

LATEST ANNUAL VALUES OF THE MAGNETIC ELEMENTS AT OBSERVATORIES.<sup>1</sup>

COMPILED BY J. A. FLEMING.

Observatory	Latitude	Longitude	Year	Declination (D)	Inclination (I)	Intensity	
						(Hor.H)	Ver.(Z)
Sitka <sup>2</sup> . . . . .	57 03 N	135 20 W	1913	30 22.0 E	74 27.7 N	.15606	.56128
			1914	30 22.9 E	74 26.6 N	.15605	.56055
			1915	30 23.2 E	74 26.5 N	.15593	.56008
			1916	30 24.0 E	74 26.0 N	.15580	.55917
Rude Skov . . . . .	55 51 N	12 27 E	1914	8 53.6W	68 48.2 N	.17293	.44592
			1915	8 44.3W	68 50.6 N	.17257	.44591
Kasan . . . . .	55 47 N	49 08 E	1909	8 05.1 E	69 09.1 N	.18118	.47575
			1910	8 03.3 E	69 09.7 N	.18098	.47547
			1911	8 04.5 E	69 15.1 N	.18052	.47652
			1912	8 09.1 E	69 17.3 N	.18017	.47651
Eskdale- muir . . . . .	55 19 N	3 12 W	1913	17 54.9W	69 37.3 N <sup>3</sup>	.16822	.45282 <sup>3</sup>
Stony- hurst . . . . .	53 51 N	2 28 W	1915	16 38.0W <sup>4</sup>	68 41.4 N	.17342 <sup>4</sup>	.44457
Potsdam . . . . .	52 23 N	13 04 E	1914	8 26.6W	66 22.9 N	.18760	.42901 <sup>5</sup>
			1915	8 17.1W	66 25.1 N	.18726	.42899
			1916	8 07.6W	66 27.1 N	.18698	.42904
Seddin . . . . .	52 17 N	13 01 E	1914	8 28.1W <sup>6</sup>	66 19.9 N	.18798	.42887 <sup>6</sup>
			1915	8 18.4W	66 22.1 N	.18764	.42884
			1916	8 08.9W	66 24.1 N	.18736	.42889
De Bilt . . . . .	52 06 N	5 11 E	1913	12 32.1W	66 45.9 N <sup>7</sup>	.18525 <sup>7</sup>	.43151
			1914	12 22.6W	66 46.5 N	.18512	.43140
Valencia <sup>8</sup> . . . . .	51 56 N	10 15 W	1913	20 19.6W	68 09.2 N	.17892	.44628
Kew . . . . .	51 28 N	0 19 W	1913	15 37.0W	66 55.8 N	.18505	.43449
			1914	15 27.8W	66 55.8 N	.18488	.43406
			1915	15 18.4W	66 56.6 N	.18463	.43376
Greenwich . . . . .	51 28 N	0 00	1915	14 56.5W	66 51.8 N <sup>9</sup>	.18508	.43315 <sup>10</sup>
			1916	14 46.9W	66 52.8 N <sup>9</sup>	.18494	.43317 <sup>10</sup>

<sup>1</sup> From compilations by Dr. Charles Chree in *British Meteorological and Magnetic Year Book* for 1913, part IV, section 2, with additions by J. A. Fleming, Department of Terrestrial Magnetism, Carnegie Institution of Washington. See tables for previous years in *Terr. Mag.*, vol. 4, p. 135; vol. 5, p. 178; vol. 8, p. 7; vol. 12, p. 175; vol. 16, p. 209; and vol. 20, p. 131. Referring to the last reference, the latitude of Ekaterinburg should read 56° 50' N, instead of 57° 03' N; a so-called vertical intensity of 1.8 rack for 1911 and 1912 should read .22220 and .22316 instead of .21220 and .21316.

<sup>2</sup> Standard in *H* changed at end of 1912; new standard in *H* from 1913 is 0.001*H* less than that used through 1912 (see p. 9, Results of Observations, etc., at Sitka, Alaska, 1913 and 1914—U. S. Coast and Geodetic Survey). The values for 1916 are preliminary.

<sup>3</sup> Values from first 5 and last 5 months of the year.

<sup>4</sup> From magnetic map for 10 quietest days in each month.

<sup>5</sup> Corrected value.

<sup>6</sup> Corrected value.

<sup>7</sup> Corrected value.

<sup>8</sup> True absolute observations per month.

<sup>9</sup> Earth-indicator observations.

<sup>10</sup> Computed from *I* and *H*.

