

M' R. J. Tayler

NATIONAL INSTITUTE OF OCEANOGRAPHY

WORMLEY, GODALMING, SURREY

**Julian Day Numbers for the Years
1700 - 1999**

by

R. J. TAYLER

N.I.O. INTERNAL REPORT No. N.21

JUNE 1970

Julian Day Numbers for the years 1700 - 1999.

R. J. Tayler

National Institute of Oceanography, Wormley, Surrey.

Introduction

When analysing scientific data which extend over a period of time greater than a few days, the conventional calendar is inconvenient to use; a system of consecutive numbering of days is necessary. Such a system is given by the concept of the 'Julian Date', which is described¹ as follows:-

"To facilitate chronological reckoning, astronomical days, beginning at Greenwich noon, are numbered consecutively from an epoch sufficiently far in the past to precede the historical period. The number assigned to a day in this continuous count is the Julian Day Number, which is defined to be 0 for the day starting at Greenwich mean noon on January 1, 4713 B.C., Julian proleptic calendar. The Julian day number therefore denotes the number of days that has elapsed, at Greenwich noon on the day designated, since the above epoch. The Julian Date (J.D.) corresponding to any instant is, by a simple extension of the above concept, the Julian day number followed by the fraction of a day elapsed since the preceding noon".

This table provides a conversion between calendar date and Julian date in a more convenient form than is available from standard references such as the Astronomical Ephemeris. It covers the years 1700 to 1999; dates outside this period are unlikely to be of interest in an oceanography context.

It should be noted that the J.D. numbers throughout the table refer to the Gregorian, not the Julian calendar. This distinction is important for dates earlier than 1752 September 14th. Before that date Britain, and the British Empire of that time, were using

the Julian calendar, which had not been in use in most countries since 1582. If the table is entered with a date earlier than 1752 September 14th and referring to some British source, 11 days must be added to the J.D. (The situation for some other countries, notably Russia, is different again, and will not be discussed here.)

Description of the Table.

The Julian date is given for 00 hours on the 0th day of each month; thus the Julian date corresponding to any calendar date is obtained by adding the day-of-month to the tabulated quantity.

Each page covers 10 years, and the arguments of the table are years (by columns) and months (by rows). At the head of each page is a statement of the form

$$JD = 23XXXXX.5$$

which gives the (normally unchanging) part of the Julian date that has been removed from the tabulated quantities to avoid tiresome repetition of figures. When the second digit does in fact change during the period covered by one page, an asterisk is printed to the left of the tabulated quantity to draw attention to the fact.

Two quantities (three from January 1950 onwards) are given for each pair of arguments. These are:

- (i) The residual part of the Julian date after subtraction of the constant given at the head of the page. Beneath this is
- (ii) The time elapsed, in complete days, since 1900 January 1, 00 hours. If this time is negative then (-) is printed at the beginning of the line. This quantity is provided because a considerable amount of tidal work (e.g. Cartwright's tidal analysis programmes²) refers to 1900 January 1 as a fundamental epoch.

- (iii) (Only from January 1950 onwards.) The time elapsed, in complete days, since 1959 January 1. This quantity appears on many of the series of sea-levels etc. which have been punched on cards at N.I.O.

Artificial Earth-Satellites and the Modified Julian Date

For some three centuries following 1858 November 17th the Julian day number lies between 2400000 and 2500000. In artificial earth-satellite work it has become customary to modify the Julian day number by dropping the most significant and unchanging digits 24. Further, it is customary, and often more convenient, to consider the day as beginning at midnight rather than noon.

The Modified Julian Date (M.J.D.) is therefore defined by the relation

$$\text{M.J.D.} = \text{J.D.} - 2400000.5$$

The Modified Julian Day number, so defined, was first used by the Smithsonian Astrophysical Observatory³. For dates later than 1858 November 17th the tabulated quantity in this table is, in effect, the M.J.D.

References.

1. H.M. Nautical Almanac Office. Explanatory Supplement to the Astronomical Ephemeris. London, H.M.S.O. 1961
2. Cartwright, D.E. A Group of Computer Programs for Tidal Analysis and Prediction by the "Response Method". N.I.O. Internal Report No. N11, February 1968.
3. Smithsonian Astrophysical Observatory. Satellite Orbital Data. Special Report 40(R). Cambridge 38, Mass., May (revised June) 1960.

1700 - 1709

JD = 23XXXXX.5

	1700	1701	1702	1703	1704	1705	1706	1707	1708	1709
JAN	41971	42336	42701	43066	43431	43797	44162	44527	44892	45258
(-)	73049	72684	72319	71954	71589	71223	70858	70493	70128	69762
FEB	42002	42367	42732	43097	43462	43828	44193	44558	44923	45289
(-)	73018	72653	72288	71923	71558	71192	70827	70462	70097	69731
MAR	42030	42395	42760	43125	43491	43856	44221	44586	44952	45317
(-)	72990	72625	72260	71895	71529	71164	70799	70434	70068	69703
APR	42061	42426	42791	43156	43522	43887	44252	44617	44983	45348
(-)	72959	72594	72229	71864	71498	71133	70768	70403	70037	69672
MAY	42091	42456	42821	43186	43552	43917	44282	44647	45013	45378
(-)	72929	72564	72199	71834	71468	71103	70738	70373	70007	69642
JUN	42122	42487	42852	43217	43583	43948	44313	44678	45044	45409
(-)	72898	72533	72168	71803	71437	71072	70707	70342	69976	69611
JUL	42152	42517	42882	43247	43613	43978	44343	44708	45074	45439
(-)	72868	72503	72138	71773	71407	71042	70677	70312	69946	69581
AUG	42183	42548	42913	43278	43644	44009	44374	44739	45105	45470
(-)	72837	72472	72107	71742	71376	71011	70646	70281	69915	69550
SEP	42214	42579	42944	43309	43675	44040	44405	44770	45136	45501
(-)	72806	72441	72076	71711	71345	70980	70615	70250	69884	69519
OCT	42244	42609	42974	43339	43705	44070	44435	44800	45166	45531
(-)	72776	72411	72046	71681	71315	70950	70585	70220	69854	69489
NOV	42275	42640	43005	43370	43736	44101	44466	44831	45197	45562
(-)	72745	72380	72015	71650	71284	70919	70554	70189	69823	69458
DEC	42305	42670	43035	43400	43766	44131	44496	44861	45227	45592
(-)	72715	72350	71985	71620	71254	70889	70524	70159	69793	69428

JD = 23XXXXX.5

	1710	1711	1712	1713	1714	1715	1716	1717	1718	1719
JAN	45623	45988	46353	46719	47084	47449	47814	48180	48545	48910
(-)	69397	69032	68667	68301	67936	67571	67206	66840	66475	66110
FEB	45654	46019	46384	46750	47115	47480	47845	48211	48576	48941
(-)	69366	69001	68636	68270	67905	67540	67175	66809	66444	66079
MAR	45682	46047	46413	46778	47143	47508	47874	48239	48604	48969
(-)	69338	68973	68607	68242	67877	67512	67146	66781	66416	66051
APR	45713	46078	46444	46809	47174	47539	47905	48270	48635	49000
(-)	69307	68942	68576	68211	67846	67481	67115	66750	66385	66020
MAY	45743	46108	46474	46839	47204	47569	47935	48300	48665	49030
(-)	69277	68912	68546	68181	67816	67451	67085	66720	66355	65990
JUN	45774	46139	46505	46870	47235	47600	47966	48331	48696	49061
(-)	69246	68881	68515	68150	67785	67420	67054	66689	66324	65959
JUL	45804	46169	46535	46900	47265	47630	47996	48361	48726	49091
(-)	69216	68851	68485	68120	67755	67390	67024	66659	66294	65929
AUG	45835	46200	46566	46931	47296	47661	48027	48392	48757	49122
(-)	69185	68820	68454	68089	67724	67359	66993	66628	66263	65898
SEP	45866	46231	46597	46962	47327	47692	48058	48423	48788	49153
(-)	69154	68789	68423	68058	67693	67328	66962	66597	66232	65867
OCT	45896	46261	46627	46992	47357	47722	48088	48453	48818	49183
(-)	69124	68759	68393	68028	67663	67298	66932	66567	66202	65837
NOV	45927	46292	46658	47023	47388	47753	48119	48484	48849	49214
(-)	69093	68728	68362	67997	67632	67267	66901	66536	66171	65806
DEC	45957	46322	46688	47053	47418	47783	48149	48514	48879	49244
(-)	69063	68698	68332	67967	67602	67237	66871	66506	66141	65776

