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BUREAU OF STANDARDS

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# STANDARD TIME THROUGHOUT THE WORLD

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# STANDARD TIME THROUGHOUT THE WORLD

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## ABSTRACT

This paper gives a brief historical sketch of the development of the standard time system, a map showing the time zone boundaries in the United States, and a list of the official stations sending out radio time signals. Time in nearly every foreign country is also given, compared with both Greenwich mean time and with noon, eastern standard time.

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## I. INTRODUCTION

The increasing demand for information regarding time in various cities and countries of the world, especially since the development of radio broadcasting, has led to the compilation of the information recorded in this paper.

The data have been collected from various sources, and while the results given are believed to be correct at the time they were obtained, the rapid progress being made in world communication may necessitate frequent revision.

Some foreign countries and several States and cities of this country have adopted "summer" or "daylight saving" time for use during the summer months. This time is usually one hour faster than standard time. The subject is given no specific consideration in this circular.

## II. HISTORICAL SKETCH

From the earliest civilization man has reckoned time by the apparent motion of the heavenly bodies. The rotation of the earth on its axis from west to east causes these bodies to "rise" in the east and "set" in the west. Consequently points to the east of us have sunrise before we do, or as we say, their time is faster than ours;

while points to the west have time that is slower than ours. This rotation of the earth about its axis once in 24 hours gives a time change of one hour for every 15 degrees of longitude. That is, if observations were made on the transit of the sun across the meridian at points separated by 15 degrees of longitude, it would be found that the time of transit at two such points would differ by one hour. If the separation of the points of observation were decreased, the difference in time would be decreased in the same proportion. These times would all be true local times, using the transit of the sun across the meridian as a standard.

Since the distance around the earth is less at points not on the Equator than at the Equator the distance on the earth's surface corresponding to a time difference is also less in the same proportion. For example, at the Equator 15 degrees corresponds to about 1,040 miles, while at the latitude of New York 15 degrees corresponds to only about 784 miles. Or, at the Equator a difference of about 17 miles makes a time difference of one minute, while in the latitude of New York a difference of only 13 miles makes a difference of one minute in true local time.

The need of a uniform time began to be felt in the United States about 1870, and the railroads gradually adopted a system for use on their roads specifying definite important centers or junction points at which changes of one hour should be made. As means of communication still further developed, it became apparent that some system of international time must be established.

In 1884 an international congress was called in Washington to consider the subject of a world standard of time. The world was divided into zones, each covering 15 degrees of longitude, the time for each zone being that of the meridian passing through its approximate center and the time in adjacent zones differing by one hour. The meridian passing through the observatory at Greenwich, England, was chosen as the zero meridian from which all time should be reckoned. Although there was no definite agreement as to the adoption of this time by the different nations, the plan was gradually accepted.

In 1886 Japan made the time of the one hundred and thirty-fifth meridian east, nine hours faster than Greenwich, its standard time. Belgium and Netherlands adopted Greenwich time in 1893, although Netherlands later reverted to Amsterdam time, which it now uses. Germany, Italy, Denmark, and Switzerland in 1893-94 each adopted central European time, which is one hour faster than Greenwich, and Bulgaria, Rumania, and Turkey established the time for those countries as two hours faster than Greenwich. The Australian States followed in 1895.

The adoption of time differing from Greenwich by an odd number of half hours soon made its appearance. This slight departure from

the original plan is of advantage in some places, since it more nearly agrees with true local time. In New Zealand the time is  $11\frac{1}{2}$  hours faster than Greenwich time, in Burma  $6\frac{1}{2}$  hours faster, while in India, excepting Calcutta, it is  $5\frac{1}{2}$  hours faster. Cape Colony formerly was  $1\frac{1}{2}$  hours faster than Greenwich, but in 1903 the legal time was made 2 hours faster than Greenwich.

Recent legislation by Brazil has divided the States of that country into time zones. Thus most of the civilized countries of the world are now using the international time system. A few still retain the time of some important city.

