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Holocene magnetic field data and the MagIC database

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The number of data available from Holocene paleomagnetic studies has grown enormously over the past decade so that there are now around 10 000 archeomagnetic results (when declination, inclination, and intensity are considered as separate elements) and many more from high accumulation rate sediments. Such data find applications in a broad range of geomagnetic, dating, environmental and paleoclimate studies, including the calibration of variations in radiogenic isotope productions. In the global geomagnetic field model CALS7K.2 over 32 000 such results from the time interval 5000 BC to 1950 AD were used, and the number of available data continues to increase. It is important to archive results where they are accessible to the whole research community, so that regional compilations can be updated in a timely fashion, and the internal consistency of various data sets evaluated. Such an effort is under way with the development of the MagIC (Magnetics Information Consortium) database. We present a review of the Holocene data currently archived in MagIC, assess their limitations for various applications, and discuss possibilities for future improvements.