

Supplementary material for “The global geomagnetic field over the historical era: What can we learn from ship-log declinations?”

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This supporting material contains additional figures for the study “The global geomagnetic field over the historical era: What can we learn from ship-log declinations?”. Figure S1 illustrates the dataset of indirect observations and S2 shows the full dataset. Figure S3 provides another local prediction for the Azores. The additional location was chosen closer to Europe, to illustrate the effect of the regionally dense coverage on the different models. Figure S4 shows the South Atlantic Anomaly for several epochs, together with predictions at the core mantle boundary.

References

- Amit, H. et al. (2021). “Non-monotonic growth and motion of the South Atlantic Anomaly”. In: *Earth, Planets and Space* 73.38.
- Merrill, R. T., M. W. McElhinny, and P. L. McFadden (1996). *The Magnetic Field of the Earth: Paleo-magnetism, the Core, and the Deep Mantle*. Academic Press, San Diego.

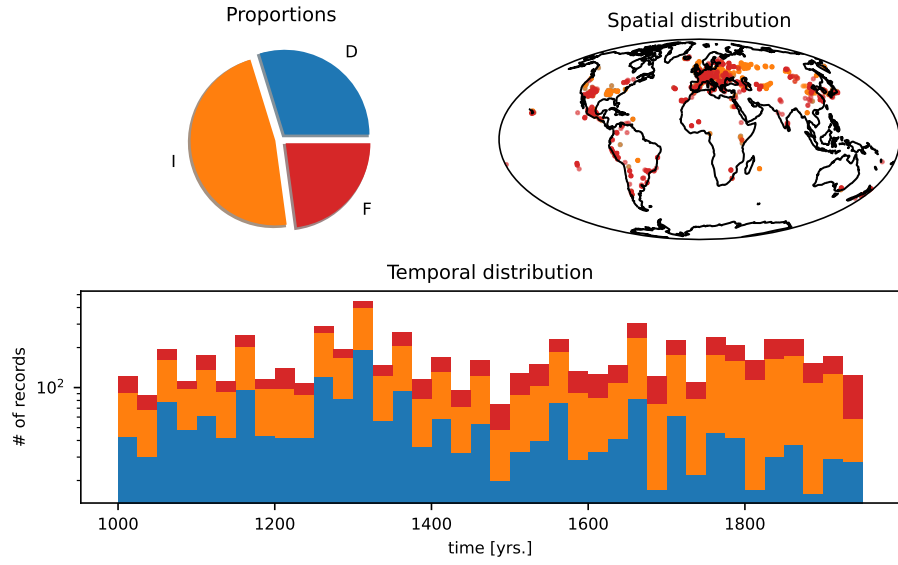


Figure S1: Composition of the dataset of indirect observations, together with spatial and temporal distribution.

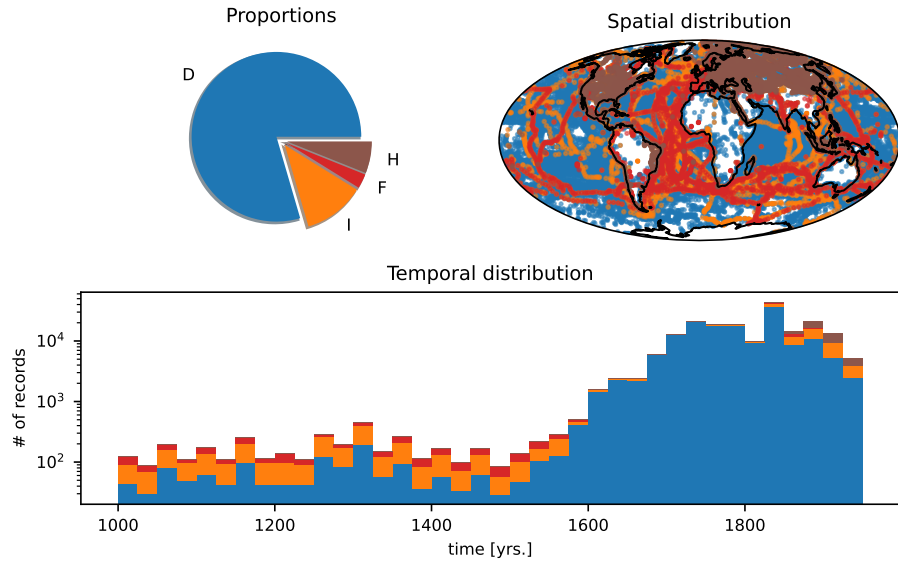


Figure S2: Composition of the full dataset, together with spatial and temporal distribution.