The United States, although using the system since 1884, did not legalize it until March 19, 1918, when Congress directed the Interstate Commerce Commission to establish limits for the various time zones in this country. Changes in these boundaries have been made from time to time, in order that the time changes may occur at such points as to result in a minimum of inconvenience. The division lines are not straight, but largely follow the railroads and pass through important cities and junction points. A map (fig. 1) has been prepared, corrected to August 31, 1924, from data furnished by the Interstate Commerce Commission.

### III. STANDARD TIME IN THE UNITED STATES

#### 1. TIME ZONES

The United States is divided into four standard time zones, each approximately 15 degrees of longitude in width. All places in each zone use, instead of their own local time, the time counted from the transit of the "mean sun"<sup>1</sup> across the meridian which passes through the approximate center of that zone.

These time zones are designated as eastern, central, mountain, and Pacific, and the time in these zones is reckoned from the seventy-fifth, ninetieth, one hundred and fifth, and one hundred and twentieth meridians west of Greenwich, respectively. The time in the various zones is slower than Greenwich time by 5, 6, 7, and 8 hours, respectively.

The question of changing from the time of one time zone to that of an adjacent zone arises in practice largely in the operation of railroads. Because of the inconvenience of changing the time by the necessary amount of one hour at every point where a railroad crosses one of these boundary lines, the more convenient practice has usually been followed of making the change at some terminal

<sup>1</sup> The interval between successive passages of the sun across the meridian is somewhat variable, and for this reason apparent solar days are unequal. Therefore, mean time has been adopted, which is kept by a fictitious or "mean sun" moving uniformly in the Equator at the same average speed as that of the real sun, thus making days of equal length. It is "mean noon" when this "mean sun" crosses the meridian.

or division point on the road, at some junction point, or at the boundary line between the United States and Canada. The result is that practically the boundaries of the time zones are defined by the lines connecting these points of railroad time change. Because of the location of these railroad junctions or terminals the resulting lines are rather irregular.

Figure 1 shows the time zones and boundary lines as defined and corrected to August 31, 1924, by the Interstate Commerce Commission.

## 2. CITIES ON TIME ZONE BOUNDARIES

There are listed below some of the more important cities on the boundaries of the time zones.

(a) The following municipalities located on the boundary between the eastern and the central time zones use eastern standard time:

Detroit, Mich.	Asheville, N. C.	Thomasville, Ga.
Toledo, Ohio, and all other cities in Ohio situated on this boundary.	Franklin, N. C. McDonough, Ga. Macon, Ga., and points on Southern Railway between McDonough and Macon.	Apalachicola, Fla.
Williamson, W. Va.		
Dungannon, Va.		
Bristol, Va.	Perry, Ga.	

All other places on this boundary use central standard time.

(b) The following municipalities located on the boundary between the central and the mountain time zones use central standard time:

Portal, N. Dak.	Mackenzie, S. Dak.	Ellis, Kans.
Flaxton, N. Dak.	Phillipsburg, Kans.	Liberal, Kans.
Minot, N. Dak.	Stockton, Kans.	
Murdo, S. Dak.	Plainville, Kans.	

All other places on this boundary use mountain standard time.

(c) All municipalities on the boundary between the mountain and the Pacific time zones use mountain standard time except Huntington, Oreg., which uses Pacific standard time.

## 3. TERRITORIES AND INSULAR POSSESSIONS

Standard time is also used in the territories outside of the continental United States. The places and the time used are given below:

Alaska.....	10 hours slower than Greenwich.
Guam.....	9½ hours faster than Greenwich.
Hawaii.....	10½ hours slower than Greenwich.
Panama.....	5 hours slower than Greenwich.
Philippines.....	8 hours faster than Greenwich.
Porto Rico.....	4 hours slower than Greenwich.

