

Chronology of the Nautical Almanacs

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1682: First volume of the French almanac published in 1679 with data for 1682: "Connaissance des Temps" (variously spelled, e.g. "Connoissance des Tems"). Its relevance to celestial navigation at sea was limited until later in the 18th century. [1]

1767: The origin of the British "Nautical Almanac & Astronomical Ephemeris", the first almanac widely used by mariners at sea. It was known almost universally as "The Nautical Almanac". Note that this almanac is the ancestor of both the modern Astronomical Almanac and the modern Nautical Almanac. The first volume contained ephemeris data for the year 1767 (calculated during most of 1766 and published in January, 1767. later volumes three to four years in advance). The almanac was published by the Board of Longitude under the personal direction of Nevil Maskelyne. It was primarily for lunars. All times in apparent time. The "Tables Requisite..." were published to accompany the "Nautical Almanac & Astronomical Ephemeris" containing data which did not change from year to year. [2,3]

1771: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Campbell: Tables for...finding the latitude of a ship at sea by double altitudes [based on Douwes method]. [2]

1772: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Maskelyne: A correct and easy method of clearing the lunar distance. Appendix by Lyons and Dunthorne: Problems in navigation. [2]

1774: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Maskelyne: elements of the lunar tables. [2]

1774-1778: Following the success of the "Nautical Almanac & Astronomical Ephemeris", the French almanac "Connaissance des Temps" publishes British lunar distance tables without modification. First use of the meridian of Greenwich in France (tables give the lunar distances for 0h9m16s, 3h9m16s, etc., simply adding the longitude difference between Greenwich and Paris to the hours of the tables in the British "Nautical Almanac & Astronomical Ephemeris". Until at least 1796, French lunar distance tables and other almanac data were only published about one year in advance rendering the French almanac less relevant to long ocean voyages. [4] [3, for 1776]

1776: First issue of the German Nautical Almanac, "Nautisches Jahrbuch". From first publication, this volume was separate from the German astronomers' almanac, so, unlike the British, American, and Spanish almanacs, there was no need to spin off a separate mariners' almanac in later decades. [10]

1781: Second Edition of the "Tables Requisite..." with significant changes and revisions. [2,3]

1792: First issue of the Spanish Nautical Almanac, "Almanaque Nautico y Efemerides Astronomicas". [5]

1794: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Brinkley: Tables to improve...the method of finding the latitude [by double altitudes]. [2]

1798: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Brinkley: ditto (corrected and improved). [2]

1800-1807: French lunar distance tables again copied (in part?) from British "Nautical Almanac & Astronomical Ephemeris". [4,9]

1802: First American commercial reprints of the British "Nautical Almanac & Astronomical Ephemeris". Blunt, Garnett, Megarey, Patten re-published the Nautical Almanac through the early 1850s with occasional (apparently minor) editorial corrections and additions. Blunt's edition began in 1811 and continued at least as late as 1856.

1808: Significant improvement in the calculation of the lunar ephemeris and the lunar distance tables in the "Nautical Almanac & Astronomical Ephemeris" using Bueg's tables (possibly a year or two earlier). [3]

1818: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Brinkley: Two practical rules for reducing lunar distances. [2,3]

1822: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Brinkley: A practical method of computing the latitude. [2]

1829: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Lax: An easy method of finding the latitude and time at sea (using the altitude observations from a lunar distance observation). [2,3] The altitudes yield latitude and local time while the lunar distance itself yields Greenwich Time so the entire observation yields a complete fix. Precursor of Sumner's method.

1831: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Lax: An easy method of correcting the lunar distance (for the oblateness of the Earth). [2,3]

1833: Appendix to "Nautical Almanac & Astronomical Ephemeris" by Schumacher: [predicted geocentric] lunar distances of Venus, Mars, Jupiter, and Saturn. [2, but probably not correct 3] Appendix by Lax on correcting a lunar for oblateness of the Earth. [3]

1833: French almanac "Connaissance des Temps" begins publishing lunar distances of Venus, Mars, Jupiter, and Saturn. [4]

1834: Major revision of "Nautical Almanac & Astronomical Ephemeris". The Nautical Almanac Office of the Admiralty is now the publisher (Board of Longitude having been disbanded in 1828). All ephemerides in mean time instead of apparent time, except the noon position of the Sun which is listed both for mean time and apparent time. Planet distances and "PL difference" added to lunars tables. Substantially larger book. Many tables of interest to astronomers rather than seagoing navigators from this date. [2,3]

1855: Spanish Nautical Almanac name simplified to "Almanaque Nautico". [5]

1855: First year of "The American Ephemeris & Nautical Almanac". Publication began at Cambridge, Massachusetts in 1852 with data for 1855. Appendix by Chauvenet this year: Chauvenet's tables for correcting lunar distances. [6] American commercial editions of the British "Nautical Almanac & Astronomical Ephemeris" cease soon after.

