

*Georgi Dobrovolski
Solar Observatory*

*Annual
Report
for
2015*

Supplement

Compiled by Howard Barnes.

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 **Introduction.**

This supplement (which can be considered as a stand-alone publication) was prompted by the Solar Influences Data-analysis Centre / Sunspot Index and Long-term Solar Observations (SIDC/SILSO) decision to remove their scaling factor of 0.6, and introduce other minor factors into the evaluation of the International Relative Sunspot Number (R_i).

The evaluation of the new GDSO Version 2 Wolf Number (R_{GD2}), is done in the same manner as that to obtain the old R_{GD} , that being the observed monthly, annual or rotational means multiplied by a monthly, annual or rotational mean k co-efficients.

When spotless observations occur, true quotients are either 0 or ∞ , therefore they are discarded for the purposes of obtaining co-efficients (labelled k_2).

Other values are explained on the following page.

Important points:

- The telescope used for observing the Sun is a 76 mm refractor with projection screen.
- Months and years end at 24h 00m on the last day of the Co-ordinated Universal Time (UTC) month or year.
- Data have been back-dated to March 1973, with some data of the early years not as reliable as later years.
- The GDSO was manned part-time up to May 1989, and nearly full-time since that date.
- As 1982 involved a 6-week-long trip to the United Kingdom and continental Europe, the values (observed and corrected) for June are interpolated. There was also a break in November 2015. Values for this break are yet to be interpolated. They will appear in the GDSO Annual Report for 2016.

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The following are formulæ used in the analysis of sunspot data etc.

σ (sample standard deviation) is computed as:

$$\sqrt{\frac{\sum k^2 - \frac{(\sum k)^2}{n_k}}{n_k - 1}}$$

The annual σ result is computed from a total pool of k values.

σ^{mw} (annual standard deviation based on the SIDC's formula)

is computed as:

$$\frac{\sum (\sigma \times n_k)}{\sum n_k}$$

$E\sigma$ (estimate of standard deviation) is computed as:

$$\frac{\sqrt{\sum (\sigma^2 \times n_k)}}{\sum n_k}$$



Smoothing Formulæ.

The following are the two formulæ used in the smoothing of GDSO sunspot data. All are based on monthly means (\bar{x}).

Data suffixed (S^W) are computed as:

$$\frac{\sum_{-5}^{+5} \bar{x} + \frac{\bar{x}_{+6} + \bar{x}_{-6}}{2}}{12}$$

Data suffixed (S^{B13}) are computed as:

$$\frac{0.75(\bar{x}_{+6} + \bar{x}_{-6}) + 2(\bar{x}_{+5} + \bar{x}_{-5}) + 3(\bar{x}_{+4} + \bar{x}_{-4}) + 4(\bar{x}_{+3} + \bar{x}_{-3}) + 5(\bar{x}_{+2} + \bar{x}_{-2}) + 6(\bar{x}_{+1} + \bar{x}_{-1}) + 6.5\bar{x}_0}{48}$$

CORRECTED VERSION 2 WOLF NUMBERS for 1973 - 2015.

As the GDSO is in suburban Auckland, it can suffer terrible atmospheric conditions, hence the ‘observed’ Wolf Numbers have to be upgraded to give reflections of international results. International Wolf Number results are computed by the Solar Influences Data-Analysis Centre (SIDC), at the Observatoire Royal de Belgique, Bruxelles, Belgium.

Below are the ‘observed’ Wolf Numbers (WN) along with the monthly ‘Version 2’ co-efficients (k2) and the corrected values (R_{GD2}) for 1973 - 2015. The SIDC’s final values (Sn) are also stated.

I/GDSO₂ = SIDC’s mean (of days observed by the GDSO) divided by the GDSO’s monthly mean.

I/GDSO_{k2} = SIDC’s mean (of days with GDSO k2 values) divided by the GDSO’s observed mean for the *same* days.

n = number of GDSO observations.

n_k = number of k values.

σ₂ = sample standard deviation of k2 values.

σ^{mw}₂ = annual σ computed on the SIDC’s monthly-weighted formula.

Eσ₂ = annual estimate of standard deviation.

See note concerning R_{GD2},
pages iv & xvi, GDSO
Annual Report for 2015.

	WN	k2	R _{GD2}	σ ₂	R _{GDm2}	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
1973 Jan	—	—	—	—	—	—	—	—	—	61.8
Feb	—	—	—	—	—	—	—	—	—	60.9
Mar	36.00	2.3333	84.00	∞	84.00	2.3333	2.3333	1	1	65.4
Apr	30.00	3.0743	92.23	0.3655	92.08	3.0593	3.0593	9	9	81.8
May	8.75	5.8235	50.96	1.3837	55.26	7.3000	5.8857	8	5	60.3
Jun	6.23	4.4972	28.02	0.5787	36.07	8.3704	4.3704	13	5	56.1
Jul	9.57	2.9734	28.46	1.0856	30.83	3.7164	3.0597	14	10	33.2
Aug	12.50	3.2919	41.15	0.8797	40.81	3.2114	3.1486	14	10	36.6
Sep	41.21	1.9832	81.74	0.5618	81.87	1.9931	1.9931	14	12	84.1
Oct	12.79	3.1850	40.72	0.9239	41.24	3.3073	2.9218	14	8	43.7
Nov	11.79	3.4977	41.22	1.6987	41.05	3.4545	3.1455	14	8	34.3
Dec	8.60	3.1278	26.90	1.2997	27.50	3.3372	2.9593	20	10	33.3
1973 Means	15.36	3.2410	49.79	—	49.85	3.2517	2.8714	—	—	54.1
	σ ₂ = 1.3251			σ ^{mw} ₂ = 0.9420			Eσ ₂ = 0.1165			
1974 Jan	19.15	2.1123	40.46	0.5488	40.69	2.1486	2.1004	13	9	39.4
Feb	14.00	2.3544	32.96	0.6970	34.74	2.7357	2.2286	10	7	37.3
Mar	8.87	2.6793	23.76	0.9825	26.15	3.4887	2.6917	15	12	30.9
Apr	18.38	2.9409	54.04	0.9468	56.36	3.3197	2.7551	16	11	57.5
May	18.29	2.3318	42.64	0.4930	43.95	2.5469	2.3672	7	3	56.3
Jun	24.22	2.1498	52.07	1.0824	51.09	2.0275	2.0275	9	9	51.5
Jul	27.50	2.7879	76.67	1.0322	73.61	2.4545	2.4545	8	8	79.1
Aug	31.08	1.5719	48.86	0.5215	48.74	1.5603	1.5282	12	11	47.9
Sep	22.40	2.9442	65.95	0.5769	65.57	2.8929	2.7589	10	8	57.2
Oct	18.56	2.8864	53.56	0.7419	53.96	2.9521	2.8024	9	7	67.2
Nov	11.90	2.6326	31.33	0.7955	33.49	3.1765	2.5546	10	7	35.9
Dec	12.33	2.6293	32.43	1.3910	34.10	3.0360	2.5405	9	7	29.6
1974 Means	18.56	2.4901	46.22	—	46.71	2.5690	2.3274	—	—	49.2
	σ ₂ = 0.9268			σ ^{mw} ₂ = 0.8318			Eσ ₂ = 0.0874			

CORRECTED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
1975 Jan	8.29	2.7598	22.87	0.6456	23.39	2.9483	2.7586	7	5	27.3
Feb	12.00	1.9167	23.00	0.9694	24.05	2.1786	1.7262	7	4	16.7
Mar	4.18	1.5606	6.53	0.1500	8.81	3.1957	1.5652	11	2	16.9
Apr	0.00	—	0.00	∞	0.00	∞	∞	11	0	7.7
May	1.71	4.0000	6.86	∞	10.52	10.4167	4.0000	7	1	13.1
Jun	5.29	3.1010	16.39	1.4874	17.45	3.7027	2.9459	7	3	16.7
Jul	26.29	1.7347	45.60	0.2954	44.92	1.6576	1.6576	7	7	40.4
Aug	9.22	3.1317	28.88	0.9713	34.29	4.8916	3.2169	9	4	56.7
Sep	3.67	2.4848	9.11	0.4484	13.59	6.1515	2.4848	9	3	20.3
Oct	9.20	1.7475	16.08	0.3798	16.52	1.8913	1.7717	10	7	13.6
Nov	11.80	2.1872	25.81	0.6482	25.11	2.0085	2.0085	10	6	27.9
Dec	3.00	2.2909	6.87	0.1907	8.30	3.7179	2.2821	13	3	11.6
1975 Means	7.28	2.2720	16.54	—	18.17	2.9466	2.1336	—	—	22.5
	σ ² = 0.8335			σ ^{mw} ₂ = 0.5841			Eσ ² = 0.1022			
1976 Jan	4.18	1.8634	7.79	0.1195	8.23	2.1739	1.8478	11	3	11.9
Feb	4.11	1.4149	5.82	0.3889	6.25	1.7297	1.4324	9	3	6.4
Mar	9.11	2.5962	23.65	0.6537	24.92	3.0122	2.5854	9	5	31.5
Apr	21.67	1.5246	33.03	0.5059	32.73	1.4821	1.4821	9	9	27.3
May	6.43	2.1117	13.58	1.2693	14.67	2.6222	2.1111	7	4	18.2
Jun	9.00	2.1223	19.10	0.7513	19.27	2.1778	2.0444	10	6	17.9
Jul	1.20	1.0000	1.20	∞	1.97	2.9167	1.0000	10	1	2.9
Aug	9.89	2.1258	21.02	0.7695	21.87	2.3820	2.0899	9	7	24.1
Sep	9.80	1.3468	13.20	0.3527	15.03	1.9082	1.3163	10	5	20.0
Oct	14.22	2.1203	30.16	0.5284	30.47	2.1875	2.0234	9	7	29.7
Nov	5.62	1.2803	7.19	0.2131	7.49	1.4384	1.2877	13	6	7.9
Dec	14.41	1.5101	21.76	0.3820	21.61	1.4776	1.4776	17	14	22.3
1976 Means	9.27	1.7714	16.42	—	16.89	1.9254	1.7193	—	—	18.4
	σ ² = 0.6679			σ ^{mw} ₂ = 0.5201			Eσ ² = 0.0697			
1977 Jan	9.50	2.3495	22.32	0.8804	24.55	3.0526	2.2632	12	8	23.8
Feb	15.08	1.7292	26.08	0.6041	27.92	2.0939	1.6961	12	8	33.3
Mar	5.23	1.5839	8.29	0.6360	10.04	2.5882	1.6029	13	6	13.0
Apr	4.25	2.1622	9.19	0.5444	10.65	3.1961	2.2157	12	4	19.0
May	10.50	1.8609	19.54	0.2113	21.65	2.4643	1.8929	8	5	27.0
Jun	24.45	1.9677	48.12	0.6953	48.59	2.0260	2.0260	11	11	54.9
Jul	11.55	2.8757	33.20	1.4954	32.92	2.8031	2.7087	11	9	30.6
Aug	20.60	2.4136	49.72	0.9037	47.78	2.1311	2.1311	10	10	43.0
Sep	29.13	2.1445	62.46	0.5105	62.18	2.1159	2.1159	8	8	62.4
Oct	33.75	2.1718	73.30	0.7441	70.95	1.9630	1.9630	8	8	62.1
Nov	18.77	2.2344	41.94	0.7522	41.60	2.1803	2.1230	13	12	41.6
Dec	34.33	1.9719	67.70	0.8472	64.75	1.7136	1.7136	18	18	61.4
1977 Means	18.13	2.1363	38.72	—	38.63	2.1205	1.9773	—	—	39.3
	σ ² = 0.8456			σ ^{mw} ₂ = 0.7793			Eσ ² = 0.0797			

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ^2	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
1978 Jan	32.65	2.2199	72.48	0.6340	72.60	2.2312	2.1164	20	17	73.7
Feb	75.17	1.9272	144.86	0.4605	144.16	1.8991	1.8991	12	12	132.6
Mar	63.71	2.3506	149.77	1.7782	136.99	1.7489	1.7489	7	7	108.4
Apr	82.50	1.8286	150.86	0.4345	147.70	1.7136	1.7136	8	8	141.2
May	68.78	1.9006	130.72	0.4341	129.07	1.8288	1.8288	9	9	117.1
Jun	74.67	2.1647	161.63	0.7663	154.42	1.8750	1.8750	6	6	134.6
Jul	46.89	2.4811	116.34	1.1409	113.34	2.2891	2.2891	9	9	99.7
Aug	35.57	2.8142	100.10	1.5918	94.45	2.3373	2.3373	7	7	82.4
Sep	80.71	2.5988	209.76	0.4766	207.60	2.5186	2.5186	7	7	195.7
Oct	86.00	2.1268	182.91	0.3955	181.41	2.0746	2.0746	12	12	177.1
Nov	60.82	2.7619	167.97	1.1813	160.16	2.3767	2.3767	11	11	138.5
Dec	72.15	2.0166	145.50	0.3502	145.82	2.0299	2.0299	13	13	173.9
1978 Means	62.83	2.2405	140.78	—	136.99	2.0596	2.0497	—	—	131.0
	$\sigma^2 = 0.8714$			$\sigma^{mw_2} = 0.7438$			$E\sigma^2 = 0.0795$			
1979 Jan	110.25	2.0910	230.54	0.2758	229.40	2.0601	2.0601	16	16	235.9
Feb	93.00	2.3186	215.63	0.3881	213.70	2.2563	2.2563	6	6	194.7
Mar	77.80	2.4580	191.23	0.5084	190.02	2.4113	2.4113	5	5	195.3
Apr	77.33	1.8866	145.90	0.5757	143.12	1.7787	1.7787	9	9	143.7
May	95.83	2.1403	205.11	0.6089	200.24	1.9878	1.9878	6	6	190.3
Jun	109.22	1.9781	216.05	0.3845	213.70	1.9135	1.9135	9	9	211.7
Jul	104.88	2.1771	228.32	0.6640	227.63	2.1573	2.1573	8	8	225.7
Aug	83.63	2.6806	224.17	0.9314	213.90	2.3124	2.3124	8	8	201.4
Sep	108.60	2.4435	265.37	0.5010	262.05	2.3517	2.3517	5	5	266.9
Oct	95.63	2.5019	239.25	0.4354	237.71	2.4536	2.4536	8	8	263.6
Nov	110.20	2.3941	263.83	0.6026	260.52	2.3040	2.3040	10	10	259.5
Dec	98.00	2.3680	232.06	0.5267	231.65	2.3553	2.3553	11	11	249.6
1979 Means	98.62	2.2611	222.99	—	220.22	2.1767	2.1767	—	—	220.1
	$\sigma^2 = 0.5594$			$\sigma^{mw_2} = 0.5163$			$E\sigma^2 = 0.0541$			
1980 Jan	98.90	2.4452	241.83	0.2869	239.62	2.3782	2.3782	10	10	226.1
Feb	89.40	2.5149	224.83	0.3380	223.22	2.4609	2.4609	5	5	219.4
Mar	68.17	2.8889	196.93	0.9043	195.56	2.8289	2.8289	6	6	178.7
Apr	98.70	2.5030	247.05	0.4009	245.76	2.4640	2.4640	10	10	232.2
May	123.71	2.0637	255.31	0.3592	255.92	2.0785	2.0785	7	7	254.7
Jun	111.83	2.0689	231.37	0.3522	230.42	2.0432	2.0432	6	6	222.7
Jul	91.83	1.9486	178.94	0.2478	178.80	1.9437	1.9437	6	6	192.9
Aug	73.00	1.4841	108.34	0.0344	108.23	1.4795	1.4795	2	2	191.7
Sep	91.60	2.6003	238.19	0.6237	237.06	2.5633	2.5633	5	5	219.6
Oct	120.25	2.0849	250.71	0.3526	248.35	2.0260	2.0260	8	8	233.3
Nov	110.13	2.0025	220.53	0.2295	220.02	1.9886	1.9886	8	8	209.5
Dec	120.93	2.0841	252.03	0.4360	247.64	1.9752	1.9752	15	15	246.9
1980 Means	104.33	2.2485	234.59	—	231.99	2.1737	2.1737	—	—	218.9
	$\sigma^2 = 0.4983$			$\sigma^{mw_2} = 0.3919$			$E\sigma^2 = 0.0456$			

CORRECTED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
1981 Jan	83.15	1.9914	165.59	0.3331	<i>164.50</i>	1.9519	1.9519	13	13	156.6
Feb	96.50	1.8526	178.78	0.2183	<i>178.10</i>	1.8316	1.8316	4	4	189.9
Mar	114.80	1.7556	201.54	0.1250	<i>201.63</i>	1.7578	1.7578	5	5	196.6
Apr	127.80	1.8104	231.37	0.3977	<i>231.48</i>	1.8130	1.8130	10	10	225.3
May	116.67	1.6636	194.09	0.2939	<i>193.28</i>	1.6429	1.6429	6	6	194.7
Jun	76.50	1.9577	149.77	0.8594	<i>142.73</i>	1.6819	1.6819	6	6	131.6
Jul	126.43	1.7132	216.60	0.5164	<i>211.50</i>	1.5921	1.5921	7	7	205.3
Aug	124.86	1.8962	236.75	0.4860	<i>234.26</i>	1.8364	1.8364	7	7	242.5
Sep	103.00	1.9461	200.45	0.0763	<i>200.46</i>	1.9466	1.9466	2	2	245.3
Oct	115.00	1.6461	189.30	0.1430	<i>190.46</i>	1.6765	1.6765	5	5	216.2
Nov	42.50	2.2466	95.48	0.1627	<i>95.65</i>	2.2588	2.2588	2	2	186.0
Dec	106.50	1.5578	165.91	0.3979	<i>166.88</i>	1.5853	1.5853	6	6	195.4
1981 Means	106.05	1.8238	193.42	—	<i>191.27</i>	1.7630	1.7630	—	—	198.9
	σ ² = 0.4209			σ ^{mw} ₂ = 0.3743			Eσ ² = 0.0492			
1982 Jan	89.74	1.7379	155.95	0.4837	<i>152.05</i>	1.6076	1.6076	19	19	149.8
Feb	156.80	1.6900	264.99	0.1527	<i>263.52</i>	1.6620	1.6620	10	10	230.9
Mar	137.63	1.5767	217.00	0.1665	<i>216.71</i>	1.5704	1.5704	8	8	221.1
Apr	115.67	1.6487	190.70	0.1618	<i>190.41</i>	1.6412	1.6412	6	6	170.3
May	51.00	2.1139	107.81	0.1829	<i>107.21</i>	2.0784	2.0784	2	2	119.3
Jun	*68.47	—	*165.49	—	—	—	—	0	0	163.7
Jul	103.63	2.1995	227.92	2.6913	<i>199.86</i>	1.3872	1.3872	8	8	139.4
Aug	109.67	1.4955	164.01	0.2118	<i>162.12</i>	1.4438	1.4438	6	6	161.9
Sep	97.67	1.5500	151.39	0.1536	<i>151.03</i>	1.5392	1.5392	3	3	167.4
Oct	78.78	2.0125	158.54	0.3084	<i>158.28</i>	2.0028	2.0028	9	9	134.3
Nov	62.33	2.0234	126.13	0.7275	<i>122.94</i>	1.8699	1.8699	9	9	127.5
Dec	89.50	1.8415	164.82	0.2896	<i>163.19</i>	1.7869	1.7869	14	14	169.0
1982 Means	100.78	1.8083	182.23	—	<i>177.11</i>	1.6559	1.6559	—	—	162.4
	σ ² = 0.8402			σ ^{mw} ₂ = 0.5322			Eσ ² = 0.0891			
1983 Jan	70.27	1.7222	121.01	0.2952	<i>120.25</i>	1.6898	1.6898	15	15	115.5
Feb	49.40	1.8248	90.14	0.4098	<i>88.10</i>	1.7004	1.7004	10	10	73.1
Mar	44.57	2.2260	99.22	0.8824	<i>94.57</i>	1.9135	1.9135	7	7	88.7
Apr	60.00	2.0447	122.68	0.4932	<i>121.37</i>	1.9792	1.9792	8	8	109.6
May	85.80	1.5903	136.45	0.2953	<i>136.10</i>	1.5781	1.5781	5	5	132.5
Jun	68.20	1.7916	122.19	0.2227	<i>122.46</i>	1.8035	1.8035	5	5	131.5
Jul	74.42	1.6589	123.45	0.2581	<i>122.69</i>	1.6282	1.6282	12	12	108.9
Aug	41.75	2.4505	102.31	0.4284	<i>100.21</i>	2.2994	2.2994	4	4	96.0
Sep	42.50	1.5220	64.68	0.2458	<i>63.87</i>	1.4647	1.4647	4	4	69.9
Oct	33.29	1.7063	56.80	0.2798	<i>59.48</i>	1.9485	1.7768	7	5	72.5
Nov	13.83	1.9752	27.32	0.5848	<i>28.44</i>	2.2169	1.9317	18	11	45.7
Dec	25.29	1.7999	45.51	0.5160	<i>44.94</i>	1.7316	1.6921	14	13	45.6
1983 Means	47.49	1.8423	87.48	—	<i>86.35</i>	1.7709	1.7467	—	—	91.0
	σ ² = 0.4798			σ ^{mw} ₂ = 0.4199			Eσ ² = 0.0457			