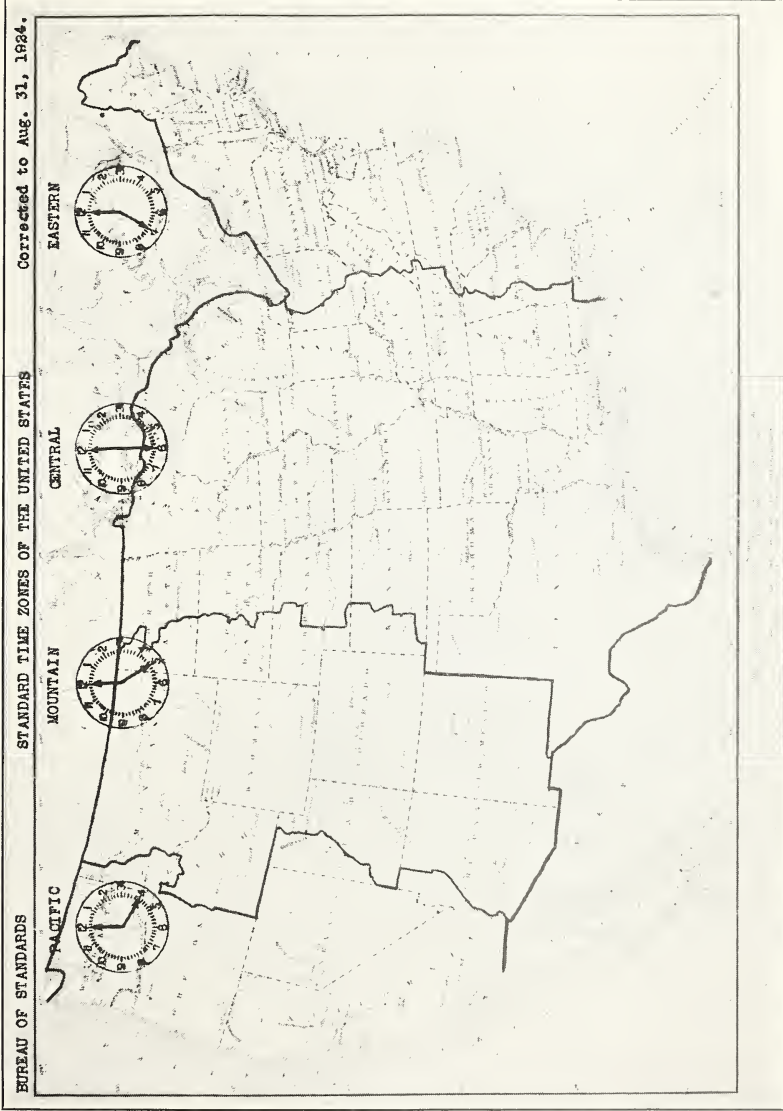


Fig. 1.—Standard time zones of the United States





## 4. TIME IN SEVERAL LARGE CITIES OF THE UNITED STATES AT 12 NOON, EASTERN STANDARD TIME

Atlanta, Ga.....	11. 00 a. m.	Milwaukee, Wis.....	11. 00 a. m.
Baltimore, Md.....	12. 00 noon	Minneapolis, Minn.....	11. 00 a. m.
Birmingham, Ala.....	11. 00 a. m.	Newark, N. J.....	12. 00 noon
Boston, Mass.....	12. 00 noon	New Haven, Conn.....	12. 00 noon
Charleston, S. C.....	12. 00 noon	New Orleans, La.....	11. 00 a. m.
Chicago, Ill.....	11. 00 a. m.	New York, N. Y.....	12. 00 noon
Cincinnati, Ohio.....	11. 00 a. m.	Norfolk, Va.....	12. 00 noon
Cleveland, Ohio.....	12. 00 noon	Omaha, Nebr.....	11. 00 a. m.
Columbus, Ohio.....	12. 00 noon	Philadelphia, Pa.....	12. 00 noon
Dallas, Tex.....	11. 00 a. m.	Pittsburgh, Pa.....	12. 00 noon
Denver, Colo.....	10. 00 a. m.	Portland, Oreg.....	9. 00 a. m.
Des Moines, Iowa.....	11. 00 a. m.	Providence, R. I.....	12. 00 noon
Detroit, Mich.....	12. 00 noon	Richmond, Va.....	12. 00 noon
Hartford, Conn.....	12. 00 noon	Rochester, N. Y.....	12. 00 noon
Houston, Tex.....	11. 00 a. m.	Salt Lake City, Utah.....	10. 00 a. m.
Indianapolis, Ind.....	11. 00 a. m.	San Francisco, Calif.....	9. 00 a. m.
Kansas City, Mo.....	11. 00 a. m.	Seattle, Wash.....	9. 00 a. m.
Los Angeles, Calif.....	9. 00 a. m.	St. Louis, Mo.....	11. 00 a. m.
Louisville, Ky.....	11. 00 a. m.	St. Paul, Minn.....	11. 00 a. m.
Memphis, Tenn.....	11. 00 a. m.	Washington, D. C.....	12. 00 noon

