



Dunes and ecology

What is a dune?

How are dunes and the organisms that live on them important to the coastal ecosystem?

Have you been to the coast?

What did you see? Hear? Smell?

What kind of land or ground do you see on the coast? Is it all the same?

<https://www.youtube.com/watch?v=Yrm0UCCipU0>



Let's share out some observations:
What are some ground (or *substrate*)
types we see on the coast?



Rocky



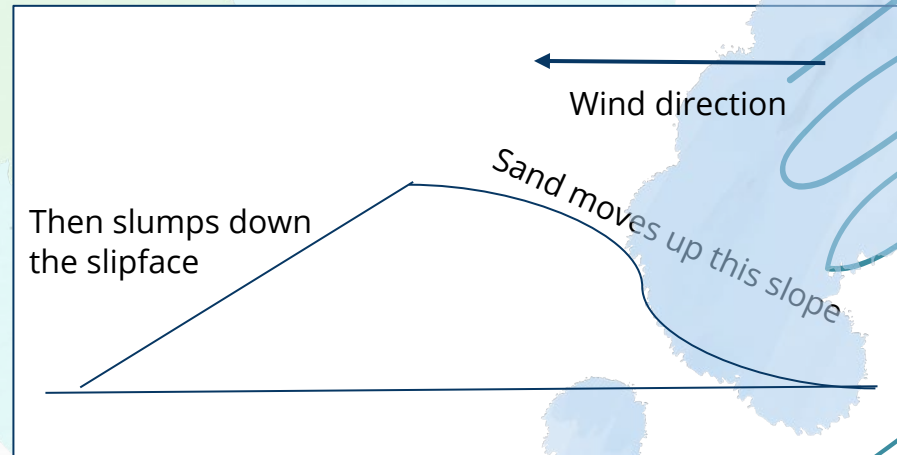
**Sandy
(sand dunes)**

How do sand dunes form?

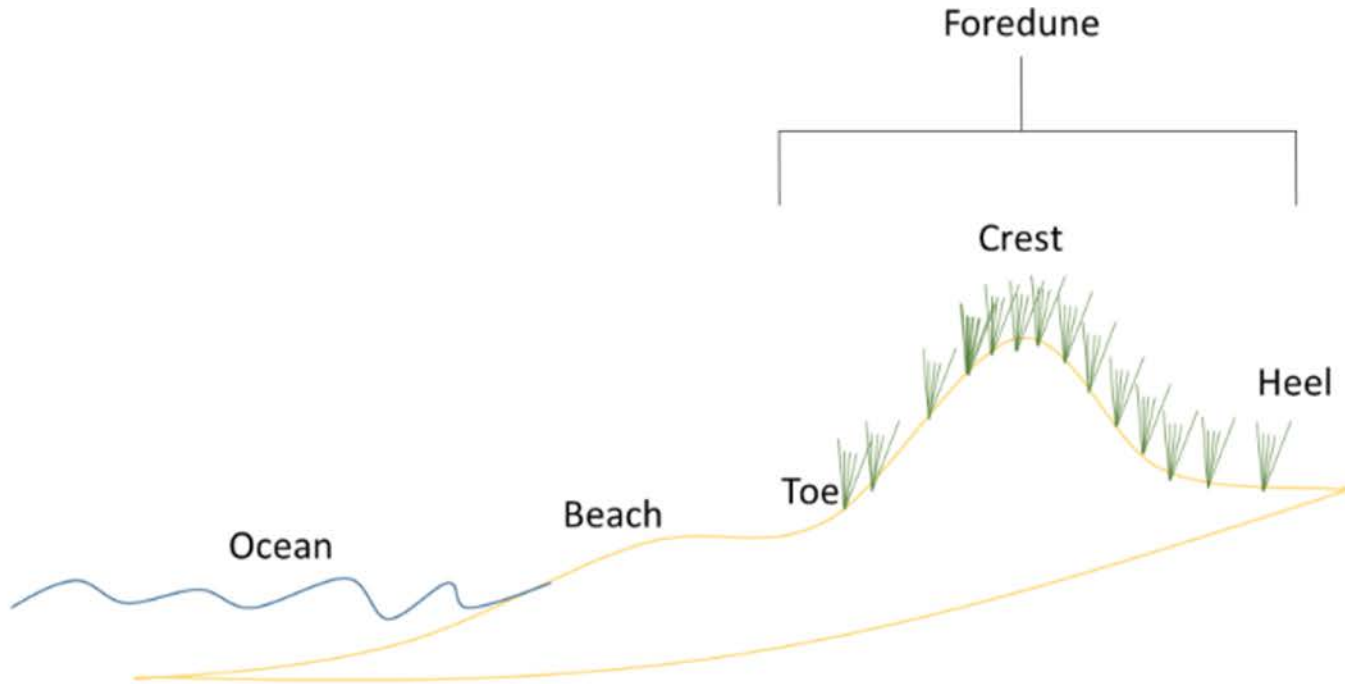
Dunes are built by beachgrasses that trap sand.



Eventually, feedback between sand deposition and beachgrass growth forms large, parallel dune ridges.



Parts of a sand dune



Parts of a sand dune

Dune: landform of sand driven by wind or water

Toe: beginning of dune closest to the water, where a steep incline and thicker vegetation typically begins

Crest: highest point on the dune

Heel: lower elevation area beyond the crest

What lives on the dunes?



https://www.illinoiswildflowers.info/grasses/plants/beach_grass.html



Tom Graham/ Brookline Bird Club



Doug Beghtel/ The Oregonian



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Beachgrass terms



Panicle: a group of flowers (*inflorescence*) that has multiple branches



Ligule: thin piece of tissue at base of beach grass stems (helpful in identification)

So...what? Why do we care?

Think in partners or groups.

Brainstorm and write down as many ideas as you can about why dunes, grass and other living things on the beach matter.



Be prepared to share ideas out loud.

Ecosystem services

Ecosystem services: the benefits that humans derive from the environment around them

Examples:



recreation



coastal protection



conservation

Your turn!

On the beach or in the classroom,
we can look at some dunes and
gather data to see what is
happening on our coasts.

Check out the Dune Profile Data
Analysis workbook next!