


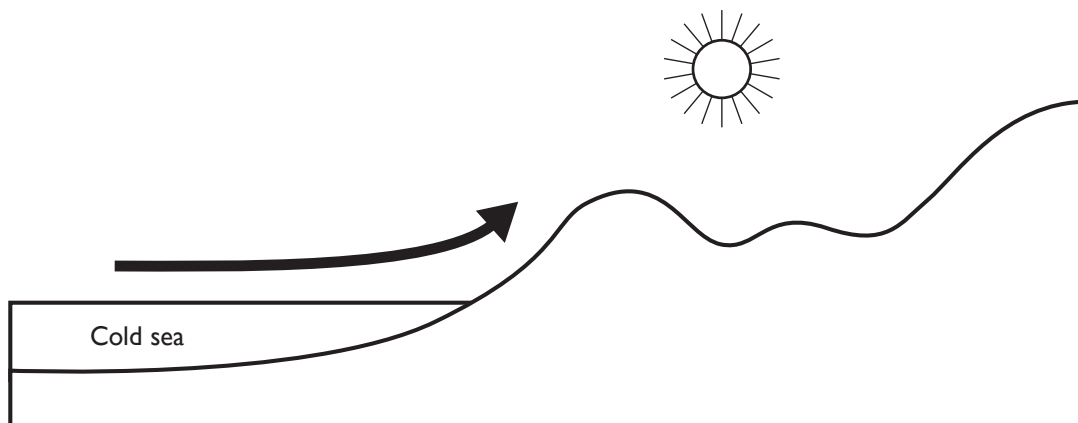
Seaside weather

The coast often has very special weather because of the closeness of the sea and land. A cold sea makes the air over it cool, but at the same time it picks up a lot of moisture. As this air moves, it can produce cloud or fog.

Q1. The diagram below shows a coastal region in early morning. Notice that the sea is cold.

(a) Is the land warmer or colder than the sea? 

(b) The arrow shows the gentle flow of air. Write the name of this kind of flow of air onto the diagram.



Q2. The air over the sea has been cooled down and the water vapour has changed to droplets. This has caused f..... to form. Fill in the missing word. (Note: people who live on the eastern side of Britain often experience this phenomenon in late spring. Some people call it 'haar'.)

Q3. Why is the sky clear inland?





Q4. As the land warms up even more, what may form over the land?





Background

The subject of coastal weather can bring in a wide range of topics. On a large scale you could consider talking about maritime and continental effects. Generally, it affects the region within 5–10 km of the coast. Remember that, as with other local effects, the coastal weather phenomena shows up most clearly on a day when regional calm has set in.

Think of the range of effects that best suits your location if you are at the coast, or emphasise holiday problems and benefits if your school is inland and students rarely visit the coast.

The most commonly experienced effect is the sea breeze, produced by diurnal heating. The daytime heating of the land sets up a convection current. This causes air to rise over the land, pulling cool, moist air off the coast. This gives a welcoming, cooling sea breeze on days that are scorching hot inland. By afternoon, the rising air over the land may give rise to cumulus cloud and showers, but the coast will remain clear and sunny.

When the sea is very cold, the air flowing over it can be cooled far enough for condensation to occur and then fog is swept onto the coast. This situation occurs most commonly in Britain on eastern coasts in late spring, when the North Sea is still very cold. The Shetland term 'haar' is now used to describe this phenomenon down the whole eastern seaboard.

In some places, coastal fog is even more dense and persistent. The most famous place for coastal fog is California. San Francisco bay is dull and foggy for much of the summer, while on the inland side of San Francisco bay there is scorching sunshine. There is more information on this and further examples on the web site.

At night, the land cools quickly but the sea temperature hardly changes, so that the land is colder than the sea. If this is the case, the breeze reverses and an offshore wind occurs. This may take warm air over a cold sea, causing cooling and the production of offshore fog banks. The diagrams below show this.

Answers

Q1. (a) Warmer

Q1. (b) Sea breeze

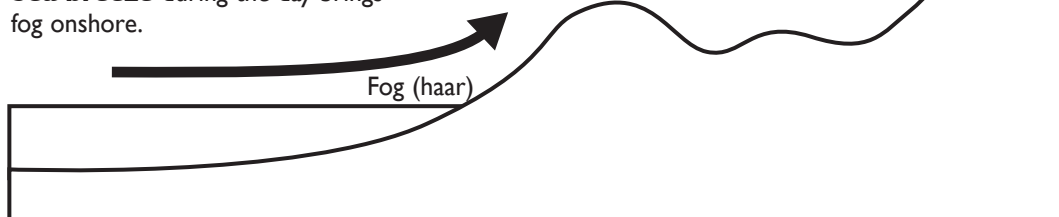
Q2. Fog

Q3. Because the Sun heats the land and warms the air. As a result, the fog droplets evaporate.

Q4. Cumulus clouds, because of the rising warm air.

DAY

Sea breeze during the day brings fog onshore.



NIGHT

Offshore breeze takes warm air over cold sea forming fog banks offshore at night.

