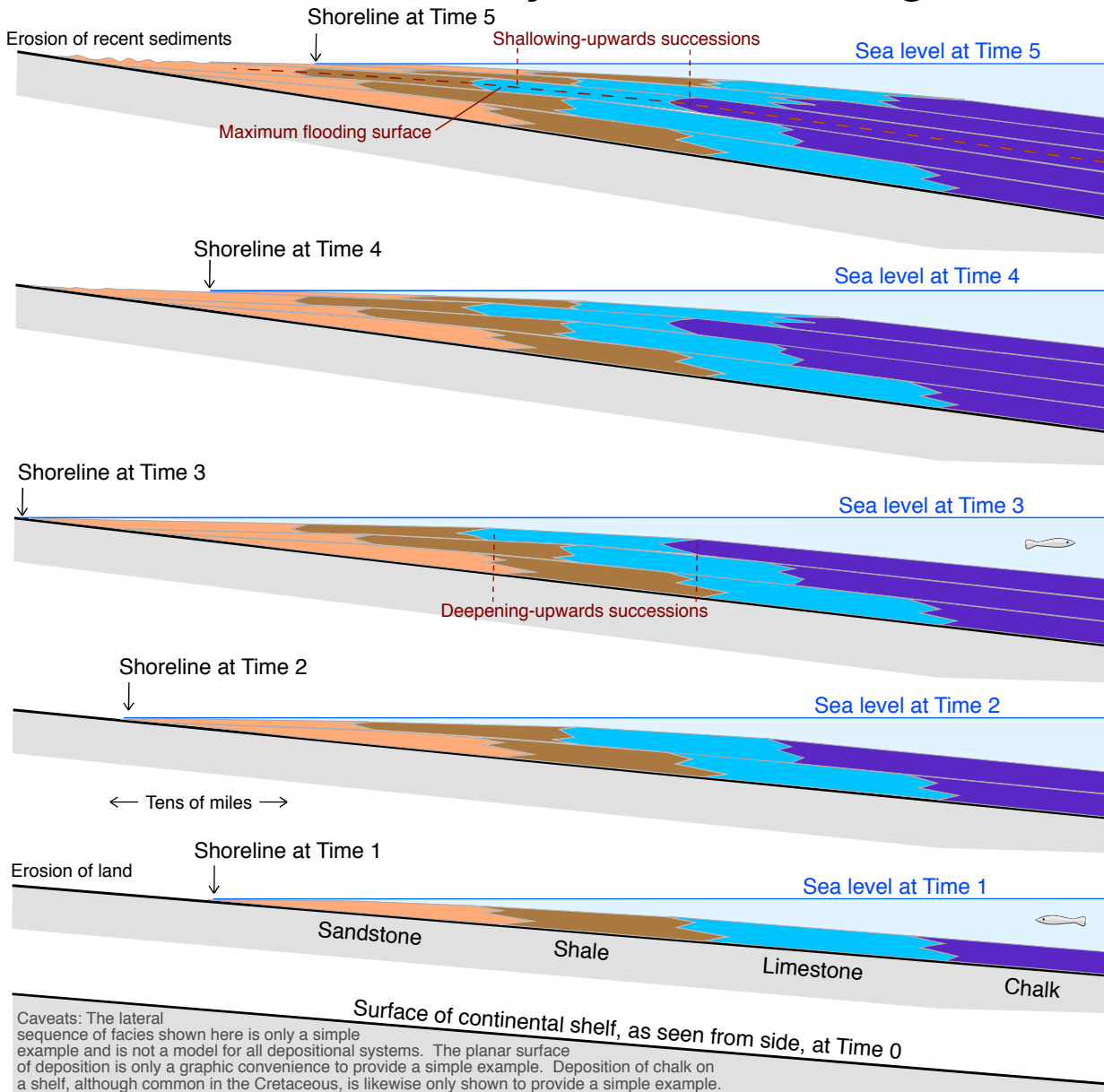


Movement of sedimentary facies with change of sea level



Facies: a body of sediment, or of sedimentary rock. Here, the sediments of a continental shelf are divided into four facies. We could instead speak of just two (siliciclastic and carbonate) or of many (supratidal sand, subtidal sand, silty mud, fine mud, muddy limestone, etc.)

Regression:

Sea level falls.*

Shoreline moves seaward.

Shallowing-upwards succession is deposited.

* More precisely, *relative* sea level falls as either true sea level falls or Earth surface rises or does not subside.

Transgression:

Sea level rises.*

Shoreline moves landward.

Deepening-upwards succession is deposited.

* More precisely, *relative* sea level rises as either true sea level rises or Earth surface subsides.

Caveats: The lateral sequence of facies shown here is only a simple example and is not a model for all depositional systems. The planar surface of deposition is only a graphic convenience to provide a simple example. Deposition of chalk on a shelf, although common in the Cretaceous, is likewise only shown to provide a simple example.