*** interpolated values**

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
1984 Jan	36.33	1.9856	72.14	0.5125	<i>70.87</i>	1.8807	1.8609	18	17	74.8
Feb	54.50	1.9873	108.31	0.7466	<i>104.30</i>	1.7670	1.7670	10	10	110.2
Mar	70.00	1.8292	128.04	0.2707	<i>126.86</i>	1.7786	1.7786	4	4	116.7
Apr	55.64	1.7512	97.43	0.2864	<i>96.68</i>	1.7108	1.7108	11	11	90.4
May	57.14	1.8292	104.53	0.2453	<i>103.54</i>	1.7775	1.7775	7	7	96.9
Jun	42.86	1.5618	66.93	0.3111	<i>65.86</i>	1.4867	1.4867	7	7	65.1
Jul	18.22	2.2876	41.69	0.8230	<i>42.20</i>	2.3720	2.3720	9	9	55.7
Aug	27.83	1.5989	44.50	0.6016	<i>42.50</i>	1.3832	1.3832	6	6	35.0
Sep	4.63	1.8409	8.51	0.9321	<i>12.38</i>	4.3514	2.1081	8	2	22.6
Oct	4.00	1.3692	5.48	0.2393	<i>7.94</i>	3.2143	1.3571	7	2	12.6
Nov	15.00	1.3613	20.42	0.2802	<i>21.46</i>	1.5704	1.3704	9	7	26.5
Dec	11.25	1.3938	15.68	0.4557	<i>17.39</i>	1.8500	1.3056	16	10	21.4
1984 Means	31.27	1.7827	55.74	—	<i>55.94</i>	1.8021	1.7242	—	—	60.5
	σ ² = 0.5625			σ ^{mw2} = 0.4803			Eσ ² = 0.0544			
1985 Jan	9.22	1.3213	12.19	0.1800	<i>13.23</i>	1.6627	1.3133	18	7	17.8
Feb	11.88	1.4531	17.26	0.3077	<i>18.84</i>	1.8526	1.4632	8	6	20.7
Mar	10.00	1.3397	13.40	0.3467	<i>14.41</i>	1.6444	1.2222	9	5	16.9
Apr	16.00	1.4149	22.64	0.5971	<i>22.96</i>	1.4750	1.3125	5	4	20.4
May	21.11	1.5600	32.93	0.6524	<i>32.36</i>	1.4789	1.3842	9	7	32.4
Jun	17.29	1.4346	24.80	0.5410	<i>25.48</i>	1.5537	1.4545	7	5	28.3
Jul	23.57	1.4120	33.28	0.3120	<i>34.62</i>	1.5818	1.5030	7	6	39.9
Aug	10.13	0.9250	9.37	0.1918	<i>10.45</i>	1.2469	0.9506	8	5	10.1
Sep	3.78	0.8838	3.34	0.0437	<i>3.67</i>	1.1471	0.8824	9	3	4.3
Oct	16.00	2.0053	32.09	0.7323	<i>31.83</i>	1.9583	1.8906	12	7	22.0
Nov	12.69	1.3725	17.42	0.3191	<i>17.79</i>	1.4606	1.3939	13	8	17.9
Dec	6.85	1.4591	9.99	0.3275	<i>10.63</i>	1.7416	1.4494	13	5	15.8
1985 Means	12.44	1.4188	17.65	—	<i>18.43</i>	1.6076	1.4223	—	—	20.6
	σ ² = 0.4840			σ ^{mw2} = 0.3938			Eσ ² = 0.0533			
1986 Jan	3.10	0.9979	3.09	0.0913	<i>3.83</i>	1.7097	1.0000	10	2	2.8
Feb	33.38	1.2364	41.27	0.1347	<i>41.51</i>	1.2584	1.2584	8	7	27.9
Mar	11.08	1.1893	13.18	0.3582	<i>14.26</i>	1.4812	1.1805	12	7	13.8
Apr	16.89	1.3355	22.56	0.2502	<i>22.78</i>	1.3750	1.3750	9	7	22.4
May	9.30	1.2375	11.51	0.3794	<i>12.81</i>	1.6559	1.1613	10	6	16.1
Jun	0.00	—	0.00	—	<i>0.00</i>	∞	∞	7	0	0.6
Jul	16.43	1.1032	18.12	0.2701	<i>18.89</i>	1.2435	1.1217	7	5	18.1
Aug	8.82	1.1567	10.20	0.0994	<i>11.01</i>	1.4330	1.1546	11	8	9.9
Sep	0.00	—	0.00	—	<i>0.00</i>	∞	∞	6	0	5.1
Oct	30.11	1.3392	40.33	0.3469	<i>40.66</i>	1.3727	1.3727	9	8	40.1
Nov	11.58	1.0964	12.70	0.1514	<i>13.72</i>	1.3597	1.1511	12	7	15.4
Dec	2.00	1.4318	2.86	0.5922	<i>3.75</i>	2.7647	1.4118	17	3	5.8
1986 Means	11.29	1.2201	13.77	—	<i>14.52</i>	1.4189	1.2477	—	—	14.8
	σ ² = 0.2817			σ ^{mw2} = 0.2570			Eσ ² = 0.0371			

CORRECTED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
1987 Jan	8.47	1.0512	8.90	0.2072	9.20	1.1575	1.0551	15	10	9.8
Feb	1.67	0.7333	1.22	∞	1.96	2.0667	0.7333	9	1	3.4
Mar	12.22	1.2564	15.36	0.1859	16.05	1.4273	1.2636	9	7	17.4
Apr	26.40	1.6267	42.94	0.3903	43.70	1.7121	1.7121	5	5	46.0
May	36.89	1.2040	44.41	0.3741	43.79	1.1536	1.1536	9	9	39.1
Jun	6.10	1.4671	8.95	0.3891	10.07	2.0164	1.4590	10	4	18.8
Jul	16.00	1.3840	22.14	0.2451	21.76	1.3125	1.3125	5	3	38.2
Aug	40.89	1.3519	55.28	0.4989	53.22	1.2011	1.2011	9	9	47.9
Sep	26.09	1.5928	41.56	0.5981	40.95	1.5226	1.5226	11	11	42.2
Oct	40.00	1.5943	63.77	0.4231	63.32	1.5607	1.4786	7	6	63.4
Nov	27.43	1.4725	40.39	0.3779	40.59	1.4948	1.3698	7	6	48.8
Dec	22.67	1.3520	30.64	0.4531	29.74	1.2316	1.2316	12	12	29.1
1987 Means	20.89	1.3656	28.52	—	28.62	1.3785	1.3200	—	—	33.9
	σ ² = 0.4330			σ ^{mw} ₂ = 0.3891			Eσ ² = 0.0452			
1988 Jan	51.71	1.3440	69.50	0.2050	69.00	1.3149	1.3149	14	14	70.5
Feb	31.00	1.5866	49.18	0.5101	47.79	1.4516	1.4516	8	8	45.4
Mar	77.09	1.3343	102.87	0.1940	102.18	1.3078	1.3078	11	11	91.2
Apr	83.33	1.3758	114.65	0.3334	112.54	1.3000	1.3000	9	9	108.8
May	44.00	1.4334	63.07	0.4735	63.27	1.4470	1.4470	3	3	74.2
Jun	94.00	1.5246	143.31	0.2871	142.41	1.4957	1.4957	5	5	124.3
Jul	108.29	1.3937	150.92	0.3214	147.66	1.3034	1.3034	7	7	131.4
Aug	102.71	1.4351	147.40	0.5513	141.46	1.2615	1.2615	7	7	139.4
Sep	117.33	1.3058	153.21	0.1773	153.62	1.3163	1.3163	9	9	142.7
Oct	115.90	1.3193	152.91	0.1144	152.64	1.3123	1.3123	10	10	156.5
Nov	123.86	1.3525	167.52	0.1836	167.25	1.3460	1.3460	7	7	156.8
Dec	173.20	1.3928	241.24	0.1690	239.36	1.3603	1.3603	10	10	231.2
1988 Means	94.63	1.3863	131.19	—	129.52	1.3335	1.3335	—	—	123.0
	σ ² = 0.2894			σ ^{mw} ₂ = 0.2676			Eσ ² = 0.0299			
1989 Jan	177.89	1.3576	241.50	0.2151	239.66	1.3267	1.3267	9	9	210.1
Feb	166.67	1.3828	230.46	0.1585	229.20	1.3600	1.3600	9	9	208.7
Mar	121.45	1.3447	163.32	0.2025	163.12	1.3398	1.3398	11	11	170.4
Apr	136.00	1.2517	170.23	0.1608	170.98	1.2684	1.2684	2	2	166.3
May	164.14	1.2941	212.41	0.2018	210.68	1.2624	1.2624	14	14	195.4
Jun	228.62	1.3089	299.24	0.1645	297.11	1.2810	1.2810	13	13	284.5
Jul	139.58	1.3510	188.57	0.2815	185.91	1.2937	1.2937	19	19	180.5
Aug	162.85	1.4621	238.09	0.3178	234.81	1.4015	1.4015	13	13	232.0
Sep	190.50	1.2887	245.49	0.1291	244.99	1.2808	1.2808	10	10	225.1
Oct	173.92	1.2278	213.54	0.1377	213.36	1.2247	1.2247	13	13	212.2
Nov	207.30	1.3010	269.71	0.1737	266.97	1.2615	1.2615	10	10	238.2
Dec	163.33	1.3455	219.77	0.2254	217.59	1.3056	1.3056	12	12	211.4
1989 Means	169.98	1.3316	226.35	—	224.45	1.2981	1.2981	—	—	211.1
	σ ² = 0.2147			σ ^{mw} ₂ = 0.2065			Eσ ² = 0.0185			

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
1990 Jan	166.78	1.2685	211.55	0.1799	<i>210.89</i>	1.2565	1.2565	9	9	227.4
Feb	146.38	1.2676	185.55	0.2212	<i>182.89</i>	1.2131	1.2131	16	16	171.8
Mar	159.15	1.3127	208.92	0.1223	<i>209.28</i>	1.3195	1.3195	13	13	191.7
Apr	160.87	1.2001	193.06	0.1546	<i>191.82</i>	1.1770	1.1770	15	15	189.7
May	157.07	1.1263	176.90	0.1347	<i>176.14</i>	1.1116	1.1116	15	15	175.2
Jun	134.13	1.2440	166.85	0.0973	<i>166.42</i>	1.2344	1.2344	16	16	153.3
Jul	140.93	1.1740	165.46	0.1326	<i>164.71</i>	1.1580	1.1580	15	15	191.1
Aug	199.23	1.3032	259.63	0.1269	<i>258.93</i>	1.2927	1.2927	13	13	252.1
Sep	121.93	1.3768	167.87	0.1857	<i>167.56</i>	1.3691	1.3691	15	15	169.1
Oct	157.15	1.2681	199.29	0.1515	<i>199.02</i>	1.2628	1.2628	13	13	199.4
Nov	130.00	1.3191	171.48	0.1605	<i>170.99</i>	1.3077	1.3077	12	12	178.8
Dec	149.44	1.3246	197.96	0.1983	<i>198.31</i>	1.3316	1.3316	9	9	197.1
1990 Means	150.98	1.2609	190.37	—	<i>189.60</i>	1.2455	1.2455	—	—	191.8
	σ ² = 0.1674			σ ^{mw2} = 0.1537			Eσ ² = 0.0124			
1991 Jan	159.21	1.3139	209.19	0.2281	<i>207.17</i>	1.2759	1.2759	14	14	195.3
Feb	208.16	1.2011	250.02	0.1385	<i>248.98</i>	1.1861	1.1861	19	19	240.3
Mar	165.18	1.2772	210.96	0.2112	<i>208.98</i>	1.2411	1.2411	17	17	197.0
Apr	170.92	1.2832	219.32	0.2915	<i>219.58</i>	1.2877	1.2877	12	12	197.6
May	143.56	1.2115	173.92	0.1580	<i>173.15</i>	1.1955	1.1955	16	16	166.9
Jun	185.88	1.2536	233.02	0.1804	<i>231.70</i>	1.2323	1.2323	16	16	224.7
Jul	214.00	1.2205	261.18	0.1356	<i>259.36</i>	1.1949	1.1949	14	14	240.2
Aug	203.00	1.1649	236.48	0.1206	<i>235.52</i>	1.1508	1.1508	13	13	240.8
Sep	133.00	1.3440	178.75	0.1647	<i>178.67</i>	1.3421	1.3421	14	14	168.9
Oct	145.76	1.4039	204.64	0.4053	<i>199.62</i>	1.3006	1.3006	17	17	197.1
Nov	109.62	1.3620	149.30	0.2007	<i>148.61</i>	1.3432	1.3432	13	13	159.5
Dec	183.50	1.2758	234.12	0.2214	<i>231.78</i>	1.2376	1.2376	10	10	212.6
1991 Means	168.85	1.2751	215.30	—	<i>213.24</i>	1.2385	1.2385	—	—	203.3
	σ ² = 0.2236			σ ^{mw2} = 0.2046			Eσ ² = 0.0166			
1992 Jan	169.93	1.2305	209.10	0.0996	<i>209.00</i>	1.2287	1.2287	15	15	198.3
Feb	155.00	1.4789	229.23	0.2808	<i>229.21</i>	1.4785	1.4785	6	6	230.7
Mar	114.17	1.4005	159.88	0.2429	<i>158.20</i>	1.3562	1.3562	6	6	151.0
Apr	109.93	1.3304	146.26	0.1054	<i>145.95</i>	1.3220	1.3220	15	15	142.2
May	61.70	1.6634	102.63	1.2897	<i>93.19</i>	1.2042	1.2042	10	10	94.3
Jun	75.47	1.3198	99.60	0.2212	<i>98.96</i>	1.2942	1.2942	15	15	98.5
Jul	88.82	1.2973	115.22	0.2385	<i>114.42</i>	1.2702	1.2702	11	11	114.2
Aug	55.31	1.5380	85.06	0.3796	<i>83.56</i>	1.4562	1.4562	13	13	91.9
Sep	69.63	1.3436	93.55	0.2375	<i>93.24</i>	1.3303	1.3303	16	16	94.0
Oct	106.47	1.3541	144.17	0.2722	<i>142.16</i>	1.2974	1.2974	15	15	133.4
Nov	100.60	1.3312	133.92	0.1417	<i>133.18</i>	1.3091	1.3091	10	10	129.6
Dec	91.46	1.3459	123.10	0.2908	<i>120.71</i>	1.2675	1.2675	13	13	122.0
1992 Means	97.68	1.3724	134.06	—	<i>131.88</i>	1.3054	1.3054	—	—	133.0
	σ ² = 0.4063			σ ^{mw2} = 0.2970			Eσ ² = 0.0340			

CORRECTED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
1993 Jan	64.23	1.3673	87.82	0.2515	86.78	1.3186	1.3186	13	13	81.4
Feb	98.83	1.2146	120.05	0.1427	119.89	1.2099	1.2099	12	12	127.8
Mar	83.47	1.2591	105.10	0.1606	104.58	1.2403	1.2403	17	17	102.4
Apr	65.33	1.5042	98.27	0.3191	96.96	1.4439	1.4439	15	15	94.4
May	47.60	1.2876	61.29	0.4024	60.28	1.2241	1.2241	15	15	78.8
Jun	50.87	1.3704	69.71	0.2274	70.23	1.4010	1.3722	15	14	69.6
Jul	51.64	1.4525	75.00	0.1703	74.70	1.4349	1.4349	11	11	80.4
Aug	45.81	1.3429	61.52	0.2402	61.30	1.3285	1.3285	21	21	62.5
Sep	24.59	1.2060	29.65	0.5253	29.40	1.1746	1.0646	17	14	31.2
Oct	48.87	1.6609	81.16	0.6574	77.91	1.4611	1.4611	15	15	71.1
Nov	41.88	1.3062	54.71	0.2590	53.61	1.2275	1.2275	17	17	48.2
Dec	59.31	1.3247	78.57	0.3877	78.03	1.2972	1.2634	16	15	68.4
1993 Means	55.65	1.3568	75.50	—	74.64	1.3101	1.3003	—	—	76.1
	σ ² = 0.3571			σ ^{mw} ₂ = 0.3132			Eσ ² = 0.0259			
1994 Jan	63.29	1.3471	85.26	0.2041	85.35	1.3513	1.3513	17	17	84.9
Feb	51.36	0.9866	50.68	0.2482	50.63	0.9841	0.9841	11	11	54.9
Mar	44.88	1.0715	48.08	0.3178	47.82	1.0539	1.0539	24	24	47.5
Apr	24.18	1.3662	33.03	0.5256	31.55	1.1825	1.2526	17	13	27.4
May	25.15	1.1279	28.37	0.2433	28.26	1.1153	1.1098	20	13	29.8
Jun	20.76	1.3533	28.10	0.4129	28.46	1.4051	1.2918	17	11	39.7
Jul	38.71	1.4728	57.01	0.4968	55.85	1.3830	1.3571	17	16	50.6
Aug	28.95	1.2154	35.19	0.3944	34.63	1.1570	1.1570	22	22	34.3
Sep	26.79	1.3796	36.96	0.4910	36.67	1.3477	1.2770	19	16	40.5
Oct	56.53	1.1961	67.62	0.1154	67.59	1.1946	1.1946	15	15	67.1
Nov	21.86	1.3703	29.96	0.3422	31.08	1.5239	1.3597	22	18	29.5
Dec	27.50	1.1890	32.70	0.2899	32.72	1.1909	1.1709	20	19	32.2
1994 Means	34.70	1.2531	43.48	—	43.20	1.2287	1.2083	—	—	44.9
	σ ² = 0.3748			σ ^{mw} ₂ = 0.3397			Eσ ² = 0.0257			
1995 Jan	14.33	1.4148	20.28	0.5810	21.63	1.6977	1.3256	18	11	32.6
Feb	40.00	1.3578	54.31	0.2106	53.79	1.3188	1.3188	12	12	45.8
Mar	34.85	1.3601	47.39	0.3550	47.38	1.3587	1.3057	26	23	46.3
Apr	21.94	1.0477	22.99	0.1774	23.78	1.1555	1.0831	17	10	21.6
May	19.00	1.0262	19.50	0.1095	19.78	1.0702	0.9971	18	13	19.4
Jun	20.00	1.2367	24.73	0.2883	24.32	1.1750	1.1598	20	18	22.5
Jul	15.61	1.3227	20.65	0.3836	20.93	1.3772	1.3037	18	13	20.4
Aug	13.94	0.9952	13.87	0.2316	15.21	1.2827	0.9620	17	8	18.2
Sep	8.31	1.0936	9.09	0.1462	10.35	1.5489	1.1203	16	7	15.7
Oct	27.85	1.1192	31.17	0.2474	31.47	1.1519	1.1160	13	9	30.6
Nov	13.67	1.1757	16.07	0.4866	15.45	1.0407	1.1429	18	13	14.0
Dec	11.85	1.3863	16.42	0.4179	16.31	1.3571	1.2597	13	9	14.9
1995 Means	20.25	1.2319	24.95	—	25.29	1.2819	1.1960	—	—	25.1
	σ ² = 0.3558			σ ^{mw} ₂ = 0.3126			Eσ ² = 0.0281			

