POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY, 1947

By LUCY T. DAY

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[Communicated by the Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive towards the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day under Mount Wilson group number, longitude, latitude, area of spot or group, and spot count, are included respectively: number of groups, assumed longitude of center of the disk, assumed latitude of center of the disk, total areas of spots and groups, and total spot count.

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
Feb. 1	10 36	8385	−64	149	−16	65	24	2	G	U. S. Naval.
		8384	−57	156	−28	60	24	3		
		8382	−50	163	−13	50	291	8		
		8382	−46	167	−15	47	194	9		
		8382	−45	168	−17	47	218	11		
		8382	−43	170	−14	44	485	10		
		8381	−35	178	−12	35	24	5		
		8381	−27	186	−10	27	12	6		
		8383	+36	249	−12	36	24	5		
		8377	+69	282	−21	69	194	8		
		8377	+79	292	−19	79	291	4		
		(6)		(213)	(−6)		1,781	71		
2	10 37	8386	−80	120	−3	80	339	1	F	Do.
		8385	−49	151	−15	49	170	6		
		8384	−43	157	−29	47	6	1		
		8382	−38	162	−12	38	121	11		
		8382	−32	168	−17	34	121	12		
		8382	−31	169	−14	32	630	5		
		8380	+27	227	+13	33	6	1		
		8383	+49	249	−13	49	97	6		
		8377	+83	283	−21	83	242	2		
		(7)		(200)	(−6)		1,732	45		
3	10 41	8386	−68	119	−4	68	339	1	F	Do.
		8385	−35	152	−16	37	291	11		
		8384	−30	157	−29	36	12	1		
		8387	−26	161	+33	48	12	1		
		8382	−23	164	−13	25	145	12		
		8382	−19	168	−18	22	97	7		
		8382	−18	169	−15	21	630	3		
		8381	+5	192	−10	17	24	4		
		8383	+62	249	−13	62	73	5		
		8383	+68	255	−10	68	170	1		
		(7)		(187)	(−6)		1,793	46		
4	14 40	8391	−80	92	−22	80	73	4	G	Mt. Wilson.
		8388	−68	104	+29	76	48	2		
		8386	−54	118	−4	54	339	1		
		8385	−23	149	−17	25	242	25		
		8385	−17	155	−16	20	194	12		
		8384	−17	155	−30	28	48	9		
		8382	−8	164	−13	11	170	26		
		8382	−4	168	−17	12	291	9		
		8382	−2	170	−16	10	436	1		
		8390	+17	189	−28	28	97	12		
		8383	+83	255	−12	83	194	3		
		(8)		(172)	(−6)		2,132	104		
5	10 53	8392	−77	84	−19	77	48	6	VG	Do.
		8391	−70	91	−23	70	97	11		
		(*)	−70	91	−6	70	12	3		
		8391	−60	101	−24	61	36	9		
		8388	−57	104	+28	67	48	4		
		8386	−41	120	−4	42	267	2		
		8385	−11	150	−17	17	170	21		
		8385	−3	158	−16	11	267	10		
		8382	+4	165	−13	8	194	32		
		8382	+4	165	−17	12	48	12		
		8382	+8	169	−18	14	73	11		
		8382	+9	170	−16	13	630	6		
		8390	+30	191	−27	35	73	13		
		(8)		(161)	(−6)		1,963	140		
6	10 6	8393	−75	73	−2	75	12	1	F	U. S. Naval.
		8392	−70	78	−21	70	121	4		
		8392	−65	83	−18	66	48	3		
		8392	−57	91	−23	59	121	6		
		8392	−50	98	−22	51	48	1		
		8391	−46	102	−24	48	12	1		
		8388	−42	106	+29	55	24	1		
		8386	−29	119	−4	29	339	1		
		8385	+10	158	−17	14	242	5		
		8385	+12	160	−17	16	194	12		
		8382	+18	166	−14	21	121	8		
		8382	+22	170	−15	23	630	2		
		8390	+46	194	−30	50	12	1		
		(8)		(148)	(−6)		1,924	46		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
Feb. 7	10 25	8393	−65	70	−3	65	24	5	F	U. S. Naval.
		8395	−58	77	+4	60	12	3		
		8392	−54	81	−20	55	533	13		
		8392	−47	88	−21	49	388	4		
		8391	−37	98	−22	40	73	6		
		8391	−31	104	−25	35	24	1		
		8394	−22	113	−19	24	48	3		
		8386	−15	120	−4	15	315	1		
		8385	+15	150	−17	19	242	4		
		8385	+22	157	−17	24	291	8		
		8382	+31	166	−13	31	48	5		
		8382	+35	170	−15	36	533	2		
		8390	+59	194	−30	61	24	1		
		(9)		(135)	(−6)		2,555	56		
8	10 11	8396	−70	52	+12	75	145	1	G	Do.
