Gravity Survey along the Lines of Precise Levels throughout Japan by Means of a WORDEN Gravimeter.

Part IV. Map of BOUGUER Anomaly Distribution in Japan Based on Approximately 4,500 Measurements.

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The work to determine the gravity value at every other one of the bench marks laid along the lines of precise levels throughout Japan (except Hokkaidô) by means of a WORDEN gravimeter was started in the spring of 1951 under the writer's supervision.

The work progressed satisfactorily and after a comparatively short time of three years, it successfully arrived at its goal in June, 1954. What we had in mind at the outset was almost perfectly realised. The gravity stations which were occupied totalled about 3,500 in number. The distance covered by our field party was well over 40,000 km. Such a big project as this could have never been accomplished without good team work on the part of those who are directly engaged in the field and desk works and also the hearty supports, both of direct and indirect nature, on the part of those with whom we have been in touch concerning the administrative and financial affairs connected with the present work. It gives the writer great pleasure to record with thanks the names of those who have been particularly helpful in promoting and accomplishing the present work:

Prof. Nobuji NASU
Director, Earthquake Research Institute,

Prof. Hiromichi TSUYA
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Computor, Department of Geophysics, Tokyo University.

However the writer is not suggesting that these are the only persons who have helped us. On the contrary, a number of officials and individuals not named here have assisted us greatly in various ways. It is only because there are happily too many of them that their names are not exhaustively listed here. None the less the writer's deep thanks go to these persons.

The results of measurements have been published in the proceedings of the Japan Academy (TSUBOI et al. 1953, 1954) in a series of short reports separately for each of the seven districts into which Japan is divided, and much more detailed reports with numerical data in the Supplementary Volumes of the Bulletin of the Earthquake Research Institute (TSUBOI et al. 1953, 1954). So far two of the latter series have appeared and it will take another year or two before all the data can be published in a printed form. But since we have already the final results, we thought it profitable and advisable to publish the map showing the BOUGUER anomaly distribution throughout Japan prior to the completion of the detailed serial reports with numerical tables.

In the meantime, the Geographical Survey Institute team has made a gravimeter survey in Hokkaidô following a program like ours. They have finished approximately 1,000 measurements on that island. Thus there are now about 4,500 available gravimeter measurements altogether, on the basis of which to investigate the geophysical structure of the Japanese islands, one of the most interesting regions in the world from the geophysical point of view. Dr. K. MUTO, Director of the Geographical Survey Institute, has kindly consented to the inclusion of the results obtained by his Institute in our map so as to make a unified study possible. This, I believe, will be welcomed by those who are interested in this problem.

The map attached here shows the distribution of the BOUGUER gravity anomalies in Japan based on the International Formula. The contour lines are drawn at every 5 mgals. While the positions of the contour lines are accurate where they meet the lines of measurements, no similar accuracy can of course be claimed for those in the intervenient parts.

The interpretation of the distribution of the BOUGUER anomalies is of great importance and interest, and is naturally being attempted by the writer. However it will take a year or two at least for the whole work to be finished and the results to be published. The object of the present publication is only to furnish the map to those who are interested in the present work so as to make their own investigation possible.

References

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Part 1 Shikoku District. Proc. Japan Acad., **29** (1953), 235.
Part 2 Chûgoku District. ibid., **29** (1953), 311.
Part 3 Kinki District. ibid., **29** (1953), 316.
Part 4 Tôhoku District. ibid., **29** (1953), 503.
Part 5 Chûbu District. ibid., **29** (1953), 550.
Part 6 Kantô District. ibid., **29** (1953), 556.
Part 7 Kyûshû District. ibid., **30** (1954), 594.

ウォルドン重力計による日本全国の重力測定
第四報　ブーゲー異常分布地図

坪　井　忠　二

1951 年春に着手した重力測定は，約3年という比較的短時間を費しただけで，1954 年 6 月に全部完了した．測点数は約 3,500 である．

一方地理調査所は，北海道において約 1,000 点の測定をすませた．

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