Observatory	Latitude	Longitude	Year	Declination (D)	Inclination (I)	Intensity	
						(Hor.H)	Ver. (Z)
Cracow....	50 04 N	19 58 E	1913	5 03.3W	64 18.4 N	c.g.s.	c.g.s.
Val Joyeux.	48 49 N	2 01 E	1913	13 59.2W	64 38.9 N	.19744	.41673
Munich ...	48 09 N	11 37 E	1911	9 23.8W	63 06.2 N	.20633	.40676
Pola.....	44 52 N	13 51 E	1914	7 48.3W	60 03.5 N	.22190	.38524
			1915	7 39.0W	60 05.1 N	.22166	.38526
Agincourt (Toronto)	43 47 N	79 16 W	1914	6 23.8W	74 41.4 N	.16086	.58761 <sup>11</sup>
			1915	6 28.5W	74 42.9 N	.16028	.58644
			1916	6 33.4W	74 43.5 N	.15987	.58538
Tifis.....	41 43 N	44 48 E	1908	2 39.8 E	56 28.4 N	.25404	.37343
			1909	2 46.8 E	56 32.1 N	.25377	.37391
			1910	2 52.7 E	56 35.5 N	.25343	.37422
			1911	2 57.4 E	56 41.2 N	.25289	.37480
			1912	3 03.1 E	56 46.0 N	.25255	.37545
			1913	3 09.1 E	56 51.1 N	.25217	.37612
Ebro (Tortosa)	40 49 N	0 31 E	1914	12 51.6W	57 47.5 N	.23295	.36981
Coimbra...	40 12 N	8 25W	1913	16 12.1W	58 38.6 N	.23046	.37820
			1914	16 04.7W	58 36.4 N	.23057	.37782
			1915	15 57.5W	58 34.7 N	.23053	.37734
Cheltenham <sup>12</sup> ...	38 44 N	76 50 W	1913	5 54.6W	70 41.1 N	.19599	.55917
			1914	5 59.8W	70 44.0 N	.19510	.55815
			1915	6 04.0W	70 46.8 N	.19417	.55694
			1916	6 07.6W	70 49.9 N	.19335	.55621
Tokio.....	35 41 N	139 45 E	1912	5 03.4W	48 53.7 N <sup>13</sup>	.29996	.34379
Tucson <sup>14</sup> ...	32 15 N	110 50' W	1913	13 37.0 E	59 21.8 N	.27247	.46006
			1914	13 39.9 E	59 23.1 N	.27188	.45946
			1915	13 42.5 E	59 24.7 N	.27119	.45879
			1916	13 44.4 E	59 26.1 N	.27063	.45824
Lukiapang.	31 19 N	121 02 E	1909	2 59.6W	45 34.9 N	.33226	.33906
Dehra Dun....	30 19 N	78 03 E	1913	2 22.2 E	44 16.4 N	.33191	.32359
			1914	2 18.8 E	44 22.9 N	.33165	.32458
Barrack- pore <sup>14a</sup> ...	22 46 N	88 22 E	1913	0 38.0 E	30 54.8 N	.37388	.22387
			1914	0 32.2 E	30 58.9 N	.37403	.22459

<sup>11</sup> Computed from *I* and *H*.<sup>12</sup> Standard in *H* changed at end of 1912; new standard in *H* from 1913 is 0.001*H* less than that used through 1912 (see p. 4, Results of Observations, etc., at Cheltenham, 1913 and 1914—U. S. Coast and Geodetic Survey). The values for 1916 are preliminary.<sup>13</sup> Computed from *Z* and *H*.<sup>14</sup> Standard in *H* changed at end of 1912; new standard in *H* from 1913 is 0.001*H* less than that used through 1912 (see p. 10, Results of Observations, etc., at Tucson, 1913 and 1914—U. S. Coast and Geodetic Survey).<sup>14a</sup> Observations were discontinued April 26, 1915.