		8397	−69	53	−13	69	12	2		
		8393	−50	72	−3	50	48	4		
		8393	−44	78	−3	44	48	4		
		8395	−43	79	+4	45	12	1		
		8392	−41	81	−21	43	485	10		
		8392	−33	89	−22	36	970	9		
		8392	−24	98	−23	29	97	11		
		8391	−18	104	−25	26	12	1		
		8394	−9	113	−20	16	36	4		
		8386	−1	121	−4	2	242	1		
		8385	+27	149	−17	29	145	6		
		8385	+35	157	−17	37	242	11		
		8382	+46	168	−13	47	73	6		
		8382	+48	170	−16	49	485	2		
		(10)		(122)	(−6)		3,052	73		
9	13 2	8396	−56	51	+11	58	97	1	F	Do.
		8393	−33	74	−3	33	194	7		
		8392	−30	77	−22	32	533	1		
		8395	−28	79	+4	31	97	3		
		8392	−19	88	−23	24	1,067	6		
		8392	−11	96	−23	20	121	7		
		8391	−7	100	−23	18	24	1		
		8394	+5	112	−20	14	73	3		
		8386	+13	120	−4	13	242	1		
		8385	+41	148	−17	42	97	4		
		8385	+51	158	−16	51	218	2		
		8382	+61	168	−16	61	485	2		
		(9)		(107)	(−7)		3,248	38		
10	10 18	8400	−71	24	−10	71	145	1	G	Do.
		8396	−42	53	+11	46	97	1		
		8393	−19	76	−3	20	97	11		
		8392	−18	77	−22	23	533	1		
		8399	−18	77	+25	36	6	1		
		8395	−16	79	+4	20	109	8		
		8392	−6	89	−22	16	1,503	26		
		8392	+7	102	−23	18	12	1		
		8394	+17	112	−20	21	61	3		
		8386	+25	120	−4	25	242	1		
		8385	+53	148	−17	53	73	2		
		8385	+63	158	−16	63	218	2		
		8382	+74	169	−15	74	582	1		
		(10)		(95)	(−7)		3,678	59		
11	10 43	8401	−80	2	−19	80	145	1	G	Do.
		8401	−75	7	−18	75	145	1		
		8400	−58	24	−11	58	145	1		
		8396	−30	52	+11	35	97	1		
		8397	−28	54	−16	30	24	2		
		8392	−7	75	−23	18	630	3		
		8393	−5	77	−3	7	97	7		
		8395	−3	79	+4	12	145	7		
		8399	−1	81	+23	30	12	1		
		8392	+5	87	−23	17	1,503	29		
		8398	+6	88	+17	25	24	1		
		8392	+15	97	−23	21	121	4		
		8394	+29	111	−19	31	48	1		
		8386	+39	121	−4	39	242	1		
		8385	+79	161	−16	79	218	1		
		8382	+88	170	−16	88	145	1		
		(13)		(82)	(−7)		3,741	62		
12	12 38	8404	−70	357	+17	73	48	2	G	Do.
		8401	−66	2	−18	66	242	10		
		8401	−59	8	−18	60	194	1		
		8400	−43	24	−12	43	145	1		
		8403	−40	27	+15	46	24	7		
		8396	−16	51	+10	24	121	1		
		8393	+5	72	−3	7	73	7		
		8392	+7	74	−23	18	582	1		
		8395	+12	79	+4	16	121	12		
		8393	+14	81	−3	15	24	2		
		8399	+14	81	+23	34	12	2		
		8392	+18	85	−22	22	873	25		
		8398	+19	86	+18	31	12	1		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	*h m*		°	°	°	°				
Feb. 12	12 38	8392	+24	91	−23	28	388	16		U. S. Naval
		8392	+24	91	−20	27	291	1		
		8386	+52	119	−4	52	242	1		
		(11)		(67)	(−7)		3,392	90		
13	10 38	8405	−70	345	+21	74	12	3	G	Do.
		8404	−57	358	+17	61	61	3		
		8401	−53	2	−18	53	194	11		
		8401	−45	10	−18	45	194	7		
		8403	−33	22	+17	41	12	1		
		8400	−31	24	−12	33	121	1		
		(*)	−31	24	−7	31	12	3		
		(*)	−27	28	−18	30	24	2		
		8402	−25	30	+13	32	48	2		
		8396	−4	51	+10	18	121	1		
		8392	+19	74	−23	24	582	3		
		8395	+24	79	+4	26	61	8		
		8393	+26	81	−3	27	48	4		
		8392	+31	86	−23	33	1,212	24		
		8392	+38	93	−19	38	291	1		
		8386	+65	120	−4	65	242	1		
		(13)		(55)	(−7)		3,235	75		
14	10 33	8406	−65	337	+20	70	12	1	G	Do.