## IV. TIME SIGNALS IN UNITED STATES

The best generally available source of accurate time is the time signal as transmitted by telegraph from the United States Naval Observatory and retransmitted by radio from Arlington, Va., and certain other stations as listed in Table 1. All naval time signals are made in a standard manner, which is as follows: The signal begins 5 minutes before the hour to be marked and consists of a dot for each second. The dot for the twenty-ninth second of each minute is omitted, and also for the last 5 seconds of the first 4 minutes. The last 10 seconds of the fifth minute are omitted, this silence being followed by a 1-second dash, the beginning of which marks the hour. In several cities time balls are dropped automatically by this long contact of the last signal.

These time signals, if received directly and automatically, are seldom in error by as much as 0.20 second. The average error is generally less than 0.03 second.

Of the stations listed, the first two automatically transmit the signal as received from the Naval Observatory at Washington, with errors averaging only 0.05 to 0.07 second. Most of the other stations are not automatically reradiative, and the error is somewhat larger. The signal, however, is sufficiently exact for commercial use.

TABLE 1.—Radio transmission of time signals (as of Jan. 2, 1925)

Station	Call letters	Frequency	Wave length	When sent
		<i>Kilo-cycles</i>	<i>Meters</i>	
Annapolis, Md.....	NSS	17.5	17,130	Daily at 11.55 a. m. to noon and 9.55 to 10 p. m., eastern standard time.
Arlington, Va.....	NAA	113	2,653	Do.
Astoria (North Head), <sup>1</sup> Wash.	NPE	110	2,726	Daily at 11.55 a. m to noon, Pacific standard time.
Balboa (Darien), <sup>1</sup> Panama...	NBA	45	6,663	Daily at 3.55 to 4 a. m. and 11.55 a. m. to noon, central standard time.
Cavite, P. I.....	NPO	57 111	5,260 2,701	Daily at 10.55 to 11 a. m. and 9.55 to 10 p. m. 120th meridian east time (Philippine standard time).
Colon, Panama.....	NAX	165	1,817	Daily at 3.55 to 4 a. m. and 11.55 a. m. to noon, central standard time.
Eureka, Calif.....	NPW	95	3,156	Daily at 11.55 a. m. to noon, Pacific standard time.
Great Lakes, Ill.....	NAJ	64.0 151	4,685 1,986	Daily, except Sundays and holidays, at 11.55 a. m. to noon, eastern standard time.
Key West, Fla.....	NAR	205	1,463	Daily at 11.55 a. m. to noon, eastern standard time.
Pearl Harbor (Wallupe), <sup>1</sup> T. H.	NPM	26.1 133	11,490 2,254	Daily at 11.55 to noon, 180th meridian time.
San Diego (Challas Heights), <sup>1</sup> Calif.	NPL	30.6 195	9,798 1,538	Daily, except Sundays and holidays, at 11.55 a. m. to noon, Pacific standard time.
San Francisco (Mare Island), <sup>1</sup> Calif.	NPH	62 225	4,836 1,333	Daily at 11.55 a. m. to noon and 9.55 to 10 p. m., Pacific standard time.

<sup>1</sup> Name of radio station.

## V. TIME IN FOREIGN COUNTRIES

Below is given a list showing the time of practically every country of the world as correctly as possible from available information.

