# NOTES AND QUERIES

NOTE.

5. *TRANSMISSION OF METEOROLOGICAL CHARTS BY RADIO IN EUROPE.*

(Re Note N° 3, *Hydrographic Review,* Vol. III, N° 2, July, 1926, pages 197-199).

" The Broadcasting station at Munich will henceforth transmit meteorological charts by radio every week-day morning about 9 a.m. and on Sundays and holidays at 12.15, using the *Dieckmann telephotographic system.*

"According to the Manchester Guardian, the Munich distributing station receives for this purpose from the Central Meteorological Office of Bavaria a chart made with a special non-conducting ink traced completely on a conducting sheet of metal.

" The chart is rolled upon a drum turned by a clockwork mechanism, and on this drum rests a very fine transmitting stylus, which is moved along parallel with the axis of the drum. Thus the stylus describes upon the chart a spiral of very closely spaced lines.

" According as the stylus is in contact with a conducting or a non-conducting part, a circuit is opened or closed and the currents are sent by wire to the Munich station, which in turn transmits them by radio. At the receiving stations a special chemical paper is used. Each transmission lasts about five minutes ." (Extract from *La Nature,* July, 1926, and the *Monthly Weather Review,* August, 1926).

QUERY :

6. *NAME OF COASTAL AREA UNCOVERING AT LOW WATER.*

The *Encyclopaedia Britannica* gives the word " foreshore " to indicate " that part of the sea shore which lies between the high and low water mark at ordinary tides. " On large hydrographic charts this area is shown as the portion of the coast line between high water mark and the low water mark at the zero of the tidal datum, but the question is whether the word " foreshore " shall be applied to it in hydrography. The corresponding word in French is " rivage ". Can anybody suggest a better term than " foreshore " in English, or " rivage " in French for this area from a hydrographic standpoint?

QUERY :

## 7. *NAMES FOR LUNAR POSITIONS.*

In books and articles dealing with tidal subjects the expressions " Moon's maximum declination " and " Moon's declination zero " are continually used. For the sun these positions are referred to as " Soltice " and " Equinox ". Are there not similar words for use in reference to the moon, and, if not, could not such words be coined and introduced into general use?

The enquirer suggests that the point of maximum declination of the Moon might be called either " Selenotrope " or " Lunavir " which are derived from Greek and Latin respectively and both mean " Moons turning point ". For the position of no declination some such word as " Lunatrave " (suggesting the crossing of the equinoctial) might also be adopted.

---

NOTE.

## 8. *MARINE EXPEDITION.*

" The Japanese Navy is going to send the special service ships " Yamato ", " Koshu " and " Manshu " to the South Seas in March 1927 to make a thorough study of the warm black current in the Pacific.

" This current moves from the west coast of Central America, along the equator through the South Seas and then past Formosa, Ryuchu, Kyushu, Shikoku, Honshu and to Kurile where it disappears, meeting the cold currents there.

" In the expedition will be included a number of civilian scientists from universities and marine organizations.

" Among the subjects to be investigated are the growth of fishes and the observation of air currents by aeroplanes. The expedition will contribute much to marine science. "

---

NOTE.

## 9. *TABLES FOR THE INTERNATIONAL ELLIPSOID OF REFERENCE.*

(*Extract from the* Bulletin Géodésique N° 9, March 1926, *published by the Section of Geodesy of the International Geodetic and Geophysic Union.* Secretariat : 78, rue d'Anjou, Paris (8^me^).

The calculation of the tables of the international ellipsoid of Reference on the sexagesimal system has just been completed in the Secretariat of the Section of Geodesy of the International Geodetic and Geophysic Union.

The basic parameters adopted are the following :

$$\text{half major axis } a = 6.378.388^{m}$$
$$\text{compression } \alpha = 1 : 297{,}0$$

(See below for the quantities derived therefrom)

The tables give for each sexagesimal minute of arc of Latitude ($L$) :

1. From $L$ 0° to $L$ 45° the values of $\frac{1}{log.\ W^2}$ to 12 places of decimals ($W^2 = 1 - e^2\ Sin^2\ L$). From $L$ 45° to $L$ 90° the values of $log.\ V^2$ to 12 places of decimals ($V^2 = 1 + e'^2\ Cos^2\ L$).

2. From $L$ 0° to $L$ 90° the values of $log.\ N$ to 10 places of decimals with the tabular differences ($N$, major normal maximum radius of curvature in the normal section perpendicular to the plane of the meridian :

$$N = \frac{a}{(1 - e^2\ Sin^2\ L)^{1/2}} = \frac{a}{W} = \frac{c}{V}.$$

3. From $L$ 0° to $L$ 90° the values of $log.\ R$ to 10 places of decimals with the tabular differences ($R$, minimum radius of curvature in the normal section of the meridian).

$$R = \frac{a\ (1 - e^2)}{(1 - e^2\ Sin^2\ L)^{3/2}} = \frac{a\ (1 - e^2)}{W^3} = \frac{c}{V^3}$$

4. From $L$ 0° to $L$ 90° the values of $log.\ \sqrt{NR}$ to 10 places of decimals with the tabular differences ($\sqrt{NR}$, mean radius of curvature).

