

# Ancient Connecticut Climates

## Part 1



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**200 million years ago**, Connecticut was roughly where Puerto Rico was today. Of course, there were no humans around back then. So, paleontologists and geologists often have to be detectives who gather clues and evidence to determine what ancient environments-paleoenvironments-may have looked like in the past.

We can often gather evidence from fossils to help us see back to the past, these are called 'indicators'. There are other indicators that can be just as important, if not more important when determining climate and environment. While not considered fossils, we call these other indicators 'sedimentary features'. We can see modern day examples of these features today and will discuss a few of these amazing indicators including fossils below.

The first indicator we often see in the sand at a beach or a lake right near the waters' edge – ripple marks. We know that ripple marks are made when the water moves in and out. The hardened ancient ripple marks that we find in Connecticut sedimentary rock are not all that different than the ripple marks you would see at a lake environment. This may indicate that in the middle of Connecticut where we find these hardened ripple marks, an ancient lake existed in the Early Jurassic Period!

The second indicator we see is the impact of raindrops preserved in rock, these are called rain drop impressions. Rain drop impressions indicate the presence of a monsoonal climate - heavy rain followed by periods with much less rain.

The last indicators are called Mudcracks. Mud is of course made up of tiny particles of dirt and water. When it dries and the water evaporates the dried mud shrinks and cracks. Mudcracks can tell us that the area once had water and then quickly dried. We can infer from this evidence that the water level was not constant through time. It could have had a wet season and a dry season: water flowing in, then drying up, and then flowing in again-season after season.

Most of the fossils we have in Connecticut are the footprints from dinosaurs and other ancient animals. What can they tell us about the ancient climate? Well, think about walking on the beach in dry sand. Does your footprint look a lot like a human foot? Probably not. The same is true for animals. Now what about walking on wetter sand, do those footprints look closer to the shape of a human foot? It certainly keeps shape better than the dry sand! The fact that our dinosaur tracks are so well preserved and clear proves that they were walking in wet sand-near a lake or beach! The Connecticut dinosaur tracks also did not experience the negative effect of tidal activity washing them away, as would be the case if we were to try making footprints on the beach. In addition, if a sedimentary feature is preserved right next to a footprint, it can tell us what was happening in the area right as that animal was walking through. If we see mud cracks in that rock layer, we know that the water level was changing quickly.

Now, we have learned that footprints need water to be preserved. However, a flow of water arriving immediately after preservation would destroy them. How would this be prevented? Well, if the water level is changing, the footprints could have had a chance to dry and harden before the next water flow arrived. The mudcracks indicate this is exactly what has happened.

Now that we understand how these footprints were formed, we need to start putting together the other pieces of the puzzle to figure out what these animals were doing in this place. In our next article, we are going to try to uncover why these footprints are even here in the first place, and what might have caused so many foot prints in one place at the same time.



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**CCSS.ELA.Reading:**  
Informational Text: 3-5.2, 3-5.3, 3-5.8  
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