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
1996 Jan	10.68	1.1311	12.08	0.2512	<i>12.09</i>	1.1319	1.1429	22	12	13.3
Feb	9.75	0.9711	9.47	0.3854	<i>10.19</i>	1.1923	0.8590	8	4	7.7
Mar	10.05	1.1329	11.39	0.3250	<i>11.79</i>	1.2513	1.0524	19	10	12.6
Apr	4.28	1.1828	5.06	0.1682	<i>5.37</i>	1.4026	1.1719	18	5	6.8
May	7.06	1.1353	8.01	0.1290	<i>8.03</i>	1.1417	1.1417	18	8	7.6
Jun	11.21	1.0207	11.45	0.1884	<i>12.56</i>	1.3185	1.0068	14	6	16.5
Jul	12.92	1.1011	14.23	0.2531	<i>13.49</i>	0.9286	1.0827	13	7	11.8
Aug	20.35	1.0324	21.01	0.3436	<i>20.48</i>	0.9538	0.9538	17	17	19.7
Sep	2.85	0.8462	2.41	—	<i>2.17</i>	0.5946	0.8462	13	1	3.0
Oct	0.00	—	0.00	—	<i>0.00</i>	∞	∞	19	0	0.7
Nov	18.69	1.2814	23.95	0.1923	<i>24.07</i>	1.3010	1.3010	16	10	24.9
Dec	10.76	1.1694	12.59	0.2001	<i>12.76</i>	1.2186	1.1475	17	9	14.0
1996 Means	9.78	1.1163	10.92	—	<i>11.02</i>	1.1475	1.0930	—	—	11.6
	σ ² = 0.2630			σ ^{mw2} = 0.2488			Eσ ² = 0.0277			
1997 Jan	5.53	1.0846	5.99	0.3106	<i>6.70</i>	1.4667	1.0762	19	8	7.4
Feb	7.60	1.4688	11.16	0.4604	<i>11.18</i>	1.4737	1.3158	10	3	11.0
Mar	12.07	1.3822	16.69	0.5326	<i>16.93</i>	1.4438	1.3432	14	11	12.1
Apr	22.26	1.2455	27.73	0.3700	<i>27.73</i>	1.2459	1.1773	19	15	23.0
May	10.92	1.4956	16.34	1.0186	<i>15.99</i>	1.4014	1.4351	13	10	25.4
Jun	17.61	1.1446	20.16	0.2384	<i>20.01</i>	1.1199	1.1199	18	17	20.8
Jul	10.95	1.1763	12.88	0.6020	<i>13.12</i>	1.2420	1.0091	20	10	12.9
Aug	30.57	1.3894	42.48	0.6326	<i>41.76</i>	1.3193	1.2991	21	19	35.7
Sep	43.81	1.3696	60.01	0.3541	<i>58.71</i>	1.2810	1.2810	16	16	59.7
Oct	29.71	1.2127	36.03	0.2359	<i>35.98</i>	1.2079	1.2079	17	17	32.8
Nov	38.64	1.3059	50.46	0.3364	<i>50.12</i>	1.2791	1.2791	14	14	50.4
Dec	47.23	1.3017	61.48	0.2341	<i>60.96</i>	1.2687	1.2687	13	13	55.5
1997 Means	22.96	1.2894	29.60	—	<i>29.51</i>	1.2773	1.2413	—	—	28.9
	σ ² = 0.4683			σ ^{mw2} = 0.4247			Eσ ² = 0.0383			
1998 Jan	26.88	1.3710	36.85	0.4096	<i>36.61</i>	1.3442	1.3419	16	13	44.5
Feb	39.25	1.2842	50.40	0.3388	<i>49.42</i>	1.2086	1.2086	16	16	50.2
Mar	67.24	1.2529	84.24	0.2514	<i>83.22</i>	1.2073	1.2073	17	17	82.0
Apr	48.45	1.5404	74.64	0.6258	<i>71.85</i>	1.3677	1.3677	11	11	70.6
May	62.65	1.2877	80.67	0.2228	<i>80.29</i>	1.2695	1.2695	17	17	74.0
Jun	66.11	1.2577	83.15	0.1819	<i>82.73</i>	1.2387	1.2387	9	9	90.5
Jul	79.78	1.3829	110.32	0.2391	<i>109.33</i>	1.3454	1.3454	9	9	96.7
Aug	99.19	1.2396	122.95	0.1282	<i>122.80</i>	1.2350	1.2350	16	16	121.1
Sep	100.67	1.3621	137.12	0.3311	<i>135.35</i>	1.3093	1.3093	15	15	132.0
Oct	59.46	1.3628	81.03	0.3321	<i>79.30</i>	1.2755	1.2755	13	13	78.5
Nov	79.77	1.1786	94.01	0.1333	<i>94.11</i>	1.1823	1.1823	13	13	97.3
Dec	85.47	1.4030	119.91	0.2603	<i>119.14</i>	1.3760	1.3760	15	15	119.2
1998 Means	67.67	1.3208	89.38	—	<i>88.36</i>	1.2755	1.2754	—	—	88.3
	σ ² = 0.3105			σ ^{mw2} = 0.2832			Eσ ² = 0.0241			

CORRECTED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
1999 Jan	63.55	1.4580	92.65	0.3131	90.64	1.3634	1.3634	11	11	86.0
Feb	69.44	1.2737	88.45	0.2387	89.49	1.3184	1.3184	9	9	98.0
Mar	86.93	1.3197	114.72	0.1416	114.12	1.2991	1.2991	14	14	103.5
Apr	71.17	1.3062	92.96	0.2012	93.00	1.3080	1.3080	12	12	93.6
May	117.43	1.3429	157.69	0.0976	157.75	1.3443	1.3443	14	14	149.6
Jun	143.75	1.3920	200.09	0.1763	199.21	1.3735	1.3735	16	16	207.2
Jul	139.50	1.3598	189.69	0.1605	188.46	1.3333	1.3333	16	16	173.5
Aug	97.41	1.4199	138.32	0.2184	137.41	1.3919	1.3919	17	17	142.3
Sep	78.88	1.3692	108.00	0.1890	107.10	1.3348	1.3348	17	17	106.3
Oct	119.73	1.4112	168.97	0.2174	167.87	1.3836	1.3836	15	15	168.7
Nov	153.73	1.3898	213.65	0.2715	212.58	1.3690	1.3690	11	11	188.3
Dec	93.00	1.2968	120.60	0.2153	119.51	1.2616	1.2616	12	12	116.8
1999 Means	104.70	1.3653	142.95	—	142.30	1.3466	1.3466	—	—	136.3
	σ ² = 0.2038			σ ^{mw} ₂ = 0.1982		Eσ ² = 0.0160				
2000 Jan	113.31	1.2021	136.21	0.2356	135.83	1.1921	1.1921	13	13	133.1
Feb	128.38	1.3063	167.71	0.1817	165.86	1.2630	1.2630	13	13	165.7
Mar	182.19	1.2109	220.61	0.1108	219.76	1.1969	1.1969	16	16	217.7
Apr	186.33	1.1551	215.24	0.1058	214.31	1.1401	1.1401	9	9	191.5
May	156.80	1.1743	184.14	0.0998	183.06	1.1537	1.1537	10	10	165.9
Jun	159.90	1.1914	190.50	0.1520	190.10	1.1839	1.1839	10	10	188.0
Jul	226.23	1.1936	270.04	0.1493	267.74	1.1632	1.1632	13	13	244.3
Aug	157.37	1.2085	190.18	0.1152	189.82	1.2017	1.2017	19	19	180.5
Sep	115.54	1.2931	149.40	0.3863	145.81	1.1997	1.1997	13	13	156.0
Oct	120.14	1.2367	148.58	0.1733	147.79	1.2170	1.2170	14	14	141.6
Nov	119.50	1.1862	141.75	0.1829	140.67	1.1590	1.1590	10	10	158.1
Dec	113.36	1.1290	127.99	0.1580	127.03	1.1034	1.1034	11	11	143.3
2000 Means	148.73	1.2114	180.17	—	178.81	1.1840	1.1840	—	—	173.9
	σ ² = 0.1865			σ ^{mw} ₂ = 0.1709		Eσ ² = 0.0152				
2001 Jan	134.71	1.1099	149.51	0.1321	148.81	1.0943	1.0943	17	17	142.6
Feb	107.92	1.1071	119.48	0.1131	118.75	1.0870	1.0870	13	13	121.5
Mar	142.75	1.1740	167.59	0.1456	168.17	1.1863	1.1863	20	20	165.8
Apr	130.67	1.2527	163.69	0.2088	162.43	1.2239	1.2239	12	12	161.7
May	103.73	1.3195	136.87	0.1636	135.91	1.2918	1.2918	11	11	142.1
Jun	172.38	1.1999	206.84	0.1366	206.27	1.1900	1.1900	16	16	202.9
Jul	92.65	1.2572	116.48	0.1810	116.22	1.2489	1.2489	17	17	123.0
Aug	148.40	1.1049	163.97	0.1019	163.51	1.0957	1.0957	15	15	161.5
Sep	203.53	1.2724	258.97	0.1196	258.72	1.2688	1.2688	17	17	238.2
Oct	156.83	1.2037	188.78	0.1283	188.35	1.1955	1.1955	12	12	194.1
Nov	139.91	1.2501	174.90	0.1238	174.72	1.2463	1.2463	11	11	176.6
Dec	171.00	1.2618	215.77	0.2178	213.60	1.2238	1.2238	11	11	213.4
2001 Means	142.90	1.2043	172.09	—	171.62	1.1945	1.1945	—	—	170.4
	σ ² = 0.1599			σ ^{mw} ₂ = 0.1457		Eσ ² = 0.0114				

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
2002 Jan	155.21	1.2401	192.48	0.1276	<i>191.81</i>	1.2272	1.2272	19	19	184.6
Feb	153.14	1.1357	173.93	0.1482	<i>172.52</i>	1.1082	1.1082	14	14	170.2
Mar	126.69	1.1222	142.17	0.1233	<i>141.96</i>	1.1172	1.1172	13	13	147.1
Apr	160.00	1.1486	183.77	0.1077	<i>183.01</i>	1.1344	1.1344	14	14	186.9
May	166.73	1.0900	181.73	0.1103	<i>181.70</i>	1.0894	1.0894	11	11	187.5
Jun	125.08	1.1448	143.19	0.1225	<i>142.46</i>	1.1273	1.1273	13	13	128.8
Jul	158.72	1.1253	178.62	0.1917	<i>176.32</i>	1.0819	1.0819	18	18	161.0
Aug	166.22	1.1322	188.20	0.1233	<i>187.04</i>	1.1113	1.1113	18	18	175.6
Sep	172.25	1.1155	192.15	0.1189	<i>191.41</i>	1.1026	1.1026	12	12	187.9
Oct	134.06	1.1168	149.72	0.1337	<i>149.37</i>	1.1090	1.1090	18	18	151.2
Nov	119.20	1.1899	141.83	0.1704	<i>140.60</i>	1.1588	1.1588	15	15	147.2
Dec	76.91	1.3946	107.26	0.3197	<i>105.51</i>	1.3262	1.3262	11	11	135.3
2002 Means	144.34	1.1609	167.56	—	<i>166.20</i>	1.1326	1.1326	—	—	163.6
	σ ² = 0.1674			σ ^{mw2} = 0.1477			Eσ ² = 0.0118			
2003 Jan	111.62	1.1445	127.74	0.2629	<i>127.14</i>	1.1282	1.1282	13	13	133.5
Feb	75.33	1.1653	87.78	0.3096	<i>86.12</i>	1.0988	1.0988	9	9	75.7
Mar	77.38	1.1713	90.63	0.2533	<i>89.17</i>	1.1147	1.1147	8	8	100.7
Apr	84.94	1.1057	93.92	0.1198	<i>94.12</i>	1.1125	1.1125	18	18	97.9
May	75.75	1.1520	87.26	0.1647	<i>86.94</i>	1.1394	1.1394	16	16	86.8
Jun	105.93	1.1978	126.89	0.2772	<i>124.61</i>	1.1334	1.1334	15	15	118.7
Jul	114.00	1.2653	144.25	0.2010	<i>143.08</i>	1.2346	1.2346	12	12	128.3
Aug	104.54	1.1940	124.82	0.1466	<i>124.14</i>	1.1744	1.1744	13	13	115.4
Sep	50.00	1.2074	60.37	0.2163	<i>60.33</i>	1.2050	1.2050	8	8	78.5
Oct	88.22	1.1663	102.89	0.2460	<i>101.28</i>	1.1115	1.1115	18	18	97.8
Nov	50.92	1.1500	58.56	0.4694	<i>57.76</i>	1.1027	1.0801	13	12	82.9
Dec	59.89	1.2333	73.86	0.1962	<i>74.05</i>	1.2430	1.2430	9	9	72.2
2003 Means	85.49	1.1741	100.37	—	<i>99.56</i>	1.1457	1.1445	—	—	99.3
	σ ² = 0.2426			σ ^{mw2} = 0.2322			Eσ ² = 0.0202			
2004 Jan	57.18	1.1825	67.62	0.1841	<i>67.99</i>	1.2019	1.1606	11	10	60.6
Feb	53.60	1.3182	70.66	0.4173	<i>69.37</i>	1.2463	1.2463	5	5	74.6
Mar	58.20	1.2245	71.26	0.1776	<i>71.06</i>	1.2142	1.2142	15	15	74.8
Apr	48.91	1.3139	64.26	0.3266	<i>63.21</i>	1.2491	1.2491	11	11	59.2
May	67.50	1.3950	94.16	0.1345	<i>93.54</i>	1.3674	1.3674	10	10	72.8
Jun	50.50	1.1979	60.49	0.2644	<i>60.25</i>	1.1832	1.1832	8	8	66.5
Jul	72.56	1.1664	84.63	0.1531	<i>84.07</i>	1.1430	1.1430	16	16	83.8
Aug	53.00	1.3773	73.00	0.3971	<i>70.41</i>	1.2311	1.2311	16	16	69.7
Sep	37.78	1.2382	46.78	0.3807	<i>47.48</i>	1.2941	1.2941	9	9	48.8
Oct	73.78	1.1990	88.46	0.1892	<i>89.23</i>	1.2304	1.2304	9	9	74.2
Nov	69.00	1.2520	86.39	0.1881	<i>85.68</i>	1.2210	1.2210	8	8	70.1
Dec	19.75	1.3438	26.54	0.4485	<i>25.49</i>	1.1835	1.1835	8	8	28.9
2004 Means	56.43	1.2654	71.40	—	<i>70.65</i>	1.2253	1.2217	—	—	65.3
	σ ² = 0.2807			σ ^{mw2} = 0.2613			Eσ ² = 0.0253			

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
2005 Jan	46.92	1.1946	56.05	0.2060	55.14	1.1361	1.1361	13	13	48.1
Feb	33.70	1.3336	44.94	0.2240	44.00	1.2493	1.2196	10	9	43.5
Mar	29.63	1.3209	39.13	0.2882	39.28	1.3354	1.3038	16	14	39.6
Apr	36.94	1.0726	39.62	0.2476	39.57	1.0685	1.0685	17	17	38.7
May	50.14	1.2577	63.07	0.2411	62.71	1.2365	1.2365	7	7	61.9
Jun	59.50	1.0547	62.75	0.1927	63.44	1.0891	1.0605	10	8	56.8
Jul	43.78	0.9874	43.23	0.2386	43.85	1.0305	0.9949	9	6	62.4
Aug	49.86	1.2635	63.00	0.2506	62.90	1.2579	1.2579	14	14	60.5
Sep	23.25	1.7075	39.70	0.4447	38.30	1.5269	1.5269	8	8	37.2
Oct	8.55	1.2447	10.64	0.3003	10.94	1.3511	1.2234	11	7	13.2
Nov	22.08	1.2518	27.64	0.4424	27.46	1.2264	1.1358	12	9	27.5
Dec	52.22	1.1206	58.52	0.1749	58.35	1.1106	1.1106	9	9	59.3
2005 Means	37.51	1.2301	46.15	—	45.57	1.1842	1.1662	—	—	45.8
	σ ² = 0.3112			σ ^{mw} ₂ = 0.2671			Eσ ² = 0.0253			
2006 Jan	17.62	1.1060	19.48	0.2971	19.50	1.1092	1.0611	13	12	20.9
Feb	5.20	0.7202	3.74	0.2288	4.23	1.0000	0.6795	15	5	5.7
Mar	15.50	1.2382	19.19	0.5311	19.29	1.2581	1.1183	12	9	17.3
Apr	40.42	1.2997	52.53	0.3879	51.91	1.2536	1.2062	12	11	50.3
May	22.00	1.8365	40.40	1.5066	36.46	1.2987	1.2987	7	4	37.2
Jun	14.92	1.2569	18.75	0.1330	19.72	1.4525	1.2737	12	8	24.5
Jul	15.86	1.2812	20.32	0.2926	20.31	1.2793	1.2793	14	12	22.2
Aug	20.85	1.2481	26.02	0.3820	25.73	1.2066	1.2066	13	13	20.8
Sep	14.57	1.1306	16.47	0.0422	17.13	1.2647	1.1373	7	5	23.7
Oct	18.00	1.3325	23.98	0.5815	23.38	1.2315	1.2315	6	5	14.9
Nov	29.67	1.1682	34.66	0.2421	34.63	1.1657	1.1657	12	11	35.7
Dec	22.90	1.2380	28.35	0.3615	27.93	1.1834	1.1834	10	8	22.3
2006 Means	19.54	1.2270	23.98	—	23.99	1.2285	1.1785	—	—	24.7
	σ ² = 0.4497			σ ^{mw} ₂ = 0.3689			Eσ ² = 0.0445			
2007 Jan	28.82	1.1795	33.99	0.1381	33.81	1.1609	1.1609	11	11	29.3
Feb	14.86	1.2428	18.47	0.0873	18.07	1.1635	1.2284	14	10	18.4
Mar	7.64	0.9644	7.36	0.2831	7.61	1.0595	0.9048	11	5	7.2
Apr	2.38	0.9444	2.25	0.0786	2.25	0.9355	0.9355	13	2	5.4
May	11.83	1.2424	14.70	0.1888	15.38	1.4155	1.2672	12	8	19.5
Jun	18.30	1.4822	27.12	0.6897	26.68	1.4098	1.4098	10	6	21.3
Jul	11.93	1.1470	13.68	0.3787	13.05	0.9880	1.0577	14	9	15.1
Aug	9.60	1.0377	9.96	0.2545	10.11	1.0833	0.9479	10	7	9.8
Sep	4.45	1.0524	4.69	0.1830	4.25	0.7551	1.0000	11	2	4.0
Oct	1.85	1.4583	2.69	0.1768	2.69	1.4583	1.4583	13	2	1.5
Nov	2.60	1.2381	3.22	0.1347	3.65	1.7308	1.2308	10	2	2.8
Dec	5.89	1.3690	8.06	0.1852	8.67	1.6792	1.3962	9	2	17.3
2007 Means	10.00	1.1935	11.93	—	11.97	1.2043	1.1783	—	—	12.6
	σ ² = 0.3097			σ ^{mw} ₂ = 0.2449			Eσ ² = 0.0365			

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ ₂	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
2008 Jan	3.14	0.8788	2.76	0.0525	2.53	0.6591	0.8788	14	3	4.1
Feb	2.17	0.9940	2.15	0.1094	2.46	1.4231	1.0000	12	2	2.9
Mar	9.18	1.0290	9.45	0.1648	9.45	1.0297	1.0297	11	3	15.5
Apr	0.00	—	0.00	—	0.00	∞	∞	6	0	3.6
May	2.75	1.4242	3.92	0.4665	3.92	1.4242	1.4242	12	3	4.6
Jun	4.89	1.0303	5.04	0.0525	4.62	0.7727	1.0303	9	3	5.2
Jul	0.00	—	0.00	—	0.00	∞	∞	8	0	0.6
Aug	0.00	—	0.00	—	0.00	∞	∞	10	0	0.3
Sep	0.00	—	0.00	—	0.00	∞	∞	13	0	1.2
Oct	2.18	1.0833	2.36	0.0000	2.36	1.0833	1.0833	11	2	4.2
Nov	4.54	1.3125	5.96	0.1208	5.77	1.1864	1.3111	13	4	6.6
Dec	0.00	—	0.00	—	0.00	∞	∞	11	0	1.0
2008 Means	2.55	1.1246	2.86	—	2.88	1.1480	1.1017	—	—	4.2
	σ ₂ = 0.2555			σ ^{mw} ₂ = 0.1456			Eσ ₂ = 0.0456			
2009 Jan	0.80	0.8333	0.67	—	0.67	0.8333	0.8333	15	1	1.3
Feb	0.00	—	0.00	—	0.00	∞	∞	11	0	1.2
Mar	0.00	—	0.00	—	0.00	∞	∞	15	0	0.6
Apr	0.00	—	0.00	—	0.00	∞	∞	8	0	1.2
May	0.00	—	0.00	—	0.00	∞	∞	13	0	2.9
Jun	5.64	1.3932	7.86	0.0281	8.57	1.7722	1.3924	14	5	6.3
Jul	4.00	1.2867	5.15	0.0636	5.49	1.5417	1.2917	12	3	5.5
Aug	0.00	—	0.00	—	0.00	∞	∞	7	0	0.0
Sep	1.56	1.2143	1.89	—	1.89	1.2143	1.2143	9	1	7.1
Oct	5.82	1.4597	8.49	0.1167	8.51	1.4688	1.4688	11	4	7.7
Nov	2.56	1.1326	2.89	0.0696	5.19	3.8261	1.1304	9	2	6.9
Dec	10.07	1.2724	12.81	0.2371	14.26	1.7021	1.2979	14	6	16.3
2009 Means	2.76	1.3005	3.59	—	4.22	1.9843	1.3176	—	—	4.8
	σ ₂ = 0.1915			σ ^{mw} ₂ = 0.1073			Eσ ₂ = 0.0294			
2010 Jan	13.50	1.1969	16.16	0.3009	16.69	1.3148	1.1728	12	9	19.5
Feb	23.30	1.2924	30.11	0.4682	29.58	1.2232	1.2232	10	10	28.5
Mar	15.60	1.5714	24.51	0.3812	23.54	1.3846	1.4897	10	7	24.0
Apr	6.36	1.3805	8.79	0.8057	10.19	2.0429	1.2857	11	5	10.4
May	4.00	1.4545	5.82	0.6364	7.43	2.6667	1.4167	9	3	13.9
Jun	9.00	1.2342	11.11	0.3606	12.07	1.5556	1.2323	11	7	18.8
Jul	11.85	1.7117	20.28	0.5497	21.16	1.9351	1.7403	13	11	25.2
Aug	20.36	1.2172	24.79	0.4726	25.49	1.3214	1.2188	11	8	29.6
Sep	19.40	1.5293	29.67	0.3749	30.18	1.6082	1.6082	5	4	36.4
Oct	27.38	1.2087	33.09	0.1161	33.81	1.2877	1.2100	16	13	33.6
Nov	25.67	1.5002	38.50	0.5179	37.00	1.3247	1.3247	6	6	34.4
Dec	18.18	1.6413	29.84	0.5935	29.38	1.5650	1.4800	11	9	24.5
2010 Means	16.18	1.3997	22.65	—	22.94	1.4523	1.3325	—	—	24.9
	σ ₂ = 0.4740			σ ^{mw} ₂ = 0.4327			Eσ ₂ = 0.0486			

CORRECTED **VERSION 2 WOLF NUMBERS** for 1973 - 2015 continued.