1720 - 1729

JD = 23XXXXX.5

	1720	1721	1722	1723	1724	1725	1726	1727	1728	1729
JAN	49275	49641	50006	50371	50736	51102	51467	51832	52197	52563
(-)	65745	65379	65014	64649	64284	63918	63553	63188	62823	62457
FEB	49306	49672	50037	50402	50767	51133	51498	51863	52228	52594
(-)	65714	65348	64983	64618	64253	63887	63522	63157	62792	62426
MAR	49335	49700	50065	50430	50796	51161	51526	51891	52257	52622
(-)	65685	65320	64955	64590	64224	63859	63494	63129	62763	62398
APR	49366	49731	50096	50461	50827	51192	51557	51922	52288	52653
(-)	65654	65289	64924	64559	64193	63828	63463	63098	62732	62367
MAY	49396	49761	50126	50491	50857	51222	51587	51952	52318	52683
(-)	65624	65259	64894	64529	64163	63798	63433	63068	62702	62337
JUN	49427	49792	50157	50522	50888	51253	51618	51983	52349	52714
(-)	65593	65228	64863	64498	64132	63767	63402	63037	62671	62306
JUL	49457	49822	50187	50552	50918	51283	51648	52013	52379	52744
(-)	65563	65198	64833	64468	64102	63737	63372	63007	62641	62276
AUG	49488	49853	50218	50583	50949	51314	51679	52044	52410	52775
(-)	65532	65167	64802	64437	64071	63706	63341	62976	62610	62245
SEP	49519	49884	50249	50614	50980	51345	51710	52075	52441	52806
(-)	65501	65136	64771	64406	64040	63675	63310	62945	62579	62214
OCT	49549	49914	50279	50644	51010	51375	51740	52105	52471	52836
(-)	65471	65106	64741	64376	64010	63645	63280	62915	62549	62184
NOV	49580	49945	50310	50675	51041	51406	51771	52136	52502	52867
(-)	65440	65075	64710	64345	63979	63614	63249	62884	62518	62153
DEC	49610	49975	50340	50705	51071	51436	51801	52166	52532	52897
(-)	65410	65045	64680	64315	63949	63584	63219	62854	62488	62123

JD = 23XXXXX.5

	1730	1731	1732	1733	1734	1735	1736	1737	1738	1739
JAN	52928	53293	53658	54024	54389	54754	55119	55485	55850	56215
(-)	62092	61727	61362	60996	60631	60266	59901	59535	59170	58805
FEB	52959	53324	53689	54055	54420	54785	55150	55516	55881	56246
(-)	62061	61696	61331	60965	60600	60235	59870	59504	59139	58774
MAR	52987	53352	53718	54083	54448	54813	55179	55544	55909	56274
(-)	62033	61668	61302	60937	60572	60207	59841	59476	59111	58746
APR	53018	53383	53749	54114	54479	54844	55210	55575	55940	56305
(-)	62002	61637	61271	60906	60541	60176	59810	59445	59080	58715
MAY	53048	53413	53779	54144	54509	54874	55240	55605	55970	56335
(-)	61972	61607	61241	60876	60511	60146	59780	59415	59050	58685
JUN	53079	53444	53810	54175	54540	54905	55271	55636	56001	56366
(-)	61941	61576	61210	60845	60480	60115	59749	59384	59019	58654
JUL	53109	53474	53840	54205	54570	54935	55301	55666	56031	56396
(-)	61911	61546	61180	60815	60450	60085	59719	59354	58989	58624
AUG	53140	53505	53871	54236	54601	54966	55332	55697	56062	56427
(-)	61880	61515	61149	60784	60419	60054	59688	59323	58958	58593
SEP	53171	53536	53902	54267	54632	54997	55363	55728	56093	56458
(-)	61849	61484	61118	60753	60388	60023	59657	59292	58927	58562
OCT	53201	53566	53932	54297	54662	55027	55393	55758	56123	56488
(-)	61819	61454	61088	60723	60358	59993	59627	59262	58897	58532
NOV	53232	53597	53963	54328	54693	55058	55424	55789	56154	56519
(-)	61788	61423	61057	60692	60327	59962	59596	59231	58866	58501
DEC	53262	53627	53993	54358	54723	55088	55454	55819	56184	56549
(-)	61758	61393	61027	60662	60297	59932	59566	59201	58836	58471

1740 - 1749

JD = 23XXXXX.5

	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749
JAN	56580	56946	57311	57676	58041	58407	58772	59137	59502	59868
(-)	58440	58074	57709	57344	56979	56613	56248	55883	55518	55152
FEB	56611	56977	57342	57707	58072	58438	58803	59168	59533	59899
(-)	58409	58043	57678	57313	56948	56582	56217	55852	55487	55121
MAR	56640	57005	57370	57735	58101	58466	58831	59196	59562	59927
(-)	58380	58015	57650	57285	56919	56554	56189	55824	55458	55093
APR	56671	57036	57401	57766	58132	58497	58862	59227	59593	59958
(-)	58349	57984	57619	57254	56888	56523	56158	55793	55427	55062
MAY	56701	57066	57431	57796	58162	58527	58892	59257	59623	59988
(-)	58319	57954	57589	57224	56858	56493	56128	55763	55397	55032
JUN	56732	57097	57462	57827	58193	58558	58923	59288	59654	60019
(-)	58288	57923	57558	57193	56827	56462	56097	55732	55366	55001
JUL	56762	57127	57492	57857	58223	58588	58953	59318	59684	60049
(-)	58258	57893	57528	57163	56797	56432	56067	55702	55336	54971
AUG	56793	57158	57523	57888	58254	58619	58984	59349	59715	60080
(-)	58227	57862	57497	57132	56766	56401	56036	55671	55305	54940
SEP	56824	57189	57554	57919	58285	58650	59015	59380	59746	60111
(-)	58196	57831	57466	57101	56735	56370	56005	55640	55274	54909
OCT	56854	57219	57584	57949	58315	58680	59045	59410	59776	60141
(-)	58166	57801	57436	57071	56705	56340	55975	55610	55244	54879
NOV	56885	57250	57615	57980	58346	58711	59076	59441	59807	60172
(-)	58135	57770	57405	57040	56674	56309	55944	55579	55213	54848
DEC	56915	57280	57645	58010	58376	58741	59106	59471	59837	60202
(-)	58105	57740	57375	57010	56644	56279	55914	55549	55183	54818

1750 - 1759

JD = 23XXXXX.5

	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759
JAN	60233	60598	60963	61329	61694	62059	62424	62790	63155	63520
(-)	54787	54422	54057	53691	53326	52961	52596	52230	51865	51500
FEB	60264	60629	60994	61360	61725	62090	62455	62821	63186	63551
(-)	54756	54391	54026	53660	53295	52930	52565	52199	51834	51469
MAR	60292	60657	61023	61388	61753	62118	62484	62849	63214	63579
(-)	54728	54363	53997	53632	53267	52902	52536	52171	51806	51441
APR	60323	60688	61054	61419	61784	62149	62515	62880	63245	63610
(-)	54697	54332	53966	53601	53236	52871	52505	52140	51775	51410
MAY	60353	60718	61084	61449	61814	62179	62545	62910	63275	63640
(-)	54667	54302	53936	53571	53206	52841	52475	52110	51745	51380
JUN	60384	60749	61115	61480	61845	62210	62576	62941	63306	63671
(-)	54636	54271	53905	53540	53175	52810	52444	52079	51714	51349
JUL	60414	60779	61145	61510	61875	62240	62606	62971	63336	63701
(-)	54606	54241	53875	53510	53145	52780	52414	52049	51684	51319
AUG	60445	60810	61176	61541	61906	62271	62637	63002	63367	63732
(-)	54575	54210	53844	53479	53114	52749	52383	52018	51653	51288
SEP	60476	60841	61207	61572	61937	62302	62668	63033	63398	63763
(-)	54544	54179	53813	53448	53083	52718	52352	51987	51622	51257
OCT	60506	60871	61237	61602	61967	62332	62698	63063	63428	63793
(-)	54514	54149	53783	53418	53053	52688	52322	51957	51592	51227
NOV	60537	60902	61268	61633	61998	62363	62729	63094	63459	63824
(-)	54483	54118	53752	53387	53022	52657	52291	51926	51561	51196
DEC	60567	60932	61298	61663	62028	62393	62759	63124	63489	63854
(-)	54453	54088	53722	53357	52992	52627	52261	51896	51531	51166