TABLE 2.—Time for foreign countries compared with Greenwich mean time and Washington, D. C. (noon)

Country	Corrected to Greenwich (in hours and minutes)	Noon at Washington, D. C.	Standard meridian	Remarks
Abyssinia.....				Local time.
Aden.....	3.00 fast	8.00 p. m.	45° E.	
Afghanistan.....				Do.
Aland Islands.....				Do.
Albania.....	2.00 fast	7.00 p. m.	30° E.	Eastern European time.
Aleutian Islands.....	10.00 slow	7.00 a. m.	150° W.	Alaskan time.
Algeria.....	0.00	5.00 p. m.	0°	
Anglo-Egyptian Sudan.....	2.00 fast	7.00 p. m.	30° E.	
Angola.....	1.00 fast	6.00 p. m.	15° E.	
Antiqua Island.....	4.00 slow	1.00 p. m.	60° W.	
Antilles, Lesser.....	4.00 slow	1.00 p. m.	60° W.	
Arabia.....				Local time.
Argentine Republic.....	4.00 slow	1.00 p. m.	60° W.	Adopted May 1, 1918.
Armenia.....				Local time.
Ascension Island.....	0.57 slow	4.03 p. m.	14° 15' W.	
Australia:				
New South Wales.....				
Queensland.....				
Tasmania.....	10.00 fast	3.00 a. m. <sup>1</sup>	150° E.	
Victoria.....				
Northern Territory.....	9.30 fast	2.30 a. m. <sup>1</sup>	142° 30' E.	
South Australia.....				
Western Australia.....	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.	
Austria.....	1.00 fast	6.00 p. m.	15° E.	Central European time.
Azores Islands.....	2.00 slow	3.00 p. m.	15° W.	
Bahama Islands.....	5.00 slow	12 noon	75° W.	
Barbados Island.....	3.58 slow	1.02 p. m.	59° 30' W.	Bridgetown time.

<sup>1</sup> The time noted is in the morning of the following day.

TABLE 2.—Time for foreign countries compared with Greenwich mean time and Washington, D. C. (noon)—Continued

