

Archives of the Central Institute for Meteorology and Geodynamics and the Austrian Hydrographic Service

Archives, libraries and logbooks of ship cruises around the world provide a wide range of geomagnetic observation data from different epochs and different parts of the world. This kind of Data is of immense value to extend our knowledge of evolution and implications of geomagnetic field variations into the past. Karl Friedrich Gauß and Alexander von Humboldt initiated the first global magnetic surveys around 1840. With the foundation of the Central Institute of Meteorology and Geodynamics (ZAMG) in 1851, the magnetic service settled in Vienna and opened the way for further magnetic surveys with main focus on the Austrian territory. For navigational purposes the declination was measured by captains and scientists even earlier, starting around 1600, during ship journeys to safely lead the ship through the oceans.

In 1851 Karl Kreil founded the Central Institute for Meteorology and Geomagnetism and performed the first magnetic survey of Austria and the former countries of the monarchy (Jonkers et al., 2003). Josef Liznar (*1852, †1932) was in charge of the department of geomagnetism during his time at the ZAMG and added his publication "Verteilung des Erdmagnetismus in Österreich - Ungarn", 1850 - 1890 and an equation for geomagnetic calculations to the archive. The few reports of old observations in the archive provide data from the years 1850 to 1900, containing works of Josef Liznar, Max Toperczer ("Jahrhundertgang Berechnungen, 1850 - 1950) and other employees at the ZAMG as well as notations of the expedition to Jan Mayen, Norway. Most of the other observational data in the archive is of younger age, starting around 1900 until 1975.

Whereas the archive mostly contains notations and records of the observations in the area of the former Austro - Hungarian monarchy and Austria of today, the official library of the ZAMG provides data from all over the world, taken during ship cruises or taken by the US Coast and Geodetic Survey. Additional publications about the old measuring instruments are available (see Figure 1).

Between the years 1889 and 1890, a geomagnetic survey was carried out for the area of Austria, where the Austrian-Hungarian Navy, located in Pola, Croatia, was ordered to measure the magnetic values for the provinces Istria and Dalmatia. 17 years later captain Wilhelm Kesslitz was asked by the Austrian

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Hydrographic Service to carry out new measurements of the magnetic declination along the coastline of the monarchy. The nautical charts were composed in old declination values, resulting from earlier magnetic surveys and therefore needed to be corrected and verified for recent investigations (Kesslitz, 1907).

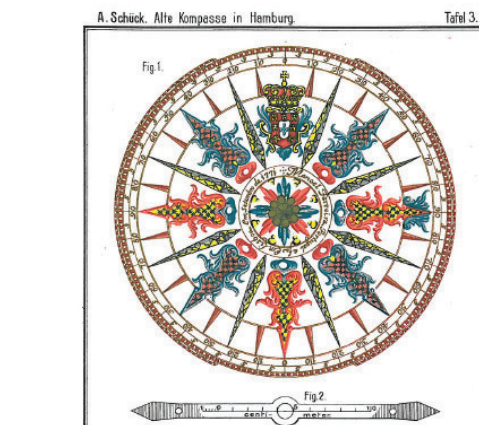


Figure 1: Ferreira's compass: instrumental dial (1) and magnet (2) (Schück, 1910)

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