1760 - 1769

JD = 23XXXXX.5

	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769
JAN	63885	64251	64616	64981	65346	65712	66077	66442	66807	67173
(-)	51135	50769	50404	50039	49674	49308	48943	48578	48213	47847
FEB	63916	64282	64647	65012	65377	65743	66108	66473	66838	67204
(-)	51104	50738	50373	50008	49643	49277	48912	48547	48182	47816
MAR	63945	64310	64675	65040	65406	65771	66136	66501	66867	67232
(-)	51075	50710	50345	49980	49614	49249	48884	48519	48153	47788
APR	63976	64341	64706	65071	65437	65802	66167	66532	66898	67263
(-)	51044	50679	50314	49949	49583	49218	48853	48488	48122	47757
MAY	64006	64371	64736	65101	65467	65832	66197	66562	66928	67293
(-)	51014	50649	50284	49919	49553	49188	48823	48458	48092	47727
JUN	64037	64402	64767	65132	65498	65863	66228	66593	66959	67324
(-)	50983	50618	50253	49888	49522	49157	48792	48427	48061	47696
JUL	64067	64432	64797	65162	65528	65893	66258	66623	66989	67354
(-)	50953	50588	50223	49858	49492	49127	48762	48397	48031	47666
AUG	64098	64463	64828	65193	65559	65924	66289	66654	67020	67385
(-)	50922	50557	50192	49827	49461	49096	48731	48366	48000	47635
SEP	64129	64494	64859	65224	65590	65955	66320	66685	67051	67416
(-)	50891	50526	50161	49796	49430	49065	48700	48335	47969	47604
OCT	64159	64524	64889	65254	65620	65985	66350	66715	67081	67446
(-)	50861	50496	50131	49766	49400	49035	48670	48305	47939	47574
NOV	64190	64555	64920	65285	65651	66016	66381	66746	67112	67477
(-)	50830	50465	50100	49735	49369	49004	48639	48274	47908	47543
DEC	64220	64585	64950	65315	65681	66046	66411	66776	67142	67507
(-)	50800	50435	50070	49705	49339	48974	48609	48244	47878	47513

JD = 23XXXXX.5

	1770	1771	1772	1773	1774	1775	1776	1777	1778	1779
JAN	67538	67903	68268	68634	68999	69364	69729	70095	70460	70825
(-)	47482	47117	46752	46386	46021	45656	45291	44925	44560	44195
FEB	67569	67934	68299	68665	69030	69395	69760	70126	70491	70856
(-)	47451	47086	46721	46355	45990	45625	45260	44894	44529	44164
MAR	67597	67962	68328	68693	69058	69423	69789	70154	70519	70884
(-)	47423	47058	46692	46327	45962	45597	45231	44866	44501	44136
APR	67628	67993	68359	68724	69089	69454	69820	70185	70550	70915
(-)	47392	47027	46661	46296	45931	45566	45200	44835	44470	44105
MAY	67658	68023	68389	68754	69119	69484	69850	70215	70580	70945
(-)	47362	46997	46631	46266	45901	45536	45170	44805	44440	44075
JUN	67689	68054	68420	68785	69150	69515	69881	70246	70611	70976
(-)	47331	46966	46600	46235	45870	45505	45139	44774	44409	44044
JUL	67719	68084	68450	68815	69180	69545	69911	70276	70641	71006
(-)	47301	46936	46570	46205	45840	45475	45109	44744	44379	44014
AUG	67750	68115	68481	68846	69211	69576	69942	70307	70672	71037
(-)	47270	46905	46539	46174	45809	45444	45078	44713	44348	43983
SEP	67781	68146	68512	68877	69242	69607	69973	70338	70703	71068
(-)	47239	46874	46508	46143	45778	45413	45047	44682	44317	43952
OCT	67811	68176	68542	68907	69272	69637	70003	70368	70733	71098
(-)	47209	46844	46478	46113	45748	45383	45017	44652	44287	43922
NOV	67842	68207	68573	68938	69303	69668	70034	70399	70764	71129
(-)	47178	46813	46447	46082	45717	45352	44986	44621	44256	43891
DEC	67872	68237	68603	68968	69333	69698	70064	70429	70794	71159
(-)	47148	46783	46417	46052	45687	45322	44956	44591	44226	43861

1780 - 1789

JD = 23XXXXX.

	1780	1781	1782	1783	1784	1785	1786	1787	1788	1789
JAN	71190	71556	71921	72286	72651	73017	73382	73747	74112	74478
(-)	43830	43464	43099	42734	42369	42003	41638	41273	40908	40542
FEB	71221	71587	71952	72317	72682	73048	73413	73778	74143	74509
(-)	43799	43433	43068	42703	42338	41972	41607	41242	40877	40511
MAR	71250	71615	71980	72345	72711	73076	73441	73806	74172	74537
(-)	43770	43405	43040	42675	42309	41944	41579	41214	40848	40483
APR	71281	71646	72011	72376	72742	73107	73472	73837	74203	74568
(-)	43739	43374	43009	42644	42278	41913	41548	41183	40817	40452
MAY	71311	71676	72041	72406	72772	73137	73502	73867	74233	74598
(-)	43709	43344	42979	42614	42248	41883	41518	41153	40787	40422
JUN	71342	71707	72072	72437	72803	73168	73533	73898	74264	74629
(-)	43678	43313	42948	42583	42217	41852	41487	41122	40756	40391
JUL	71372	71737	72102	72467	72833	73198	73563	73928	74294	74659
(-)	43648	43283	42918	42553	42187	41822	41457	41092	40726	40361
AUG	71403	71768	72133	72498	72864	73229	73594	73959	74325	74690
(-)	43617	43252	42887	42522	42156	41791	41426	41061	40695	40330
SEP	71434	71799	72164	72529	72895	73260	73625	73990	74356	74721
(-)	43586	43221	42856	42491	42125	41760	41395	41030	40664	40299
OCT	71464	71829	72194	72559	72925	73290	73655	74020	74386	74751
(-)	43556	43191	42826	42461	42095	41730	41365	41000	40634	40269
NOV	71495	71860	72225	72590	72956	73321	73686	74051	74417	74782
(-)	43525	43160	42795	42430	42064	41699	41334	40969	40603	40238
DEC	71525	71890	72255	72620	72986	73351	73716	74081	74447	74812
(-)	43495	43130	42765	42400	42034	41669	41304	40939	40573	40208

1790 - 1799

JD = 23XXXXX.5

	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799
JAN	74843	75208	75573	75939	76304	76669	77034	77400	77765	78130
(-)	40177	39812	39447	39081	38716	38351	37986	37620	37255	36890
FEB	74874	75239	75604	75970	76335	76700	77065	77431	77796	78161
(-)	40146	39781	39416	39050	38685	38320	37955	37589	37224	36859
MAR	74902	75267	75633	75998	76363	76728	77094	77459	77824	78189
(-)	40118	39753	39387	39022	38657	38292	37926	37561	37196	36831
APR	74933	75298	75664	76029	76394	76759	77125	77490	77855	78220
(-)	40087	39722	39356	38991	38626	38261	37895	37530	37165	36800
MAY	74963	75328	75694	76059	76424	76789	77155	77520	77885	78250
(-)	40057	39692	39326	38961	38596	38231	37865	37500	37135	36770
JUN	74994	75359	75725	76090	76455	76820	77186	77551	77916	78281
(-)	40026	39661	39295	38930	38565	38200	37834	37469	37104	36739
JUL	75024	75389	75755	76120	76485	76850	77216	77581	77946	78311
(-)	39996	39631	39265	38900	38535	38170	37804	37439	37074	36709
AUG	75055	75420	75786	76151	76516	76881	77247	77612	77977	78342
(-)	39965	39600	39234	38869	38504	38139	37773	37408	37043	36678
SEP	75086	75451	75817	76182	76547	76912	77278	77643	78008	78373
(-)	39934	39569	39203	38838	38473	38108	37742	37377	37012	36647
OCT	75116	75481	75847	76212	76577	76942	77308	77673	78038	78403
(-)	39904	39539	39173	38808	38443	38078	37712	37347	36982	36617
NOV	75147	75512	75878	76243	76608	76973	77339	77704	78069	78434
(-)	39873	39508	39142	38777	38412	38047	37681	37316	36951	36586
DEC	75177	75542	75908	76273	76638	77003	77369	77734	78099	78464
(-)	39843	39478	39112	38747	38382	38017	37651	37286	36921	36556

