

## LETTERS TO EDITOR

### MAGNETIC DECLINATIONS BY PEARY IN THE ARCTIC REGIONS, 1900-02.

The values of the magnetic declinations by Civil Engineer R. E. Peary, U. S. N., as transcribed from the geographical records of his Arctic explorations, are as follows:

Name of Station	Date	Latitude North	Longitude West of Greenwich	Declination West
		° /	° /	°
Cape Washington	1900	83 33	38 45	67 ½
Cape Jesup	1900	83 40	33 20	61 ½
Entrance Rock	1900	76 07	65 04	88 ¼
Saviksuah Bay				
.....	1900, May 16	83 50	33 20	61 ½
.....	1902, Apr. 21	84 17	67 40	99 ½

G. W. LITTLEHALES.

*U. S. Hydrographic Office, Washington, D. C.*

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### PRINCIPAL MAGNETIC DISTURBANCES RECORDED AT THE CHELTENHAM MAGNETIC OBSERVATORY,<sup>1</sup> MAY 1,- AUG. 31, 1904.

1. Began May 11 at about 17<sup>h</sup> and ended May 14th at about 24<sup>h</sup>. For *D* the maximum ordinate was 47'.5 at 13<sup>h</sup> 10<sup>m</sup> on the 12th and minimum 22'.5 at 2<sup>h</sup> 50<sup>m</sup> on the 13th, giving a range of 25'.0. For *H*, the maximum ordinate was 96.2 mm. at 1<sup>h</sup> 41<sup>m</sup> on the 12th, minimum—5.1 mm. at 9<sup>h</sup> 39<sup>m</sup> on the 13th, giving a range of 101.3mm or 178 gammas. For *Z*, maximum 78.9 mm. at 17<sup>h</sup> 37<sup>m</sup> on the 13th, minimum 45.2 mm. at 3<sup>h</sup> 59<sup>m</sup> on the 13th, giving a range of 33.7 mm. or 159 gammas, (10<sup>-5</sup> C. G. S.)

2. Began about noon May 27th and ended about 3<sup>h</sup> on May 29th. For *D*, maximum 51'.6 at 13<sup>h</sup> 25<sup>m</sup> on the 28th, minimum 27'.2 at 3<sup>h</sup> 49<sup>m</sup> on the 28th, giving a range of 24'.4. For *H*, maximum 84.8 mm. at 14<sup>h</sup> 48<sup>m</sup> on the 27th, minimum 13.1 mm. at 11<sup>h</sup> 10<sup>m</sup> on the 28th, giving a range of 71.7 mm. or 126 gammas. For *Z*, maximum 76.5 mm. at 16<sup>h</sup> 02<sup>m</sup> on the 28th, minimum 57.9 mm. at 2<sup>h</sup> 34<sup>m</sup> on the same day, giving a range of 18.6 mm. or 88 gammas.

<sup>1</sup> This Observatory of the U. S. Coast and Geodetic Survey is situated at Cheltenham, Maryland, in latitude 38° 44' N. and in longitude 76° 50'.5 or 5h 07<sup>m</sup> W. of Greenwich. The times given in the communication refer to local civil mean time.

3. Began suddenly at 17<sup>h</sup> 31<sup>m</sup> on June 4th and ended about 23<sup>h</sup> the same day. For *D*, maximum 41'.6 at 21<sup>h</sup> 11<sup>m</sup>, minimum 38'.6 at 17<sup>h</sup> 42<sup>m</sup>, giving a range of 3'.0. For *H*, maximum 88.0 mm. at 17<sup>h</sup> 38<sup>m</sup>, minimum 46.5 mm. at 22<sup>h</sup> 30<sup>m</sup>, giving a range of 41.5 mm. or 73 gammas. For *Z*, maximum 68.0 mm. at 17<sup>h</sup> 42<sup>m</sup>, minimum 66.5 mm. at 20<sup>h</sup> 23<sup>m</sup>, giving a range of 1.5 mm. or 7 gammas. Thus *D* and *Z* were but slightly affected.

4. Began suddenly at 23<sup>h</sup> 38<sup>m</sup> on June 5th and ended about 9<sup>h</sup> on June 7th. For *D*, maximum 47'.3 at 12<sup>h</sup> 46<sup>m</sup> on the 6th, minimum 30'.7 at 7<sup>h</sup> 11<sup>m</sup> of the same day, giving a range of 16'.6. For *H*, maximum 80.9 mm. at 6<sup>h</sup> 50<sup>m</sup> on the 6th, minimum 35.4 mm. at 18<sup>h</sup> 49<sup>m</sup> on the 6th, giving a range of 45.5 mm. or 80 gammas. For *Z*, maximum 67.6 mm at 17<sup>h</sup> 24<sup>m</sup> on the 6th, minimum 60.6 mm. at 7<sup>h</sup> 34<sup>m</sup> on the same day, giving a range of 7.0 mm. or 33 gammas.