		8406	−60	342	+20	64	6	2		
		8405	−57	345	+21	62	6	1		
		8404	−43	359	+17	50	73	4		
		8401	−39	3	−19	40	170	6		
		8401	−31	11	−18	32	291	7		
		(*)	−21	21	+11	28	12	2		
		8403	−20	22	+17	32	12	2		
		8400	−18	24	−12	19	97	1		
		8402	−10	32	+11	21	73	7		
		8409	−4	38	+22	29	6	2		
		8396	+10	52	+10	20	97	1		
		8392	+31	73	−23	33	582	1		
		8392	+37	79	−21	39	242	10		
		8399	+37	79	+22	47	12	3		
		8395	+39	81	+4	41	48	6		
		8393	+41	83	−4	41	48	8		
		8392	+46	88	−20	47	1,261	16		
		8392	+51	93	−23	52	533	12		
		(*)	+51	93	+38	65	12	3		
		8386	+78	120	−4	78	242	1		
		(16)		(42)	(−7)		3,835	96		
15	12 0	8406	−46	342	+18	51	12	3	F	Do.
		8404	−30	358	+17	38	48	1		
		8404	−23	5	+16	33	24	1		
		8401	−23	5	−19	25	170	12		
		8401	−14	14	−17	18	291	5		
		8403	−5	23	+16	24	24	4		
		8400	−3	25	−12	6	97	1		
		8402	+8	36	+10	19	24	1		
		8409	+10	38	+22	31	24	3		
		8408	+14	42	−24	21	6	1		
		8396	+24	52	+10	29	97	1		
		8392	+46	74	−23	48	630	1		
		8407	+49	77	+12	52	24	1		
		8392	+50	78	−22	51	194	7		
		8399	+51	79	+24	59	12	1		
		8392	+60	88	−20	60	1,067	12		
		8392	+65	93	−23	65	339	8		
		(12)		(28)	(−7)		3,083	63		
16	11 20	8411	−80	296	−80	80	48	2	G	Mt. Wilson.
		8406	−32	344	+19	41	48	8		
		8404	−17	359	+17	30	24	2		
		8404	−9	7	+17	27	12	1		
		8401	−5	11	−18	13	582	31		
		8400	+8	24	−18	14	24	10		
		8403	+10	26	+17	27	73	11		
		8400	+11	27	−12	12	73	1		
		8402	+22	38	+10	28	16	4		
		8396	+39	55	+9	42	73	1		
		8410	+47	63	−16	47	121	9		
		8392	+59	75	−23	59	630	11		
		8399	+63	79	+23	69	24	3		
		8392	+70	86	−20	61	533	7		
		8392	+78	94	−22	78	824	4		
		8392	+78	94	−25	79	339	10		
		(11)		(16)	(−7)		3,444	115		
17	10 38	8411	−73	290	−21	74	97	7	G	U. S. Naval.
		8411	−67	296	−17	67	48	2		
		8406	−18	345	+19	32	24	1		
		8404	−5	358	+17	24	12	1		
		8404	+3	6	+16	23	6	1		
		8401	+3	6	−19	12	339	8		
		8401	+7	10	−17	13	364	8		
		8403	+21	24	+18	33	73	9		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	*h m*		°	°	°	°				
Feb. 17	10 38	8400	+21	24	−17	24	73	5		U. S. Naval
		8400	+22	25	−12	23	73	1		
		(*)	+35	38	+23	46	12	3		
		8396	+51	54	+11	54	48	1		
		8410	+60	63	−14	60	170	10		
		8392	+71	74	−23	72	533	1		
		8392	+83	86	−20	83	970	8		
		(10)		(3)	(−7)		2,842	66		
18	10 20	8416	−84	266	−11	84	97	2	F	Do.
		8415	−70	280	+21	74	48	3		
		8411	−60	280	−20	60	97	4		
		8411	−53	297	−17	53	24	2		
		8404	+8	358	+17	27	6	1		
		8401	+16	6	−19	20	339	13		
		8414	+20	10	+11	26	12	1		
		8401	+22	12	−17	24	339	12		
		8400	+34	24	−17	36	48	4		
		8403	+34	24	+17	42	24	4		
		8400	+37	27	−13	37	73	1		
		8403	+37	27	+17	44	48	2		
		8412	+55	45	−11	56	12	2		
		8396	+63	53	+10	65	97	1		
		8410	+71	61	−15	72	24	1		
		8392	+85	75	−24	85	533	1		
		(12)		(350)	(−7)		1,821	54		
19	11 11	8416	−84	252	−12	84	48	5	F	Mt. Wilson.