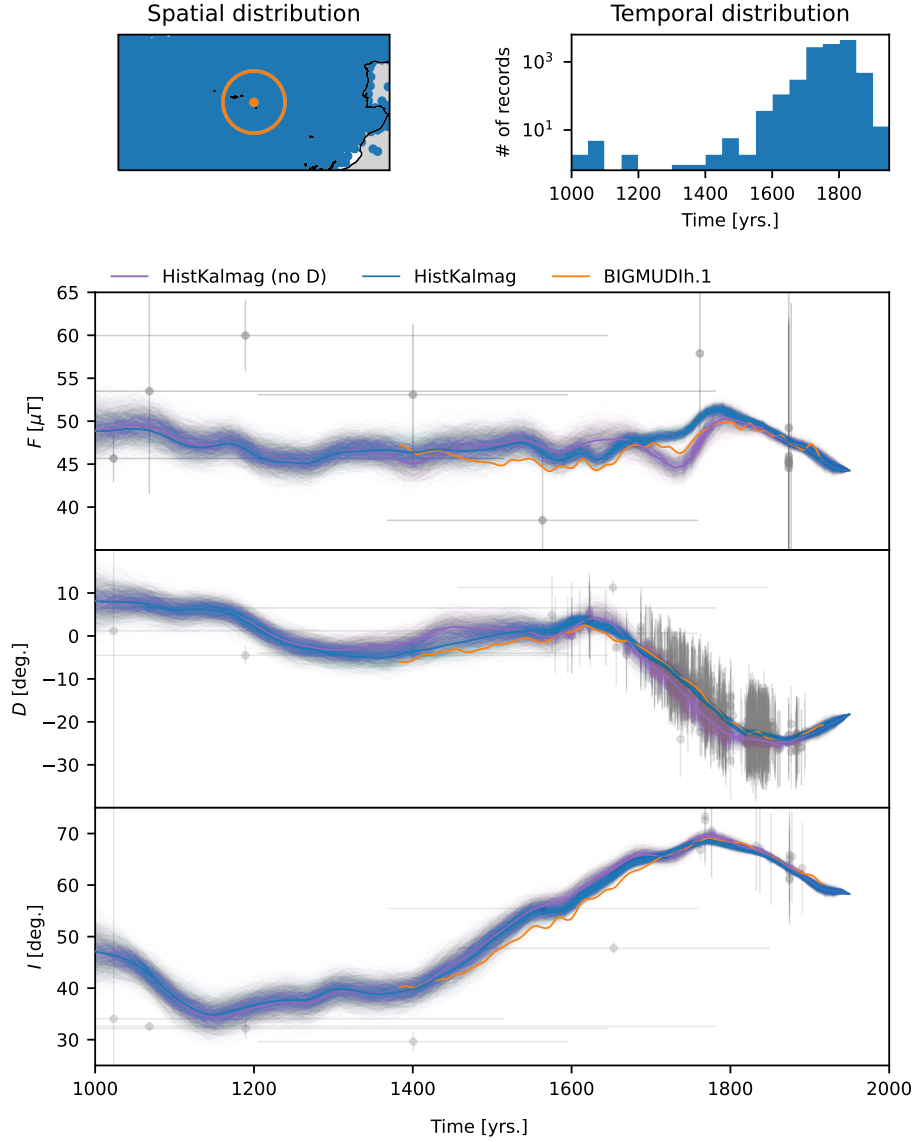


Figure S3: Local predictions of three different models at the Azores (37.778611°, -25.495°), together with spatial and temporal distribution of the surrounding data. The upper right panel contains all records from the spatial distribution, while only data from a 500 km radius (depicted in orange in the top left panel) is shown together with the local predictions. The errorbars reflect one standard deviation. Declination and intensity are translated along the corresponding axial dipole (Merrill, McElhinny, and McFadden, 1996). Predictions from the posterior distribution are drawn as transparent lines in the background, to illustrate the model uncertainties.

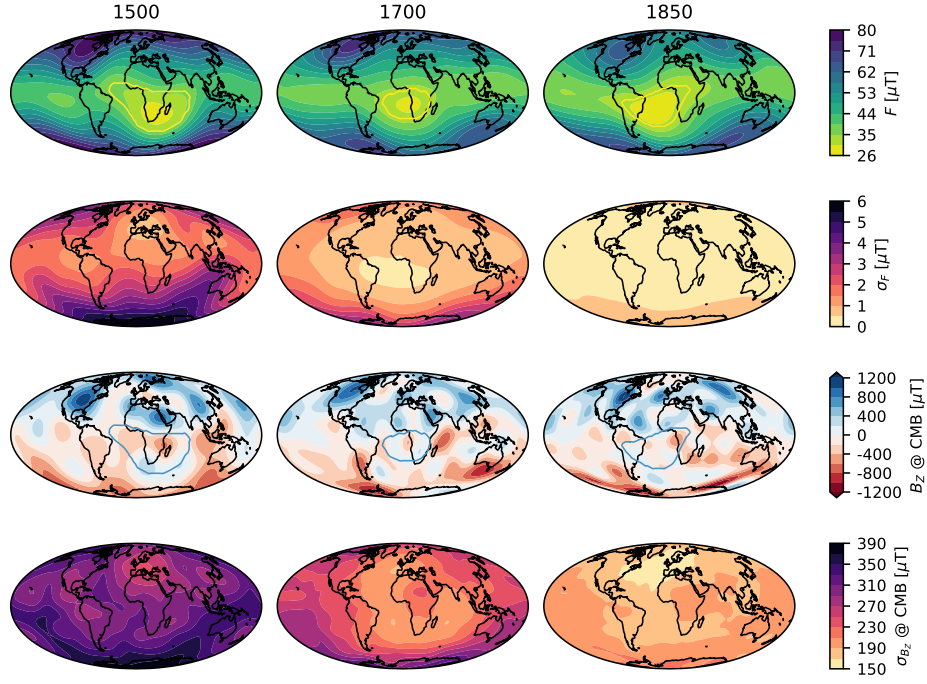


Figure S4: The South Atlantic Anomaly at several epochs. The top row shows the field intensity at the Earth's surface, the second to bottom row the radial field component at the core mantle boundary. The rows in between depict the standard deviations. The yellow/blue contour line indicates the S1 low field intensity region, according to Amit et al. (2021).