List of Danish Geodetical and Geophysical Publications 1958

(Compiled by Dansk Geofysisk Forening)

Published in Copenhagen 1958 unless otherwise stated

H. C. Aslyng and K. J. Kristensen: Investigations on the Water Balance in Danish Agriculture. — Royal Veterinary and Agricultural College. Yearbook 1958.

In addition to investigations on soil physics and agriculture this paper contains measurements of temperature, air moisture, wind speed, and radiation from sun and sky, the measurements giving the basis for calculation of potential evaporation at Højbakkegård 1953–57.

A. F. Bruun and A. Kiilerich: Bathymetrical features of the Bali-Lombok strait. — Marine Research in Indonesia, No. 3, pp. 1–6. — Djakarta, 1957.

The paper gives additional information about the bathymetry of the Bali-Lombok Strait, collected by the "Galathea" when passing the strait during the Danish Deep Sea Expedition Round the World 1950–52. The bottom relief showed up to be very rugged.—The importance of the strait in considerations about past sea-levels is stressed.

Frode Ebert og J. M. Lyshede: Afstrømningsundersøgelser i Furesøens nedbørsområde 1951–53. — Folia Limnologica Scandinavica, No. 10, p. 13–16.

The complicated water balance in the Furesø has for the mentioned two years been computed on basis of numerous measurements of discharge in affluxes and outlet.

The paper is part of a limnologic study (Furesøundersøgelser 1950–54) on the increasing entrophy of the lake. This study has been accomplished by several authors under the leadership of Kaj Berg.

Geodætisk Institut: Bulletin of the seismological station København

No. 69. Oct–Dec 1957. 92 earthquakes and microseismic readings every 6 hours.
No. 70. Jul–Dec 1957. Additional microseismic readings for IGY days and periods.
No. 71. Jan–Mar 1958. 82 earthquakes and microseismic readings every 6 hours.
No. 72. Apr–Jun 1958. 138 earthquakes and microseismic readings every 6 hours.
No. 73. Jan–Jun 1958. Additional microseismic readings for IGY days and periods.
No. 74. Jul–Sep 1958. 140 earthquakes and microseismic readings every 6 hours.

Bulletin of the seismological station Scoresbysund:

No. 28. Jan–Dec 1954. 580 earthquakes.
No. 29. Jan–Dec 1955. 371 earthquakes.

Bulletin of the seismological station Nord:

No. 1. Sep–Dec 1957. 215 earthquakes.
No. 2. Jan–Mar 1958. 123 earthquakes and microseismic readings every 6 hours, including the period from sept 1957.

Henry Jensen: Vor klodes dybe indre. (The deep Interior of our Earth. — Vor Viden 1957–58, pp. 529–537.

Henry Jensen: A Procedure for the Determination of Direction of Approach of Microseismic Waves. — Geodætisk Institut, Meddelelse No. 36.

A method is developed for the determination of the direction of approach of microseismic waves. At the moments to which Z is maximum the slopes of the two horizontal records are read. The ratio between those two slopes gives the velocity of the earthparticle. The mean of several velocity vectors gives the direction of approach. The method is applied in some cases by use of the Swedish stations together with København.

Elvin Kejlsø: Gravity Measurements in Western Greenland 1950–1952. — Geodætisk Instituts Skrifter 3. Række, Bind 27.

The paper deals with the gravimetric measurements made by the Frost gravimeter in order to get a rational gravimetric survey of Western Greenland. A description is given of the

theory of the instrument which has proved to be exceedingly good for the purpose having a very small and constant drift. The calibration of the instrument has been made on the part of the European calibration line going from København to Hammerfest. The measurements in Greenland covered the area from Kap Farvel (60° N) to Disko (69° N). 194 stations have been measured. The standard deviation of a single observation is 0.27 mGal. Free air and Bouguer anomalies are given. Comparisons with Nørgaard's and Martin's results have been made. Finally an adjustment of Frost and Askania measurements in Denmark has been made giving as result that the Askania measurements in Denmark need no correction to fit with the values on the European calibration line.

ELVIN KEJLSØ: The European Gravimetric Calibration Line. Danish Part. — Geodætisk Institut Meddelelse No. 37.

The paper describes the stations of the Danish part of the calibration line and presents the result of the measurements with Frost and Worden gravimeters at the stations. An appendix by H. Dürbaum presents German measurements at the same stations with the Askania gravimeter.

KNUD LASSEN: On the Variation of the Magnetic Activity at Godhavn. — Det Danske Meteorologiske Institut. Communications Magnétiques etc., No. 23.

The magnetic activity at Godhavn is composed of two main types. One type shows a daily variation with a maximum at local magnetic noon and a minimum at midnight, and a yearly variation with maximum at summer solstice and minimum at winter solstice. During the sunspot cycle this activity increases with increasing solar activity.

The second type of activity, which is closely related to auroral activity, has its maximum in the evening hours. The variation through the sunspot cycle is nearly opposite in phase to the sunspot number. It is concluded that the position of the zone of maximum auroral activity is varying in such a manner that it is nearest to the pole in sunspot minimum years.

I. LEHMANN: On Lg as read in North American records. — Annali di Geofisica, vol. X, pp. 351–370, Roma 1957.

The short-period surface wave Lg was identified in a great number of North American records and its velocity was determined. 17 figures showing clear Lg phases are presented.

I. LEHMANN: On phases in earthquake records at epicentral distances of 105° to 115°. "Contributions in Geophysics: In honor of Beno Gutenberg" 1958. Pergamon Press.

The most prominent phases recorded at epicentral distances 105° to 115° were studied. I. S. S. readings were used and the European records of the Chile earthquake of 1 December 1928 were examined. It was found that the precision with which the phases were recorded in different shocks varied. Sometimes the travel times scattered greatly while in other cases time-curves were well determined. These, however, were not always at the predicted height.