Country	Corrected to Greenwich (in hours and minutes)	Noon at Washington, D. C.	Standard meridian	Remarks			
Belgium	0.00	5.00 p. m.	0°	Western European time. Hours counted from 0 to 24.			
Belgian Congo	1.00 fast	6.00 p. m.	15° E.				
Bermuda Island	4.19 slow	12.41 p. m.	64° 45' W.	Hamilton time.			
Bismarck Archipelago	10.00 fast	3.00 a. m. <sup>1</sup>	150° E.				
Bolivia	4.33 slow	12.27 p. m.	68° 15' W.	La Paz time.			
Borneo, British	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.				
Brazil				Adopted Jan. 1, 1914.			
Fernanho Noronha	} 2.00 slow	} 3.00 p. m.	} 30° W.				
Trinidad							
Bahia							
Ceara							
Esperito Santo							
Goyaz							
Minas-Graes							
Parahyba							
Para Maranhao							
Parana				} 3.00 slow	} 2.00 p. m.	} 45° W.	
Fernambuco							
Piahy							
Rio de Janeiro							
Rio Grande do Norte							
Rio Grande do Sul							
Santa Catherina							
Sao Paulo	} 4.00 slow	} 1.00 p. m.	} 60° W.				
Amazonas							
Matto Grosso							
Acre Territory	} 5.00 slow	} 12 noon	} 75° W.				
Boliviens Territory							
British Honduras	6.00 slow	11.00 a. m.	90° W.				
Bulgaria	2.00 fast	7.00 p. m.	105° W.	Eastern European time.			
Burma	6.30 fast	11.30 p. m.	97° 30' W.				
Calcutta				Local time.			
Canada:							
Labrador (eastern)	} 4.00 slow	} 1.00 p. m.	} 60° W.	} Atlantic time.			
New Brunswick							
Nova Scotia							
Ontario (eastern)							
Prince Edward's Island							
Quebec (eastern)	} 5.00 slow	} 12 noon	} 75° W.	} Eastern time.			
Labrador (western)							
Ontario (western)							
Quebec (western)	} 6.00 slow	} 11.00 a. m.	} 90° W.	} Central time.			
Keewatin							
Manitoba							
Alberta							
Saskatchewan					} 7.00 slow	} 10.00 a. m.	} 105° W.
British Columbia							
Yukon							
Yukon	8.00 slow	9.00 a. m.	120° W.	Pacific time.			
Yukon	9.00 slow	8.00 a. m.	135° W.	Yukon time.			
Canary Islands				Local time.			
Cape Breton Island	4.00 slow	1.00 p. m.	60° W.	Atlantic time.			
Cape Colony	2.00 fast	7.00 p. m.	30° E.				
Cape Verde Islands	2.00 slow	3.00 p. m.	30° W.				
Caroline Islands:							
East group	11.00 fast	4 a. m. <sup>1</sup>	165° E.				
West group	10.00 fast	3.00 a. m. <sup>1</sup>	150° E.				
Celebes Islands				Local time.			
Ceylon	5.30 fast	10.30 p. m.	82° 30' E.	Indian time.			
Chagos Archipelago	5.00 fast	10.00 p. m.	75° E.				
Chatam Island	11.30 fast	4.30 a. m. <sup>1</sup>	172° 30' E.				
Chile	4.00 slow	1.00 p. m.	60° W.	Adopted Sept. 1, 1918.			
China:							
East Coast, except Hoi-hao and Pak-hoi.	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.				
Hoi-hao	} 7.00 fast	} 12 midnight.	} 105° E.				
Pak-hoi							
Hoi-hoi							
Chosen (Korea)	9.00 fast	2.00 a. m. <sup>1</sup>	135° E.				
Colombia	4.57 slow	12.03 p. m.	74° 15' W.	Bogota time.			
Costa Rica	6.00 slow	11.00 a. m.	90° W.	Adopted Jan. 15, 1921.			
Crete Island	2.00 fast	7.00 p. m.	30° E.				
Cuba	5.29 slow	11.31 a. m.	82° 15' W.	Habana time.			
Cyprus Island	2.00 fast	7.00 p. m.	30° E.				
Czechoslovakia	1.00 fast	6.00 p. m.	15° E.	Central European time.			
Dahomey	0.00	5.00 p. m.	0°				

<sup>1</sup> The time noted is in the morning of the following day.

TABLE 2.—Time for foreign countries compared with Greenwich mean time and Washington, D. C. (noon)—Continued

