HB

176

Paul — all members present

Let's call the meeting to order open 9:35 close 11:40

Let the record reflect that it is 9:30 a.m. on Saturday April 23rd, 2005.

Present are:

Representative Elkins

Representative Ramras

Representative Gruenberg

Representative Gardner

Representative Lynn

And myself, Representative Gatto

Representative Seaton is on an excused absence

At this time I would like to remind everyone to turn off their cell phones and address questions through the chair.

Today we will hear:

✓	=+ HB 48	EXPENDITURL FOR CAPITOL CONSTRUCTION
✓	+ HB 176	ELIMINATE DAYLIGHT SAVING TIME
		and
✓	*+ HB 23	CONSTRUCTION OF LEGISLATIVE HALL

WE WILL MEET AGAIN ON TUESDAY AT 8:00 IN THE MORNING.

CLOSED PUBLIC TESTIMONY ON ALL 3

Gatto

ATTACHMENT A

15 U.S.C.S., Sec. 260-267, Standard Time

UNITED STATES CODE SERVICE
Lawyers Edition

Title 15.

Commerce and Trade

§§ 80a-1—650

SCS

§ 257b provided for the promulgation of regulations allowing reasonable variations in hampers and baskets; § 257c required approval by the Secretary of Agriculture of the manufacture's dimension specifications for hampers and baskets; § 257d set out penalties for violations and covered the guaranty given by manufacturers and sellers of hampers and baskets as to their correctness; § 257e provided for the seizure of illegal hampers and baskets, and the procedure covering their condemnation; § 257f allowed manufacture of hampers and baskets for foreign sale in conformity with foreign specifications; § 257g placed upon the United States Attorney the duty to prosecute for violations; § 257h provided for the promulgation of regulations covering examinations and tests by the Secretary of Agriculture; and § 257i authorized the Secretary of Agriculture to cooperate with other agencies.

STANDARD TIME

§ 260. Congressional declaration of policy; adoption and observance of uniform standard of time; authority of Secretary of Transportation

It is the policy of the United States to promote the adoption and observance of uniform time within the standard time zones prescribed by the Act entitled "An Act to save daylight and to provide standard time for the United States", approved March 19, 1918 (40 Stat. 450; 15 U.S.C. 261–264) [15 USCS §§ 261 et seq.], as modified by the Act entitled "An Act to transfer the Panhandle and Plains section of Texas and Oklahoma to the United States standard central time zone", approved March 4, 1921 (41 Stat. 1446; 15 U.S.C. 265) [15 USCS § 265]. To this end the Secretary of Transportation is authorized and directed to foster and promote widespread and uniform adoption and observance of the same standard of time within and throughout each such standard time zone.

(Apr. 13, 1966, P. L. 89-387, § 2, 80 Stat. 107; Jan. 12, 1983, P. L. 97-449, § 2(c) in part, 96 Stat. 2439.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Effective date of section:

This section is effective Apr. 1, 1967, as provided by Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as an Other provisions note to this section.

Amendments:

1983. Act. Jan. 12, 1983, substituted "Secretary of Transportation" for "Interstate Commerce Commission".

Short titles:

Act Apr. 13, 1966, P. L. 89-387, § 1, 80 Stat. 107, provided: "This Act may be cited as the 'Uniform Time Act of 1966'." For full classification of this Act, consult USCS Tables volumes.

Other provisions:

Effective date and application of Act Apr. 13, 1966.

Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, provided: "This Act [15 USCS §§ 260 et seq., generally; for full classification, consult USCS Tables volumes.] shall take effect on April 1, 1967; except that if any State, the District of Columbia, the Commonwealth of Puerto Rico, or any possession of the United States, or any political subdivision thereof, observed daylight saving time in the year 1966, such time shall advance the standard time otherwise applicable in such place by one hour and shall commence at 2 o'clock antemeridian on the last Sunday in April of the year 1966 and shall end at 2 o'clock antemeridian on the last Sunday in October of the year 1966.".

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS §§ 266, 267.

RESEARCH GUIDE

Federal Procedure L Ed:

Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:

74 Am Jur 2d, Time § 3.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

Law Review Articles:

Redish & Muench, Adjudication of Federal Causes of Action in State Court. 75 Mich L Rev 311.

INTERPRETIVE NOTES AND DECISIONS

Provisions of 15 USCS § 260 required observance of central standard time by owners of retail liquor establishments in opening and closing hours, where statute prescribing hours did not specify time to be used. State ex rel. Schirado v Frye (1968, ND) 157 NW2d 830, 34 ALR3d 1143.

