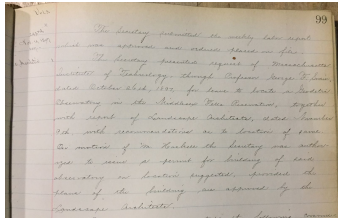


The MIT Geodetic Observatory - An Overview

In early antiquity, civilizations wanted to determine the shape and size of the earth. Some thought the earth was flat, while others thought it was rectangular. Over time, through observation and study, a greater understanding developed about the earth's true shape. Pythagoras, Aristotle, Plato and Eratosthenes and others applied math, science, and time. Eventually, the engineering science and practice of Geodesy was born to tackle these issues. As this was formalized in later centuries and the Massachusetts Institute of Technology (MIT) introduced a number of related educational programs - in Geodesy - for their classrooms and in the field.

The November 10, 1897 Metropolitan Parks Commission (MPC) minutes record MIT's desire to build a Geodetic Observatory in the Middlesex Fells Reservation. The MPC was a precursor to the Massachusetts Department of Conservation and Recreation (DCR). MIT's request was approved as recorded in the minutes:

"The Secretary presented request of Massachusetts Institute of Technology, through Professor George F. Swain, dated October 26th, 1897, for leave to locate a Geodetic Observatory in the Middlesex Fells Reservation, together with report of Landscape Architects, dated November 9th, with recommendations as to location of same. On motion of Mr. Haskell the Secretary was authorized to issue a permit for building of said observatory on location suggested, provided the plans of the building are approved by the Landscape Architects."



MIT Professor Swain was highly regarded as he also served as the President of the Boston Society of Civil Engineer around this time. The MIT Geodetic Observatory arrives to MIT's Civil Engineering Department in 1898 to add real-world experience into the Geodesy curriculum. The small structure was built on conservation land within the Middlesex Fells, within the borders of the City of Malden. (Image of the 1987 minutes of the MPC provided courtesy Sean Fisher and Massachusetts DCR.)The important work scientific research that once took place in this tiny scientific observatory continues in a far more advanced ways at the MIT

Haystack Observatory. ([Link is here.](#)) Related science includes

- Measuring tectonic plate motions.
- Measuring "post-glacial" rebound.
- Measuring and monitoring changes in the Earth's rotation and the wobble of its axis.
- Understanding the interaction between Earth's mantle and core.



Images of the Observatory from 1899 (est) to 2019 show an important historic, scientific and societal site open for anyone to visit. This excerpt is adapted from a longer document, the MIT Geodetic Observatory by [Brian DeLacey and Bill Ricker](#), which is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#).