1800 - 1809

JD = 23XXXXX.5

	1800	1801	1802	1803	1804	1805	1806	1807	1808	1809
JAN	78495	78860	79225	79590	79955	80321	80686	81051	81416	81782
(-)	36525	36160	35795	35430	35065	34699	34334	33969	33604	33238
FEB	78526	78891	79256	79621	79986	80352	80717	81082	81447	81813
(-)	36494	36129	35764	35399	35034	34668	34303	33938	33573	33207
MAR	78554	78919	79284	79649	80015	80380	80745	81110	81476	81841
(-)	36466	36101	35736	35371	35005	34640	34275	33910	33544	33179
APR	78585	78950	79315	79680	80046	80411	80776	81141	81507	81872
(-)	36435	36070	35705	35340	34974	34609	34244	33879	33513	33148
MAY	78615	78980	79345	79710	80076	80441	80806	81171	81537	81902
(-)	36405	36040	35675	35310	34944	34579	34214	33849	33483	33118
JUN	78646	79011	79376	79741	80107	80472	80837	81202	81568	81933
(-)	36374	36009	35644	35279	34913	34548	34183	33818	33452	33087
JUL	78676	79041	79406	79771	80137	80502	80867	81232	81598	81963
(-)	36344	35979	35614	35249	34883	34518	34153	33788	33422	33057
AUG	78707	79072	79437	79802	80168	80533	80898	81263	81629	81994
(-)	36313	35948	35583	35218	34852	34487	34122	33757	33391	33026
SEP	78738	79103	79468	79833	80199	80564	80929	81294	81660	82025
(-)	36282	35917	35552	35187	34821	34456	34091	33726	33360	32995
OCT	78768	79133	79498	79863	80229	80594	80959	81324	81690	82055
(-)	36252	35887	35522	35157	34791	34426	34061	33696	33330	32965
NOV	78799	79164	79529	79894	80260	80625	80990	81355	81721	82086
(-)	36221	35856	35491	35126	34760	34395	34030	33665	33299	32934
DEC	78829	79194	79559	79924	80290	80655	81020	81385	81751	82116
(-)	36191	35826	35461	35096	34730	34365	34000	33635	33269	32904

JD = 23XXXXX.5

	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819
JAN	82147	82512	82877	83243	83608	83973	84338	84704	85069	85434
(-)	32873	32508	32143	31777	31412	31047	30682	30316	29951	29586
FEB	82178	82543	82908	83274	83639	84004	84369	84735	85100	85465
(-)	32842	32477	32112	31746	31381	31016	30651	30285	29920	29555
MAR	82206	82571	82937	83302	83667	84032	84398	84763	85128	85493
(-)	32814	32449	32083	31718	31353	30988	30622	30257	29892	29527
APR	82237	82602	82968	83333	83698	84063	84429	84794	85159	85524
(-)	32783	32418	32052	31687	31322	30957	30591	30226	29861	29496
MAY	82267	82632	82998	83363	83728	84093	84459	84824	85189	85554
(-)	32753	32388	32022	31657	31292	30927	30561	30196	29831	29466
JUN	82298	82663	83029	83394	83759	84124	84490	84855	85220	85585
(-)	32722	32357	31991	31626	31261	30896	30530	30165	29800	29435
JUL	82328	82693	83059	83424	83789	84154	84520	84885	85250	85615
(-)	32692	32327	31961	31596	31231	30866	30500	30135	29770	29405
AUG	82359	82724	83090	83455	83820	84185	84551	84916	85281	85646
(-)	32661	32296	31930	31565	31200	30835	30469	30104	29739	29374
SEP	82390	82755	83121	83486	83851	84216	84582	84947	85312	85677
(-)	32630	32265	31899	31534	31169	30804	30438	30073	29708	29343
OCT	82420	82785	83151	83516	83881	84246	84612	84977	85342	85707
(-)	32600	32235	31869	31504	31139	30774	30408	30043	29678	29313
NOV	82451	82816	83182	83547	83912	84277	84643	85008	85373	85738
(-)	32569	32204	31838	31473	31108	30743	30377	30012	29647	29282
DEC	82481	82846	83212	83577	83942	84307	84673	85038	85403	85768
(-)	32539	32174	31808	31443	31078	30713	30347	29982	29617	29252

1820 - 1829

JD = 23XXXXX.5

	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829
JAN	85799	86165	86530	86895	87260	87626	87991	88356	88721	89087
(-)	29221	28855	28490	28125	27760	27394	27029	26664	26299	25933
FEB	85830	86196	86561	86926	87291	87657	88022	88387	88752	89118
(-)	29190	28824	28459	28094	27729	27363	26998	26633	26268	25902
MAR	85859	86224	86589	86954	87320	87685	88050	88415	88781	89146
(-)	29161	28796	28431	28066	27700	27335	26970	26605	26239	25874
APR	85890	86255	86620	86985	87351	87716	88081	88446	88812	89177
(-)	29130	28765	28400	28035	27669	27304	26939	26574	26208	25843
MAY	85920	86285	86650	87015	87381	87746	88111	88476	88842	89207
(-)	29100	28735	28370	28005	27639	27274	26909	26544	26178	25813
JUN	85951	86316	86681	87046	87412	87777	88142	88507	88873	89238
(-)	29069	28704	28339	27974	27608	27243	26878	26513	26147	25782
JUL	85981	86346	86711	87076	87442	87807	88172	88537	88903	89268
(-)	29039	28674	28309	27944	27578	27213	26848	26483	26117	25752
AUG	86012	86377	86742	87107	87473	87838	88203	88568	88934	89299
(-)	29008	28643	28278	27913	27547	27182	26817	26452	26086	25721
SEP	86043	86408	86773	87138	87504	87869	88234	88599	88965	89330
(-)	28977	28612	28247	27882	27516	27151	26786	26421	26055	25690
OCT	86073	86438	86803	87168	87534	87899	88264	88629	88995	89360
(-)	28947	28582	28217	27852	27486	27121	26756	26391	26025	25660
NOV	86104	86469	86834	87199	87565	87930	88295	88660	89026	89391
(-)	28916	28551	28186	27821	27455	27090	26725	26360	25994	25629
DEC	86134	86499	86864	87229	87595	87960	88325	88690	89056	89421
(-)	28886	28521	28156	27791	27425	27060	26695	26330	25964	25599

1830 - 1839

JD = 23XXXXX.5

	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839
JAN	89452	89817	90182	90548	90913	91278	91643	92009	92374	92739
(-)	25568	25203	24838	24472	24107	23742	23377	23011	22646	22281
FEB	89483	89848	90213	90579	90944	91309	91674	92040	92405	92770
(-)	25537	25172	24807	24441	24076	23711	23346	22980	22615	22250
MAR	89511	89876	90242	90607	90972	91337	91703	92068	92433	92798
(-)	25509	25144	24778	24413	24048	23683	23317	22952	22587	22222
APR	89542	89907	90273	90638	91003	91368	91734	92099	92464	92829
(-)	25478	25113	24747	24382	24017	23652	23286	22921	22556	22191
MAY	89572	89937	90303	90668	91033	91398	91764	92129	92494	92859
(-)	25448	25083	24717	24352	23987	23622	23256	22891	22526	22161
JUN	89603	89968	90334	90699	91064	91429	91795	92160	92525	92890
(-)	25417	25052	24686	24321	23956	23591	23225	22860	22495	22130
JUL	89633	89998	90364	90729	91094	91459	91825	92190	92555	92920
(-)	25387	25022	24656	24291	23926	23561	23195	22830	22465	22100
AUG	89664	90029	90395	90760	91125	91490	91856	92221	92586	92951
(-)	25356	24991	24625	24260	23895	23530	23164	22799	22434	22069
SEP	89695	90060	90426	90791	91156	91521	91887	92252	92617	92982
(-)	25325	24960	24594	24229	23864	23499	23133	22768	22403	22038
OCT	89725	90090	90456	90821	91186	91551	91917	92282	92647	93012
(-)	25295	24930	24564	24199	23834	23469	23103	22738	22373	22008
NOV	89756	90121	90487	90852	91217	91582	91948	92313	92678	93043
(-)	25264	24899	24533	24168	23803	23438	23072	22707	22342	21977
DEC	89786	90151	90517	90882	91247	91612	91978	92343	92708	93073
(-)	25234	24869	24503	24138	23773	23408	23042	22677	22312	21947

1840 - 1849

JD = 23XXXXX.5

	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849
JAN	93104	93470	93835	94200	94565	94931	95296	95661	96026	96392
(-)	21916	21550	21185	20820	20455	20089	19724	19359	18994	18628
FEB	93135	93501	93866	94231	94596	94962	95327	95692	96057	96423
(-)	21885	21519	21154	20789	20424	20058	19693	19328	18963	18597
MAR	93164	93529	93894	94259	94625	94990	95355	95720	96086	96451
(-)	21856	21491	21126	20761	20395	20030	19665	19300	18934	18569
APR	93195	93560	93925	94290	94656	95021	95386	95751	96117	96482
(-)	21825	21460	21095	20730	20364	19999	19634	19269	18903	18538
MAY	93225	93590	93955	94320	94686	95051	95416	95781	96147	96512
(-)	21795	21430	21065	20700	20334	19969	19604	19239	18873	18508
JUN	93256	93621	93986	94351	94717	95082	95447	95812	96178	96543
(-)	21764	21399	21034	20669	20303	19938	19573	19208	18842	18477
JUL	93286	93651	94016	94381	94747	95112	95477	95842	96208	96573
(-)	21734	21369	21004	20639	20273	19908	19543	19178	18812	18447
AUG	93317	93682	94047	94412	94778	95143	95508	95873	96239	96604
(-)	21703	21338	20973	20608	20242	19877	19512	19147	18781	18416
SEP	93348	93713	94078	94443	94809	95174	95539	95904	96270	96635
(-)	21672	21307	20942	20577	20211	19846	19481	19116	18750	18385
OCT	93378	93743	94108	94473	94839	95204	95569	95934	96300	96665
(-)	21642	21277	20912	20547	20181	19816	19451	19086	18720	18355
NOV	93409	93774	94139	94504	94870	95235	95600	95965	96331	96696
(-)	21611	21246	20881	20516	20150	19785	19420	19055	18689	18324
DEC	93439	93804	94169	94534	94900	95265	95630	95995	96361	96726
(-)	21581	21216	20851	20486	20120	19755	19390	19025	18659	18294