	WN	k2	R _{GD} ²	σ ²	R _{GDm} ²	I/GDSO ₂	I/GDSO _k ²	n	n _k	Sn
2011 Jan	21.18	1.4396	30.49	0.5651	29.63	1.3176	1.3176	11	10	27.3
Feb	38.36	1.5833	60.74	0.3688	59.95	1.5213	1.4905	11	10	48.3
Mar	52.00	1.7842	92.78	0.2356	91.72	1.7231	1.7231	15	15	78.6
Apr	35.38	2.0544	72.67	0.7778	70.87	1.9011	1.9011	8	8	76.1
May	31.00	2.2736	70.48	1.2670	65.73	1.8136	1.8136	9	9	58.2
Jun	30.67	1.7067	52.34	0.5527	53.23	1.7935	1.6467	6	5	56.1
Jul	40.91	1.5879	64.96	0.3132	65.12	1.6000	1.5044	11	10	64.5
Aug	40.36	1.4888	60.09	0.3607	60.40	1.5113	1.4459	11	10	65.8
Sep	56.50	1.7539	99.09	0.4290	98.70	1.7327	1.7327	10	10	120.1
Oct	81.29	1.6141	131.21	0.2144	130.04	1.5712	1.5712	7	7	125.7
Nov	93.25	1.6080	149.94	0.2723	148.63	1.5657	1.5657	4	4	139.1
Dec	80.00	1.4482	115.85	0.2363	115.95	1.4518	1.4518	7	7	109.3
2011 Means	46.75	1.7009	79.51	—	78.24	1.6196	1.5978	—	—	80.8
	σ ² = 0.5695			σ ^{mw} ₂ = 0.4622			Eσ ² = 0.0533			
2012 Jan	70.00	1.5434	108.04	0.2375	108.23	1.5518	1.5518	8	8	94.4
Feb	29.50	1.5648	46.16	0.4691	45.69	1.5169	1.5169	12	12	47.8
Mar	65.00	1.5344	99.74	0.4441	97.75	1.4426	1.4426	13	13	86.6
Apr	62.20	1.8035	112.18	0.6905	105.79	1.4952	1.4952	10	10	85.9
May	59.75	1.6239	97.03	0.3022	96.05	1.5746	1.5746	12	12	96.5
Jun	69.33	1.3233	91.75	0.1650	92.35	1.3494	1.3494	9	9	92.0
Jul	77.78	1.3952	108.51	0.1456	108.71	1.4029	1.4029	9	9	100.1
Aug	64.00	1.4396	92.14	0.2679	92.45	1.4544	1.4544	12	12	94.8
Sep	54.29	1.5910	86.37	0.3603	84.67	1.4974	1.4974	7	7	93.7
Oct	53.44	1.4630	78.19	0.2037	78.05	1.4553	1.4553	9	9	76.5
Nov	62.50	1.4321	89.51	0.3037	87.84	1.3520	1.3520	6	6	87.6
Dec	48.63	1.2672	61.62	0.2398	60.50	1.1979	1.1979	8	8	56.8
2012 Means	59.26	1.5076	89.34	—	88.16	1.4478	1.4478	—	—	84.5
	σ ² = 0.3718			σ ^{mw} ₂ = 0.3299			Eσ ² = 0.0338			
2013 Jan	71.13	1.4258	101.41	0.4751	98.57	1.3058	1.3058	8	8	96.1
Feb	49.10	1.2911	63.39	0.3549	62.60	1.2424	1.2424	10	10	60.9
Mar	44.67	1.6009	71.51	0.5604	70.00	1.5000	1.5000	15	15	78.3
Apr	100.57	1.2408	124.78	0.1825	124.57	1.2344	1.2344	7	7	107.3
May	87.67	1.5268	133.85	0.2625	131.75	1.4550	1.4550	9	9	120.2
Jun	53.36	1.4698	78.43	0.3295	76.23	1.3458	1.3458	11	11	76.7
Jul	63.57	1.4072	89.46	0.2574	89.02	1.3865	1.3865	7	7	86.2
Aug	57.44	1.4307	82.18	0.2205	81.57	1.3985	1.3985	9	9	91.8
Sep	42.50	1.4207	60.38	0.3782	58.96	1.3206	1.3206	8	8	54.5
Oct	80.78	1.4716	118.88	0.1406	118.84	1.4704	1.4704	9	9	114.4
Nov	90.13	1.3970	125.90	0.2354	124.52	1.3509	1.3509	8	8	113.9
Dec	81.30	1.5712	127.74	0.1989	127.16	1.5498	1.5498	10	10	124.2
2013 Means	66.42	1.4518	96.43	—	95.09	1.3912	1.3912	—	—	94.0
	σ ² = 0.3411			σ ^{mw} ₂ = 0.3151			Eσ ² = 0.0323			

CORRECTED **VERSION 2 WOLF NUMBERS** for **1973 - 2015** continued.

	WN	k2	R _{GD} ²	σ^2	R _{GDm} ²	I/GDSO ₂	I/GDSO _{k2}	n	n _k	Sn
2014 Jan	81.57	1.5504	126.47	0.5215	<i>123.14</i>	1.4282	1.4282	14	14	117.0
Feb	112.13	1.2233	137.17	0.1499	<i>137.28</i>	1.2263	1.2263	8	8	146.1
Mar	86.50	1.5814	136.79	0.4269	<i>134.58</i>	1.5048	1.5048	12	12	128.7
Apr	82.67	1.2726	105.20	0.2830	<i>105.84</i>	1.2957	1.2957	9	9	112.5
May	76.36	1.4685	112.14	0.2554	<i>110.73</i>	1.4131	1.4131	11	11	112.5
Jun	74.33	1.6468	122.41	0.3291	<i>118.89</i>	1.5045	1.5045	6	6	102.9
Jul	45.90	1.8712	85.89	1.5678	<i>76.99</i>	1.2898	1.3020	10	8	100.2
Aug	79.00	1.5996	126.37	0.3471	<i>124.54</i>	1.5301	1.5301	8	8	106.9
Sep	104.25	1.4503	151.20	0.2560	<i>151.46</i>	1.4580	1.4580	4	4	130.0
Oct	63.40	1.4253	90.37	0.2034	<i>88.44</i>	1.3344	1.3344	5	5	90.0
Nov	66.80	1.6697	111.54	0.2233	<i>110.46</i>	1.6213	1.6213	10	10	103.6
Dec	101.00	1.2604	127.30	0.1478	<i>126.09</i>	1.2244	1.2244	6	6	112.9
2014 Means	79.67	1.5140	120.62	—	<i>117.73</i>	1.4051	1.4059	—	—	113.3
	$\sigma^2 = 0.5447$			$\sigma^{mw_2} = 0.4102$		$E\sigma^2 = 0.0542$				
2015 Jan	72.71	1.3854	100.74	0.3625	<i>97.99</i>	1.2721	1.2721	14	14	93.0
Feb	40.55	1.6695	67.69	0.7049	<i>64.46</i>	1.4305	1.4305	11	11	66.7
Mar	33.77	1.4409	48.66	0.5975	<i>47.39</i>	1.3280	1.3280	13	13	54.5
Apr	53.75	1.5539	83.52	0.4614	<i>82.65</i>	1.5054	1.5054	12	12	75.3
May	43.50	1.7019	74.03	0.6297	<i>71.40</i>	1.5201	1.5201	8	8	88.8
Jun	60.36	1.0472	63.21	0.1989	<i>63.90</i>	1.0813	1.0813	11	11	66.5
Jul	58.60	1.3075	76.62	0.3024	<i>75.48</i>	1.2491	1.2491	10	10	65.8
Aug	51.00	1.4791	75.44	0.2947	<i>74.33</i>	1.4142	1.4142	8	8	64.4
Sep	62.56	1.6905	105.75	0.1769	<i>106.09</i>	1.7069	1.7069	9	9	78.6
Oct	27.67	2.0578	56.93	1.1388	<i>52.62</i>	1.5904	1.5904	3	3	63.6
Nov	—	—	—	—	—	—	—	0	0	62.2
Dec	37.83	1.7246	65.25	0.3650	<i>64.22</i>	1.6432	1.6432	6	6	58.0
2015 Means	51.69	1.4945	77.24	—	<i>75.33</i>	1.3836	1.3836	—	—	69.8
	$\sigma^2 = 0.5049$			$\sigma^{mw_2} = 0.4375$		$E\sigma^2 = 0.0473$				

CORRECTED VERSION 2 WOLF NUMBERS for Rotations 1599 - 2171.

As a k value is attributed to each spotted observation, the k value for any specific rotation is the mean of all the co-efficient values (k2) for the rotation concerned.

The corrected values are labelled R_{GD2} .

$$R_{GD2} = WN \times k2.$$

σ_2 = sample standard deviation of k2 values.

$I/GDSO_2$ = International mean (of days observed by the GDSO) divided by the GDSO's rotation mean.

$I/GDSO_{k2}$ = International mean (of days observed by the GDSO) divided by the GDSO's observed mean for the *same* days.

n = number of GDSO observations.

n_k = number of k values.

ROTA-TION	START DATE, UT	WN	k2	R_{GD2}	σ_2	R_{GDm2}	$I/GDSO_2$	$I/GDSO_{k2}$	n	n_k
1599	1973/03/11.96	37.40	2.8186	105.42	0.3429	105.54	2.8289	2.8289	5	5
1600	1973/04/08.26	23.00	3.7919	87.21	1.5445	86.53	3.7029	3.7029	6	6
1601	1973/05/05/51	7.29	5.5689	40.57	1.4562	45.19	7.4706	5.5294	7	4
1602	1973/06/01.73	6.36	4.5533	28.98	0.6523	36.26	7.9857	4.3857	11	4
1603	1973/06/28.92	8.42	3.7802	31.82	0.3668	36.04	5.2871	3.7030	12	7
1604	1973/07/26.13	8.45	2.4118	20.39	1.0703	20.72	2.5269	2.4086	11	7
1605	1973/08/22.36	31.63	2.7945	88.38	0.9231	84.25	2.4032	2.4032	16	14
1606	1973/09/18.61	18.79	2.4578	46.17	1.1720	45.83	2.4030	2.1407	14	9
1607	1973/10/15.90	10.27	2.9040	29.83	0.9082	30.65	3.1416	2.6903	11	4
1608	1973/11/12.20	12.47	3.2254	40.21	1.6783	40.16	3.2139	3.0267	15	10
1609	1973/12/09.51	11.67	3.0362	35.42	1.3070	35.46	3.0457	2.8743	15	10
1610	1974/01/05.84	18.67	2.2363	41.74	0.5352	42.08	2.2902	2.1518	12	7
1611	1974/02/02.18	15.10	2.4579	37.11	0.7085	38.04	2.6424	2.2980	10	8
1612	1974/03/01.52	9.25	2.6424	24.44	1.0715	26.41	3.2793	2.6577	12	10
1613	1974/03/28.83	18.31	2.9526	54.07	0.9404	56.67	3.3788	2.7611	16	11
1614	1974/04/25.10	20.00	2.3530	47.06	0.4047	48.80	2.6143	2.3714	7	4
1615	1974/05/22.33	20.50	2.4013	49.23	1.4267	48.32	2.2683	2.1789	6	4
1616	1974/06/18.53	20.11	2.5823	51.93	1.1506	50.62	2.3867	2.3867	9	9
1617	1974/07/15.73	32.20	1.7728	57.08	0.7290	56.46	1.7143	1.7143	10	10
1618	1974/08/11.95	28.63	1.9682	56.34	0.5851	55.52	1.8821	1.8297	8	7
1619	1974/09/08.20	24.60	2.9552	72.70	0.6668	71.80	2.8455	2.7236	10	8
1620	1974/10/05.47	14.43	2.9414	42.44	0.7748	43.63	3.1881	2.9406	7	5
1621	1974/11/01.76	13.22	2.6326	34.81	0.7955	36.80	3.0840	2.5546	9	7
1622	1974/11/29.07	11.11	2.8857	32.06	1.3303	33.82	3.3600	2.7000	9	6
1623	1974/12/26.40	11.50	2.4816	28.54	0.8931	28.58	2.4928	2.4928	6	6
1624	1975/01/22.73	10.50	1.9167	20.13	0.9694	21.50	2.3095	1.7262	8	4

Starting dates stated above and on the following pages, are those stated in the *Astronomical Almanac* or the earlier *Astronomical Ephemeris*, they might differ from other publications.

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD2}	σ_2	R _{GDm2}	I/GDSO ₂	I/GDSO _{k2}	n	n _k
1625	1975/02/19.07	7.67	1.5606	11.96	0.1500	15.37	2.8913	1.5652	6	2
1626	1975/03/18.40	0.00	—	0.00	—	0.00	∞	∞	12	0
1627	1975/04/14.69	1.71	4.0000	6.86	∞	10.86	11.0000	4.0000	7	1
1628	1975/05/11.93	0.00	—	0.00	—	0.00	∞	∞	8	0
1629	1975/06/08.14	9.60	2.8712	27.56	1.2985	27.24	2.7708	2.7708	5	4
1630	1975/07/05.34	28.83	1.6602	47.87	0.2410	47.52	1.6243	1.6243	6	6
1631	1975/08/01.55	10.38	3.1317	32.49	0.9713	37.29	4.5181	3.2169	8	4
1632	1975/08/28.78	4.71	2.4848	11.71	0.4484	18.43	6.7576	2.4848	7	3
1633	1975/09/25.05	9.20	1.7475	16.08	0.3798	16.52	1.8913	1.7717	10	7
1634	1975/10/22.33	11.44	2.0379	23.32	0.5985	23.10	1.9806	1.8738	9	5
1635	1975/11/18.64	6.00	2.4515	14.71	0.3570	15.18	2.6852	2.4630	9	4
1636	1975/12/15.95	0.00	—	0.00	—	0.00	∞	∞	13	0
1637	1976/01/12.29	5.75	1.8634	10.71	0.1195	11.31	2.1739	1.8478	8	3
1638	1976/02/08.63	4.11	1.4149	5.82	0.3889	6.25	1.7297	1.4324	9	3
1639	1976/03/06.96	12.13	2.5301	30.68	0.6066	32.12	2.8866	2.5258	8	6
1640	1976/04/03.27	22.43	1.3664	30.65	0.4527	30.48	1.3439	1.3439	7	7
1641	1976/04/30.53	9.71	2.0807	20.21	1.1014	21.24	2.3971	2.0588	7	5
1642	1976/05/27.75	7.00	2.0325	14.23	0.7899	14.49	2.1429	1.9286	8	3
1643	1976/06/23.95	4.60	1.9091	8.78	0.9360	9.55	2.4130	1.9130	10	4
1644	1976/07/21.15	7.00	2.3338	16.34	0.9540	16.72	2.5000	2.2321	8	4
1645	1976/08/17.37	12.43	1.6602	20.63	0.4495	20.90	1.7241	1.5977	7	6
1646	1976/09/13.63	8.18	1.4848	12.15	0.3945	14.55	2.3667	1.4889	11	4
1647	1976/10/10.90	11.71	2.2442	26.29	0.5842	25.91	2.1463	2.1463	7	5
1648	1976/11/07.20	5.62	1.2803	7.19	0.2131	7.49	1.4384	1.2877	13	6
1649	1976/12/04.51	16.33	1.5101	24.67	0.3820	24.49	1.4776	1.4776	15	14
1650	1976/12/31.84	11.44	2.5293	28.95	0.7762	30.41	2.9126	2.3883	9	7
1651	1977/01/28.18	12.93	1.7292	22.36	0.6041	24.79	2.2928	1.6961	14	8
1652	1977/02/24.52	6.80	1.5536	10.56	0.6578	11.38	1.9118	1.5735	10	6
1653	1977/03/23.84	2.33	1.9305	4.50	0.9302	7.23	5.4286	2.0714	12	2
1654	1977/04/20.12	13.11	1.9206	25.18	0.3532	25.23	1.9322	1.9322	9	8
1655	1977/05/17.35	19.44	1.8189	35.37	0.3981	36.99	2.0686	1.7943	9	6
1656	1977/06/13.56	17.50	2.7185	47.57	1.4032	47.35	2.6800	2.6800	10	10
1657	1977/07/10.75	11.50	2.0890	24.02	1.1121	23.85	2.0435	1.9130	8	6
1658	1977/08/06.97	21.22	2.4835	52.71	0.9321	50.32	2.1466	2.1466	9	9
1659	1977/09/03.21	28.86	2.2619	65.27	0.4187	65.04	2.2376	2.2376	7	7
1660	1977/09/30.48	33.75	2.1718	73.30	0.7441	70.95	1.9630	1.9630	8	8
1661	1977/10/27.77	22.10	2.2699	50.17	0.7592	49.11	2.1267	2.1267	10	10
1662	1977/11/24.08	19.08	2.5241	48.17	0.7527	48.28	2.5415	2.4803	12	11
1663	1977/12/21.40	40.57	1.8546	75.24	0.6768	74.08	1.7688	1.7089	21	20
1664	1978/01/17.73	51.20	2.1373	109.43	0.5459	110.29	2.1875	2.1563	15	13

