Geology

Parsippany lies in the Newark Piedmont Basin. Around five hundred million years ago, a chain of volcanic islands crashed into the proto North America. These islands rode over the North American plate and created the highlands of New Jersey. The highlands start in western Parsippany. This strike also created land formations in the rest of eastern New Jersey. Then around four hundred fifty million years ago, a small continent, long and thin, collided with North America. This created folding and faulting in western New Jersey and southern Appalachia.

The swamps and meadows of Parsippany were created when the North American Plate separated from the African Plate. An aborted rift system or half gruben was created. The land area lowered between the Ramapo Fault in western Parsippany and a fault west of Paterson. The Ramapo Fault goes though the western part of the township.

The Wisconsin Glacier came into the area around 21,000 BC and left around 13,000 BC due to a warming in climate. As the glacier slowly melted, this created rivers, streams and lakes. Most of the township was under Lake Passaic when the Wisconsin Glacier melted. At that time, this was the biggest lake in New Jersey. Lake Passaic extended from the edge of the Ramapo fault in western Parsippany eastward to almost Paterson.

The area was first tundra when the Wisconsin Glacier melted and then as the area warmed formed taiga/boreal forests, along with vast meadows. Slowly Lake Passaic drained and formed swamps in the township, such as Troy Meadows and Lee Meadows (on the old Alderney Farm tract) are perfect examples. Due to the fact that there were lowlands next to highlands, a diversity of flora and fauna was created. Swamps and meadows next to oak forests created a diverse flora and fauna spectrum.

Source: http://en.wikipedia.org/wiki/Parsippany-Troy_Hills,_New_Jersey