1850 - 1859

JD = 23XXXXX.5

	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859
JAN	96757	97122	97487	97853	98218	98583	98948	99314	99679	*00044
(-)	18263	17898	17533	17167	16802	16437	16072	15706	15341	14976
FEB	96788	97153	97518	97884	98249	98614	98979	99345	99710	*00075
(-)	18232	17867	17502	17136	16771	16406	16041	15675	15310	14945
MAR	96816	97181	97547	97912	98277	98642	99008	99373	99738	*00103
(-)	18204	17839	17473	17108	16743	16378	16012	15647	15282	14917
APR	96847	97212	97578	97943	98308	98673	99039	99404	99769	*00134
(-)	18173	17808	17442	17077	16712	16347	15981	15616	15251	14886
MAY	96877	97242	97608	97973	98338	98703	99069	99434	99799	*00164
(-)	18143	17778	17412	17047	16682	16317	15951	15586	15221	14856
JUN	96908	97273	97639	98004	98369	98734	99100	99465	99830	*00195
(-)	18112	17747	17381	17016	16651	16286	15920	15555	15190	14825
JUL	96938	97303	97669	98034	98399	98764	99130	99495	99860	*00225
(-)	18082	17717	17351	16986	16621	16256	15890	15525	15160	14795
AUG	96969	97334	97700	98065	98430	98795	99161	99526	99891	*00256
(-)	18051	17686	17320	16955	16590	16225	15859	15494	15129	14764
SEP	97000	97365	97731	98096	98461	98826	99192	99557	99922	*00287
(-)	18020	17655	17289	16924	16559	16194	15828	15463	15098	14733
OCT	97030	97395	97761	98126	98491	98856	99222	99587	99952	*00317
(-)	17990	17625	17259	16894	16529	16164	15798	15433	15068	14703
NOV	97061	97426	97792	98157	98522	98887	99253	99618	99983	*00348
(-)	17959	17594	17228	16863	16498	16133	15767	15402	15037	14672
DEC	97091	97456	97822	98187	98552	98917	99283	99648	*00013	*00378
(-)	17929	17564	17198	16833	16468	16103	15737	15372	15007	14642

1860 - 1869

JD = 24XXXXX.5

	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869
JAN	00409	00775	01140	01505	01870	02236	02601	02966	03331	03697
(-)	14611	14245	13880	13515	13150	12784	12419	12054	11689	11323
FEB	00440	00806	01171	01536	01901	02267	02632	02997	03362	03728
(-)	14580	14214	13849	13484	13119	12753	12388	12023	11658	11292
MAR	00469	00834	01199	01564	01930	02295	02660	03025	03391	03756
(-)	14551	14186	13821	13456	13090	12725	12360	11995	11629	11264
APR	00500	00865	01230	01595	01961	02326	02691	03056	03422	03787
(-)	14520	14155	13790	13425	13059	12694	12329	11964	11598	11233
MAY	00530	00895	01260	01625	01991	02356	02721	03086	03452	03817
(-)	14490	14125	13760	13395	13029	12664	12299	11934	11568	11203
JUN	00561	00926	01291	01656	02022	02387	02752	03117	03483	03848
(-)	14459	14094	13729	13364	12998	12633	12268	11903	11537	11172
JUL	00591	00956	01321	01686	02052	02417	02782	03147	03513	03878
(-)	14429	14064	13699	13334	12968	12603	12238	11873	11507	11142
AUG	00622	00987	01352	01717	02083	02448	02813	03178	03544	03909
(-)	14398	14033	13668	13303	12937	12572	12207	11842	11476	11111
SEP	00653	01018	01383	01748	02114	02479	02844	03209	03575	03940
(-)	14367	14002	13637	13272	12906	12541	12176	11811	11445	11080
OCT	00683	01048	01413	01778	02144	02509	02874	03239	03605	03970
(-)	14337	13972	13607	13242	12876	12511	12146	11781	11415	11050
NOV	00714	01079	01444	01809	02175	02540	02905	03270	03636	04001
(-)	14306	13941	13576	13211	12845	12480	12115	11750	11384	11019
DEC	00744	01109	01474	01839	02205	02570	02935	03300	03666	04031
(-)	14276	13911	13546	13181	12815	12450	12085	11720	11354	10989

1870 - 1879

JD = 24XXXXX.5

	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879
JAN	04062	04427	04792	05158	05523	05888	06253	06619	06984	07349
(-)	10958	10593	10228	09862	09497	09132	08767	08401	08036	07671
FEB	04093	04458	04823	05189	05554	05919	06284	06650	07015	07380
(-)	10927	10562	10197	09831	09466	09101	08736	08370	08005	07640
MAR	04121	04486	04852	05217	05582	05947	06313	06678	07043	07408
(-)	10899	10534	10168	09803	09438	09073	08707	08342	07977	07612
APR	04152	04517	04883	05248	05613	05978	06344	06709	07074	07439
(-)	10868	10503	10137	09772	09407	09042	08676	08311	07946	07581
MAY	04182	04547	04913	05278	05643	06008	06374	06739	07104	07469
(-)	10838	10473	10107	09742	09377	09012	08646	08281	07916	07551
JUN	04213	04578	04944	05309	05674	06039	06405	06770	07135	07500
(-)	10807	10442	10076	09711	09346	08981	08615	08250	07885	07520
JUL	04243	04608	04974	05339	05704	06069	06435	06800	07165	07530
(-)	10777	10412	10046	09681	09316	08951	08585	08220	07855	07490
AUG	04274	04639	05005	05370	05735	06100	06466	06831	07196	07561
(-)	10746	10381	10015	09650	09285	08920	08554	08189	07824	07459
SEP	04305	04670	05036	05401	05766	06131	06497	06862	07227	07592
(-)	10715	10350	09984	09619	09254	08889	08523	08158	07793	07428
OCT	04335	04700	05066	05431	05796	06161	06527	06892	07257	07622
(-)	10685	10320	09954	09589	09224	08859	08493	08128	07763	07398
NOV	04366	04731	05097	05462	05827	06192	06558	06923	07288	07653
(-)	10654	10289	09923	09558	09193	08828	08462	08097	07732	07367
DEC	04396	04761	05127	05492	05857	06222	06588	06953	07318	07683
(-)	10624	10259	09893	09528	09163	08798	08432	08067	07702	07337

1880 - 1889

JD = 24XXXXX.5

	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889
JAN	07714	08080	08445	08810	09175	09541	09906	10271	10636	11002
(-)	07306	06940	06575	06210	05845	05479	05114	04749	04384	04018
FEB	07745	08111	08476	08841	09206	09572	09937	10302	10667	11033
(-)	07275	06909	06544	06179	05814	05448	05083	04718	04353	03987
MAR	07774	08139	08504	08869	09235	09600	09965	10330	10696	11061
(-)	07246	06881	06516	06151	05785	05420	05055	04690	04324	03959
APR	07805	08170	08535	08900	09266	09631	09996	10361	10727	11092
(-)	07215	06850	06485	06120	05754	05389	05024	04659	04293	03928
MAY	07835	08200	08565	08930	09296	09661	10026	10391	10757	11122
(-)	07185	06820	06455	06090	05724	05359	04994	04629	04263	03898
JUN	07866	08231	08596	08961	09327	09692	10057	10422	10788	11153
(-)	07154	06789	06424	06059	05693	05328	04963	04598	04232	03867
JUL	07896	08261	08626	08991	09357	09722	10087	10452	10818	11183
(-)	07124	06759	06394	06029	05663	05298	04933	04568	04202	03837
AUG	07927	08292	08657	09022	09388	09753	10118	10483	10849	11214
(-)	07093	06728	06363	05998	05632	05267	04902	04537	04171	03806
SEP	07958	08323	08688	09053	09419	09784	10149	10514	10880	11245
(-)	07062	06697	06332	05967	05601	05236	04871	04506	04140	03775
OCT	07988	08353	08718	09083	09449	09814	10179	10544	10910	11275
(-)	07032	06667	06302	05937	05571	05206	04841	04476	04110	03745
NOV	08019	08384	08749	09114	09480	09845	10210	10575	10941	11306
(-)	07001	06636	06271	05906	05540	05175	04810	04445	04079	03714
DEC	08049	08414	08779	09144	09510	09875	10240	10605	10971	11336
(-)	06971	06606	06241	05876	05510	05145	04780	04415	04049	03684