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA-TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1665	1978/02/14.07	72.75	1.6090	117.06	0.3715	114.83	1.5172	1.5172	8	8
1666	1978/03/13.40	59.50	2.5624	152.46	1.8564	140.14	1.9412	1.9412	6	6
1667	1978/04/09.70	82.44	1.7376	143.26	0.3769	141.02	1.6563	1.6563	9	9
1668	1978/05/06.95	63.14	2.1230	134.05	0.5051	132.18	2.0339	2.0339	7	7
1669	1978/06/03.16	81.75	2.0442	167.12	0.9233	157.66	1.6972	1.6972	4	4
1670	1978/06/30.36	51.75	2.6964	139.54	1.0651	134.69	2.4155	2.4155	8	8
1671	1978/07/27.57	39.25	2.0391	80.04	0.6111	78.90	1.9522	1.9522	8	8
1672	1978/08/23.80	70.17	3.1749	222.77	1.5200	210.79	2.6627	2.6627	6	6
1673	1978/09/20.06	83.44	2.2616	188.72	0.5174	186.52	2.1824	2.1824	9	9
1674	1978/10/17.34	81.11	2.2123	179.44	0.3959	177.63	2.1452	2.1452	9	9
1675	1978/11/13.64	67.45	2.7047	182.44	1.2172	172.69	2.2709	2.2709	11	11
1676	1978/12/10.95	77.21	2.0621	159.23	0.3388	160.48	2.1110	2.1110	14	14
1677	1979/01/07.28	114.18	2.0056	229.00	0.2644	227.82	1.9745	1.9745	11	11
1678	1979/02/03.62	93.00	2.3186	215.63	0.3881	213.70	2.2563	2.2563	6	6
1679	1979/03/02.96	75.50	2.4748	186.85	0.5855	185.40	2.4172	2.4172	4	4
1680	1979/03/30.27	71.38	1.9900	142.04	0.6241	139.78	1.8949	1.8949	8	8
1681	1979/04/26.54	103.57	1.9265	199.53	0.4961	196.50	1.8386	1.8386	7	7
1682	1979/05/23.77	109.75	2.1091	231.47	0.4937	226.94	1.9852	1.9852	8	8
1683	1979/06/19.97	96.86	2.2940	222.19	0.6432	222.55	2.3053	2.3053	7	7
1684	1979/07/17.17	73.57	2.5707	189.13	1.0867	180.33	2.2117	2.2117	7	7
1685	1979/08/13.39	112.83	2.3043	260.00	0.4434	255.56	2.1861	2.1861	6	6
1686	1979/09/09.64	116.80	2.2057	257.63	0.5144	254.42	2.1233	2.1233	5	5
1687	1979/10/06.91	86.71	2.6815	232.52	0.3380	232.30	2.6738	2.6738	7	7
1688	1979/11/03.21	113.78	2.3439	266.68	0.6166	263.60	2.2627	2.2627	9	9
1689	1979/11/30.51	97.60	2.4176	235.95	0.5275	235.57	2.4057	2.4057	10	10
1690	1979/12/27.84	109.25	2.3171	253.15	0.3510	251.22	2.2643	2.2643	8	8
1691	1980/01/24.18	87.29	2.5261	220.49	0.2755	219.47	2.4910	2.4910	7	7
1692	1980/02/20.52	64.00	2.4921	159.50	0.6111	158.33	2.4375	2.4375	4	4
1693	1980/03/18.84	96.44	2.8558	275.42	0.6964	271.02	2.7189	2.7189	9	9
1694	1980/04/15.13	97.00	2.1166	205.31	0.3295	203.46	2.0593	2.0593	8	8
1695	1980/05/12.37	130.20	2.0936	272.59	0.4170	273.13	2.1060	2.1060	5	5
1696	1980/06/08.58	101.00	2.1090	213.01	0.3783	213.27	2.1168	2.1168	5	5
1697	1980/07/05.78	96.20	1.9954	191.96	0.2455	191.37	1.9771	1.9771	5	5
1698	1980/08/01.99	73.00	1.4841	108.34	0.0344	108.23	1.4795	1.4795	2	2
1699	1980/08/29.22	91.00	2.3807	216.64	0.4441	215.01	2.3269	2.3269	4	4
1700	1980/09/25.49	139.00	2.6059	362.21	0.7562	355.70	2.4652	2.4652	3	3
1701	1980/10/22.77	115.91	2.0299	235.28	0.3444	232.85	1.9671	1.9671	11	11
1702	1980/11/19.08	89.45	2.2456	200.88	0.3112	200.13	2.2205	2.2205	11	11
1703	1980/12/16.40	121.42	1.8888	229.33	0.3511	226.39	1.8161	1.8161	12	12
1704	1981/01/12.73	89.56	1.9449	174.18	0.3666	173.01	1.9057	1.9057	9	9

CORRECTED VERSION 2 WOLF NUMBERS for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1705	1981/02/09.07	99.25	1.8708	185.68	0.2007	<i>184.95</i>	1.8489	1.8489	4	4
1706	1981/03/08.40	114.40	1.7737	202.91	0.1297	<i>203.01</i>	1.7762	1.7762	5	5
1707	1981/04/04.71	129.90	1.7516	227.54	0.4351	<i>227.53</i>	1.7513	1.7513	10	10
1708	1981/05/01.97	112.60	1.7467	196.68	0.2370	<i>196.39</i>	1.7389	1.7389	5	5
1709	1981/05/29.18	63.00	2.0937	131.90	0.8857	<i>127.14</i>	1.8667	1.8667	5	5
1710	1981/06/25.38	119.57	1.6696	199.63	0.5416	<i>194.47</i>	1.5400	1.5400	7	7
1711	1981/07/22.59	126.50	1.7957	227.16	0.5139	<i>222.88</i>	1.6943	1.6943	6	6
1712	1981/08/18.81	136.33	1.9915	271.51	0.2307	<i>271.67</i>	1.9951	1.9951	3	3
1713	1981/09/15.07	132.67	1.8587	246.59	0.1388	<i>246.06</i>	1.8467	1.8467	3	3
1714	1981/10/12.35	93.67	1.5514	145.31	0.0551	<i>145.43</i>	1.5552	1.5552	3	3
1715	1981/11/08.64	42.50	2.2466	95.48	0.1627	<i>95.65</i>	2.2588	2.2588	2	2
1716	1981/12/05.96	104.71	1.5237	159.56	0.3743	<i>160.51</i>	1.5512	1.5512	7	7
1717	1982/01/02.28	71.56	1.8177	130.08	0.4872	<i>128.53</i>	1.7528	1.7528	16	16
1718	1982/01/29.62	170.91	1.6385	280.03	0.2092	<i>277.17</i>	1.5883	1.5883	11	11
1719	1982/02/25.96	139.57	1.5292	213.44	0.1203	<i>213.05</i>	1.5210	1.5210	7	7
1720	1982/03/25.28	123.14	1.6370	201.58	0.1671	<i>201.53</i>	1.6357	1.6357	7	7
1721	1982/04/21.56	70.67	2.0214	142.85	0.2059	<i>141.23</i>	1.9528	1.9528	3	3
1722	1982/05/18.79	—	—	—	—	—	—	—	0	0
1723	1982/06/14.99	87.67	1.1406	99.99	0.3861	<i>96.33</i>	1.0152	1.0152	3	3
1724	1982/07/12.19	112.00	2.4441	273.74	2.8194	<i>239.73</i>	1.5332	1.5332	7	7
1725	1982/08/08.41	110.00	1.5096	166.06	0.2718	<i>163.29</i>	1.4341	1.4341	4	4
1726	1982/09/04.65	97.00	1.6546	160.50	0.2439	<i>160.17</i>	1.6443	1.6443	4	4
1727	1982/10/01.92	82.00	1.9105	156.66	0.2319	<i>157.44</i>	1.9390	1.9390	6	6
1728	1982/10/29.21	61.75	2.2657	139.91	0.7150	<i>136.19</i>	2.0850	2.0850	8	8
1729	1982/11/25.52	93.09	1.6722	155.67	0.2000	<i>155.44</i>	1.6650	1.6650	11	11
1730	1982/12/22.84	68.29	1.8738	127.97	0.3188	<i>127.20</i>	1.8398	1.8398	17	17
1731	1983/01/19.17	65.13	1.6918	110.18	0.2367	<i>108.66</i>	1.6219	1.6219	8	8
1732	1983/02/15.52	45.67	2.1324	97.38	0.8031	<i>93.40</i>	1.8710	1.8710	9	9
1733	1983/03/14.84	47.75	1.8487	88.27	0.6083	<i>85.27</i>	1.6597	1.6597	8	8
1734	1983/04/11.14	77.00	2.0019	154.15	0.4568	<i>152.03</i>	1.9195	1.9195	5	5
1735	1983/05/08.39	76.80	1.7175	131.91	0.2142	<i>131.87</i>	1.7161	1.7161	5	5
1736	1983/06/04.60	71.00	1.7790	126.31	0.2551	<i>126.70</i>	1.7958	1.7958	4	4
1737	1983/07/01.80	76.64	1.5952	122.25	0.1403	<i>121.98</i>	1.5848	1.5848	11	11
1738	1983/07/29.00	54.33	2.3343	126.83	0.4686	<i>124.89</i>	2.2270	2.2270	3	3
1739	1983/08/25.24	38.20	1.8979	72.50	0.6523	<i>70.33</i>	1.7277	1.7277	5	5
1740	1983/09/21.50	49.80	1.8108	90.18	0.0992	<i>90.18</i>	1.8112	1.8112	5	5
1741	1983/10/18.78	15.86	2.1851	34.65	0.7416	<i>36.91</i>	2.6126	2.2523	7	5
1742	1983/11/15.08	17.22	1.8311	31.54	0.4419	<i>32.12</i>	1.9323	1.7032	18	11
1743	1983/12/12.40	17.44	1.8126	31.61	0.5949	<i>31.65</i>	1.8208	1.7240	16	14
1744	1984/01/08.73	49.86	1.8814	93.80	0.4733	<i>91.68</i>	1.7536	1.7536	14	14

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA-TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1745	1984/02/05.07	52.63	2.1506	113.18	0.7492	108.70	1.8955	1.8955	8	8
1746	1984/03/03.40	62.67	1.8664	116.96	0.3187	115.75	1.8085	1.8085	3	3
1747	1984/03/30.71	50.70	1.7799	90.24	0.2899	89.89	1.7594	1.7594	10	10
1748	1984/04/26.98	66.50	1.7867	118.81	0.2527	117.29	1.7180	1.7180	8	8
1749	1984/05/24.21	41.67	1.6869	70.29	0.2492	69.75	1.6480	1.6480	6	6
1750	1984/06/20.41	37.00	2.1554	79.75	0.7210	76.33	1.8784	1.8784	6	6
1751	1984/07/17.61	13.38	2.0464	27.37	0.8457	27.25	2.0187	2.0187	8	8
1752	1984/08/13.83	23.83	1.4703	35.04	0.6875	37.53	1.7832	1.3706	6	4
1753	1984/09/10.08	2.20	1.1818	2.60	∞	4.20	3.3636	1.1818	5	1
1754	1984/10/07.35	3.50	1.3692	4.79	0.2393	7.49	3.6786	1.3571	8	2
1755	1984/11/03.65	16.88	1.3613	22.97	0.2802	23.61	1.4741	1.3704	8	7
1756	1984/11/30.96	12.00	1.3938	16.73	0.4557	18.31	1.7889	1.3056	15	10
1757	1984/12/28.28	10.38	1.3213	13.71	0.1800	14.45	1.5361	1.3133	16	7
1758	1985/01/24.62	7.00	1.3443	9.41	0.2482	11.98	2.4444	1.3492	9	4
1759	1985/02/20.96	6.14	1.5077	9.26	0.3910	11.17	2.4419	1.5581	7	3
1760	1985/03/20.28	16.71	1.4127	23.61	0.5383	23.12	1.3248	1.2137	7	6
1761	1985/04/16.57	25.00	1.4999	37.50	0.6883	36.55	1.3867	1.3867	6	6
1762	1985/05/13.81	16.88	1.6305	27.51	0.3368	27.76	1.6741	1.5407	8	5
1763	1985/06/10.02	28.17	1.3081	36.85	0.4501	38.06	1.4379	1.3669	6	5
1764	1985/07/07.21	14.50	1.3145	19.06	0.3848	20.26	1.5632	1.4138	6	5
1765	1985/08/03.42	7.67	1.0139	7.77	0.0241	9.13	1.5435	1.0217	6	3
1766	1985/08/30.66	5.75	0.8087	4.65	0.1544	5.02	1.0000	0.8043	8	4
1767	1985/09/26.93	16.40	1.6866	27.66	0.5924	27.91	1.7317	1.7317	10	5
1768	1985/10/24.22	13.79	1.6584	22.86	0.6683	22.91	1.6684	1.6010	14	10
1769	1985/11/20.52	8.67	1.3239	11.47	0.1454	12.39	1.6410	1.3718	9	4
1770	1985/12/17.84	0.92	2.0000	1.83	∞	2.67	4.7273	2.0000	12	1
1771	1986/01/14.17	24.67	1.2130	29.92	0.1939	30.65	1.3018	1.2658	9	6
1772	1986/02/10.51	21.75	1.2535	27.26	0.3153	26.88	1.2011	1.2011	8	7
1773	1986/03/09.85	4.18	1.0035	4.20	0.1011	5.40	1.8696	1.0000	11	4
1774	1986/04/06.15	23.43	1.3722	32.15	0.2260	32.29	1.3902	1.3902	7	7
1775	1986/05/03.40	6.86	1.1470	7.86	0.5770	9.72	1.9583	1.0000	7	3
1776	1986/05/30.62	2.75	1.3182	3.63	0.0643	3.79	1.5000	1.3182	8	2
1777	1986/06/26.82	16.43	1.1032	18.12	0.2701	18.89	1.2435	1.1217	7	5
1778	1986/07/24.02	8.33	1.1786	9.82	0.1073	10.21	1.3200	1.1733	9	6
1779	1986/08/20.25	3.67	1.0909	4.00	0.0000	4.89	1.8182	1.0909	6	2
1780	1986/09/16.51	10.80	1.0583	11.43	0.0354	11.42	1.0556	1.0556	5	2
1781	1986/10/13.79	28.00	1.3635	38.18	0.3098	38.70	1.4188	1.3864	11	9
1782	1986/11/10.08	4.36	1.0000	4.36	0.0000	4.94	1.3958	1.0000	11	4
1783	1986/12/07.40	4.13	1.2575	5.19	0.4840	6.08	1.9091	1.2121	16	5
1784	1987/01/03.73	7.31	1.0649	7.78	0.2302	8.14	1.2105	1.0737	13	8

CORRECTED VERSION 2 WOLF NUMBERS for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD} 2	σ	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1785	1987/01/31.07	1.67	0.7333	1.22	∞	1.96	2.0667	0.7333	9	1
1786	1987/02/27.40	12.29	1.3089	16.08	0.1973	16.91	1.5116	1.3023	7	5
1787	1987/03/26.72	21.83	1.4572	31.82	0.4345	32.99	1.6183	1.6183	6	6
1788	1987/04/23.00	34.29	1.4163	48.56	0.2867	47.51	1.3250	1.3250	7	7
1789	1987/05/20.23	12.90	0.9738	12.56	0.3192	13.57	1.2093	0.9457	10	4
1790	1987/06/16.43	9.80	1.5118	14.82	0.4639	14.74	1.4898	1.4898	5	3
1791	1987/07/13.63	39.29	1.2352	48.53	0.2138	47.68	1.1709	1.1709	7	7
1792	1987/08/09.85	34.43	1.5040	51.78	0.5217	49.81	1.3320	1.3320	7	7
1793	1987/09/06.09	24.33	1.6294	39.65	0.6589	39.06	1.5571	1.5571	9	9
1794	1987/10/03.36	40.83	1.5417	62.95	0.4506	62.63	1.5184	1.4245	6	5
1795	1987/10/30.65	35.83	1.4209	50.92	0.2699	50.72	1.4047	1.4047	6	6
1796	1987/11/26.96	17.40	1.5240	26.52	0.5390	26.45	1.5115	1.3736	10	9
1797	1987/12/24.28	43.67	1.2576	54.91	0.2570	54.39	1.2214	1.2214	12	12
1798	1988/01/20.62	49.88	1.2986	64.77	0.2324	64.89	1.3058	1.3058	8	8
1799	1988/02/16.96	36.33	1.6665	60.55	0.3676	59.37	1.5688	1.5688	9	9
1800	1988/03/15.29	85.00	1.3410	113.99	0.2030	113.56	1.3259	1.3259	10	10
1801	1988/04/11.58	82.86	1.3362	110.71	0.3732	107.95	1.2362	1.2362	7	7
1802	1988/05/08.83	59.50	1.3769	81.93	0.4027	81.20	1.3403	1.3403	4	4
1803	1988/06/05.04	103.80	1.4895	154.61	0.3411	152.08	1.4162	1.4162	5	5
1804	1988/07/02.24	75.25	1.5716	118.26	0.3111	117.26	1.5316	1.5316	4	4
1805	1988/07/29.44	111.86	1.4349	160.50	0.5437	153.71	1.2529	1.2529	7	7
1806	1988/08/25.68	106.17	1.1951	126.88	0.1966	126.97	1.1978	1.1978	6	6
1807	1988/09/21.94	125.36	1.3517	169.46	0.0774	169.46	1.3517	1.3517	11	11
1808	1988/10/19.22	119.75	1.3119	157.10	0.1665	156.52	1.2975	1.2975	8	8
1809	1988/11/15.52	113.57	1.4632	166.18	0.1569	166.22	1.4642	1.4642	7	7
1810	1988/12/12.84	213.83	1.3337	285.19	0.1592	284.18	1.3196	1.3196	6	6
1811	1989/01/09.17	172.20	1.3929	239.85	0.2316	237.60	1.3537	1.3537	10	10
1812	1989/02/05.51	159.40	1.3516	215.45	0.0965	214.70	1.3375	1.3375	10	10
1813	1989/03/04.85	124.56	1.3344	166.21	0.2249	166.03	1.3301	1.3301	9	9
1814	1989/04/01.16	136.00	1.2517	170.23	0.1608	170.98	1.2684	1.2684	2	2
1815	1989/04/28.42	186.00	1.1722	218.03	0.1144	217.78	1.1682	1.1682	7	7
1816	1989/05/25.64	193.43	1.3525	261.61	0.2072	258.38	1.3024	1.3024	14	14
1817	1989/06/21.85	159.69	1.3530	216.06	0.2099	214.63	1.3260	1.3260	16	16
1818	1989/07/19.05	169.58	1.3157	223.12	0.2806	219.61	1.2536	1.2536	12	12
1819	1989/08/15.27	167.92	1.4518	243.79	0.3254	239.83	1.3811	1.3811	13	13
1820	1989/09/11.52	168.25	1.3057	219.69	0.1264	220.04	1.3120	1.3120	8	8
1821	1989/10/08.79	179.07	1.2430	222.58	0.1457	222.37	1.2393	1.2393	14	14
1822	1989/11/05.09	205.25	1.2962	266.04	0.1834	262.98	1.2515	1.2515	8	8
1823	1989/12/02.40	160.91	1.3449	216.40	0.2364	214.02	1.3006	1.3006	11	11
1824	1989/12/29.73	164.78	1.2799	210.90	0.1818	210.34	1.2697	1.2697	9	9

