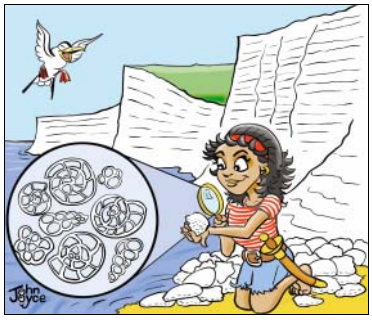
Black John the Bogus Pirate

By John Joyce

Avast there, Mateys! Even if you live many kilometres from the Sea, it still has an effect on you. One of the ways it does is described in the 'Second Principle' of 'Ocean Literacy', which says that 'The Ocean and Life in the Ocean Shapes the Features of Life on Earth'.

The Largest Land Features from the Smallest Marine Animals

For example, the chalk that makes up the mighty 'White Cliffs of Dover' along the south coast of England is made up of the fossil shells of trillions and trillions of microscopic marine animals called 'Foraminifera' - which still thrive in the Sea today. The shells in these cliffs can tell us a lot about the conditions in the Oceans where they lived millions of years ago.

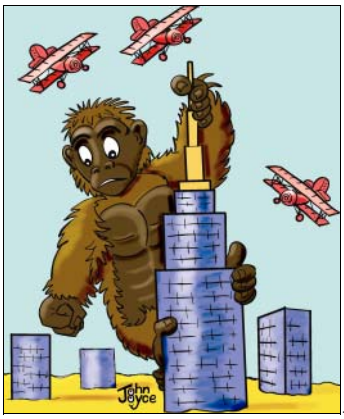


A problem that is being appreciated today is that carbon dioxide emissions (from our burning of 'fossil fuels' such as petrol, diesel and natural gas) dissolve in seawater and make the Ocean more acidic. This increased acidity could eventually become so acute that it could prevent tiny marine animals such as Foraminifera, and even bigger animals such as crabs, oysters and mussels from building their calcium carbonate shells – which dissolve in acid conditions.

This is just one reason why renewable forms of energy – such as wind energy, solar energy, wave and tidal power are so important in protecting the environment here on planet Earth.

For more information see: http://kids.britannica.com/comptons/art-107890/The-white-cliffs-at-Beachy-Head-in-East-Sussex-England

Oceans of Sand

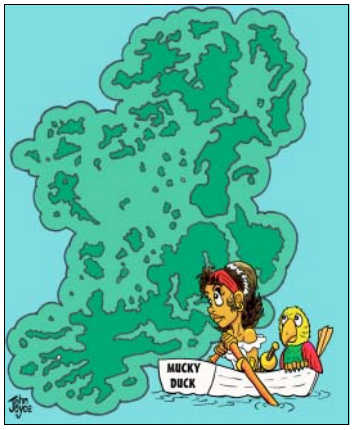


Images © John Joyce

The Ocean also contains some of the largest deposits of sand on the planet. Geologists have found what they believe could be the largest 'extrusive' body of sand on Earth – an incredible 2.4 CUBIC MILES (10 cubic kilometres) of it – not that far from Ireland – in the North Sea. 'Extrusive' refers to the fact that the sand erupted onto the sea floor due to the pressure of water between the sand grains.

If all this sand was to be dumped onto Manhattan Island in New York, it would cover that island to a depth of 525 feet (160 metres). To learn more, visit http://www.livescience.com/31295-giant-sand-mass-discovered.html . Meanwhile, in 2013 a completely new island appeared in the North Sea, off the coast of Germany, made up entirely of sand. It lies 15 miles off the coast of Schleswig-Holstein to the far north of Germany in a stretch of coastline known as the Wattenmeer, which has now been declared a marine national park. It is thought to be the result of normal tidal movements and has been named. 'Bird Island' because of the large numbers of gulls, eider ducks, common ringed plovers and even peregrine falcons found there.

The ISLANDS of Ireland?



One extremely important reason to limit the amount of 'Greenhouse Gases' that we create from the burning of fossil fuels, is that they could build up in the atmosphere and cause the Earth to heat up. This would lead to what is called 'Global Warming' which, in turn, would have the effect of melting the polar ice caps, releasing billions of tons of frozen water back into the Ocean.

This would not only interfere with the currents that flow in the Ocean – leading to increased storms and changed weather patterns – but would also result in a rise in sea level. To see what Ireland might look like if the sea level was to rise by only 70 metres and all the lowlands flooded – leaving us with 'The Islands of Ireland' - check out http://www.broadsheet.ie/2014/11/28/ireland-in-bits/ .

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