		8416	−73	263	−9	73	97	6		
		8415	−58	278	+22	62	97	5		
		8411	−45	291	−18	46	145	10		
		8411	−37	299	−17	38	97	7		
		8401	+29	5	−19	31	291	10		
		8401	+37	13	−18	38	339	11		
		8417	+43	19	+23	52	24	6		
		8400	+48	24	−17	48	145	11		
		8400	+51	27	−12	51	97	1		
		8403	+52	28	+17	58	121	9		
		8413	+63	39	+23	68	12	5		
		8396	+78	54	+9	79	97	1		
		(9)		(336)	(−7)		1,610	87		
20	11 21	8419	−72	251	+27	79	97	2	VG	Do.
		8416	−69	254	−11	69	73	6		
		8416	−60	263	−9	60	97	9		
		8415	−45	278	+22	52	97	9		
		8411	−30	293	−18	32	194	29		
		8418	−26	297	+23	39	12	3		
		8411	−20	303	−17	23	121	9		
		8401	+42	5	−19	43	145	8		
		8414	+49	12	+11	52	36	6		
		8401	+50	13	−17	50	388	5		
		8417	+57	20	+23	62	12	3		
		8400	+61	24	−17	61	97	8		
		8403	+62	25	+19	66	73	1		
		8400	+63	26	−12	63	73	1		
		8403	+68	31	+17	71	24	3		
		(10)		(323)	(−7)		1,539	102		
21	11 6	8419	−62	248	+25	68	97	3	G	U. S. Naval.
		8416	−53	257	−12	53	73	3		
		8416	−50	260	−12	50	121	7		
		8416	−45	265	−10	45	24	1		
		8415	−30	280	+21	41	97	1		
		8411	−20	290	−20	23	170	13		
		8411	−14	296	−16	17	194	30		
		8411	−6	304	−17	12	73	6		
		8401	+52	2	−18	52	73	9		
		8401	+62	12	−16	62	339	8		
		8414	+64	14	+12	66	24	5		
		8403	+71	21	+19	75	48	1		
		8400	+75	25	−12	76	97	1		
		8400	+81	31	−16	81	97	1		
		(8)		(310)	(−7)		1,527	89		
22	10 14	8420	−71	226	−12	72	12	1	G	Do.
		8419	−50	247	+25	58	73	3		
		8416	−43	254	−12	43	97	6		
		8416	−38	259	−12	38	194	12		
		8416	−33	264	−10	33	61	4		
		8415	−19	278	+21	34	97	1		
		8411	−8	289	−19	15	170	17		
		8411	0	297	−16	10	242	16		
		8411	+4	301	−16	11	194	15		
		8401	+68	5	−18	69	24	1		
		8401	+77	14	−15	77	242	4		
		8414	+79	16	+12	80	24	1		
		(7)		(297)	(−7)		1,430	81		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	*h m*		°	°	°	°				
Feb. 23	11 4	8421	−63	221	+19	67	145	3	F	U. S. Naval.
		8419	−37	247	+26	49	145	5		
		8416	−30	254	−11	30	48	5		
		8416	−25	259	−12	26	339	11		
		8416	−19	265	−9	19	48	2		
		8415	−5	279	+21	28	73	4		
		8411	+10	294	−18	15	727	20		
		8411	+20	304	−17	22	267	5		
		(5)		(284)	(−7)		1,792	55		
24	11 0	8425	−78	192	−11	78	24	1	G	Mt. Wilson.
		8421	−50	220	+19	56	121	4		
		8424	−50	220	+21	57	48	4		
		8423	−48	222	+25	58	6	1		
		8419	−24	246	+26	41	48	10		
		8416	−17	253	−12	18	145	14		
		8416	−10	260	−11	11	194	25		
		8422	+7	277	−38	33	36	8		
		8415	+9	279	+20	28	36	5		
		8411	+20	290	−18	22	194	18		
		8411	+28	298	−17	30	388	24		
		8411	+32	302	−17	33	291	7		
		(9)		(270)	(−7)		1,531	121		
25	10 20	8428	−88	170	−9	88	97	1	G	U. S. Naval.