M. V. LORCK: Isforholdene i de arktiske have. (The state of ice in the arctic seas). — Tillæg til naut.-met. årbog 1955.

ASGER LUNDBAK: Review of Geophysical Papers, Nos. 36–60, Geophysical Institute at the Czechoslovakian Academy. — Geophysics, vol. 23, p. 356. Tulsa, 1958.

ASGER LUNDBAK: Review of "Investigations of the Interior of the Earth" by L. Egyed, Annal. Univ. Scient. Budapest., Sect. Geol., Tom. 1. — Geophysics, vol. 23, p. 851. Tulsa, 1958.

Meteorologisk Institut: Annuaire Magnétique, 2ème partie: Le Groenland A. Godhavn, 1950.

JOHANNES OLSEN: Jordens lufthav og det geofysiske år. — Grønland p. 161, 1958; Hvad jordmagnetisme, nordlysundersøgelser og kunstige måner kan fortælle i det geofysiske år. — Grønland p. 272, 1958.

A review of the researches of the atmosphere during the international geophysical year.

JOHANNES OLSEN: Nordpolen er antagelig vandret tilfældig. — Ingeniørens Ugeblad 18. okt. 1958.

A review of a note of T. Green in Nature august 1958 which seems to indicate that the polar wandering in former geologic periods found by palaeomagnetic measurements has had the character of a random walk.

O. LANG RASMUSSEN: Om anvendelsen af elektronregnemaskiner ved vejrforudsigelser. — »Ingeniøren«, Dec. 1958.

SVEND SAXOV: Gravity in Lolland. — Geodætisk Institus Skrifter 3. Række No. 28.

By means of a Worden gravimeter 1030 detail gravity stations have been established in Lolland and surrounding islands. An analysis of previous pendulum stations is also contained in part I together with principal data and an account of accuracy. In part II the Bouguer anomaly map is analysed; the geology of the region concerned is reviewed; likewise magnetic conditions are discussed and mention is made of vertical movements based upon precise levelling. The correlation between geology and gravity is commented on.

SVEND SAXOV: Gravity in Western Greenland — From 60° N to 69° N. — Geodætisk Institus Skrifter 3. Række No. 29.

The results of Worden gravimeter measurements along the northernmost part of the European gravimeter calibration line from Oslo to Hammerfest, Norway, are given, the standard error being 0.05 mGal for a station. In chapter II an account of the details of the gravity survey in the area between Søndre Strømfjord and Diskobugten, Greenland, is presented together with the principal facts for 398 stations. Analysis of the accuracy of the observations is given and measurements carried out at stations previously measured by M. Martin are analysed. The Bouguer anomaly map is discussed in chapter III and the chapter closes with the disucssion of the relationship between gravity and land uplift.

SVEND SAXOV: Keldseå Diabas Dike and Gravity. — Geodætisk Institut Meddelelse No. 35.

15 gravimetric traverses have been carried out by means of a Worden gravimeter across Keldseå diabas dike on Bornholm, the dike having a width of 60 m on the northeastern coast. Standard deviation of a gravimetric reading is 0.018 mGal and the distance between stations varies from 25 to 50 meters. Results are presented in tables, graphs, and maps. The dike which can be traced 12 km inland by geological evidence is visible by gravimetric indication across the island in a total distance of about 20 km. Density determination have been carried out based upon geological samples and calculations of the gravimetric effect of a dike are presented.

SVNED SAXOV: Kalkundergrunden ved Taastrup (The chalk subsurface near Taastrup). — Meddelelser Dansk Geologisk Forening 13, pp. 514–517.

The gravity attraction for the buried valley in the Danian Bryozoan limestone near Taastrup has been calculated, the result being a width of about 250 m and a depth of 50 to 75 m. A density contrast of 0.4 has been employed. The thickness of the glacial drift covering the valley is 15 m. For the gravimetric surveying, confer the 1957 list.

SVEND SAXOV: The Uplift of Western Greenland. — Meddelelser Dansk Geologisk Forening 13, pp. 518–523.

Levelling results from 4 stations are given, the height being defined as the difference from the mean value of a series of well defined balanus stripes to the point cutted in the rocks. The figures indicate that an annual uplift of about 14 mm has taken place from 1946 replacing an annual subsidence of the same amount for the time prior to 1940, no movement taking place from 1940 to 1946. Two old ring bolts previously measured in 1879/80 and 1939 were remeasured, the results being an uplift from 1939 to 1957 of the same order. Mention is made of horizontal displacement which seems to be out of question.

SVEND SAXOV: Bevægelsen af Vestgrønland. — Grønland 1958 pp. 361–367; Ringbolte, Vandstand og Tran i Umanak — ibid. pp. 419–422.

The uplift of western Greenland and related problems presented in a more popular form.

INGOLF SESTOFT: Klima og livsvilkår 1–4 (privat tryk).

JENS SMED: Synoptic Hydrographic Charts, June 1957–February 1958.

Monthly charts showing surface water temperature and salinity, wind and current for the North Sea and adjacent waters. For details see the 1953 list.

JENS SMED: Monthly Anomalies of the Surface Temperature in Areas of the Northern North Atlantic in 1956. — Monthly Anomalies of the Surface Temperature in an Area of the Eastern Coast of Shotland in 1956. — Annales Biologiques, Vol. XIII, pp. 10–11 and p. 62.

Positive anomalies (the period 1876–1915 being taken as standard) still predominate. In the northern North Atlantic region as a whole the average anomaly over the year is 0.5° C., the same as in 1955. In the Scottish area, however, the average anomaly in 1956 is 0.1° C. only.