

Sediments in the Wind

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Delicate Arch, Arches National Park, Utah

Geologists describe erosion as any process or force that moves sediments to new locations. Wind, flowing water, moving ice, and gravity all transport sediments from place to place. These forces are the primary causes of erosion.

Have you ever stood on a sandy beach on a windy day? Did you notice that gusts of wind sent sand flying past? When air moves quickly across the ground, it picks up sediments and carries them away. Powerful winds can carry sediments for hundreds, even thousands, of miles.

On the windy beach, did your skin sting as it was struck by blowing sand? Wind carrying sediments can act like a sandblasting machine to wear away rocks in its path. When wind-driven sand hits rock, it chips off tiny pieces. The wind then whisks the pieces away. Over time, this form of weathering can polish rock surfaces or pepper them with tiny holes. It can shape huge blocks of rock into delicate stone arches and lofty towers. Weathering and wind erosion can also leave massive boulders balanced on slim supports. Have you seen wind-carved rocks like this?

As wind slows down, the sediments it carries fall back to Earth. They are deposited on land or in water. Where winds deposit sediments regularly, layers of sediment slowly build up. Over time, those layers may be transformed into sedimentary rock.