



## Development of Geophysical Ideas and Institutions in Ottoman Empire

Ferhat Ozcep (1) and Tazegul Ozcep (2)

(1) Istanbul University, Geophysics, Istanbul, Turkey (ferozcep@istanbul.edu.tr), (2) Sirinevler Mehmet Sen School, Ministry of National Education, Istanbul, Turkey

In Anatolia, the history of geophysical sciences may go back to antiquity (600 BC), namely the period when Thales lived in Magnesia (Asia Minor). In the modern sense, geophysics started with geomagnetic works in the 1600s. The period between 1600 and 1800 includes the measurement of magnetic declination, inclination and magnetic field strength. Before these years, there is a little information, such as how to use a compass, in the Kitab-i Bahriye (the Book of Navigation) of Piri Reis, who is one of the most important mariners of the Ottoman Empire. However, this may not mean that magnetic declination was generally understood. The first scientific book relating to geophysics is the book Fuyuzat-i Miknatissiye that was translated by Ibrahim Müteferrika and printed in 1731. The subject of this book is earth's magnetism. There is also information concerning geophysics in the book Cihannuma (Universal Geography) that was written by Katip Celebi and in the book Marifetname written by Ibrahim Hakki Erzurumlu, but these books are only partly geophysical books. In Istanbul the year 1868 is one of the most important for geophysical sciences because an observatory called Rasathane-i Amire was installed in the Pera region of this city. At this observatory the first systematic geophysical observations such as meteorological, seismological and even gravimetric were made. There have been meteorological records in Anatolia since 1839. These are records of atmospheric temperature, pressure and humidity. In the Ottoman Empire, the science of geophysics is considered as one of the natural sciences along with astronomy, mineralogy, geology, etc., and these sciences are included as a part of physics and chemistry.