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA-TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1825	1990/01/26.06	114.08	1.3168	150.22	0.2207	149.40	1.2953	1.2953	13	13
1826	1990/02/22.40	192.90	1.1732	226.31	0.1004	225.38	1.1586	1.1586	10	10
1827	1990/03/21.72	160.31	1.2634	202.54	0.1452	202.42	1.2612	1.2612	16	16
1828	1990/04/18.01	153.13	1.1686	178.95	0.1970	177.50	1.1402	1.1402	15	15
1829	1990/05/15.25	145.75	1.2082	176.09	0.0953	175.20	1.1898	1.1898	12	12
1830	1990/06/11.45	155.82	1.2177	189.73	0.1032	189.19	1.2071	1.2071	11	11
1831	1990/07/08.65	137.07	1.2026	164.84	0.1569	164.27	1.1902	1.1902	15	15
1832	1990/08/04.86	203.75	1.2853	261.88	0.1143	261.48	1.2793	1.2793	12	12
1833	1990/09/01.10	121.93	1.3768	167.87	0.1857	167.56	1.3691	1.3691	15	15
1834	1990/09/28.37	167.20	1.2519	209.31	0.1428	209.34	1.2524	1.2524	10	10
1835	1990/10/25.66	129.00	1.3132	169.41	0.1559	169.03	1.3044	1.3044	11	11
1836	1990/11/21.96	144.17	1.3318	192.00	0.1983	191.94	1.3306	1.3306	12	12
1837	1990/12/19.28	120.50	1.2836	154.68	0.2038	153.79	1.2614	1.2614	8	8
1838	1991/01/15.62	179.07	1.3308	238.31	0.1926	236.71	1.3039	1.3039	14	14
1839	1991/02/11.96	196.42	1.2222	240.06	0.2028	237.58	1.1844	1.1844	19	19
1840	1991/03/11.29	190.82	1.2120	231.27	0.1443	230.09	1.1934	1.1934	11	11
1841	1991/04/07.59	164.42	1.2740	209.46	0.2949	210.00	1.2838	1.2838	12	12
1842	1991/05/04.84	146.13	1.2173	177.89	0.1618	176.99	1.1989	1.1989	15	15
1843	1991/06/01.06	179.07	1.2953	231.95	0.1490	231.20	1.2828	1.2828	14	14
1844	1991/06/28.26	214.73	1.1840	254.24	0.1774	251.80	1.1499	1.1499	11	11
1845	1991/07/25.46	192.80	1.1628	224.18	0.1136	223.48	1.1518	1.1518	15	15
1846	1991/08/21.69	171.25	1.3630	233.41	0.1476	230.83	1.3178	1.3178	12	12
1847	1991/09/17.95	145.00	1.3142	190.56	0.2194	189.71	1.2966	1.2966	14	14
1848	1991/10/15.23	138.55	1.4060	194.80	0.4780	188.50	1.2697	1.2697	11	11
1849	1991/11/11.53	116.42	1.3347	155.38	0.2249	153.67	1.2906	1.2906	12	12
1850	1991/12/08.84	182.00	1.2714	231.39	0.1939	229.29	1.2367	1.2367	12	12
1851	1992/01/05.17	164.27	1.2544	206.06	0.0943	206.44	1.2612	1.2612	11	11
1852	1992/02/01.51	155.00	1.4789	229.23	0.2808	229.21	1.4785	1.4785	6	6
1853	1992/02/28.85	113.67	1.4345	163.05	0.3791	159.70	1.3460	1.3460	3	3
1854	1992/03/27.16	108.13	1.3146	142.15	0.0818	141.90	1.3076	1.3076	15	15
1855	1992/04/23.43	101.38	1.1926	120.90	0.2698	121.93	1.2232	1.2232	8	8
1856	1992/05/20.67	58.73	1.7804	104.56	1.1617	97.31	1.4102	1.4102	11	11
1857	1992/06/16.87	77.00	1.2447	95.84	0.2346	94.87	1.2066	1.2066	11	11
1858	1992/07/14.07	89.00	1.3518	120.31	0.1931	119.68	1.3305	1.3305	12	12
1859	1992/08/10.28	47.08	1.5172	71.44	0.4207	70.21	1.4389	1.4389	12	12
1860	1992/09/06.53	72.53	1.3887	100.72	0.2307	100.37	1.3741	1.3741	15	15
1861	1992/10/03.80	107.29	1.3403	143.80	0.2769	141.70	1.2816	1.2816	14	14
1862	1992/10/31.09	101.33	1.3255	134.31	0.1490	133.51	1.3015	1.3015	9	9
1863	1992/11/27.40	98.80	1.2987	128.31	0.3107	125.87	1.2247	1.2247	10	10
1864	1992/12/24.72	79.25	1.3435	106.47	0.1918	106.17	1.3323	1.3323	12	12

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1865	1993/01/21.06	70.83	1.3225	93.68	0.2668	<i>91.92</i>	1.2482	1.2482	12	12
1866	1993/02/17.40	97.75	1.2894	126.04	0.1551	<i>125.11</i>	1.2609	1.2609	12	12
1867	1993/03/16.73	79.60	1.2767	101.63	0.1657	<i>101.33</i>	1.2655	1.2655	15	15
1868	1993/04/13.02	57.12	1.4308	81.74	0.3557	<i>80.57</i>	1.3698	1.3698	16	16
1869	1993/05/10.27	45.50	1.3378	60.87	0.4730	<i>60.21</i>	1.2945	1.2945	10	10
1870	1993/06/06.48	47.67	1.3696	65.29	0.2274	<i>65.81</i>	1.4028	1.3720	15	14
1871	1993/07/03.67	50.80	1.4627	74.31	0.1759	<i>74.00</i>	1.4449	1.4449	10	10
1872	1993/07/30.88	46.39	1.3398	62.15	0.2313	<i>61.92</i>	1.3246	1.3246	18	18
1873	1993/08/27.12	19.80	1.3252	26.24	0.5547	<i>26.49</i>	1.3636	1.2088	15	12
1874	1993/09/23.38	54.17	1.2956	70.18	0.4589	<i>69.73</i>	1.2708	1.2708	12	12
1875	1993/10/20.66	32.75	1.5975	52.32	0.6037	<i>50.86</i>	1.4637	1.4637	16	16
1876	1993/11/16.97	57.82	1.2567	72.67	0.2940	<i>72.05</i>	1.2248	1.1923	17	16
1877	1993/12/14.28	74.62	1.3947	104.07	0.3345	<i>103.68</i>	1.3794	1.3794	13	13
1878	1994/01/10.61	48.40	1.2703	61.48	0.2004	<i>61.17</i>	1.2507	1.2507	15	15
1879	1994/02/06.96	59.67	1.0089	60.20	0.2535	<i>60.52</i>	1.0251	1.0251	12	12
1880	1994/03/06.29	39.55	1.0508	41.56	0.3413	<i>41.07</i>	1.0139	1.0139	20	20
1881	1994/04/02.60	24.33	1.4763	35.92	0.4925	<i>33.97</i>	1.2356	1.3187	15	11
1882	1994/04/29.86	31.65	1.0790	34.15	0.2629	<i>34.45</i>	1.1078	1.0799	17	15
1883	1994/05/27.08	16.35	1.2974	21.22	0.4666	<i>20.79</i>	1.2194	1.2697	17	7
1884	1994/06/23.28	40.50	1.4288	57.87	0.4252	<i>57.56</i>	1.4059	1.3441	16	15
1885	1994/07/20.48	22.41	1.2857	28.81	0.4594	<i>28.50</i>	1.2441	1.1995	17	16
1886	1994/08/16.71	36.06	1.3671	49.29	0.4584	<i>48.25</i>	1.2804	1.2804	18	18
1887	1994/09/12.96	24.38	1.2566	30.63	0.4317	<i>30.59</i>	1.2513	1.1590	16	13
1888	1994/10/10.24	54.44	1.2984	70.68	0.2334	<i>70.14</i>	1.2687	1.2687	16	16
1889	1994/11/06.53	16.47	1.3130	21.63	0.3533	<i>22.79</i>	1.5250	1.2429	17	13
1890	1994/12/03.84	28.95	1.1890	34.42	0.2899	<i>34.24</i>	1.1709	1.1709	19	19
1891	1994/12/31.17	11.27	1.2348	13.91	0.3570	<i>16.34</i>	1.8817	1.2485	15	7
1892	1995/01/27.51	32.64	1.5153	49.45	0.4962	<i>48.09</i>	1.3900	1.3900	11	11
1893	1995/02/23.85	33.78	1.4251	48.14	0.3684	<i>48.04</i>	1.4157	1.3539	23	20
1894	1995/03/23.17	34.05	1.0908	37.14	0.1620	<i>37.69</i>	1.1395	1.1175	20	17
1895	1995/04/19.45	12.77	0.9985	12.75	0.1515	<i>13.24</i>	1.1145	0.9699	13	7
1896	1995/05/16.69	23.17	1.1059	25.62	0.1508	<i>25.58</i>	1.1007	1.0695	18	15
1897	1995/06/12.89	19.22	1.3176	25.33	0.2657	<i>25.11</i>	1.2832	1.2695	18	16
1898	1995/07/10.09	12.29	1.2422	15.26	0.5075	<i>15.53</i>	1.3081	1.1801	14	9
1899	1995/08/06.30	12.67	1.0296	13.04	0.2216	<i>14.58</i>	1.3947	0.9947	15	6
1900	1995/09/02.54	8.87	1.0936	9.70	0.1462	<i>10.80</i>	1.4662	1.1203	15	7
1901	1995/09/29.81	30.17	1.1192	33.76	0.2474	<i>34.04</i>	1.1464	1.1160	12	9
1902	1995/10/27.10	14.36	1.1963	17.18	0.5582	<i>16.66</i>	1.0896	1.1508	14	10
1903	1995/11/23.40	9.21	1.3821	12.74	0.3823	<i>12.63</i>	1.3488	1.3488	14	9
1904	1995/12/20.72	15.69	1.1850	18.60	0.2475	<i>18.65</i>	1.1961	1.1225	13	7

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA-TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1905	1996/01/17.06	6.31	1.0795	6.81	0.2810	6.77	1.0594	1.0778	16	8
1906	1996/02/13.40	6.43	1.0936	7.03	0.4317	7.92	1.5111	0.9556	14	5
1907	1996/03/11.73	11.94	1.1229	13.41	0.2840	13.33	1.1023	1.0495	18	11
1908	1996/04/08.03	2.93	1.1026	3.23	0.1776	3.75	1.6341	1.0976	14	3
1909	1996/05/05.28	8.47	1.1353	9.61	0.1290	9.63	1.1417	1.1417	15	8
1910	1996/06/01.50	10.23	1.0165	10.40	0.2104	11.60	1.3684	1.0000	13	5
1911	1996/06/28.70	13.80	1.0728	14.81	0.2977	13.44	0.7754	1.0388	10	5
1912	1996/07/25.90	20.25	0.9912	20.07	0.2783	20.05	0.9877	0.9506	16	15
1913	1996/08/22.13	9.42	1.1524	10.85	0.3956	10.18	0.9381	1.0392	12	6
1914	1996/09/18.39	0.00	—	0.00	—	0.00	∞	∞	14	0
1915	1996/10/15.67	0.00	—	0.00	—	0.00	∞	∞	17	0
1916	1996/11/11.97	20.44	1.2909	26.38	0.2078	26.48	1.3058	1.3058	16	12
1917	1996/12/09.28	13.08	1.0976	14.35	0.1418	14.67	1.1706	1.0941	13	8
1918	1997/01/05.61	5.29	1.1062	5.86	0.3289	6.65	1.5556	1.1000	17	7
1919	1997/02/01.95	7.60	1.4688	11.16	0.4604	11.18	1.4737	1.3158	10	3
1920	1997/03/01.29	10.09	1.4440	14.57	0.6190	14.96	1.5586	1.4054	11	8
1921	1997/03/28.60	22.85	1.2525	28.62	0.3462	28.41	1.2254	1.1904	20	17
1922	1997/04/24.87	9.75	1.1710	11.42	0.1588	11.69	1.2564	1.1604	12	8
1923	1997/05/22.10	19.38	1.4300	27.72	0.8915	26.97	1.3135	1.3135	13	13
1924	1997/06/18.31	9.50	1.0302	9.79	0.2727	10.30	1.1930	0.9766	18	11
1925	1997/07/15.50	19.60	1.5153	29.70	0.8551	28.60	1.3469	1.2993	15	11
1926	1997/08/11.72	34.78	1.2266	42.66	0.4130	42.27	1.1933	1.1725	18	16
1927	1997/09/07.97	40.60	1.4299	58.05	0.3321	56.93	1.3465	1.3465	15	15
1928	1997/10/05.24	30.06	1.1948	35.92	0.2313	35.90	1.1933	1.1933	16	16
1929	1997/11/01.54	38.64	1.3059	50.46	0.3364	50.12	1.2791	1.2791	14	14
1930	1997/11/28.84	48.20	1.3186	63.56	0.2613	62.94	1.2801	1.2801	10	10
1931	1997/12/26.17	28.00	1.2635	35.38	0.3612	34.98	1.2210	1.2188	16	13
1932	1998/01/22.50	35.64	1.3758	49.04	0.3283	48.93	1.3667	1.3667	14	14
1933	1988/02/18.85	58.54	1.2087	70.75	0.3151	68.84	1.1104	1.1104	13	13
1934	1998/03/18.17	70.27	1.3074	91.87	0.2514	91.16	1.2770	1.2770	15	15
1935	1998/04/14.46	51.58	1.4950	77.12	0.5962	73.80	1.3021	1.3021	12	12
1936	1998/05/11.70	55.25	1.3228	73.09	0.2519	73.08	1.3228	1.3228	12	12
1937	1998/06/07.91	77.78	1.2549	97.60	0.1651	97.29	1.2429	1.2429	9	9
1938	1998/07/05.11	71.43	1.4125	100.89	0.2570	100.12	1.3800	1.3800	7	7
1939	1998/08/01.32	95.62	1.2407	118.63	0.1413	118.50	1.2365	1.2365	13	13
1940	1998/08/28.56	107.59	1.2833	138.07	0.1883	137.97	1.2805	1.2805	17	17
1941	1998/09/24.82	61.78	1.4312	88.42	0.4254	85.76	1.3022	1.3022	9	9
1942	1998/10/22.10	71.79	1.2991	93.26	0.2751	91.89	1.2418	1.2418	14	14
1943	1998/11/18.41	87.80	1.2502	109.77	0.2018	110.71	1.2825	1.2825	10	10
1944	1998/12/15.72	68.69	1.4875	102.18	0.3473	100.74	1.4244	1.4244	13	13

CORRECTED VERSION 2 WOLF NUMBERS for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD2}	σ_2	R _{GDm2}	I/GDSO ₂	I/GDSO _{k2}	n	n _k
1945	1999/01/12.06	58.40	1.2968	75.73	0.2145	<i>74.79</i>	1.2483	1.2483	10	10
1946	1999/02/08.40	91.86	1.3318	122.34	0.2383	<i>122.75</i>	1.3453	1.3453	7	7
1947	1999/03/07.73	83.43	1.3006	108.51	0.1616	<i>108.03</i>	1.2834	1.2834	14	14
1948	1999/04/04.04	71.36	1.3314	95.01	0.1901	<i>95.04</i>	1.3325	1.3325	11	11
1949	1999/05/01.30	117.43	1.3429	157.69	0.0976	<i>157.75</i>	1.3443	1.3443	14	14
1950	1999/05/28.52	140.54	1.3625	191.48	0.1767	<i>190.24</i>	1.3361	1.3361	13	13
1951	1999/06/24.72	133.86	1.4323	191.73	0.1511	<i>190.89</i>	1.4136	1.4136	14	14
1952	1999/07/21.92	108.86	1.4400	156.75	0.2149	<i>154.88</i>	1.3885	1.3885	14	14
1953	1999/08/18.15	107.57	1.3059	140.47	0.1940	<i>139.96</i>	1.2915	1.2915	14	14
1954	1999/09/14.40	75.87	1.4110	107.05	0.2103	<i>106.23</i>	1.3787	1.3787	15	15
1955	1999/10/11.68	129.08	1.3900	179.43	0.1758	<i>178.76</i>	1.3744	1.3744	12	12
1956	1999/11/07.97	150.27	1.3894	208.78	0.2714	<i>207.67</i>	1.3672	1.3672	11	11
1957	1999/12/05.28	96.45	1.2841	123.85	0.2211	<i>122.84</i>	1.2526	1.2526	11	11
1958	2000/01/01.61	115.42	1.2313	142.11	0.2202	<i>141.44</i>	1.2137	1.2137	12	12
1959	2000/01/28.95	113.75	1.3018	148.08	0.2165	<i>147.33</i>	1.2821	1.2821	12	12
1960	2000/02/25.29	163.25	1.2103	197.57	0.1236	<i>196.69</i>	1.1940	1.1940	12	12
1961	2000/03/23.61	202.78	1.2040	244.15	0.0798	<i>243.62</i>	1.1962	1.1962	9	9
1962	2000/04/19.89	171.45	1.1744	201.36	0.1155	<i>199.72</i>	1.1458	1.1458	11	11
1963	2000/05/17.12	160.90	1.1083	178.33	0.0759	<i>177.95</i>	1.1013	1.1013	10	10
1964	2000/06/13.33	189.25	1.2406	234.79	0.1813	<i>232.61</i>	1.2061	1.2061	8	8
1965	2000/07/10.53	208.23	1.1762	244.92	0.1211	<i>243.79</i>	1.1600	1.1600	13	13
1966	2000/08/06.74	161.38	1.2277	198.12	0.1154	<i>197.54</i>	1.2169	1.2169	16	16
1967	2000/09/02.98	115.54	1.2931	149.40	0.3863	<i>145.81</i>	1.1997	1.1997	13	13
1968	2000/09/30.25	121.58	1.2425	151.07	0.1877	<i>150.13</i>	1.2193	1.2193	12	12
1969	2000/10/27.54	116.00	1.1888	137.90	0.1673	<i>137.38</i>	1.1753	1.1753	9	9
1970	2000/11/23.85	111.18	1.1496	127.82	0.1528	<i>126.94</i>	1.1259	1.1259	11	11
1971	2000/12/21.17	140.62	1.0995	154.61	0.1419	<i>153.74</i>	1.0810	1.0810	13	13
1972	2001/01/17.50	132.36	1.1108	147.03	0.1278	<i>146.42</i>	1.0968	1.0968	11	11
1973	2001/02/13.84	94.50	1.1334	107.10	0.1556	<i>106.57</i>	1.1164	1.1164	16	16
1974	2001/03/13.17	161.56	1.2015	194.11	0.1093	<i>194.67</i>	1.2118	1.2118	18	18
1975	2001/04/09.47	118.25	1.2647	149.55	0.2522	<i>147.66</i>	1.2167	1.2167	8	8
1976	2001/05/06.72	104.36	1.2986	135.52	0.1829	<i>134.29</i>	1.2631	1.2631	11	11
1977	2001/06/02.94	179.93	1.2235	220.15	0.1293	<i>219.00</i>	1.2044	1.2044	14	14
1978	2001/06/30.13	97.93	1.2553	122.94	0.1971	<i>122.58</i>	1.2444	1.2444	15	15
1979	2001/07/27.34	131.86	1.1208	147.78	0.1136	<i>146.90</i>	1.1008	1.1008	14	14
1980	2001/08/23.57	165.64	1.2220	202.41	0.1464	<i>202.66</i>	1.2267	1.2267	11	11
1981	2001/09/19.83	193.12	1.2431	240.08	0.1340	<i>240.03</i>	1.2424	1.2424	16	16
1982	2001/10/17.11	166.70	1.2194	203.28	0.0771	<i>202.95</i>	1.2136	1.2136	10	10
1983	2001/11/13.41	150.70	1.2137	182.91	0.1530	<i>181.97</i>	1.1951	1.1951	10	10
1984	2001/12/10.73	158.85	1.3126	208.50	0.1870	<i>207.02</i>	1.2847	1.2847	13	13

