



World Digital Magnetic Anomaly Map – progress report

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World digital magnetic anomaly map (WDMAM) is a project that requires regional compilations of aeromagnetic, marine and ground magnetic datasets to be combined with the lithospheric field model derived using satellite data. Near-surface compilations are often stitched together to produce magnetic anomaly maps on continental scale. Such maps have played a key role in unraveling the structure and dynamics of the Earth's lithosphere at regional scales. However, studies have revealed that stitched magnetic anomaly maps are plagued with erroneous long wavelength information preventing us from accurate detection of large-scale features. In addition, changing main magnetic field from the Earth's core renders it difficult to define a temporal reference field and hence to combine datasets measured at different times, locations and altitudes. The present work outlines a methodology to combine airborne, shipborne and ground magnetic surveys to produce a short and a long wavelength grid. This long wavelength grid is then replaced with a more reliable long wavelength grid, the MF4 model, derived using CHAMP satellite data. The paper in particular, highlights the source of errors, limitations and a procedure to overcome a few major problems we face towards the realization of WDMAM.