1857: Appendix to "American Ephemeris & Nautical Almanac" by Chauvenet: Chauvenet's tables for correcting lunar distances (same as 1855). Appendix by Chauvenet: Improved method of finding the error and rate of a chronometer by equal altitudes.[2]

1858: (possibly 1855 but probably this date) Part One of the "American Ephemeris & Nautical Almanac", the nautical section, published separately as the soft-bound "Almanac for the Use of Navigators" or sometimes "Astronomical Ephemeris for the Use of Navigators" known generally as the "American Nautical Almanac" and renamed as such in 1882. Until 1916, the "American Nautical Almanac" is merely an extract of the "American Ephemeris & Nautical Almanac". [3]

1874: Appendix to "American Ephemeris & Nautical Almanac" by Coffin: Tables for finding the latitude of a place by altitudes of Polaris. [2]

1877: First edition of Brown's Nautical Almanac & Tide Tables. Included lunar distance tables for Sun-Moon lunars only. Failed to include Moon HP required to make these tables useful. (Dunraven mentioned these tables c.1907 in his navigation treatise).

1882: The title of the American "Almanac for the Use of Navigators" is changed to the "American Nautical Almanac". The content is still simply an extract of the "American Ephemeris & Nautical Almanac".

1889: Beginning of publication of the French "Ephemerides Nautiques" [possibly without this title], designed for mariners, alongside the astronomically-oriented "Connaissance des Temps". [1]

1896: First part of the British "Nautical Almanac" ("Nautical Almanac & Astronomical Ephemeris") published separately for mariners. At first its title was simply the "Nautical Almanac & Astronomical Ephemeris, Part I" (see 1914). The remainder of the "Nautical Almanac & Astronomical Ephemeris" is primarily of interest to astronomers.

1905: Lunar distance tables no longer published in the French almanac "Connaissance des Temps". [4]

1907: Lunar distance tables no longer included in the British "Nautical Almanac & Astronomical Ephemeris". An appendix explained how to calculate predicted lunar distances and clear them using a variant of Airy's method until 1919 (and through 1924 in the Abridged Nautical Almanac). [7,3]

1911: Beginning of close international cooperation among the almanac offices of the US, Britain, France, Germany, and Spain. [2]

1912: Separate publication of the Spanish "Extracto del Almanaque Nautico" for mariners. Like its counterparts in Britain and the US, the main publication, the "Almanaque Nautico", included data of interest primarily to astronomers. [5]

1912: Major re-design of the "American Ephemeris & Nautical Almanac" (not 1916 as reported elsewhere). Lunar distance tables no longer included in the "American Ephemeris & Nautical Almanac" (and the "American Nautical Almanac" extract as well). An appendix in the "American Nautical Almanac", updated annually, explained how to calculate geocentric lunar distances, if desired, until 1933 (same appendix in "American Ephemeris & Nautical Almanac" was printed up to and including the volume for 1935, also updated annually). Unlike the appendix in the British almanacs, this appendix offered no advice on clearing a distance. [3]

1914: Mariners' extract of British "Nautical Almanac & Astronomical Ephemeris" renamed "The Nautical Almanac Abridged for the Use of Seamen" and known generally as the 'Abridged Nautical Almanac' (this was the title on the book's spine).

1916: From this date, following the earlier revision of the "American Ephemeris & Nautical Almanac" in 1912, the "American Nautical Almanac" is no longer simply an extract from the "American Ephemeris & Nautical Almanac" but a separately prepared volume. A list of 55 numbered navigational stars, the "selected stars", appears for the first time and is maintained with little modification until 1950. The star numbers are not considered permanent and stars shift on the list due to additions and also precession.

1920: (or 1924? definitely before 1926 [3]) Lunar distances dropped from the German nautical almanac "Nautisches Jahrbuch".

1925: From January 1, 1925, the "astronomical day" is dropped from the American and British almanacs (apparently the French made this switch about 1918). Days in the almanacs are now civil days. Appendix on calculating and reducing lunar distances finally deleted from the "Abridged Nautical Almanac". [,3]

1929: Major revision of the British "Abridged Nautical Almanac" (the mariners' almanac).

1931: Major revision of the British "Nautical Almanac & Astronomical Ephemeris" (the astronomers' almanac). For this year there is a large explanatory section detailing the astronomical calculations, similar in many ways to the later 'Explanatory Supplement'. [2,3]

1932: GHA tables for the Moon included in "American Nautical Almanac".

1934: Significant revision of the "American Nautical Almanac". GHA now included in parallel with RA for all objects (not just the Moon as in previous two years). This change followed the experimental publication of the "Air Almanac" with extensive GHA tables a year earlier. The appendix on calculating lunar distances is no longer included.

1936: Revision of the "American Ephemeris & Nautical Almanac". Appendix on calculating geocentric lunar distances is finally dropped (two years after "American Nautical Almanac").

