

## HOW LONG WILL THEY LAST?

Sand and shingle is constantly moving along the coast by a process called longshore drift. On the eastern Channel coasts, this movement is generally eastwards.

Hastings © Getmapping PLC 2006



Scientists now think that the only new beach material comes from flints eroded out of the Chalk and longshore drift. Studies by the **BEACHES AT RISK** Project suggest the input of flints from cliff erosion is actually very small.

**BEACHES AT RISK** has found that flint pebbles aren't as tough as you might think. As they are thrown together by the waves, they are constantly worn down.

So our beaches may not last as long as we once thought.

PF



**BEACHES AT RISK** is working to understand how we can best manage them for the benefit of both people and wildlife in the future.

## FURTHER INFORMATION

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## PARTNERS

**BEACHES AT RISK** is a partnership between the University of Sussex (Project Leader), East Sussex County Council, Kent Wildlife Trust, Université du Littoral, Université de Rouen, Université de Caen and SMACOPI.

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Pevensy Bay (AIT)



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# BEACHES ON THE MOVE

Dunes du Perroquet (PF)



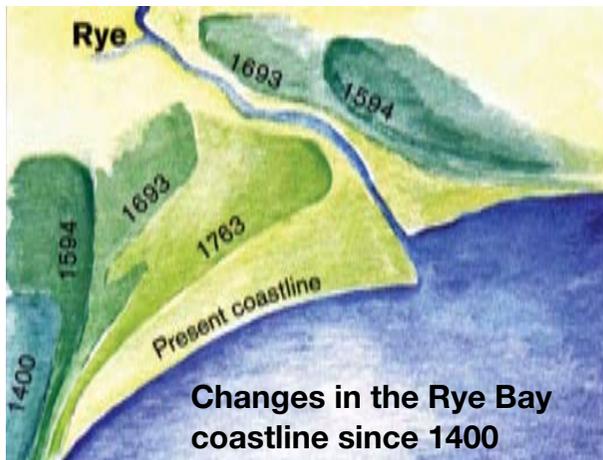
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## A FIXED LANDSCAPE?



BY

The beaches of southeast England and northern France are popular holiday destinations, and many of us live and work near them. Few realise that they defend our properties, and provide homes for rare wildlife. We seldom think how they were formed and assume they will last forever. But they are constantly changing, shaped by the sea and weather. We need to better understand them and the many benefits they provide. **BEACHES AT RISK** is working to do just that.



RHNR

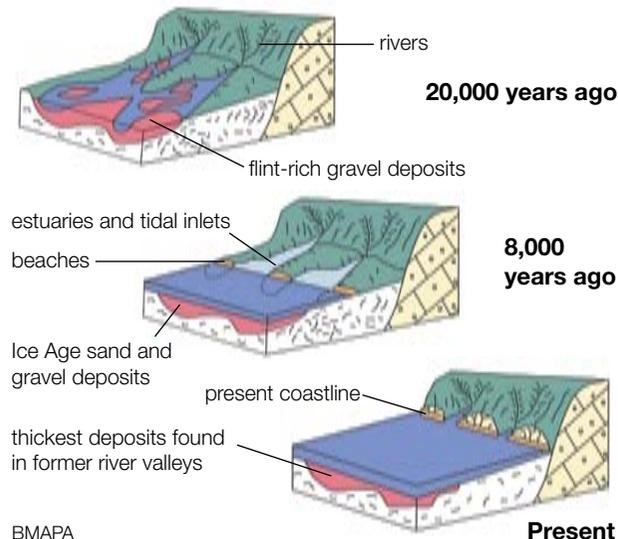
## SHINGLE BEACHES

Our shingle beaches are made of flint eroded out of the Chalk. The Chalk itself formed 70-100 millions years ago, from the shells of tiny plants floating in tropical seas. The flint comes from the skeletons of sponge-like animals that used to live in the sea.



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Constant wearing of the soft chalk by the weather and sea releases the harder flint, which forms pebbles on the beach. But this is only part of the story. Most of our flint pebbles were eroded out of the Chalk long ago. During the last Ice Age, sea levels were lower and much of the Channel floor was exposed. Flints eroded out of the surrounding hills were washed onto the Channel floor, then pushed onto the coasts as the ice melted and sea levels rose. Scientists think this offshore supply has now stopped, so our beaches are no longer being renewed.



BMAPA

## SANDY BEACHES

Some sand is carried down to the coast by rivers. Some comes from the erosion of sandstone cliffs. Sandy beaches are more common in northern France than in southeast England. This may be because the French coast has larger rivers and because tidal currents carry sand across the Channel from England to France.



Fairlight Cliffs (KC)

Sun-dried sand blows inland forming dunes which shift with the wind. But Marram grass thrives on this loose, mobile sand, and helps to bind the sand together, building higher dunes - perfect for protecting low lying land behind and providing homes for highly specialised plants and animals.



Camber Sands (AIT)

# MORE THAN MEETS THE EYE

The stunning white cliffs of the eastern Channel coasts are perhaps one of our best known and well loved landscapes. Natural erosion of the chalk by the weather and the sea keeps the cliffs white.



Fulmars and other seabirds find ledges on the cliffs provide perfect nesting places, safe from predators and with easy access to the sea and food for their chicks.

The eastern Channel coasts support thriving coastal towns built around fishing, tourism and industry.



Marram grass is a hardy coloniser that can cope with the shifting sands on the beach. It binds the sand together, building dunes, and helps other plants take hold.

As the sea wears away the chalk, each cliff fall adds new flint pebbles to the beach.



The fishing fleet at Hastings is based on the beach. Many coastal communities depend on fishing for their livelihoods. Wide, sheltered beaches provide safe places for hauling up small boats.



Beaches of southeast England and northern France attract millions of people each year. Sandy beaches are a particular magnet for holiday makers - as many as 25,000 people a day visit Camber Sands in the summer.



Shingle plants, adapted to cope with little fresh water and nutrients, fierce winds and salt spray, can develop on our wider beaches, forming a rare and beautiful wildlife habitat.

Beaches provide natural protection for our coastlines. They absorb wave energy, reducing the impact on cliffs and sea walls, and protect low-lying areas from flooding by the sea.