§ 260a. Advancement of time or changeover dates

(a) Duration of period; State exemption. During the period commencing at 2 o'clock antemeridian on the last Sunday of April of each year and ending at 2 o'clock antemeridian on the last Sunday of October of each year, the standard time of each zone established by the Act of March 19, 1918 (15 U.S.C. 261–264) [15 USCS §§ 261 et seq.], as modified by the Act of March 4, 1921 (15 U.S.C. 265) [15 USCS § 265], shall be advanced one

hour and such time as so advanced shall for the purposes of such Act of March 19, 1918 [15 USCS §§ 261 et seq.], as so modified, be the standard time of such zone during such period; however, (1) any State that lies entirely within one time zone may by law exempt itself from the provisions of this subsection providing for the advancement of time, but only if that law provides that the entire State (including all political subdivisions thereof) shall observe the standard time otherwise applicable during that period, and (2) any State with parts thereof in more than one time zone may by law exempt either the entire State as provided in (1) or may exempt the entire area of the State lying within any time zone.

(b) State laws superseded. It is hereby declared that it is the express intent of Congress by this section to supersede any and all laws of the States or political subdivisions thereof insofar as they may now or hereafter provide for advances in time or changeover dates different from those specified in this section.

(c) Violations; enforcement. For any violation of the provisions of this section the Secretary of Transportation or its [his] duly authorized agent may apply to the district court of the United States for the district in which such violation occurs for the enforcement of this section; and such court shall have jurisdiction to enforce obedience thereto by writ of injunction or by other process, mandatory or otherwise, restraining against further violations of this section and enjoining obedience thereto.

(Apr. 13, 1966, P. L. 89-387, § 3, 80 Stat. 107; Mar. 30, 1972, P. L. 92-267, 86 Stat. 116; Jan. 12, 1983, P. L. 97-449, § 2(c) in part, 96 Stat. 2439.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Explanatory notes:

The bracketed word "his" is inserted in subsec. (c) as the word probably intended by Congress

Effective date of section:

This section is effective Apr. 1, 1967, as provided by Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as 15 USCS § 260 note.

Amendments:

1972. Act March 30, 1972, in subsec. (a), substituted "however, (1) any State that lies entirely within one time zone may be law exempt itself from the provisions of this subsection providing for the advancement of time, but only if that law provides that the entire State (including all political subdivisions thereof) shall observe the standard time otherwise applicable during that period," for "except that any State may by law exempt itself from the provisions of this subsection providing for the advancement of time, but only if such law provides that the entire State (including all political subdivisions thereof) shall observe the standard time otherwise applicable under such Act of March 19, 1918, as so modified during such period.", and added para. (2).

1983. Act Jan. 12, 1983, in subsec. (c), substituted "Secretary of Transportation" for "Interstate Commerce Commission".

Other provisions:

Application of section. For the application of this section as enacted by Act Apr. 13, 1966, P. L. 89-387, § 3, 80 Stat. 107, see § 6 of such Act, which appears as 15 USCS § 260 note.

Emergency daylight savings time energy conservation. Act Dec. 15, 1973, P. L. 93-182, §§ 1–7, 87 Stat. 707–709, as amended Oct. 5, 1974, P. L. 93-434, 88 Stat. 1209, enacted the Emergency Daylight Saving Time Energy Conservation Act of 1973, which extended daylight saving time. The act was effective at 2 a.m. on the fourth Sunday which occurred after Dec. 15, 1973 and terminated at 2 a.m. on the last Sunday of April 1975.

Authorizing the Secretary of Transportation to grant exemptions from Daylight Saving Time and realignments of Time Zone limits. Ex. Or. No. 11751 of Dec. 15, 1973, 38 Fed. Reg. 34725, provided:

"By virtue of the authority vested in me by section 3(b) of the Emergency Daylight Saving Time Energy Conservation Act of 1973 (Public Law 93-182) [former note to this section] (hereinafter "the Act"), section 301 of title 3 of the United States Code [3 USCS § 301], and as President of the United States, it is hereby ordered as follows:

"SECTION 1. The Secretary of Transportation (hereinafter "the Secretary") is hereby designated and empowered to exercise the authority vested in me by section 3(b) of the Act [former note to this section] to grant an exemption from section 3(a) of the Act [former note to this section] (which establishes daylight saving time as standard time), or a realignment of a time zone limit, pursuant to a proclamation of a Governor of a State finding that the exemption or realignment is necessary to avoid undue hardship or to conserve fuel in the State or a part thereof.

"SEC. 2. In deciding to grant or deny an exemption or realignment, the Secretary shall consider, among other things, the policy of the United States, as expressed in sections 2 and 4 of the Uniform Time Act of 1966 (80 Stat. 107, 108; 15 U.S.C. 260, 261) [15 USCS §§ 260, 261], to promote the adoption and observance of uniform time within the standard time zones of the United States and the convenience of commerce, as well as possible energy savings, undue hardship to large segments of the population, and the possible impact on the success of and cooperation with the national energy conservation program.

"SEC. 3. In carrying out his responsibilities under this order [this note], the Secretary shall, as he deems necessary, consult with the Department of Health, Education, and Welfare [Department of Health and Human Services], the Federal Energy Office (or any agency which hereafter may succeed to its functions), and any other interested agency and he may call upon those agencies for information and advice. Each interested department or agency shall assist the Secretary, as necessary, to carry out the provisions of this order [this note]."

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS § 261.

RESEARCH GUIDE

Federal Procedure L Ed:
Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:
74 Am Jur 2d, Time § 3.