Observatory	Latitude	Longitude	Year	Declination (D)	Inclination (I)	Intensity	
						Hor. (H)	Ver. (Z)
Hongkong.	22 18 N	114 10 E	1912	0 04.5W <sup>16</sup>	30 56.3 N	.37193 <sup>16</sup>	.22294
			1913	0 06.5W <sup>16</sup>	30 53.7 N	.37172 <sup>16</sup>	.22242
			1914	0 08.8W <sup>16</sup>	30 53.5 N	.37192 <sup>16</sup>	.22251
			1915	0 11.7W	30 52.2 N	.37167 <sup>16</sup>	.22217
			1916	0 13.8W	30 51.8 N	.37155 <sup>16</sup>	.22205
Honolulu <sup>17</sup> .	21 19 N	158 04 W	1913	9 37.3 E	39 32.6 N <sup>18</sup>	.29075	.24005
			1914	9 39.6 E	39 30.4 N	.29045	.23949
			1915	9 41.6 E	39 29.1 N	.29005	.23897
			1916	9 43.8 E	39 29.2 N	.28957	.23859
Toungoo...	18 56 N	96 27 E	1913	0 07.8 E	23 05.0 N	.38963	.16605
			1914	0 02.6 E	23 06.1 N	.38983	.16628
Alibag.....	18 38 N	72 52 E	1915	0 40.6 E	24 21.1 N <sup>19</sup>	.36870	.16688 <sup>19</sup>
Vieques <sup>20</sup> ...	18 09 N	65 26 W	1913	2 49.6W	50 21.2 N	.28522	.34421
			1914	3 00.4W	50 33.9 N	.28401	.34533
			1915	3 10.1W	50 45.9 N	.28279	.34630
			1916	3 19.4W	50 56.7 N	.28154	.34700
Kodaikanal.....	10 14 N	77 28 E	1913	1 11.2W	4 05.5 N	.37553	.02686
			1914	1 17.1W	4 11.2 N	.37571	.02750
Batavia-Buitenzorg.....	6 11 S	106 49 E	1912	0 47.3 E	31 19.4 S	.36683	.22324
Samoa (Apia)...	13 48 S	171 46 W	1905	9 37.0 E	(29 11.8S) <sup>21</sup>	.35675 <sup>21</sup>	(.19985)
			1906	9 38.5 E	29 15.7 S <sup>21</sup>	.35655	.19977
			1907	9 40.1 E	29 18.9 S <sup>21</sup>	.35637	.20010
			1908	9 41.9 E	29 21.8 S <sup>21</sup>	.35613	.20036
			1909 <sup>22</sup>	9 43.9 E	.....	.35590	.....
			1910 <sup>22</sup>	9 45.7 E	.....	.35550	.....
			1911 <sup>22</sup>	9 47.4 E	29 36.1 S	.35527	.20183
			1912 <sup>22</sup>	9 50.3 E	29 41.2 S	.35487	.20230
			1913 <sup>22</sup>	9 51.9 E	29 45.9 S	.35455	.20277
			1914 <sup>22</sup>	9 53.7 E	29 49.5 S	.35429	.20313
			1915 <sup>22</sup>	9 56.8 E	29 52.7 S	.35389	.20332
			1916 <sup>22</sup>	9 59.9 E	29 54.5 S	.35364	.20343

<sup>16</sup> Corrected values.

<sup>18</sup> Based on  $P = 7.05$  instead of year's mean as before.

<sup>17</sup> Standard in  $H$  changed at end of 1912; new standard in  $H$  from 1913 is  $0.001H$  less than that used through 1912 (see p. 8, Results of Observations, etc., at Honolulu, 1913 and 1914—U. S. Coast and Geodetic Survey). The values for 1916 are preliminary.

<sup>19</sup> Change of earth inductors in 1913; the results by the instrument used prior to 1913 appear  $3'.0$  too high.

<sup>20</sup> Schulze inductor.

<sup>21</sup> Standard in  $H$  changed at end of 1912; new standard in  $H$  from 1913 is  $0.001H$  less than that used through 1912 (see p. 10, Results of Observations, etc., at Vieques, 1913 and 1914—U. S. Coast and Geodetic Survey). The values for 1916 are preliminary.

<sup>22</sup> Corrected values.

<sup>23</sup> Preliminary values.

Observatory	Latitude	Longitude	Year	Declination (D)	Inclination (I)	Intensity	
						Hor. (H)	Ver. (Z)
Mauritius..	20 06 S	57' 33 E	1914	9 34.7W	53 07.6 S <sup>27</sup>	c.g.s. .23256	c.g.s. .31004
			1915	9 41.1W	53 00.2 S <sup>27</sup>	.23226	.30833
Pilar.....	31 40 S	63 53 W	1914	8 40.4 E	25 41.5 S	.25597	.12315
Christ-church...	13 32 S	172 37 E	1914	16 44.8 E	67 59.8 S	.22413	.55465
New Year's Island...	54 45S <sup>24</sup>	64 03W <sup>24</sup>	1902	15 57.3 E	50 13.8 S <sup>2b</sup>	.27306	.32808
			1903	15 53.7 E	50 12.0 S <sup>2b</sup>	.27280	.32742
			1904	15 49.6 E	50 09.6 S <sup>2b</sup>	.27226	.32631
			1905	15 45.7 E	50 06.6 S <sup>2b</sup>	.27196	.32536
			1906	15 41.6 E	50 03.6 S <sup>2b</sup>	.27167	.32443

<sup>27</sup> This value is as determined by the earth inductor mounted on western pier of the magnetic pavilion and reduced to eastern pier, the one used for previous dip-circle work; "Dip on the western pillar is 2.9 smaller than on the eastern."

<sup>24</sup> Provisional values, taken for position given for Port Cork, p. 298 of the American Practical Navigator, 1914 edition.

<sup>2b</sup> Computed from *H* and *Z*.