1890 - 1899

JD = 24XXXXX.5

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899
JAN	11367	11732	12097	12463	12828	13193	13558	13924	14289	14654
(-)	03653	03288	02923	02557	02192	01827	01462	01096	00731	00366
FEB	11398	11763	12128	12494	12859	13224	13589	13955	14320	14685
(-)	03622	03257	02892	02526	02161	01796	01431	01065	00700	00335
MAR	11426	11791	12157	12522	12887	13252	13618	13983	14348	14713
(-)	03594	03229	02863	02498	02133	01768	01402	01037	00672	00307
APR	11457	11822	12188	12553	12918	13283	13649	14014	14379	14744
(-)	03563	03198	02832	02467	02102	01737	01371	01006	00641	00276
MAY	11487	11852	12218	12583	12948	13313	13679	14044	14409	14774
(-)	03533	03168	02802	02437	02072	01707	01341	00976	00611	00246
JUN	11518	11883	12249	12614	12979	13344	13710	14075	14440	14805
(-)	03502	03137	02771	02406	02041	01676	01310	00945	00580	00215
JUL	11548	11913	12279	12644	13009	13374	13740	14105	14470	14835
(-)	03472	03107	02741	02376	02011	01646	01280	00915	00550	00185
AUG	11579	11944	12310	12675	13040	13405	13771	14136	14501	14866
(-)	03441	03076	02710	02345	01980	01615	01249	00884	00519	00154
SEP	11610	11975	12341	12706	13071	13436	13802	14167	14532	14897
(-)	03410	03045	02679	02314	01949	01584	01218	00853	00488	00123
OCT	11640	12005	12371	12736	13101	13466	13832	14197	14562	14927
(-)	03380	03015	02649	02284	01919	01554	01188	00823	00458	00093
NOV	11671	12036	12402	12767	13132	13497	13863	14228	14593	14958
(-)	03349	02984	02618	02253	01888	01523	01157	00792	00427	00062
DEC	11701	12066	12432	12797	13162	13527	13893	14258	14623	14988
(-)	03319	02954	02588	02223	01858	01493	01127	00762	00397	00032

1900 - 1909

JD = 24XXXXX.5

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
JAN	15019 -00001	15384 00364	15749 00729	16114 01094	16479 01459	16845 01825	17210 02190	17575 02555	17940 02920	18306 03286
FEB	15050 00030	15415 00395	15780 00760	16145 01125	16510 01490	16876 01856	17241 02221	17606 02586	17971 02951	18337 03317
MAR	15078 00058	15443 00423	15808 00788	16173 01153	16539 01519	16904 01884	17269 02249	17634 02614	18000 02980	18365 03345
APR	15109 00089	15474 00454	15839 00819	16204 01184	16570 01550	16935 01915	17300 02280	17665 02645	18031 03011	18396 03376
MAY	15139 00119	15504 00484	15869 00849	16234 01214	16600 01580	16965 01945	17330 02310	17695 02675	18061 03041	18426 03406
JUN	15170 00150	15535 00515	15900 00880	16265 01245	16631 01611	16996 01976	17361 02341	17726 02706	18092 03072	18457 03437
JUL	15200 00180	15565 00545	15930 00910	16295 01275	16661 01641	17026 02006	17391 02371	17756 02736	18122 03102	18487 03467
AUG	15231 00211	15596 00576	15961 00941	16326 01306	16692 01672	17057 02037	17422 02402	17787 02767	18153 03133	18518 03498
SEP	15262 00242	15627 00607	15992 00972	16357 01337	16723 01703	17088 02068	17453 02433	17818 02798	18184 03164	18549 03529
OCT	15292 00272	15657 00637	16022 01002	16387 01367	16753 01733	17118 02098	17483 02463	17848 02828	18214 03194	18579 03559
NOV	15323 00303	15688 00668	16053 01033	16418 01398	16784 01764	17149 02129	17514 02494	17879 02859	18245 03225	18610 03590
DEC	15353 00333	15718 00698	16083 01063	16448 01428	16814 01794	17179 02159	17544 02524	17909 02889	18275 03255	18640 03620

1910 - 1919

JD = 24XXXXX.5

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
JAN	18671 03651	19036 04016	19401 04381	19767 04747	20132 05112	20497 05477	20862 05842	21228 06208	21593 06573	21958 06938
FEB	18702 03682	19067 04047	19432 04412	19798 04778	20163 05143	20528 05508	20893 05873	21259 06239	21624 06604	21989 06969
MAR	18730 03710	19095 04075	19461 04441	19826 04806	20191 05171	20556 05536	20922 05902	21287 06267	21652 06632	22017 06997
APR	18761 03741	19126 04106	19492 04472	19857 04837	20222 05202	20587 05567	20953 05933	21318 06298	21683 06663	22048 07028
MAY	18791 03771	19156 04136	19522 04502	19887 04867	20252 05232	20617 05597	20983 05963	21348 06328	21713 06693	22078 07058
JUN	18822 03802	19187 04167	19553 04533	19918 04898	20283 05263	20648 05628	21014 05994	21379 06359	21744 06724	22109 07089
JUL	18852 03832	19217 04197	19583 04563	19948 04928	20313 05293	20678 05658	21044 06024	21409 06389	21774 06754	22139 07119
AUG	18883 03863	19248 04228	19614 04594	19979 04959	20344 05324	20709 05689	21075 06055	21440 06420	21805 06785	22170 07150
SEP	18914 03894	19279 04259	19645 04625	20010 04990	20375 05355	20740 05720	21106 06086	21471 06451	21836 06816	22201 07181
OCT	18944 03924	19309 04289	19675 04655	20040 05020	20405 05385	20770 05750	21136 06116	21501 06481	21866 06846	22231 07211
NOV	18975 03955	19340 04320	19706 04686	20071 05051	20436 05416	20801 05781	21167 06147	21532 06512	21897 06877	22262 07242
DEC	19005 03985	19370 04350	19736 04716	20101 05081	20466 05446	20831 05811	21197 06177	21562 06542	21927 06907	22292 07272

1920 - 1929

JD = 24XXXXX.5

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
JAN	22323 07303	22689 07669	23054 08034	23419 08399	23784 08764	24150 09130	24515 09495	24880 09860	25245 10225	25611 10591
FEB	22354 07334	22720 07700	23085 08065	23450 08430	23815 08795	24181 09161	24546 09526	24911 09891	25276 10256	25642 10622
MAR	22383 07363	22748 07728	23113 08093	23478 08458	23844 08824	24209 09189	24574 09554	24939 09919	25305 10285	25670 10650
APR	22414 07394	22779 07759	23144 08124	23509 08489	23875 08855	24240 09220	24605 09585	24970 09950	25336 10316	25701 10681
MAY	22444 07424	22809 07789	23174 08154	23539 08519	23905 08885	24270 09250	24635 09615	25000 09980	25366 10346	25731 10711
JUN	22475 07455	22840 07820	23205 08185	23570 08550	23936 08916	24301 09281	24666 09646	25031 10011	25397 10377	25762 10742
JUL	22505 07485	22870 07850	23235 08215	23600 08580	23966 08946	24331 09311	24696 09676	25061 10041	25427 10407	25792 10772
AUG	22536 07516	22901 07881	23266 08246	23631 08611	23997 08977	24362 09342	24727 09707	25092 10072	25458 10438	25823 10803
SEP	22567 07547	22932 07912	23297 08277	23662 08642	24028 09008	24393 09373	24758 09738	25123 10103	25489 10469	25854 10834
OCT	22597 07577	22962 07942	23327 08307	23692 08672	24058 09038	24423 09403	24788 09768	25153 10133	25519 10499	25884 10864
NOV	22628 07608	22993 07973	23358 08338	23723 08703	24089 09069	24454 09434	24819 09799	25184 10164	25550 10530	25915 10895
DEC	22658 07638	23023 08003	23388 08368	23753 08733	24119 09099	24484 09464	24849 09829	25214 10194	25580 10560	25945 10925

1930 - 1939

JD = 24XXXXX.5

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
JAN	25976 10956	26341 11321	26706 11686	27072 12052	27437 12417	27802 12782	28167 13147	28533 13513	28898 13878	29263 14243
FEB	26007 10987	26372 11352	26737 11717	27103 12083	27468 12448	27833 12813	28198 13178	28564 13544	28929 13909	29294 14274
MAR	26035 11015	26400 11380	26766 11746	27131 12111	27496 12476	27861 12841	28227 13207	28592 13572	28957 13937	29322 14302
APR	26066 11046	26431 11411	26797 11777	27162 12142	27527 12507	27892 12872	28258 13238	28623 13603	28988 13968	29353 14333
MAY	26096 11076	26461 11441	26827 11807	27192 12172	27557 12537	27922 12902	28288 13268	28653 13633	29018 13998	29383 14363
JUN	26127 11107	26492 11472	26858 11838	27223 12203	27588 12568	27953 12933	28319 13299	28684 13664	29049 14029	29414 14394
JUL	26157 11137	26522 11502	26888 11868	27253 12233	27618 12598	27983 12963	28349 13329	28714 13694	29079 14059	29444 14424
AUG	26188 11168	26553 11533	26919 11899	27284 12264	27649 12629	28014 12994	28380 13360	28745 13725	29110 14090	29475 14455
SEP	26219 11199	26584 11564	26950 11930	27315 12295	27680 12660	28045 13025	28411 13391	28776 13756	29141 14121	29506 14486
OCT	26249 11229	26614 11594	26980 11960	27345 12325	27710 12690	28075 13055	28441 13421	28806 13786	29171 14151	29536 14516
NOV	26280 11260	26645 11625	27011 11991	27376 12356	27741 12721	28106 13086	28472 13452	28837 13817	29202 14182	29567 14547
DEC	26310 11290	26675 11655	27041 12021	27406 12386	27771 12751	28136 13116	28502 13482	28867 13847	29232 14212	29597 14577

1940 - 1949

JD = 24XXXXX.5

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
JAN	29628 14608	29994 14974	30359 15339	30724 15704	31089 16069	31455 16435	31820 16800	32185 17165	32550 17530	32916 17896
FEB	29659 14639	30025 15005	30390 15370	30755 15735	31120 16100	31486 16466	31851 16831	32216 17196	32581 17561	32947 17927
MAR	29688 14668	30053 15033	30418 15398	30783 15763	31149 16129	31514 16494	31879 16859	32244 17224	32610 17590	32975 17955
APR	29719 14699	30084 15064	30449 15429	30814 15794	31180 16160	31545 16525	31910 16890	32275 17255	32641 17621	33006 17986
MAY	29749 14729	30114 15094	30479 15459	30844 15824	31210 16190	31575 16555	31940 16920	32305 17285	32671 17651	33036 18016
JUN	29780 14760	30145 15125	30510 15490	30875 15855	31241 16221	31606 16586	31971 16951	32336 17316	32702 17682	33067 18047
JUL	29810 14790	30175 15155	30540 15520	30905 15885	31271 16251	31636 16616	32001 16981	32366 17346	32732 17712	33097 18077
AUG	29841 14821	30206 15186	30571 15551	30936 15916	31302 16282	31667 16647	32032 17012	32397 17377	32763 17743	33128 18108
SEP	29872 14852	30237 15217	30602 15582	30967 15947	31333 16313	31698 16678	32063 17043	32428 17408	32794 17774	33159 18139
OCT	29902 14882	30267 15247	30632 15612	30997 15977	31363 16343	31728 16708	32093 17073	32458 17438	32824 17804	33189 18169
NOV	29933 14913	30298 15278	30663 15643	31028 16008	31394 16374	31759 16739	32124 17104	32489 17469	32855 17835	33220 18200
DEC	29963 14943	30328 15308	30693 15673	31058 16038	31424 16404	31789 16769	32154 17134	32519 17499	32885 17865	33250 18230

1950 - 1959

JD = 24XXXXX.5

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
JAN	33281 18261 -3288	33646 18626 -2923	34011 18991 -2558	34377 19357 -2192	34742 19722 -1827	35107 20087 -1462	35472 20452 -1097	35838 20818 -731	36203 21183 -366	36568 21548 -1
FEB	33312 18292 -3257	33677 18657 -2892	34042 19022 -2527	34408 19388 -2161	34773 19753 -1796	35138 20118 -1431	35503 20483 -1066	35869 20849 -700	36234 21214 -335	36599 21579 30
MAR	33340 18320 -3229	33705 18685 -2864	34071 19051 -2498	34436 19416 -2133	34801 19781 -1768	35166 20146 -1403	35532 20512 -1037	35897 20877 -672	36262 21242 -307	36627 21607 58
APR	33371 18351 -3198	33736 18716 -2833	34102 19082 -2467	34467 19447 -2102	34832 19812 -1737	35197 20177 -1372	35563 20543 -1006	35928 20908 -641	36293 21273 -276	36658 21638 89
MAY	33401 18381 -3168	33766 18746 -2803	34132 19112 -2437	34497 19477 -2072	34862 19842 -1707	35227 20207 -1342	35593 20573 -976	35958 20938 -611	36323 21303 -246	36688 21668 119
JUN	33432 18412 -3137	33797 18777 -2772	34163 19143 -2406	34528 19508 -2041	34893 19873 -1676	35258 20238 -1311	35624 20604 -945	35989 20969 -580	36354 21334 -215	36719 21699 150
JUL	33462 18442 -3107	33827 18807 -2742	34193 19173 -2376	34558 19538 -2011	34923 19903 -1646	35288 20268 -1281	35654 20634 -915	36019 20999 -550	36384 21364 -185	36749 21729 180
AUG	33493 18473 -3076	33858 18838 -2711	34224 19204 -2345	34589 19569 -1980	34954 19934 -1615	35319 20299 -1250	35685 20665 -884	36050 21030 -519	36415 21395 -154	36780 21760 211
SEP	33524 18504 -3045	33889 18869 -2680	34255 19235 -2314	34620 19600 -1949	34985 19965 -1584	35350 20330 -1219	35716 20696 -853	36081 21061 -488	36446 21426 -123	36811 21791 242
OCT	33554 18534 -3015	33919 18899 -2650	34285 19265 -2284	34650 19630 -1919	35015 19995 -1554	35380 20360 -1189	35746 20726 -823	36111 21091 -458	36476 21456 -93	36841 21821 272
NOV	33585 18565 -2984	33950 18930 -2619	34316 19296 -2253	34681 19661 -1888	35046 20026 -1523	35411 20391 -1158	35777 20757 -792	36142 21122 -427	36507 21487 -62	36872 21852 303
DEC	33615 18595 -2954	33980 18960 -2589	34346 19326 -2223	34711 19691 -1858	35076 20056 -1493	35441 20421 -1128	35807 20787 -762	36172 21152 -397	36537 21517 -32	36902 21882 333

1960 - 1969

JD = 24XXXXX.5

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
JAN	36933 21913 364	37299 22279 730	37664 22644 1095	38029 23009 1460	38394 23374 1825	38760 23740 2191	39125 24105 2556	39490 24470 2921	39855 24835 3286	40221 25201 3652
FEB	36964 21944 395	37330 22310 761	37695 22675 1126	38060 23040 1491	38425 23405 1856	38791 23771 2222	39156 24136 2587	39521 24501 2952	39886 24866 3317	40252 25232 3683
MAR	36993 21973 424	37358 22338 789	37723 22703 1154	38088 23068 1519	38454 23434 1885	38819 23799 2250	39184 24164 2615	39549 24529 2980	39915 24895 3346	40280 25260 3711
APR	37024 22004 455	37389 22369 820	37754 22734 1185	38119 23099 1550	38485 23465 1916	38850 23830 2281	39215 24195 2646	39580 24560 3011	39946 24926 3377	40311 25291 3742
MAY	37054 22034 485	37419 22399 850	37784 22764 1215	38149 23129 1580	38515 23495 1946	38880 23860 2311	39245 24225 2676	39610 24590 3041	39976 24956 3407	40341 25321 3772
JUN	37085 22065 516	37450 22430 881	37815 22795 1246	38180 23160 1611	38546 23526 1977	38911 23891 2342	39276 24256 2707	39641 24621 3072	40007 24987 3438	40372 25352 3803
JUL	37115 22095 546	37480 22460 911	37845 22825 1276	38210 23190 1641	38576 23556 2007	38941 23921 2372	39306 24286 2737	39671 24651 3102	40037 25017 3468	40402 25382 3833
AUG	37146 22126 577	37511 22491 942	37876 22856 1307	38241 23221 1672	38607 23587 2038	38972 23952 2403	39337 24317 2768	39702 24682 3133	40068 25048 3499	40433 25413 3864
SEP	37177 22157 608	37542 22522 973	37907 22887 1338	38272 23252 1703	38638 23618 2069	39003 23983 2434	39368 24348 2799	39733 24713 3164	40099 25079 3530	40464 25444 3895
OCT	37207 22187 638	37572 22552 1003	37937 22917 1368	38302 23282 1733	38668 23648 2099	39033 24013 2464	39398 24378 2829	39763 24743 3194	40129 25109 3560	40494 25474 3925
NOV	37238 22218 669	37603 22583 1034	37968 22948 1399	38333 23313 1764	38699 23679 2130	39064 24044 2495	39429 24409 2860	39794 24774 3225	40160 25140 3591	40525 25505 3956
DEC	37268 22248 699	37633 22613 1064	37998 22978 1429	38363 23343 1794	38729 23709 2160	39094 24074 2525	39459 24439 2890	39824 24804 3255	40190 25170 3621	40555 25535 3986