5. Began about 7<sup>h</sup> on the 15th, not yet ended but greatly diminished at 16<sup>h</sup> on June 17, the end of the last trace developed. For *D*, maximum 57'.9 at 12<sup>h</sup> 35<sup>m</sup> on the 15th, minimum 17'.0 at 19<sup>h</sup> 47<sup>m</sup> on the same day, giving a range of 40'.9. For *H*, maximum 120.9 mm. at 17<sup>h</sup> 24<sup>m</sup> on the 15th, minimum—16.2 mm. at 20<sup>h</sup> 14<sup>m</sup> on the same day, giving a range of 137.1 mm. or 241 gammas. For *Z*, maximum 89.4 mm. at 19<sup>h</sup> 47<sup>m</sup> on the 15th, minimum 47.3 mm. at 5<sup>h</sup> 05<sup>m</sup> on the 16th, giving a range of 42.1 mm. or 199 gammas. This is the greatest disturbance since the notable one of October 31, 1903.

6. Began about 9<sup>h</sup> on June 26 and ended June 27 about midnight:

Maximum	Time	Minimum	Time	Range
<i>D</i> 46'.5	June 26, 12 22	31'.8	June 26, 7 24	14'.7
<i>H</i> 72'.9 mm.	" " 15 04	24'.7 mm.	" 27, 10 33	48'.2 mm. or 83 $\gamma$
<i>Z</i> 69'.7 mm.	" 27, 16 33	58'.0 mm.	" 26, 11 19	11'.7 mm. or 60 $\gamma$

7. Began July 1st about 7<sup>h</sup> and ended same day about 21<sup>h</sup>:

Maximum	Time	Minimum	Time	Range
<i>D</i> 47'.0	July 1, 13 13	29'.3	July 1, 8 24	17'.7
<i>H</i> 72'.6 mm.	" 1, 15 24	26'.6 mm.	" 1, 11 04	46'.0 mm. or 80 $\gamma$
<i>Z</i> 65'.2 mm.	" 1, 18 02	60'.4 mm.	" 1, 11 03	4'.8 mm. or 24 $\gamma$

8. Began July 6th about 2<sup>h</sup> and ended July 9th about midnight:

Maximum	Time	Minimum	Time	Range
<i>D</i> 47'.9	July 6, 15 54	33'.3	July 7, 0 37	14'.6
<i>H</i> 80'.8 mm.	" 6, 15 02	7'.6 mm.	" 7, 8 43	73'.2 mm. or 127 $\gamma$
<i>Z</i> 80'.8 mm.	" 6, 17 57	59'.2 mm.	" 6, 10 57	21'.6 mm. or 106 $\gamma$

9. Began July 13th at about 4<sup>h</sup> and ended July 15th at about 4<sup>h</sup>:

Maximum	Time		Minimum	Time		Range
	h	m		h	m	
<i>D</i> 48'.9	July 14,	12 25	34'.1	July 14,	18 52	14'.8
<i>H</i> 66'.0 mm.	" 14,	2 21	20'.6 mm.	" 14,	18 40	45'.4 mm. or 78 $\gamma$
<i>Z</i> 68'.2 mm.	" 14,	18 47	60'.5 mm.	" 14,	9 24	7'.7 mm. or 38 $\gamma$

There were no pronounced magnetic disturbances during the second half of July.

10. Began about 19<sup>h</sup> on August 1st and ended about 2<sup>h</sup> on August 5th. The degree of disturbance varied considerably during this interval. Two periods of greatest disturbance were between 19<sup>h</sup> on the 1st, and 3<sup>h</sup> on the 2d, and between 8<sup>h</sup> and midnight of the 3d. The maximum and minimum scalings are as follows:

Maximum	Time		Minimum	Time		Range
	h	m		h	m	
<i>D</i> 51'.8	Aug. 3,	12 10	30'.5	Aug. 3,	8 49	21'.3
<i>H</i> 66'.6 mm.	" 3,	18 44	—7'.0 mm.	" 3,	19 46	73'.6 mm. or 125 $\gamma$
<i>Z</i> 66'.9 mm.	" 3,	19 46	54'.2 mm.	" 3,	11 36	12'.7 mm. or 62 $\gamma$

W. F. WALLIS, Observer in Charge,  
*U. S. Coast and Geodetic Survey Magnetic Observatory,*  
*Cheltenham, Md.*