

Observed Map

The observed field, contoured with an interval of 10 gamma wherever possible, is distinctly anomalous except for very limited and outstanding zones. Anomalies seem to result from induced magnetization by the earth's normal field. For large anomalies reference can be made to Figures A64 through A76 in GSA Memoir 47 for intra-basement anomalies at inclination 75° . These show that the negative components, here south of the southerly edges of causative bodies, commonly have amplitudes of 5% of the positive amplitude. Unpublished anomalies of thin plates, which can represent local structure, show that smaller anomalies in the range of 10 to 50 gamma have negative components of approximately one-third the value of the positive component.

Anomalies adjacent to or over the shoreland correlate directly with outcropping Jurassic dolerites. This terrane is at very shallow or zero depths under Stormy Bay east to $147^{\circ}45'$ and on Tasman Peninsula east to $148^{\circ}00'$. Possibly a Precambrian basement is moderately deep in the "flat" magnetic areas east of these limits.

The dolerite's identification is based on the similarity of these anomalies with those farther south which occur, for example, in a narrow band parallel to the shore southward from $42^{\circ}05'$. This band is ten miles wide. Its abrupt termination is thought to be the faulted or intrusive edge of the dolerites.

Note also that the marked dissimilarity between the Paleozoic granites and the Jurassic dolerites can be traced along the north-south string of islands between $42^{\circ}00'$ and $42^{\circ}45'$ where both types occur on outcrop.

The Jurassic dolerite terrane may be followed around the coast to its abrupt termination along a north-south contact which is coincident with the Permian-Jurassic contact with its Paleozoic flank approximately at $146^{\circ}45'$. The Jurassic system of anomalies had previously lost its prominent north-south grain in places as the dolerites apparently form the shape of Tasmania in the southwest where arcuate northeast-southwest systems occur.