Country	Corrected to Greenwich (in hours and minutes)	Noon at Washington, D. C.	Standard meridian	Remarks
Denmark	1.00 fast	6.00 p. m.	15° E.	Central European time.
Dominican Republic	4.40 slow	12.20 p. m.	70° W.	San Dominique time.
East Africa:				
British	2.30 fast	7.30 p. m.	37° 30' E.	
French	2.00 fast	7.00 p. m.	30° E.	
Portuguese	2.00 fast	7.00 p. m.	30° E.	
Ecuador	5.14 slow	11.46 a. m.	78° 30' W.	Quito time.
Egypt	2.00 fast	7.00 p. m.	30° E.	
England	0.00	5.00 p. m.	0°	Western European time.
Equatorial Africa, French	1.00 fast	6.00 p. m.	15° E.	
Eritrea	3.00 fast	8.00 p. m.	45° E.	
Estonia				Local time.
Falkland Islands	3.51 slow	1.09 p. m.	53° 45' W.	Port Stanley time.
Faroe Islands	0.00	5.00 p. m.	0°	
Fiji Islands	11.54 fast	4.54 a. m.	178° 30' E.	Suva time.
Finland	2.00 fast	7.00 p. m.	30° E.	Eastern European time.
Formosa	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.	
France	0.00	5.00 p. m.	0°	Western European time. Adopted Mar. 9, 1911.
Georgia	2.59 fast	7.59 p. m.	44° 45' E.	Tiflis time.
Germany	1.00 fast	6.00 p. m.	15° E.	Central European time.
Gibraltar	0.00	5.00 p. m.	0°	Western European time.
Gold Coast	0.00	5.00 p. m.	0°	
Greece	2.00 fast	7.00 p. m.	30° E.	Eastern European time. Adopted July 28, 1916.
Guadeloupe Island	4.00 slow	1.00 p. m.	60° W.	
Guiana:				
British	3.45 slow	1.15 p. m.	56° 15' W.	
Dutch				Local time.
French	4.00 slow	1.00 p. m.	60° W.	
Guinea:				
French	1.00 slow	4.00 p. m.	15° W.	
Portuguese	1.00 slow	4.00 p. m.	15° W.	
Guatemala				Do.
Honduras	6.00 slow	11.00 a. m.	90° W.	
Hongkong	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.	
Hungary	1.00 fast	6.00 p. m.	15° E.	Central European time.
Iceland	1.00 slow	4.00 p. m.	15° W.	
India (except Calcutta)	5.30 fast	10.30 p. m.	82° 30' E.	Indian time.
Indo-China	7.00 fast	12 midnight.	105° E.	
Ireland	0.00	5.00 p. m.	0°	Western European time.
Italy	1.00 fast	6.00 p. m.	15° E.	Central European time.
Ivory Coast	0.00	5.00 p. m.	0°	
Jamaica	5.00 slow	12 noon	75° W.	
Japanese Empire	9.00 fast	2.00 a. m. <sup>1</sup>	135° E.	
Java	7.19 fast	12.19 a. m.	109° 45' E.	Batavia time.
Kamerun	1.00 fast	6.00 p. m.	15° E.	
Labua	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.	
Latvia				Local time.
Liberia	1.00 slow	4.00 p. m.	15° W.	
Lithuania				Do.
Luxemburg	1.00 fast	6.00 p. m.	15° E.	Central European time.
Macao, Portuguese	8.00 fast	1.00 a. m. <sup>1</sup>	120° E.	
Madagascar	3.00 fast	8.00 p. m.	45° E.	
Madeira Island	1.00 slow	4.00 p. m.	15° W.	
Malay States, Confederated	7.00 fast	12 night	105° E.	
Malta Island	1.00 fast	6.00 p. m.	15° E.	
Manchuria				Local time.
Martinique Island	4.00 slow	1.00 p. m.	60° W.	
Marianne Islands	10.00 fast	3.00 a. m. <sup>1</sup>	150° E.	
Mauretania	1.00 slow	4.00 p. m.	15° W.	
Mauritius Island	4.00 fast	9.00 p. m.	60° E.	
Mesopotamia				Do.
Mexico				Do.
Miquelon Island	4.00 slow	1.00 p. m.	60° W.	
Monaco	0.00	5.00 p. m.	0°	Western European time.
Montenegro	1.00 fast	6.00 p. m.	15° E.	Central European time.
Morocco	0.00	5.00 p. m.	0°	
Natal	2.00 fast	7.00 p. m.	30° E.	
Netherlands	0.20 fast	5.20 p. m.	5° E.	Amsterdam time.
New Caledonia	11.00 fast	4.00 a. m. <sup>1</sup>	165° E.	
Newfoundland	3.39 slow	1.21 p. m.	54° 45' W.	St. John's time.
New Guinea (Eastern)	10.00 fast	3.00 a. m. <sup>1</sup>	150° E.	

<sup>1</sup>The time noted is in the morning of the following day.

