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Seas turn to acid as they soak up CO2

Robin McKie, science editor
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The Bay of Naples is renowned for its breathtaking beauty and glittering clear waters. For centuries, tourists have flocked to the region to experience its glories.

But beneath the waves, scientists have uncovered an alarming secret. They have found streams of gas bubbling up from the seabed around the island of Ischia. 'The waters are like a Jacuzzi - there is so much carbon dioxide fizzing up from the seabed,' said Dr Jason Hall-Spencer, of Plymouth University. 'Millions of litres of gas bubble up every day.'

The gas streams have turned Ischia's waters into acid, and this has had a major impact on sea life and aquatic plants. Now marine biologists fear that the world's seas could follow suit.

'Every day the oceans absorb more than 25m tonnes of carbon dioxide from the atmosphere,' said Hall-Spencer. 'If it were not for the oceans, levels of greenhouse gases in the atmosphere would be far higher than they are today and the impact of climate change would be far worse. However, there is a downside: it is called ocean acidification.'

Scientists calculate that the seas are absorbing so much carbon dioxide that they are 30 per cent more acidic than they were at the start of the Industrial Revolution. The change is three times greater and has happened 100 times faster than at any other time during the past 20 million years.

Tomorrow hundreds of scientists will gather in Monaco for the 'Second International Symposium on the Ocean in a High CO2 World'. One focus of debate is likely to be the Plymouth study. The seas off Ischia - which are affected by carbon dioxide from volcanic activity - offer a first-class opportunity to investigate what might happen in the next few decades.

Scientists found that in Ischia's highly acidic water:

• Biodiversity of plants and fish has dropped by 30 per cent

• Algae vital for binding coral reefs have been wiped out

• Invasive 'alien' species, such as sea-grasses, are thriving

• Coral and sea urchins have been destroyed, while mussels and clams are failing to grow shells.

The conference will also tackle the dangers posed to fish larvae, which are sensitive to high levels of acid, as well as the threat to commercial fish stocks.

'Many developing countries have seafood as their prime source of food,' said Dr Carol Turley, of the Plymouth Marine Laboratory. 'If they lose that, the result could be famine.'