In the framework of the World Digital Magnetic Anomaly Map (WDMAM) project, a draft of a candidate of the 2nd version is presented. The collection and compilation of new datasets remain an ongoing effort. Over continental areas, large data gaps are seen in South America, Africa and Asia. They are still to be completed. Over oceanic areas, despite the efforts recently made to enhance the quality and consistency of the magnetic database, time and space gaps between marine tracks are still a difficult issue. In this presentation, we review the quality and geographical data distribution of all the available data sets. In oceanic domain, new interpolation techniques and crustal magnetization models are introduced to enhance the mapping quality. Finally, the spectral content of some of the data sets is discussed.