1970 - 1979

JD = 24XXXXX.5

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
JAN	40586 25566 4017	40951 25931 4382	41316 26296 4747	41682 26662 5113	42047 27027 5478	42412 27392 5843	42777 27757 6208	43143 28123 6574	43508 28488 6939	43873 28853 7304
FEB	40617 25597 4048	40982 25962 4413	41347 26327 4778	41713 26693 5144	42078 27058 5509	42443 27423 5874	42808 27788 6239	43174 28154 6605	43539 28519 6970	43904 28884 7335
MAR	40645 25625 4076	41010 25990 4441	41376 26356 4807	41741 26721 5172	42106 27086 5537	42471 27451 5902	42837 27817 6268	43202 28182 6633	43567 28547 6998	43932 28912 7363
APR	40676 25656 4107	41041 26021 4472	41407 26387 4838	41772 26752 5203	42137 27117 5568	42502 27482 5933	42868 27848 6299	43233 28213 6664	43598 28578 7029	43963 28943 7394
MAY	40706 25686 4137	41071 26051 4502	41437 26417 4868	41802 26782 5233	42167 27147 5598	42532 27512 5963	42898 27878 6329	43263 28243 6694	43628 28608 7059	43993 28973 7424
JUN	40737 25717 4168	41102 26082 4533	41468 26448 4899	41833 26813 5264	42198 27178 5629	42563 27543 5994	42929 27909 6360	43294 28274 6725	43659 28639 7090	44024 29004 7455
JUL	40767 25747 4198	41132 26112 4563	41498 26478 4929	41863 26843 5294	42228 27208 5659	42593 27573 6024	42959 27939 6390	43324 28304 6755	43689 28669 7120	44054 29034 7485
AUG	40798 25778 4229	41163 26143 4594	41529 26509 4960	41894 26874 5325	42259 27239 5690	42624 27604 6055	42990 27970 6421	43355 28335 6786	43720 28700 7151	44085 29065 7516
SEP	40829 25809 4260	41194 26174 4625	41560 26540 4991	41925 26905 5356	42290 27270 5721	42655 27635 6086	43021 28001 6452	43386 28366 6817	43751 28731 7182	44116 29096 7547
OCT	40859 25839 4290	41224 26204 4655	41590 26570 5021	41955 26935 5386	42320 27300 5751	42685 27665 6116	43051 28031 6482	43416 28396 6847	43781 28761 7212	44146 29126 7577
NOV	40890 25870 4321	41255 26235 4686	41621 26601 5052	41986 26966 5417	42351 27331 5782	42716 27696 6147	43082 28062 6513	43447 28427 6878	43812 28792 7243	44177 29157 7608
DEC	40920 25900 4351	41285 26265 4716	41651 26631 5082	42016 26996 5447	42381 27361 5812	42746 27726 6177	43112 28092 6543	43477 28457 6908	43842 28822 7273	44207 29187 7638

1980 - 1989

JD = 24XXXXX.5

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
JAN	44238 29218 7669	44604 29584 8035	44969 29949 8400	45334 30314 8765	45699 30679 9130	46065 31045 9496	46430 31410 9861	46795 31775 10226	47160 32140 10591	47526 32506 10957
FEB	44269 29249 7700	44635 29615 8066	45000 29980 8431	45365 30345 8796	45730 30710 9161	46096 31076 9527	46461 31441 9892	46826 31806 10257	47191 32171 10622	47557 32537 10988
MAR	44298 29278 7729	44663 29643 8094	45028 30008 8459	45393 30373 8824	45759 30739 9190	46124 31104 9555	46489 31469 9920	46854 31834 10285	47220 32200 10651	47585 32565 11016
APR	44329 29309 7760	44694 29674 8125	45059 30039 8490	45424 30404 8855	45790 30770 9221	46155 31135 9586	46520 31500 9951	46885 31865 10316	47251 32231 10682	47616 32596 11047
MAY	44359 29339 7790	44724 29704 8155	45089 30069 8520	45454 30434 8885	45820 30800 9251	46185 31165 9616	46550 31530 9981	46915 31895 10346	47281 32261 10712	47646 32626 11077
JUN	44390 29370 7821	44755 29735 8186	45120 30100 8551	45485 30465 8916	45851 30831 9282	46216 31196 9647	46581 31561 10012	46946 31926 10377	47312 32292 10743	47677 32657 11108
JUL	44420 29400 7851	44785 29765 8216	45150 30130 8581	45515 30495 8946	45881 30861 9312	46246 31226 9677	46611 31591 10042	46976 31956 10407	47342 32322 10773	47707 32687 11138
AUG	44451 29431 7882	44816 29796 8247	45181 30161 8612	45546 30526 8977	45912 30892 9343	46277 31257 9708	46642 31622 10073	47007 31987 10438	47373 32353 10804	47738 32718 11169
SEP	44482 29462 7913	44847 29827 8278	45212 30192 8643	45577 30557 9008	45943 30923 9374	46308 31288 9739	46673 31653 10104	47038 32018 10469	47404 32384 10835	47769 32749 11200
OCT	44512 29492 7943	44877 29857 8308	45242 30222 8673	45607 30587 9038	45973 30953 9404	46338 31318 9769	46703 31683 10134	47068 32048 10499	47434 32414 10865	47799 32779 11230
NOV	44543 29523 7974	44908 29888 8339	45273 30253 8704	45638 30618 9069	46004 30984 9435	46369 31349 9800	46734 31714 10165	47099 32079 10530	47465 32445 10896	47830 32810 11261
DEC	44573 29553 8004	44938 29918 8369	45303 30283 8734	45668 30648 9099	46034 31014 9465	46399 31379 9830	46764 31744 10195	47129 32109 10560	47495 32475 10926	47860 32840 11291

1990 - 1999

JD = 24XXXXX.5

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
JAN	47891 32871 11322	48256 33236 11687	48621 33601 12052	48987 33967 12418	49352 34332 12783	49717 34697 13148	50082 35062 13513	50448 35428 13879	50813 35793 14244	51178 36158 14609
FEB	47922 32902 11353	48287 33267 11718	48652 33632 12083	49018 33998 12449	49383 34363 12814	49748 34728 13179	50113 35093 13544	50479 35459 13910	50844 35824 14275	51209 36189 14640
MAR	47950 32930 11381	48315 33295 11746	48681 33661 12112	49046 34026 12477	49411 34391 12842	49776 34756 13207	50142 35122 13573	50507 35487 13938	50872 35852 14303	51237 36217 14668
APR	47981 32961 11412	48346 33326 11777	48712 33692 12143	49077 34057 12508	49442 34422 12873	49807 34787 13238	50173 35153 13604	50538 35518 13969	50903 35883 14334	51268 36248 14699
MAY	48011 32991 11442	48376 33356 11807	48742 33722 12173	49107 34087 12538	49472 34452 12903	49837 34817 13268	50203 35183 13634	50568 35548 13999	50933 35913 14364	51298 36278 14729
JUN	48042 33022 11473	48407 33387 11838	48773 33753 12204	49138 34118 12569	49503 34483 12934	49868 34848 13299	50234 35214 13665	50599 35579 14030	50964 35944 14395	51329 36309 14760
JUL	48072 33052 11503	48437 33417 11868	48803 33783 12234	49168 34148 12599	49533 34513 12964	49898 34878 13329	50264 35244 13695	50629 35609 14060	50994 35974 14425	51359 36339 14790
AUG	48103 33083 11534	48468 33448 11899	48834 33814 12265	49199 34179 12630	49564 34544 12995	49929 34909 13360	50295 35275 13726	50660 35640 14091	51025 36005 14456	51390 36370 14821
SEP	48134 33114 11565	48499 33479 11930	48865 33845 12296	49230 34210 12661	49595 34575 13026	49960 34940 13391	50326 35306 13757	50691 35671 14122	51056 36036 14487	51421 36401 14852
OCT	48164 33144 11595	48529 33509 11960	48895 33875 12326	49260 34240 12691	49625 34605 13056	49990 34970 13421	50356 35336 13787	50721 35701 14152	51086 36066 14517	51451 36431 14882
NOV	48195 33175 11626	48560 33540 11991	48926 33906 12357	49291 34271 12722	49656 34636 13087	50021 35001 13452	50387 35367 13818	50752 35732 14183	51117 36097 14548	51482 36462 14913
DEC	48225 33205 11656	48590 33570 12021	48956 33936 12387	49321 34301 12752	49686 34666 13117	50051 35031 13482	50417 35397 13848	50782 35762 14213	51147 36127 14578	51512 36492 14943

