Analyze the early 19th century's geomagnetic declination in Japanese archipelago from Tadataka Inoh's 67 volumes magnetic survey azimuth ledger Santou-Houi-Ki national treasure of Japan (The 14th report)

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The Santou-Houi-Ki is a national treasure of Japan recorded by Japanese Samurai cartographic surveor Tadataka Inoh in 1800 to 1816,consist of 67 volumes survey redger to produce the first survey map of Japan ,called "Costal Area Map of Japan,or Inoh Map(1:36000,1:216000,1:432000). In the Santou-Houi-Ki estimate 200,000 magnetic compass srvey azimuth data by acculacy of 0 degeree 05 minute unit were recrded, with the name or short description of magnetic compass survey execution reference point and target points. inoh's team carried out survey didnot apply the correction of magnetic declination. Because before the start of his survey ,Inoh tried to observe magnetic declination in Edo(Tokyo)was nearly zero. Inoh conducted the Survey on the assumption that the influence of magnetic declination to hissurvey map of Japan is at least. The surveyed region extends from North eastern coast of Hokkaido Island to Yakushima Island in western Japan. The geomagnetic declination at each province are different in long Japanese archipelago. We start the analysis,check the outline position of the survey execution reference point and target points from magnetic survey azimuth,or name of places recoded in Santou -Houi-Ki,Inoh Map,or from the description places in Inoh'sSurvey Diary,modern survey maps,today's digital maps,GPs,or local source books or maps etc. Itis able to calicurate backward the prcise position of of survey excution reference point,where the value of geomagnetic declination,subtracting the magnetic survey azimuth from the true azimuth to any target points is similar or approximate. Check the source books or msps of local history,adjust the precise detail position. Wemust execute interdisciplinary and simultaneous analysis of precise position of the survey execution reference point,target points(latitude and longitude less than 0.2 second level),real azimuth,geomagnetic declination from national treasure Santou-Houi-Ki.
We have already shown a proposal to modify the isogonic line of declination around Japanese archipelago in 1830,in Gauss and Weber's Atlas des Erd magnetismus.
Since there is almost no observation data of geomagnetic declination on land in Japan during more than 200 years long isolation period of Japan,analysis of Santou-Houi-Ki is very important.
Comparing the isogonic line of NOAA's 400 year's declination Viewer based on Andrew Jackson etal GUFM1 to
,NOAA's Isogonic line around Japanese archipelago in 1800-1810 is always slower more than 5 years at increase of declination west than the Isogonic line by analysis of Santou-houi-Ki. We are preparing to inject the geomagnetic declination data analyzed from Tadataka Inoh's Santou-Houi-Ki to Andrew Jackson GUFM1 and NOAA's 400 years declination viewer.

Keywords: Tadataka inoh's Santou-Houi-Ki, geomagnetic declination, iogonic line, NOAA's 400 year's declination viewer, Andrew Jackson etal GUFM1

