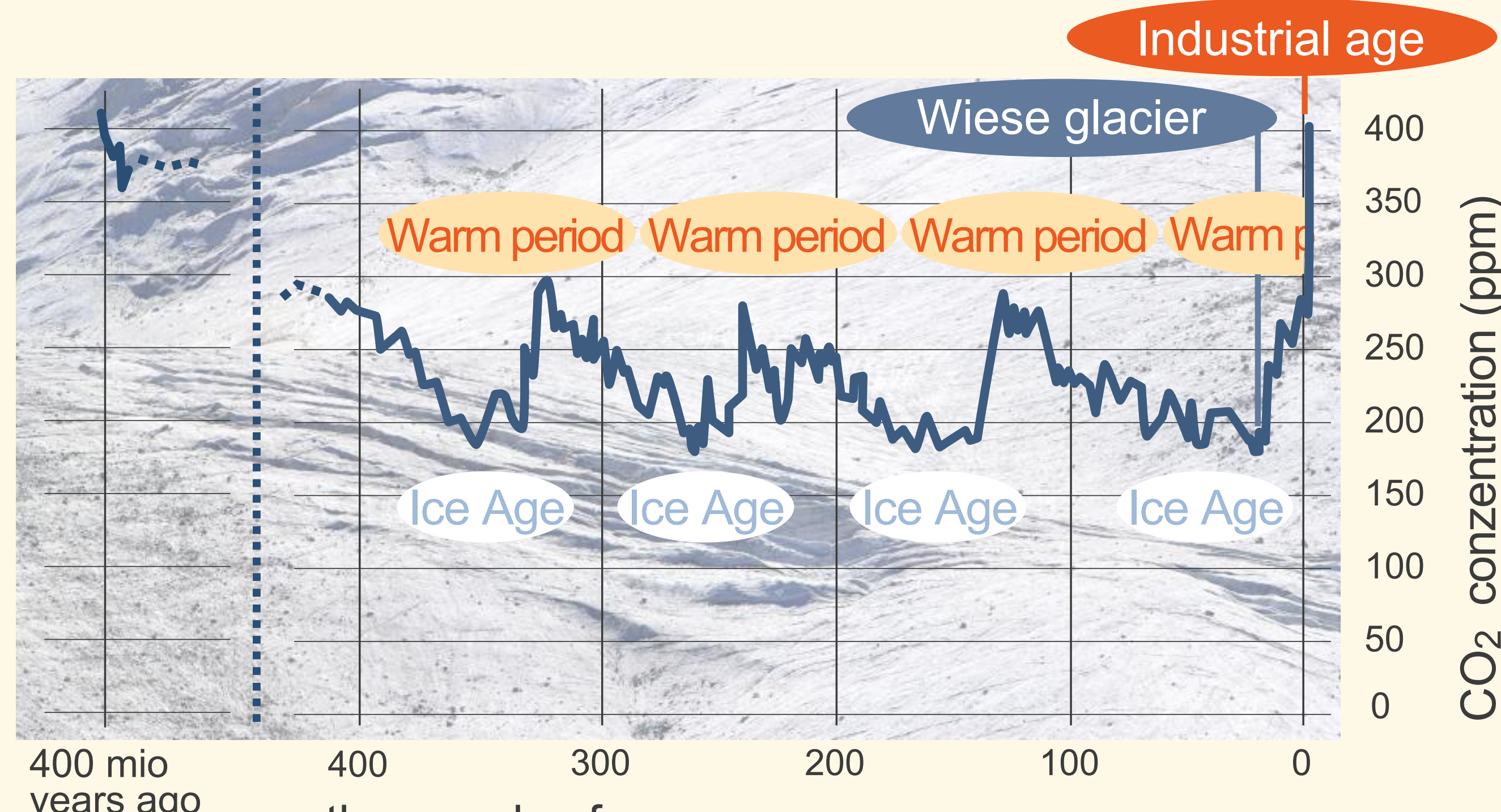
20 000 years ago: The pointed glacier as seen from Belchen

The more CO₂ and other greenhouse gases are contained in the air we breathe, the more the earth's atmosphere can store the energy of the sun. And it gets warmer.

Conversely, if the CO₂ level drops it is as if you open the vents in a greenhouse a little more.

Small changes, big effects

When the pointed glacier was approximately 20 km long, temperatures were only 4 °C lower than at the beginning of industrial revolution. In those days there were roughly 180 ppm (parts per million) CO₂ in the air. The rise in temperature over the last 20 000 years is connected to a rise of CO₂ content in the air to in 280 ppm. This is as much as has been present in previous warm periods.



Man changes the energy budget of earth

Steam engines and railways marked the beginning of the industrial age in the early 19th century: Since then energy has been derived on a large scale from coal, oil and gas.

But the burning of fossil fuels has led to a rapid rise of CO₂ in the air: in 2014 CO₂ had already risen to 400 ppm - a rise of 120 ppm in only 200 years.

400 ppm CO₂ has happened before: 4 million years ago it was approximately 2 °C warmer than before the industrial revolution.

At that time, during the Pliocene, less water was bound in the glacial ice, that's why sea levels were 20 m higher than today!

You probably know that England is an island. So you need a ship to get to it. During the Ice Age that was different. It was cold and it snowed a lot.

Rainwater flows via rivers into the sea, but the snow remains on top of the glaciers and does not melt. The glaciers grow thicker and thicker, and less water arrives in the sea. Eventually, sea levels drop so low, that a lot of islands stop being islands, because they can be reached on foot.

Today a lot of glaciers have disappeared. And when the last few have melted and more and more water has flown into the sea - well, what might happen to low-lying islands?

I must try at once and see if I have as much force as a glacier to cut grooves into rocks.