5. From $L$ 0° to $L$ 90° the values of $log.\ \frac{1}{2NR\ Sin\ 1''}$ to 6 places decimals ($\frac{1}{2NR\ Sin\ 1''}$, factor of spherical excess).

6. From $L$ 0° to $L$ 90° the lengths of the arcs of parallels of one sexagesimal minute, to the hundredth of a millimetre, with the tabular differences.

7. From $L$ 0° to $L$ 90° the lengths of the arcs of meridians from the Equator to the latitude $L$, to one millimetre, with the tabular differences.

From now, until arrangements are made for the publication of these tables, extracts therefrom may be obtained by application to the Secretariat of the Section of Geodesy.

The calculation of similar tables for the decimal system is to be undertaken.

G. PERRIER.

| | | |
|---|---|---|
| half major axis, | $a = 6\ 378\ 388^{m}$ | $\log a = 6.8047\ 1093\ 4025$ |
| compression, | $\alpha = 0{,}003\ 367\ 003\ 367\ 003\ 367$ | $\log \alpha = \bar{3}.5272\ 4355\ 0683$ |
| half minor axis, | $b = 6\ 356\ 911^{m},\ 946\ 128$ | $\log b = 6.8032\ 4619\ 5767$ |
| | $a - b = \alpha = 21\ 476^{m},\ 053\ 872$ | $\log (a - b) = 4.3319\ 5448\ 4706$ |
| excentricities : | $2 - \alpha = 1{,}996\ 632\ 996\ 632\ 996\ 633$ | $\log (2 - \alpha) = 0.3002\ 9824\ 4047$ |
| $e^2 = \dfrac{a^2 - b^2}{a^2} = \alpha\,(2 - \alpha)$ | $e^2 = 0{,}006\ 722\ 670\ 022\ 333\ 322$ | $\log e^2 = \bar{3}.8375\ 4179\ 4730$ |
| | $1 - e^2 = 0{,}993\ 277\ 329\ 977\ 666\ 678$ | $\log (1 - e^2) = \bar{1}.9970\ 7052\ 3483$ |
| | $a\,(1 - e^2) = 6\ 335\ 508^{m},\ 202\ 201\ 59$ | $\log a\,(1 - e^2) = 6.8017\ 8145\ 7508$ |
| $e'^2 = \dfrac{a^2 - b^2}{b^2} = \dfrac{e^2}{1 - e^2}$ | $e'^2 = 0{,}006\ 768\ 170\ 197\ 224\ 251$ | $\log e'^2 = \bar{3}.8304\ 7127\ 1246$ |
| | $1 + e'^2 = 1{,}006\ 768\ 170\ 197\ 224\ 251$ | $\log (1 + e'^2) = 0.0029\ 2947\ 6517$ |
| $c = \dfrac{a^2}{b}$ | $a\,(1 + e'^2) = 6\ 421\ 558^{m},\ 015\ 568$ | $\log a\,(1 + e'^2) = 6.8076\ 4041\ 0541$ |
| | $c = 6\ 399\ 936^{m},\ 608\ 108$ | $\log c = 6.8061\ 7567\ 2283$ |
| $m = \dfrac{a^2 - b^2}{a^2 + b^2} = \dfrac{e^2}{2 - e^2}$ | $m = 0{,}003\ 372\ 671\ 691$ | $\log m = \bar{3}.5279\ 7406\ 7330$ |
| $n = \dfrac{a - b}{a + b} = \dfrac{\alpha}{2 - \alpha}$ | $n = 0{,}001\ 686\ 340\ 641$ | $\log n = \bar{3}.2269\ 4530\ 6685$ |
| Quarter of meridian | $Q = a\,\dfrac{\pi}{2}\left(1 - \dfrac{\alpha}{2} - \dfrac{\alpha^2}{16}\right) = 10\ 002\ 288^{m},\ 299$ | $\log Q = 7.0000\ 9936\ 81$ |
| Mean radius, | $r = \dfrac{a + a + b}{3} = a\left(1 - \dfrac{\alpha}{3}\right) = 6\ 371\ 229^{m},\ 315$ | $\log r = 6.8042\ 2323\ 66$ |
| Radius of sphere of same surface, | $s = r\left(1 - \dfrac{e^4}{180} - \dfrac{17\,e^6}{7560}\right) = 6\ 371\ 227^{m},\ 709$ | $\log s = 6.8042\ 2312\ 71$ |
| Radius of sphere of same volume | $v = \sqrt[3]{a^2\,b} = 6\ 371\ 221^{m},\ 266$ | $\log v = 6.8042\ 2268\ 79$ |

# ERRATA page 228th.

2nd. column, line 4 instead of $a - b = \alpha$

read $a - b = a\,\alpha$

line 4 (from the bottom)- instead of

$$(1 \frac{\alpha}{2} - \frac{\alpha 2)}{13}$$

read $$(1 - \frac{\alpha}{2} + \frac{\alpha 2)}{16}$$

3rd. column, line 6 instead of

$\log e^2 = \bar{3}.\ 8375\ 4179\ 4730$

read $\log e^2 = \bar{3}.\ 8275\ 4179\ 4730.$