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA-TION	START DATE, UT	WN	k2	R _{GD} 2	σ2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
1985	2002/01/07.06	155.87	1.2053	187.86	0.1213	<i>187.15</i>	1.1916	1.1916	15	15
1986	2002/02/03.40	149.85	1.1391	170.69	0.1537	<i>169.23</i>	1.1099	1.1099	13	13
1987	2002/03/02.73	126.69	1.1222	142.17	0.1233	<i>141.96</i>	1.1172	1.1172	13	13
1988	2002/03/30.04	174.18	1.1374	198.12	0.0929	<i>197.65</i>	1.1294	1.1294	11	11
1989	2002/04/26.31	136.67	1.0852	148.31	0.1606	<i>147.04</i>	1.0573	1.0573	6	6
1990	2002/05/23.54	163.33	1.1330	185.05	0.1009	<i>184.50</i>	1.1229	1.1229	15	15
1991	2002/06/19.74	94.33	1.1934	112.58	0.1799	<i>111.54</i>	1.1604	1.1604	15	15
1992	2002/07/16.94	188.77	1.0769	203.29	0.1647	<i>202.50</i>	1.0644	1.0644	13	13
1993	2002/08/13.16	180.24	1.1261	202.96	0.0939	<i>202.21</i>	1.1136	1.1136	17	17
1994	2002/09/09.41	145.31	1.1062	160.74	0.1606	<i>159.55</i>	1.0815	1.0815	13	13
1995	2002/10/06.68	148.00	1.1108	164.40	0.1005	<i>164.19</i>	1.1064	1.1064	16	16
1996	2002/11/02.98	114.08	1.2004	136.94	0.1746	<i>136.02</i>	1.1760	1.1760	12	12
1997	2002/11/30.29	95.25	1.3794	131.39	0.2127	<i>129.88</i>	1.3320	1.3320	8	8
1998	2002/12/27.61	88.54	1.2478	110.48	0.3557	<i>108.32</i>	1.1746	1.1746	13	13
1999	2003/01/23.95	89.92	1.1448	102.94	0.2867	<i>101.26</i>	1.0890	1.0890	12	12
2000	2003/02/20.29	72.00	1.1590	83.45	0.1925	<i>83.63</i>	1.1667	1.1667	3	3
2001	2003/03/19.61	74.00	1.1487	85.00	0.1746	<i>84.29</i>	1.1199	1.1199	16	16
2002	2003/04/15.90	90.73	1.1433	103.73	0.1692	<i>103.44</i>	1.1337	1.1337	15	15
2003	2003/05/13.14	81.93	1.1193	91.70	0.1666	<i>91.28</i>	1.1037	1.1037	14	14
2004	2003/06/09.35	106.00	1.2240	129.74	0.3035	<i>127.66</i>	1.1651	1.1651	12	12
2005	2003/07/06.55	119.20	1.2511	149.13	0.2060	<i>147.72</i>	1.2156	1.2156	10	10
2006	2003/08/02.76	104.83	1.1970	125.48	0.1527	<i>124.74</i>	1.1757	1.1757	12	12
2007	2003/08/29.99	55.67	1.2020	66.91	0.2030	<i>66.79</i>	1.1956	1.1956	9	9
2008	2003/09/26.26	52.38	1.1934	62.51	0.2824	<i>61.27</i>	1.1219	1.1219	13	13
2009	2003/10/23.55	80.87	1.1475	92.79	0.4343	<i>91.93</i>	1.1154	1.1031	15	14
2010	2003/11/19.85	85.00	1.1898	101.14	0.2214	<i>99.85</i>	1.1445	1.1445	7	7
2011	2003/12/17.17	58.09	1.1827	68.70	0.1118	<i>68.83</i>	1.1894	1.1894	11	11
2012	2004/01/13.50	58.00	1.1998	69.59	0.2933	<i>70.59</i>	1.2517	1.1621	5	4
2013	2004/02/09.84	47.27	1.2636	59.73	0.2950	<i>59.31</i>	1.2365	1.2365	11	11
2014	2004/03/08.18	67.50	1.2484	84.27	0.1914	<i>83.78</i>	1.2267	1.2267	10	10
2015	2004/04/04.48	48.40	1.3027	63.05	0.3420	<i>61.87</i>	1.2293	1.2293	10	10
2016	2004/05/01.74	67.50	1.3950	94.16	0.1345	<i>93.54</i>	1.3674	1.3674	10	10
2017	2004/05/28.96	50.50	1.1979	60.49	0.2644	<i>60.25</i>	1.1832	1.1832	8	8
2018	2004/06/25.16	75.64	1.1279	85.31	0.1474	<i>84.81</i>	1.1082	1.1082	11	11
2019	2004/07/22.36	75.00	1.1948	89.61	0.1665	<i>88.54</i>	1.1520	1.1520	10	10
2020	2004/08/18.58	39.73	1.4467	57.48	0.4077	<i>56.32</i>	1.3591	1.3591	15	15
2021	2004/09/14.84	31.43	1.1601	36.46	0.3398	<i>37.26</i>	1.2364	1.2364	7	7
2022	2004/10/12.12	87.08	1.2041	104.85	0.1508	<i>105.26</i>	1.2182	1.2182	12	12
2023	2004/11/08.42	40.67	1.3415	54.55	0.3063	<i>54.26</i>	1.3197	1.3197	3	3
2024	2004/12/05.73	19.75	1.3438	26.54	0.4485	<i>25.49</i>	1.1835	1.1835	8	8

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
2025	2005/01/02.05	50.27	1.1753	59.09	0.2121	58.15	1.1193	1.1193	11	11
2026	2005/01/29.39	38.30	1.2967	49.66	0.1918	48.68	1.2193	1.2193	10	10
2027	2005/02/25.73	30.87	1.3037	40.24	0.1661	40.40	1.3197	1.2981	15	13
2028	2005/03/25.05	32.38	1.2023	38.92	0.3314	38.59	1.1718	1.1429	16	15
2029	2005/04/21.33	47.11	1.0778	50.77	0.3288	51.52	1.1250	1.1250	9	9
2030	2005/05/18.56	66.29	1.1550	76.56	0.1549	75.95	1.1272	1.1272	7	7
2031	2005/06/14.77	58.86	0.9798	57.67	0.2333	58.35	1.0146	0.9733	7	5
2032	2005/07/11.96	36.20	1.1340	41.05	0.3239	42.20	1.2293	1.1906	10	7
2033	2005/08/08.18	40.92	1.3871	56.76	0.4417	55.02	1.2594	1.2594	13	13
2034	2005/09/04.42	27.00	1.5405	41.59	0.3546	40.56	1.4259	1.4259	6	6
2035	2005/10/01.69	7.33	1.2872	9.44	0.3543	9.81	1.4394	1.2576	9	5
2036	2005/10/28.98	20.36	1.0728	21.85	0.1225	22.53	1.1741	1.0670	11	8
2037	2005/11/25.29	36.00	1.3270	47.77	0.4597	45.97	1.1771	1.1771	8	8
2038	2005/12/22.61	31.54	1.0720	33.81	0.2562	33.95	1.0854	1.0585	13	12
2039	2006/01/18.95	9.50	0.9899	9.40	0.3822	9.66	1.0702	0.9912	12	7
2040	2006/02/15.29	6.38	0.8974	5.73	0.2269	6.74	1.3735	0.8675	13	5
2041	2006/03/14.62	31.38	1.3126	41.18	0.5222	39.75	1.1753	1.1753	8	8
2042	2006/04/10.91	39.08	1.2763	49.88	0.4020	49.28	1.2303	1.1812	12	11
2043	2006/05/08.16	9.33	2.6343	24.59	2.0599	22.61	2.0000	1.7500	6	2
2044	2006/06/04.37	16.27	1.2569	20.45	0.1330	21.09	1.3743	1.2737	11	8
2045	2006/07/01.57	16.08	1.2858	20.67	0.3064	20.65	1.2823	1.2823	13	11
2046	2006/07/28.78	19.20	1.2440	23.89	0.4325	23.49	1.1823	1.1823	10	10
2047	2006/08/25.01	20.22	1.1982	24.23	0.1178	24.26	1.2033	1.2033	9	8
2048	2006/09/21.27	15.29	1.0876	16.63	0.2025	17.23	1.2056	1.0841	7	5
2049	2006/10/18.55	32.57	1.3127	42.76	0.5327	41.55	1.2018	1.2018	7	7
2050	2006/11/14.85	28.45	1.1840	33.69	0.2489	33.70	1.1853	1.1853	11	10
2051	2006/12/12.17	22.78	1.2262	27.93	0.2722	27.47	1.1659	1.1659	9	7
2052	2007/01/08.50	25.56	1.2164	31.08	0.1375	30.98	1.2043	1.2043	9	9
2053	2007/02/04.84	12.15	1.2118	14.73	0.1211	14.33	1.1139	1.1973	13	9
2054	2007/03/04.18	7.30	0.9555	6.98	0.3261	7.25	1.0685	0.8904	10	4
2055	2007/03/31.49	2.38	0.9444	2.25	0.0786	2.25	0.9355	0.9355	13	2
2056	2007/04/27.75	15.00	1.2641	18.96	0.1929	20.02	1.4750	1.2833	8	7
2057	2007/05/24.98	18.30	1.5241	27.89	0.7625	27.13	1.3989	1.4186	10	5
2058	2007/06/21.18	13.30	1.2143	16.15	0.3425	15.80	1.1353	1.1353	10	8
2059	2007/07/18.38	7.92	1.0559	8.37	0.2151	8.27	1.0194	1.0000	13	7
2060	2007/08/14.60	12.29	0.9900	12.16	0.3056	11.73	0.8837	0.8837	7	5
2061	2007/09/10.85	2.57	1.4583	3.75	0.1768	3.33	0.9722	1.4583	14	2
2062	2007/10/08.12	0.00	—	0.00	—	0.00	∞	∞	8	0
2063	2007/11/04.42	2.60	1.2381	3.22	0.1347	3.65	1.7308	1.2308	10	2
2064	2007/12/01.73	7.57	1.3690	10.37	0.1852	11.15	1.6792	1.3962	7	2

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA-TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
2065	2007/12/29.05	2.75	0.8788	2.42	0.0525	2.42	0.8788	0.8788	12	3
2066	2008/01/25.39	2.08	1.0714	2.23	—	1.90	0.6000	1.0714	12	1
2067	2008/02/21.73	2.09	1.0038	2.10	0.1232	2.43	1.4783	1.0000	11	2
2068	2008/03/20.06	11.25	0.9980	11.23	0.2204	11.69	1.1222	1.0222	8	2
2069	2008/04/16.34	1.57	0.9091	1.43	—	1.43	0.9091	0.9091	7	1
2070	2008/05/13.58	2.20	1.6818	3.70	0.1928	3.70	1.6818	1.6818	10	2
2071	2008/06/09.79	6.29	1.0303	6.48	0.0525	5.94	0.7727	1.0303	7	3
2072	2008/07/06.99	0.00	—	0.00	—	0.00	∞	∞	7	0
2073	2008/08/03.20	0.00	—	0.00	—	0.00	∞	∞	9	0
2074	2008/08/30.43	0.00	—	0.00	—	0.00	∞	∞	13	0
2075	2008/09/26.70	2.67	1.0833	2.89	0.0000	2.89	1.0833	1.0833	9	2
2076	2008/10/23.99	4.92	1.3125	6.45	0.1208	6.25	1.1864	1.3111	12	4
2077	2008/11/20.29	0.00	—	0.00	—	0.00	∞	∞	8	0
2078	2008/12/17.61	0.86	0.8333	0.71	—	0.71	0.8333	0.8333	14	1
2079	2009/01/13.94	0.00	—	0.00	—	0.00	∞	∞	12	0
2080	2009/02/10.28	0.00	—	0.00	—	0.00	∞	∞	9	0
2081	2009/03/09.62	0.00	—	0.00	—	0.00	∞	∞	16	0
2082	2009/04/05.92	0.00	—	0.00	—	0.00	∞	∞	6	0
2083	2009/05/03.18	0.00	—	0.00	—	0.00	∞	∞	10	0
2084	2009/05/30.40	5.27	1.3932	7.34	0.0281	8.22	1.8987	1.3924	15	5
2085	2009/06/26.59	5.33	1.2867	6.86	0.0636	6.87	1.2917	1.2917	9	3
2086	2009/07/23.80	0.00	—	0.00	—	0.00	∞	∞	8	0
2087	2009/08/20.02	0.00	—	0.00	—	0.00	∞	∞	11	0
2088	2009/09/16.28	7.00	1.2143	8.50	—	8.50	1.2143	1.2143	2	1
2089	2009/10/13.56	6.25	1.4042	8.78	0.1602	9.16	1.5867	1.4267	12	5
2090	2009/11/09.86	1.33	1.0833	1.44	—	3.30	5.2500	1.0833	9	1
2091	2009/12/07.17	11.75	1.2724	14.95	0.2371	16.63	1.7021	1.2979	12	6
2092	2010/01/03.49	13.50	1.1969	16.16	0.3009	16.69	1.3148	1.1728	12	9
2093	2010/01/30.83	24.67	1.2946	31.93	0.4966	31.33	1.2207	1.2207	9	9
2094	2010/02/27.17	12.11	1.6601	20.11	0.3369	19.44	1.4954	1.6633	9	6
2095	2010/03/26.49	13.00	1.3994	18.19	0.6899	19.20	1.6325	1.2650	9	6
2096	2010/04/22.76	1.38	0.8182	1.13	—	2.08	2.9091	0.8182	8	1
2097	2010/05/20.00	7.91	1.3611	10.76	0.5228	12.60	2.0575	1.3218	11	6
2098	2010/06/16.20	10.00	1.3766	13.77	0.4728	14.75	1.6727	1.4000	11	8
2099	2010/07/13.40	19.50	1.7033	33.21	0.5628	32.44	1.5846	1.5846	10	10
2100	2010/08/09.61	16.44	1.1953	19.66	0.4282	20.81	1.4054	1.2500	9	6
2101	2010/09/05.86	18.80	1.3569	25.51	0.3580	25.94	1.4255	1.4255	5	4
2102	2010/10/03.13	27.85	1.2012	33.45	0.1251	34.35	1.2983	1.2044	13	10
2103	2010/10/30.42	25.75	1.4472	37.27	0.4487	36.14	1.3155	1.3155	8	8
2104	2010/11/26.73	16.88	1.5484	26.13	0.4521	26.38	1.5926	1.4667	8	6

CORRECTED VERSION 2 WOLF NUMBERS for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
2105	2010/12/24.05	21.36	1.6413	35.06	0.6920	33.44	1.4128	1.4128	11	10
2106	2011/01/20.39	31.29	1.4849	46.46	0.4902	46.16	1.4566	1.4566	7	7
2107	2011/02/16.73	48.35	1.6896	81.70	0.2804	81.31	1.6655	1.6496	17	16
2108	2011/03/16.06	38.09	2.0142	76.72	0.6493	74.97	1.8759	1.8759	11	11
2109	2011/04/12.35	38.67	1.5423	59.63	0.0655	59.53	1.5345	1.5345	3	3
2110	2011/05/09.60	33.89	2.3316	79.02	1.2444	74.01	1.8885	1.8885	9	9
2111	2011/06/05.81	26.17	1.6067	42.04	0.4998	42.42	1.6497	1.4777	6	5
2112	2011/07/03.01	42.30	1.5832	66.97	0.3319	67.18	1.5981	1.4965	10	9
2113	2011/07/30.21	36.22	1.5159	54.91	0.4028	55.42	1.5583	1.4693	9	8
2114	2011/08/26.44	59.14	1.4007	82.84	0.1854	82.85	1.4010	1.4010	7	7
2115	2011/09/22.71	71.22	1.8614	132.57	0.3746	130.05	1.7551	1.7551	9	9
2116	2011/10/19.99	80.67	1.6699	134.71	0.2108	133.69	1.6322	1.6322	6	6
2117	2011/11/16.29	88.50	1.5443	136.67	0.2649	136.36	1.5339	1.5339	4	4
2118	2011/12/13.61	70.40	1.4293	100.63	0.2044	100.35	1.4176	1.4176	5	5
2119	2012/01/09.94	71.43	1.5162	108.30	0.2427	108.63	1.5300	1.5300	7	7
2120	2012/02/06.28	31.38	1.5342	48.15	0.4625	47.48	1.4706	1.4706	13	13
2121	2012/03/04.62	65.92	1.5651	103.16	0.4492	100.89	1.4614	1.4614	12	12
2122	2012/03/31.92	62.20	1.8035	112.18	0.6905	105.79	1.4952	1.4952	10	10
2123	2012/04/28.19	61.22	1.5820	96.86	0.2351	96.35	1.5572	1.5572	9	9
2124	2012/05/25.41	75.13	1.5446	116.04	0.3372	114.44	1.4809	1.4809	8	8
2125	2012/06/21.61	69.91	1.3614	95.17	0.1545	95.63	1.3810	1.3810	11	11
2126	2012/07/18.82	78.17	1.4779	115.52	0.3515	115.35	1.4712	1.4712	6	6
2127	2012/08/15.04	52.89	1.3724	72.58	0.1804	72.80	1.3845	1.3845	9	9
2128	2012/09/11.29	49.63	1.5428	76.56	0.3573	75.33	1.4685	1.4685	8	8
2129	2012/10/08.56	58.14	1.4857	86.38	0.2112	86.02	1.4668	1.4668	7	7
2130	2012/11/04.86	62.50	1.4321	89.51	0.3037	87.84	1.3520	1.3520	6	6
2131	2012/12/02.17	44.67	1.2608	56.32	0.2444	55.38	1.1978	1.1978	6	6
2132	2012/12/29.49	80.29	1.2669	101.71	0.1753	100.62	1.2260	1.2260	7	7
2133	2013/01/25.83	50.36	1.3304	67.01	0.4440	66.12	1.2780	1.2780	11	11
2134	2013/02/22.17	48.27	1.7930	86.55	0.6079	83.40	1.5970	1.5970	11	11
2135	2013/03/21.49	61.30	1.2681	77.73	0.1401	77.42	1.2529	1.2529	10	10
2136	2013/04/17.78	95.63	1.3509	129.18	0.2352	128.66	1.3346	1.3346	8	8
2137	2013/05/15.02	54.78	1.5933	87.28	0.3691	85.37	1.4888	1.4888	9	9
2138	2013/06/11.22	70.86	1.3941	98.78	0.2153	96.85	1.3125	1.3125	7	7
2139	2013/07/08.42	60.33	1.4228	85.84	0.2783	85.45	1.4033	1.4033	6	6
2140	2013/08/04.63	58.38	1.4245	83.16	0.2348	82.48	1.3897	1.3897	8	8
2141	2013/08/31.87	43.88	1.4358	62.99	0.3778	61.58	1.3390	1.3390	8	8
2142	2013/09/28.14	73.13	1.4496	106.01	0.1262	106.25	1.4598	1.4598	8	8
2143	2013/10/25.43	104.00	1.3869	144.24	0.2197	143.63	1.3695	1.3695	7	7
2144	2013/11/21.73	76.00	1.5554	118.21	0.2183	117.62	1.5322	1.5322	9	9

CORRECTED **VERSION 2 WOLF NUMBERS** for Rotations 1599 - 2171 continued.

ROTA- TION	START DATE, UT	WN	k2	R _{GD} 2	σ 2	R _{GDm} 2	I/GDSO2	I/GDSO _k 2	n	n _k
2145	2013/12/19.05	90.30	1.4574	131.60	0.2382	<i>130.00</i>	1.4042	1.4042	10	10
2146	2014/01/15.38	76.36	1.5383	117.47	0.5939	<i>114.04</i>	1.4036	1.4036	11	11
2147	2014/02/11.73	106.50	1.3575	144.58	0.2102	<i>143.59</i>	1.3298	1.3298	8	8
2148	2014/03/11.06	90.83	1.5327	139.22	0.4350	<i>136.81</i>	1.4532	1.4532	12	12
2149	2014/04/07.36	76.88	1.2585	96.75	0.2981	<i>97.33</i>	1.2813	1.2813	8	8
2150	2014/05/04.61	77.00	1.5325	118.01	0.2689	<i>115.84</i>	1.4481	1.4481	8	8
2151	2151/05/31.83	76.17	1.5249	116.15	0.3433	<i>113.93</i>	1.4376	1.4376	6	6
2152	2014/06/28.03	34.50	2.0873	72.01	1.7724	<i>64.01</i>	1.3913	1.4167	8	6
2153	2014/07/25.23	74.43	1.5518	115.50	0.3846	<i>113.62</i>	1.4760	1.4760	7	7
2154	2014/08/21.46	86.00	1.5467	133.02	0.4236	<i>129.95</i>	1.4395	1.4395	5	5
2155	2014/09/17.72	71.83	1.5147	108.80	0.2085	<i>108.31</i>	1.4942	1.4942	6	6
2156	2014/10/15.00	75.40	1.4961	112.81	0.2874	<i>111.07</i>	1.4271	1.4271	5	5
2157	2014/11/11.30	77.89	1.5802	123.08	0.2776	<i>121.16</i>	1.5064	1.5064	9	9
2158	2014/12/08.61	94.33	1.2451	117.45	0.1607	<i>116.19</i>	1.2049	1.2049	6	6
2159	2015/01/04.94	71.00	1.4074	99.92	0.3852	<i>96.87</i>	1.2782	1.2782	12	12
2160	2015/02/01.28	38.30	1.7412	66.69	0.6995	<i>63.73</i>	1.5091	1.5091	10	10
2161	2015/02/28.62	37.08	1.3814	51.23	0.6333	<i>49.54</i>	1.2449	1.2449	12	12
2162	2015/03/27.93	52.50	1.6410	86.15	0.3589	<i>84.55</i>	1.5492	1.5492	12	12
2163	2015/04/24.21	62.33	1.3472	83.98	0.3815	<i>85.15</i>	1.4037	1.4037	6	6
2164	2015/05/21.43	47.11	1.4922	70.30	0.6835	<i>66.75</i>	1.2665	1.2665	9	9
2165	2015/06/17.64	61.91	1.1459	70.94	0.3497	<i>70.57</i>	1.1278	1.1278	11	11
2166	2015/07/14.84	45.86	1.2362	56.69	0.1573	<i>56.65</i>	1.2336	1.2336	7	7
2167	2015/08/11.05	43.29	1.5793	68.36	0.2849	<i>67.33</i>	1.5083	1.5083	7	7
2168	2015/09/07.30	67.25	1.6868	113.44	0.1887	<i>113.87</i>	1.7063	1.7063	8	8
2169	2015/10/04.57	27.67	2.0578	56.93	1.1388	<i>52.62</i>	1.5904	1.5904	3	3
2170	2015/10/31.86	—	—	—	—	—	—	—	0	0
2171	2015/11/28.17	41.50	1.5512	64.37	0.3519	<i>64.25</i>	1.5422	1.5422	2	2

SMOOTHED VERSION 2 WOLF NUMBERS for 1973 - 2015.