TABLE 2.—Time for foreign countries compared with Greenwich mean time and Washington, D. C. (noon)—Continued

Country	Corrected to Greenwich (in hours and minutes)	Noon at Washington, D. C.	Standard meridian	Remarks
New Guinea (Western)				Local time.
New Zealand	11.30 fast	4.30 a. m.	172° 30' E	
Nicaragua	5.45 slow	11.15 a. m.	86° 15' W	Managua time.
Nigeria	1.00 fast	6.00 p. m.	15° E	Adopted Sept. 1, 1919.
Norway	1.00 fast	6.00 p. m.	15° E	Central European time.
Oceania, French	10.00 slow	7.00 a. m.	150° W	
Orange Free State	2.00 fast	7.00 p. m.	30° E	
Palestine				Local time.
Panama				Do.
Paraguay				Do.
Persia				Do.
Peru	5.00 slow	12 noon	75° W	
Poland	2.00 fast	7.00 p. m.	30° E	Eastern European time. Adopted Sept. 16, 1919.
Portugal	0.00	5.00 p. m.	0°	Western European time. Hours counted from 0 to 24.
Portuguese India (Goa)	5.00 fast	10.00 p. m.	75° E	
Principe Island	0.00	5.00 p. m.	0°	
Reunion Island	4.00 fast	9.00 p. m.	60° E	
Rhodesia	2.00 fast	7.00 p. m.	30° E	
Rumania	2.00 fast	7.00 p. m.	30° E	Eastern European time.
Russia (European)	2.01 fast	7.01 p. m.	30° 15' E	Poulkova time.
Salvador	5.57 slow	11.03 a. m.	89° 15' W	San Salvador time.
Somalland:				Local time.
British				
French	3.00 fast	8.00 p. m.	45° E	
Italian	3.00 fast	8.00 p. m.	45° E	
San Marino	1.00 fast	6.00 p. m.	15° E	Central European time.
Scotland	0.00	5.00 p. m.	0°	Western European time.
Senegal	1.00 slow	4.00 p. m.	15° W	
Serbia	1.00 fast	6.00 p. m.	15° E	Central European time.
Serbs, Croats, and Slovenes, Kingdom of	1.00 fast	6.00 p. m.	15° E	Do.
Seychelles Islands	4.00 fast	9.00 p. m.	60° E	
Siam	7.00 fast	12 midnight	105° E	Adopted Apr. 1, 1920.
Siberia				Local time.
Sicily	1.00 fast	6.00 p. m.	15° E	Central European time.
Sierra Leone	1.00 slow	4.00 p. m.	15° W	
South West Africa	1.00 fast	6.00 p. m.	15° E	
Spain	0.00	5.00 p. m.	0°	Western European time.
Straits Settlements	7.00 fast	12 midnight	105° E	
Sumatra	6.41 fast	11.41 p. m.	100° 15' E	Padang time.
Sweden	1.00 fast	6.00 p. m.	15° E	Central European time.
Switzerland	1.00 fast	6.00 p. m.	15° E	Do.
St. Thomas Island	0.00	5.00 p. m.	0°	
Timor	8.00 fast	1.00 a. m.	120° E	
Togo	0.00	5.00 p. m.	0°	
Transvaal	2.00 fast	7.00 p. m.	30° E	
Trinidad, British	4.00 slow	1.00 p. m.	60° W	
Tunis	1.00 fast	6.00 p. m.	15° E	
Turkestan				Local time.
Turkey	2.00 fast	7.00 p. m.	30° E	Eastern European time.
Uganda	2.30 fast	7.30 p. m.	37° 30' E	
Ukraine				Local time.
Union of South Africa	2.00 fast	7.00 p. m.	30° E	
Uruguay	4.00 slow	1.00 p. m.	60° W	Adopted Apr. 30, 1920.
Venezuela	4.30 slow	12.30 p. m.	67° 30' W	
Virgin Islands	4.00 slow	1.00 p. m.	60° W	
Wales	0.00	5.00 p. m.	0°	Western European time.
West Africa:				
French	0.00	5.00 p. m.	0°	
Portuguese	1.00 fast	6.00 p. m.	15° E	

<sup>1</sup> The time noted is in the morning of the following day.

NOTE.—The Hydrographic Office, of the Navy Department, publishes a map of the world (map No. 5192), which can be purchased for 20 cents from the United States Navy, Hydrographic Office, Washington, D. C. This map shows in colors the countries in the various time zones.

WASHINGTON, June 12, 1925.