1941: Beginning of regular publication of US "Air Almanac". Other countries began publishing almanacs for use by aviators in the late 1930s.

1937: For this year only, there is a table of Moon-Sun lunar distances for every 12 hours of Greenwich Time in the "American Ephemeris & Nautical Almanac".

1950: Major revisions to the "American Nautical Almanac". The "American Nautical Almanac" now resembles the modern almanac in tabular format and other features (cardboard orange cover, previous year had tan paper cover). A list of 57 numbered navigational stars is included on the daily pages (the names are tabulated on the inside cover but only the numbers are displayed in the daily pages). The two new navigational stars added to the former list of 55 are El Nath and Alkaid. [6,3]

1951: The Spanish almanac "extracto" becomes the "Almanaque Nautico para uso de los navegantes". [5]

1952: The British "Nautical Almanac Abridged for the Use of Seamen" ("Abridged Nautical Almanac") was revised and formally renamed "The Abridged Nautical Almanac", the name by which it had been known colloquially for decades. The "Abridged Nautical Almanac" now tabulates GHA instead of Right Ascension, a change which had been made some eighteen years earlier in the "American Nautical Almanac". [7,3]

1953: The list of 57 navigational stars in the "American Nautical Almanac" and the "Abridged Nautical Almanac" (the list of "selected stars") reaches its final modern form. The earlier list included a half-dozen different stars. Polaris and Dschubba, for example, previously on the "American Nautical Almanac" list are replaced by Menkar and Zubenelgenubi. A few other star names have been added to replace stars previously given by Bayer designations only (Epsilon Argus becomes Avior). And a small number of star names have been changed to match British preferred usage (Deneb Kaitos becomes Diphda). The star numbers are now considered permanent and will not be renumbered as precession changes their order by right ascension. [8,9,3]

1958: "The Abridged Nautical Almanac" is unified with "The American Nautical Almanac". Content is identical starting with the volume for 1958 though the titles are distinct for two more years. The style, layout, and content of the almanacs are essentially unchanged from 1958 onward. The majority of the features of the new unified almanac are derived from the American almanac. The British almanac continues with different bindings and covers and also includes advertisements.

1960: The title of the jointly published American and British nautical almanacs is changed to "The Nautical Almanac" (joint publication of identical content beginning with the volume for the year 1958, first volume with the common title for 1960). "Abridged Nautical Almanac" + "American Nautical Almanac" --> "Nautical Almanac". Meanwhile, on the astronomical side of the fence, the British "Nautical Almanac & Astronomical Ephemeris" is at last renamed "The Astronomical Ephemeris" which is now identical in content to the "American Ephemeris & Nautical Almanac". [6,7,3]

1961: The Spanish "Almanaque Nautico" which had evolved into a publication primarily used by astronomers was renamed the "Efemerides Astronomicas" paralleling changes in the American and British publications. A year later, the Spanish "Almanaque Nautico para uso de los navegantes" recovers the more sensible and shorter name "Almanaque Nautico" paralleling the American/British "Nautical Almanac". [5]

1967: Bicentennial edition of "The Nautical Almanac". The British printing, but not the otherwise identical American printing, included a brief history of the almanac, extracted later in "Man Is Not Lost". [7,3]

1981: The titles of the "American Ephemeris & Nautical Almanac" and the British "Astronomical Ephemeris", already identical in content, are changed to "The Astronomical Almanac". [6,3]

1983: "The Nautical Almanac: Yachtsman's Edition" is licensed for sale by independent publishers: Paradise Cay Yacht Sales (at least from this year, possibly earlier). Identical in primary content to the "Nautical Almanac" but with occasional brief articles and additional tables and sight reduction forms. Like the official British printing of the Nautical Almanac (and unlike the American printing), this privately published edition has a blue paperback binding and includes advertisements. [3]

1989: Sight reduction tables and calculator-oriented computation algorithms added to "The Nautical Almanac". [6,3]

1993: "The Nautical Almanac: Yachtsman's Edition" is renamed "The Nautical Almanac: Commercial Edition", licensed for sale by Paradise Cay Publications.

2004: A minor revision, irrelevant to practical navigation, is made to the refraction tables of the Nautical Almanac which had been fixed and unchanging for nearly fifty years. [3]

SOURCES:

[1] <http://www.bureau-des-longitudes.fr/publications.html>.

[2] The Explanatory Supplement.

[3] Confirmed by me, Frank Reed, by direct inspection.

[4] Marguet, "Histoire Generale de la Navigation", 1931.

[5] <http://www.roa.es/Efemerides/evolucion.html>

[6] <http://aa.usno.navy.mil/publications/docs/NewAsAHistory.htm>

[7] "Man Is Not Lost" by D.H. Sadler.

[8] Hydrographic Office, "American Practical Navigator" (Bowditch), 1962.

[9] Confirmed by Herbert Prinz by direct inspection.

[10] Simon Newcomb, "Side-lights of Astronomy" 1879.