The following are smoothed corrected Version 2 Wolf Numbers in two different systems. See page S4 for all smoothing formulæ.

MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}
1973 Jan	—	—	—	1976 Jan	7.79	17.76	16.03	1979 Jan	230.54	181.92	185.67
Feb	—	—	—	Feb	5.82	15.58	15.56	Feb	215.63	191.75	191.62
Mar	84.00	—	—	Mar	23.65	15.43	16.03	Mar	191.23	199.24	195.75
Apr	92.23	—	—	Apr	33.03	16.18	16.56	Apr	145.90	203.91	200.26
May	50.96	—	—	May	13.58	15.99	16.55	May	205.11	210.25	207.14
Jun	28.02	—	—	Jun	19.10	15.84	16.46	Jun	216.05	217.85	214.96
Jul	28.46	—	—	Jul	1.20	17.06	16.78	Jul	228.32	221.93	221.53
Aug	41.15	—	—	Aug	21.02	18.51	17.35	Aug	224.17	222.78	227.12
Sep	81.74	46.56	45.75	Sep	13.20	18.72	17.67	Sep	265.37	223.40	231.92
Oct	40.72	42.46	42.93	Oct	30.16	17.08	17.44	Oct	239.25	227.85	235.70
Nov	41.22	40.52	41.08	Nov	7.19	16.34	17.38	Nov	263.83	234.16	237.96
Dec	26.90	41.17	40.48	Dec	21.76	17.80	18.09	Dec	232.06	236.89	238.09
1974 Jan	40.46	44.19	40.93	1977 Jan	22.32	20.34	19.36	1980 Jan	241.83	235.47	236.27
Feb	32.96	46.52	41.72	Feb	26.08	22.87	20.74	Feb	224.83	228.59	231.58
Mar	23.76	46.18	42.74	Mar	8.29	26.12	22.75	Mar	196.93	222.63	226.08
Apr	54.04	46.06	44.91	Apr	9.19	29.97	26.07	Apr	247.05	221.97	222.42
May	42.64	46.18	47.45	May	19.54	33.21	30.48	May	255.31	220.65	218.98
Jun	52.07	46.00	49.49	Jun	48.12	36.57	35.43	Jun	231.37	219.67	215.44
Jul	76.67	45.49	50.43	Jul	33.20	40.58	40.67	Jul	178.94	217.33	211.91
Aug	48.86	44.35	49.83	Aug	49.72	47.62	47.30	Aug	108.34	212.23	209.29
Sep	65.95	43.21	47.80	Sep	62.46	58.46	55.95	Sep	238.19	210.51	209.31
Oct	53.56	40.24	43.76	Oct	73.30	70.26	65.63	Oct	250.71	210.05	209.68
Nov	31.33	36.50	38.37	Nov	41.94	80.80	75.65	Nov	220.53	206.84	208.78
Dec	32.43	33.52	32.79	Dec	67.70	90.16	86.52	Dec	252.03	200.89	206.51
1975 Jan	22.87	30.74	27.61	1978 Jan	72.48	98.35	98.25	1981 Jan	165.59	199.06	204.37
Feb	23.00	28.62	23.58	Feb	144.86	103.91	109.03	Feb	178.78	205.98	204.38
Mar	6.53	25.42	20.34	Mar	149.77	112.15	118.89	Mar	201.54	209.76	204.00
Apr	0.00	21.49	18.09	Apr	150.86	122.86	128.13	Apr	231.37	205.63	201.82
May	6.86	19.69	17.64	May	130.72	132.67	136.26	May	194.09	197.86	198.31
Jun	16.39	18.40	18.17	Jun	161.63	141.17	142.71	Jun	149.77	189.06	194.29
Jul	45.60	16.71	18.58	Jul	116.34	150.99	148.44	Jul	216.60	185.07	191.75
Aug	28.88	15.36	18.33	Aug	100.10	160.53	155.10	Aug	236.75	188.26	190.30
Sep	9.11	15.36	17.86	Sep	209.76	165.21	162.17	Sep	200.45	192.49	188.31
Oct	16.08	17.45	17.89	Oct	182.91	166.73	168.11	Oct	189.30	191.44	185.26
Nov	25.81	19.10	17.72	Nov	167.97	169.62	173.26	Nov	95.48	186.15	182.27
Dec	6.87	19.50	17.03	Dec	145.50	174.99	179.12	Dec	165.91	183.21	181.16

SMOOTHED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}
1982 Jan	155.95	184.34	182.17	1985 Jan	12.19	21.27	18.28	1988 Jan	69.50	71.73	66.70
Feb	264.99	181.78	182.88	Feb	17.26	19.46	18.45	Feb	49.18	80.93	76.09
Mar	217.00	176.71	181.87	Mar	13.40	17.78	19.04	Mar	102.87	89.42	86.51
Apr	190.70	173.38	179.60	Apr	22.64	18.67	20.17	Apr	114.65	97.79	97.27
May	107.81	173.38	177.41	May	32.93	19.66	21.02	May	63.07	106.80	108.42
Jun	*165.49	174.61	175.42	Jun	24.80	19.30	21.08	Jun	143.31	120.87	121.55
Jul	227.92	173.11	171.84	Jul	33.28	18.68	20.42	Jul	150.92	136.82	135.46
Aug	164.01	164.37	164.72	Aug	9.37	19.30	19.61	Aug	147.40	151.54	149.01
Sep	151.39	152.17	156.17	Sep	3.34	20.29	19.14	Sep	153.21	161.61	161.08
Oct	158.54	144.43	148.99	Oct	32.09	20.28	18.74	Oct	152.91	166.44	171.23
Nov	126.13	142.79	143.32	Nov	17.42	19.38	18.08	Nov	167.52	174.98	181.57
Dec	164.82	142.18	137.60	Dec	9.99	17.46	17.18	Dec	241.24	187.70	192.01
1983 Jan	121.01	136.02	130.57	1986 Jan	3.09	15.79	16.69	1989 Jan	241.50	195.77	199.82
Feb	90.14	129.10	124.72	Feb	41.27	15.20	16.63	Feb	230.46	201.11	204.86
Mar	99.22	122.91	120.62	Mar	13.18	15.09	16.15	Mar	163.32	208.74	209.30
Apr	122.68	115.06	116.57	Apr	22.56	15.30	15.33	Apr	170.23	215.11	213.93
May	136.45	106.71	111.56	May	11.51	15.44	14.69	May	212.41	221.89	219.37
Jun	122.19	97.62	104.78	Jun	0.00	14.95	14.17	Jun	299.24	225.26	223.50
Jul	123.45	90.61	97.27	Jul	18.12	14.89	13.81	Jul	188.57	223.11	225.28
Aug	102.31	89.33	90.42	Aug	10.20	13.47	13.04	Aug	238.09	219.99	226.58
Sep	64.68	91.29	84.54	Sep	0.00	11.89	12.48	Sep	245.49	220.02	227.82
Oct	56.80	91.44	79.75	Oct	40.33	12.83	12.88	Oct	213.54	222.87	227.89
Nov	27.32	89.06	76.93	Nov	12.70	15.05	13.75	Nov	269.71	222.35	225.04
Dec	45.51	85.42	76.79	Dec	2.86	16.79	14.76	Dec	219.77	215.35	218.81
1984 Jan	72.14	79.71	78.24	1987 Jan	8.90	17.33	15.78	1990 Jan	211.55	208.87	211.86
Feb	108.31	73.90	80.03	Feb	1.22	19.38	17.75	Feb	185.55	208.81	206.58
Mar	128.04	69.15	80.51	Mar	15.36	22.99	20.95	Mar	208.92	206.47	201.67
Apr	97.43	64.67	78.10	Apr	42.94	25.70	24.45	Apr	193.06	202.64	197.14
May	104.53	62.25	73.03	May	44.41	27.83	27.87	May	176.90	197.95	193.11
Jun	66.93	60.71	65.43	Jun	8.95	30.14	31.14	Jun	166.85	192.95	190.48
Jul	41.69	56.97	55.69	Jul	22.14	33.82	34.91	Jul	165.46	191.95	190.65
Aug	44.50	50.68	45.13	Aug	55.28	38.35	39.01	Aug	259.63	194.53	192.66
Sep	8.51	42.11	35.04	Sep	41.56	43.99	43.13	Sep	167.87	197.30	194.75
Oct	5.48	34.22	27.17	Oct	63.77	50.62	47.70	Oct	199.29	198.48	196.95
Nov	20.42	28.12	22.04	Nov	40.39	54.39	52.19	Nov	171.48	199.45	199.72
Dec	15.68	23.38	19.13	Dec	30.64	60.77	58.24	Dec	197.96	202.09	203.09

* interpolated value

SMOOTHED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}
1991 Jan	209.19	208.83	207.60	1994 Jan	85.26	53.76	57.35	1997 Jan	5.99	14.30	13.63
Feb	250.02	211.86	211.27	Feb	50.68	51.91	54.03	Feb	11.16	15.14	14.79
Mar	210.96	211.34	213.67	Mar	48.08	51.12	50.57	Mar	16.69	18.43	17.22
Apr	219.32	212.02	215.38	Apr	33.03	50.86	47.35	Apr	27.73	22.33	20.22
May	173.92	211.32	215.85	May	28.37	49.27	44.64	May	16.34	24.94	23.06
Jun	233.02	211.90	216.00	Jun	28.10	46.32	42.60	Jun	20.16	28.08	26.55
Jul	261.18	213.40	215.35	Jul	57.01	41.71	40.82	Jul	12.88	31.40	30.73
Aug	236.48	212.53	212.87	Aug	35.19	39.15	39.94	Aug	42.48	34.32	35.05
Sep	178.75	209.54	209.46	Sep	36.96	39.27	40.15	Sep	60.01	38.77	39.50
Oct	204.64	204.37	205.44	Oct	67.62	38.83	40.22	Oct	36.03	43.54	43.86
Nov	149.30	198.35	200.71	Nov	29.96	38.04	39.42	Nov	50.46	48.18	48.39
Dec	234.12	189.82	194.19	Dec	32.70	37.53	38.09	Dec	61.48	53.48	53.10
1992 Jan	209.10	178.18	185.15	1995 Jan	20.28	35.87	36.47	1998 Jan	36.85	60.17	58.18
Feb	229.23	165.79	174.07	Feb	54.31	33.47	34.67	Feb	50.40	67.58	64.20
Mar	159.88	155.93	161.73	Mar	47.39	31.42	32.29	Mar	84.24	74.15	71.08
Apr	146.26	149.86	149.42	Apr	22.99	28.74	29.20	Apr	74.64	79.23	78.07
May	102.63	146.70	138.58	May	19.50	26.64	26.59	May	80.67	82.92	84.43
Jun	99.60	141.44	129.15	Jun	24.73	25.38	24.54	Jun	83.15	87.17	90.66
Jul	115.22	131.76	121.01	Jul	20.65	24.36	22.53	Jul	110.32	91.93	96.62
Aug	85.06	122.15	115.33	Aug	13.87	22.15	20.32	Aug	122.95	95.84	100.94
Sep	93.55	115.32	112.97	Sep	9.09	18.79	18.36	Sep	137.12	98.70	103.01
Oct	144.17	111.04	112.76	Oct	31.17	16.54	17.11	Oct	81.03	100.73	103.56
Nov	133.92	107.32	112.10	Nov	16.07	15.31	15.95	Nov	94.01	104.70	104.53
Dec	123.10	104.35	109.92	Dec	16.42	14.28	14.62	Dec	119.91	112.79	107.30
1993 Jan	87.82	101.43	106.49	1996 Jan	12.08	13.46	13.42	1999 Jan	92.65	120.97	111.41
Feb	120.05	98.77	102.38	Feb	9.47	13.49	12.64	Feb	88.45	124.91	116.32
Mar	105.10	95.13	96.68	Mar	11.39	13.51	12.02	Mar	114.72	124.34	121.66
Apr	98.27	89.84	89.32	Apr	5.06	11.93	11.08	Apr	92.96	126.79	128.69
May	61.29	83.92	81.99	May	8.01	10.96	10.57	May	157.69	135.44	137.98
Jun	69.71	78.76	76.02	Jun	11.45	11.13	10.74	Jun	200.09	140.45	145.78
Jul	75.00	76.80	71.95	Jul	14.23	10.72	10.90	Jul	189.69	142.30	150.30
Aug	61.52	73.80	68.45	Aug	21.01	10.53	10.93	Aug	138.32	147.42	153.14
Sep	29.65	68.53	65.48	Sep	2.41	10.83	10.92	Sep	108.00	155.13	156.24
Oct	81.16	63.44	63.62	Oct	0.00	11.99	11.43	Oct	168.97	164.64	160.78
Nov	54.71	59.35	62.07	Nov	23.95	13.28	12.32	Nov	213.65	170.83	164.36
Dec	78.57	56.24	60.09	Dec	12.59	13.99	13.02	Dec	120.60	171.54	166.30

SMOOTHED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}
2000 Jan	136.21	174.48	170.88	2003 Jan	127.74	129.57	121.83	2006 Jan	19.48	32.11	29.97
Feb	167.71	179.99	178.80	Feb	87.78	125.50	115.43	Feb	3.74	29.62	28.31
Mar	220.61	183.88	186.25	Mar	90.63	117.36	110.16	Mar	19.19	27.11	27.71
Apr	215.24	184.75	190.42	Apr	93.92	109.92	106.86	Apr	52.53	26.70	27.88
May	184.14	180.91	191.21	May	87.26	104.50	105.25	May	40.40	27.55	27.63
Jun	190.50	178.22	190.87	Jun	126.89	99.64	104.00	Jun	18.75	26.58	26.63
Jul	270.04	179.08	188.65	Jul	144.25	95.74	101.89	Jul	20.32	25.93	26.19
Aug	190.18	177.63	182.02	Aug	124.82	92.52	98.12	Aug	26.02	27.15	26.45
Sep	149.40	173.41	172.88	Sep	60.37	91.00	93.56	Sep	16.47	27.27	26.15
Oct	148.58	169.05	164.57	Oct	102.89	88.96	88.57	Oct	23.98	24.68	25.00
Nov	141.75	164.93	157.83	Nov	58.56	88.01	83.91	Nov	34.66	21.51	23.66
Dec	127.99	163.65	153.36	Dec	73.86	85.53	79.50	Dec	28.35	20.79	22.77
2001 Jan	149.51	157.93	149.90	2004 Jan	67.62	80.28	75.63	2007 Jan	33.99	20.86	21.71
Feb	119.48	150.44	148.24	Feb	70.66	75.64	73.39	Feb	18.47	19.92	19.98
Mar	167.59	153.91	151.37	Mar	71.26	72.91	72.52	Mar	7.36	18.76	18.05
Apr	163.69	160.15	156.60	Apr	64.26	71.75	72.29	Apr	2.25	17.38	16.23
May	136.87	163.21	161.74	May	94.16	72.30	72.73	May	14.70	15.18	14.53
Jun	206.84	168.25	167.51	Jun	60.49	71.49	72.61	Jun	27.12	13.03	12.94
Jul	116.48	173.69	173.45	Jul	84.63	69.04	71.39	Jul	13.68	10.88	11.26
Aug	163.97	177.75	179.63	Aug	73.00	67.49	69.66	Aug	9.96	8.90	9.63
Sep	258.97	178.96	184.22	Sep	46.78	65.07	67.25	Sep	4.69	8.31	8.45
Oct	188.78	178.74	185.95	Oct	88.46	62.71	64.48	Oct	2.69	8.30	7.47
Nov	174.90	181.45	186.86	Nov	86.39	60.39	60.98	Nov	3.22	7.76	6.43
Dec	215.77	180.66	185.98	Dec	26.54	59.19	57.57	Dec	8.06	6.39	5.38
2002 Jan	192.48	180.60	183.80	2005 Jan	56.05	57.56	54.79	2008 Jan	2.76	4.90	4.57
Feb	173.93	184.20	181.21	Feb	44.94	55.41	52.66	Feb	2.15	3.91	4.09
Mar	142.17	182.43	177.71	Mar	39.13	54.70	51.48	Mar	9.45	3.30	3.72
Apr	183.77	178.01	175.16	Apr	39.62	51.16	50.03	Apr	0.00	3.09	3.37
May	181.73	175.01	173.29	May	63.07	45.47	48.23	May	3.92	3.19	3.07
Jun	143.19	169.11	170.25	Jun	62.75	44.36	47.33	Jun	5.04	2.97	2.73
Jul	178.62	161.89	166.82	Jul	43.23	44.17	46.13	Jul	0.00	2.55	2.34
Aug	188.20	155.60	162.83	Aug	63.00	40.93	43.44	Aug	0.00	2.37	2.05
Sep	192.15	149.87	156.81	Sep	39.70	38.38	39.95	Sep	0.00	1.89	1.77
Oct	149.72	143.97	148.45	Oct	10.64	38.09	36.77	Oct	2.36	1.50	1.60
Nov	141.83	136.29	138.56	Nov	27.64	37.68	34.44	Nov	5.96	1.33	1.44
Dec	107.26	131.68	129.46	Dec	58.52	34.90	32.20	Dec	0.00	1.29	1.28

SMOOTHED VERSION 2 WOLF NUMBERS for 1973 - 2015 continued.

MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}	MONTH	R _{GD2}	S ^W	S ^{B13}
2009 Jan	0.67	1.62	1.32	2012 Jan	108.04	99.82	102.47	2015 Jan	100.74	93.82	93.71
Feb	0.00	1.83	1.43	Feb	46.16	102.97	101.52	Feb	67.69	91.32	87.51
Mar	0.00	1.91	1.55	Mar	99.74	103.77	100.32	Mar	48.66	87.30	82.26
Apr	0.00	2.25	1.80	Apr	112.18	101.03	98.32	Apr	83.52	84.01	79.09
May	0.00	2.37	2.17	May	97.03	96.31	95.83	May	74.03		
Jun	7.86	2.78	2.74	Jun	91.75	91.53	93.69	Jun	63.21		
Jul	5.15	3.96	3.56	Jul	108.51	88.99	92.24	Jul	76.62		
Aug	0.00	5.86	4.77	Aug	92.14	89.44	91.04	Aug	75.44		
Sep	1.89	8.13	6.52	Sep	86.37	88.98	88.79	Sep	105.75		
Oct	8.49	9.52	8.39	Oct	78.19	88.33	86.50	Oct	56.93		
Nov	2.89	10.13	10.08	Nov	89.51	90.39	86.00	Nov	* 55.71		
Dec	12.81	10.51	11.64	Dec	61.62	91.36	86.43	Dec	65.25		
2010 Jan	16.16	11.27	13.19	2013 Jan	101.41	90.02	87.01				
Feb	30.11	12.94	14.67	Feb	63.39	88.81	88.07				
Mar	24.51	15.13	15.79	Mar	71.51	87.31	89.54				
Apr	8.79	17.31	16.67	Apr	124.78	87.92	91.56				
May	5.82	19.82	17.94	May	133.85	91.13	93.42				
Jun	11.11	22.01	19.67	Jun	78.43	95.40	94.91				
Jul	20.28	23.32	21.59	Jul	89.46	99.20	96.59				
Aug	24.79	25.19	24.02	Aug	82.18	103.32	99.22				
Sep	29.67	29.31	27.79	Sep	60.38	109.12	103.36				
Oct	33.09	34.82	32.80	Oct	118.88	111.02	107.59				
Nov	38.50	40.18	38.22	Nov	125.90	109.30	111.25				
Dec	29.84	44.59	43.51	Dec	127.74	110.23	115.20				
2011 Jan	30.49	48.17	48.74	2014 Jan	126.47	111.91	118.32				
Feb	60.74	51.50	54.00	Feb	137.17	113.60	120.02				
Mar	92.78	55.86	58.97	Mar	136.79	119.23	121.28				
Apr	72.67	62.84	63.90	Apr	105.20	121.83	120.80				
May	70.48	71.58	69.42	May	112.14	120.04	118.95				
Jun	52.34	79.80	75.63	Jun	122.41	119.42	117.57				
Jul	64.96	86.62	82.20	Jul	85.89	118.33	116.55				
Aug	60.09	89.24	87.95	Aug	126.37	114.37	115.18				
Sep	99.09	88.92	92.85	Sep	151.20	107.80	112.35				
Oct	131.21	90.86	97.78	Oct	90.37	103.22	108.59				
Nov	149.94	93.61	101.38	Nov	111.54	100.73	104.63				
Dec	115.85	96.36	102.75	Dec	127.30	96.68	99.57				

* provisionally interpolated