		8429	−79	179	−28	79	48	1		
		8428	−75	183	−6	75	109	1		
		8425	−61	197	−12	61	12	1		
		8421	−36	222	+20	45	97	8		
		8424	−35	223	+22	44	61	8		
		8423	−32	226	+25	45	12	1		
		8419	−9	249	+26	35	24	3		
		8416	−3	255	−13	6	24	2		
		8416	+3	261	−17	11	218	17		
		8427	+6	264	+15	24	24	3		
		8426	+18	276	+16	29	6	1		
		8422	+20	278	−38	37	145	5		
		8415	+20	278	+20	33	12	2		
		8411	+36	294	−18	37	533	20		
		8411	+46	304	−17	47	533	14		
		(13)		(258)	(−7)		1,955	88		
26	10 48	8434	−80	164	−12	80	12	1	F	Do.
		8433	−79	165	−18	79	242	1		
		8428	−73	171	−9	73	73	1		
		8429	−65	179	−28	66	24	3		
		8428	−60	184	−7	60	145	1		
		8425	−48	196	−12	48	12	2		
		8421	−21	223	+17	32	97	6		
		8424	−20	224	+20	34	242	13		
		8423	−19	225	+21	33	61	8		
		8432	−13	231	+28	37	6	1		
		8431	−10	234	+16	27	24	5		
		8419	+3	247	+26	35	12	2		
		8416	+10	254	−14	13	48	3		
		8419	+13	257	+23	33	48	4		
		8416	+16	260	−11	16	727	18		
		8427	+17	261	+14	27	97	9		
		8426	+22	266	+17	32	97	4		
		8422	+29	273	−39	42	61	1		
		8422	+37	281	−37	46	48	4		
		8411	+50	294	−18	50	436	12		
		8411	+50	294	−19	50	24	1		
		8411	+60	304	−17	60	582	5		
		(16)		(244)	(−7)		3,118	105		
27	10 26	8434	−69	162	−12	69	24	3	VG	Do.
		8434	−67	164	−12	67	194	1		
		8433	−65	166	−17	65	291	1		
		8428	−58	173	−9	58	48	1		
		8429	−49	182	−27	50	12	3		
		8428	−47	184	−7	47	170	1		
		8425	−43	188	−13	43	24	6		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	*h m*		°	°	°	°				
Feb. 27	10 26	8425	−34	197	−13	34	24	2	VG	U. S. Naval.
		8421	−9	222	+17	26	145	7		
		8424	−9	222	+21	29	436	21		
		8423	−8	223	+22	30	48	8		
		8432	+1	232	+29	37	12	5		
		8419	+13	244	+27	38	12	7		
		8419	+25	256	+23	39	48	12		
		8416	+25	256	−11	26	73	9		
		8427	+30	261	+15	37	73	12		
		8416	+34	265	−10	34	145	13		
		8426	+36	267	+17	42	145	7		
		8422	+41	272	−39	48	48	5		
		8411	+62	293	−18	62	436	19		
		8411	+73	304	−17	74	921	9		
		(15)		(231)	(−7)		3,329	152		
28	10 53	8434	−57	161	−12	57	97	6	G	Mt. Wilson.
		8434	−53	165	−11	53	242	2		
		8433	−49	169	−16	49	291	1		
		8428	−43	175	−9	43	48	1		
		8429	−39	179	−25	41	12	6		
		8428	−33	185	−7	33	170	1		
		8425	−29	189	−10	29	24	7		
		8425	−21	197	−11	22	48	5		
		8421	+5	223	+20	28	242	11		
		8423	+5	223	+25	33	48	17		
		8424	+6	224	+22	30	727	8		
		8419	+30	248	+27	45	12	4		
		8430	+40	258	+23	50	73	18		
		8416	+40	258	−13	40	48	13		
		8427	+43	261	+14	47	12	3		
		8426	+47	265	+17	52	12	7		
		8416	+50	268	−9	50	97	10		
		8426	+53	271	+16	57	97	1		
		8411	+80	298	−18	80	1,164	21		
		(15)		(218)	(−7)		3,464	142		

Mean daily area for 28 days=2,520
Mean 10 g+s for 28 days=185.4

* Not numbered.
VG=very good: G=good; F=fair; P=poor.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR FEBRUARY 1947

[Dependent on observations at Zurich Observatory and its stations at Locarno and Arosa.]

February 1947	Relative numbers	February 1947	Relative numbers	February 1947	Relative numbers
1	64	11	213	21	100
2	90	12	206	22	100
3	84	13	193	23	99
4	90	14	199	24	96
5	115	15	166	25	127
6	115	16	157	26	158
7	111	17	154	27	156
8	107	18	130	28	130
9	153	19	110		
10	162	20	132		

Mean, 28 days=132.8