

Mineral Spotlight: Aragonite

With a brand new carbonate case on display, we are highlighting a carbonate mineral this week! Aragonite (CaCO_3) is a polymorph of the more common mineral calcite, meaning that its chemical formula is the same but its structure is different. Aragonite generally forms at higher pressures than calcite, but also can form biologically by creatures like corals, oysters, and snails precipitating the mineral to make their skeletons and shells. The aragonite specimen in the museum looks like a coral - because it is!

In the ocean, carbonates (minerals with CO_3) are constantly dissolving and precipitating. A few variables go into the balance of dissolved and crystallized carbonates. One is depth. The ocean has a "carbonate compensation depth" of about 4400 ft, below which carbonates like aragonite dissolve. Another factor is increased dissolved carbon dioxide in the ocean making waters more acidic. Waters with more carbon dioxide will dissolve carbonates, which is the cause of coral bleaching. As the water becomes more acidic, aragonite and calcite skeletons dissolve, like an osteoporosis epidemic for corals.

This feature was posted on Dice Museum social media by Museum curator Chafer Jolman on 8/21/23