Annotations:
Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

INTERPRETIVE NOTES AND DECISIONS

1. State exemptions
2. Changeover date
3. Authority of Secretary
4. Enforcement
5. Jurisdiction

1. State exemptions

Uniform Time Act of 1965 did not pre-empt Michigan constitutional referendum provision, as applied to proposed Michigan statute which apparently would have made Eastern Standard Time legal time throughout Michigan and which would have apparently exempted all of Michigan from Act; since referendum process of state was properly invoked, exemption statute was not effective until approved by state electorate at next general election. Kanagur v Hare (1968, WD Mich) 284 F Supp 426.

People of Michigan, by referendary power granted by their constitution, may effect or reject exemption, and power of exemption need not be exercised prior to Sunday in April which precedes intended period; state may take exemptive action covering all or any part of specified period. Michigan Farm Bureau v Hare (1967) 379 Mich 387, 151 NW2d 797.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

2. Changeover date

Uniform Time Act of 1966 does not establish only one "changeover date" for daylight saving time, so that where state statute, apparently exempting state from Act, became effective on March 24, 1967, and referendum on state statute would not occur until after last Sunday in April, 1967, Board of State Canvassers was not precluded from making any determination of time other than that specifically authorized by state statute; Act does not forestall exemptive action covering all or any portion of Sunday-to-Sunday period ahead should legislative assembly or state fail, for any reason, to act prior to first of 2 Sundays. Michigan Farm Bureau v Hare (1967) 379 Mich 387, 151 NW2d 797.

3. Authority of Secretary

Secretary of Transportation's establishment of new time boundary for Indiana, placing 13 counties in Central Time Zone and remainder of state in Eastern Time Zone, was not arbitrary, capricious or abuse of power provided by Uniform Time Act of 1956. Allied Theatre Owners, Inc. v Volpe (1970, CA7 Ind) 427 F2d 1002, cert den 400 US 941, 27 L Ed 2d 245, 91 S Ct 238.

4. Enforcement

Secretary and General Council of United States Department of Transportation were compelled to enforce Uniform Time Act of 1966, particularly with respect to daylight saving time for period of April 28, 1968, through October 31, 1968, while administrative proceeding was pending, which proceeding had been instituted in 1967 to determine whether official boundary line between eastern and central standard time zones, which ran through approximately middle of Indiana, should be adjusted to western boundary of

state, except for 12 counties, where decision was not expected until after October 31, 1968; defendants' general policy of not enforcing Act was arbitrary and capricious in that it promoted confusion among citizens of Indiana and caused irreparable harm to plaintiffs and citizens and would continue to do so unless Act was enforced, particularly daylight saving time provisions until October 31, 1968; policy of non-enforcement was unreasonable, when applied to fact known to defendants that Act would not be changed by them until late 1968, after expiration of daylight saving time provisions. Time Life Broadcast Co. v Boyd (1968, SD Ind) 289 F Supp 219.

5. Jurisdiction

In view of specific designation of Federal District Courts as proper forum for enforcement of Uniform Time Act of 1966, state courts are excluded from any jurisdiction in connection therewith. Whitmer v House (1967) 198 Kan 629, 426 P2d 100.

There being as yet no authoritative federal precedent, it became original duty of state court to interpret and apply Uniform Time Act of 1966. Michigan Farm Bureau v Hare (1967) 379 Mich 387, 151 NW2d 797.

§ 261. Zones for standard time; interstate or foreign commerce

For the purpose of establishing the standard time of the United States, the territory of the United States shall be divided into eight zones in the manner provided in this section. Except as provided in section 3(a) of the Uniform Time Act of 1966 [15 USCS § 260a(a)], the standard time of the first zone shall be based on the mean solar time of the sixtieth degree of longitude west from Greenwich; that of the second zone on the seventy-fifth degree; that of the third zone on the ninetieth degree; that of the fourth zone on the one hundred and fifth degree; that of the fifth zone on the one hundred and twentieth degree; that of the sixth zone on the one hundred and thirty-fifth degree; that of the seventh zone on the one hundred and fiftieth degree; and that of the eighth zone on the one hundred and sixty-fifth degree. The limits of each zone shall be defined by an order of the Secretary of Transportation, having regard for the convenience of commerce and the existing junction points and division points of common carriers engaged in interstate or foreign commerce, and any such order may be modified from time to time. As used in this Act, the term "interstate or foreign commerce" means commerce between a State, the District of Columbia, the Commonwealth of Puerto Rico, or any possession of the United States and any place outside thereof.

(Mar. 19, 1918, ch 24, § 1, 40 Stat. 450; Apr. 13, 1966, P. L. 89-387, § 4(a), 80 Stat. 108; Jan. 12, 1983, P. L. 97-449, § 2(c) in part, 96 Stat. 2439.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

References in text:

"This Act", referred to in this section, is Act Apr. 13, 1966, P. L. 89-387, 80 Stat. 107, which appears as 15 USCS §§ 260 et seq. For full classification of this Act, consult USCS Tables volumes.

Amendments:

1966. