Preservation of Historical Australian Seismograms, Magnetograms and Geomagnetic Absolute Observations.

Hugh Glanville[1], Andrew Lewis[1], Jonathan Bathgate[1], Liejun Wang[1], Bill Jones[1], Matthew Gard[1] and Patrick Burke[1]

1. Geoscience Australia, 101 Jerrabomberra Ave, Symonston, ACT, 2601

Abstract

Efforts are underway to digitally preserve these historical Australian seismograms, magnetograms and geomagnetic absolute observations. These datasets, are stored in original paper and film form, and although they are available on request, they are not easily discoverable or available at short notice to the public. The retrieval of analogue media is both time-consuming and labour-intensive and can cause further damage to deteriorating records. In this poster, we detail preserved examples of the handwritten records, microfilm as well as original paper records dating back to 1959 for magnetograms from Wilkes Geomagnetic Observatory, and to 1902 for seismograms from Melbourne Observatory. Different generations of collected data have challenges associated with the preservation efforts, including; legibility, compression, stability of the original medium and associated metadata. Additionally, costs and expertise of creating digital copies vary greatly between the original mediums of data recording. Our ongoing efforts have been targeted at prioritising digital copies of the originals to preserve the record from further deterioration, and, making it available freely for download for improved data discoverability. These archival records are incrementally being made available via publically assessable data servers through Geoscience Australia. Long term efforts following this will then be focused on digitisation for use with modern data analysis techniques.

Keywords: Seismograms, Magnetograms, Digitisation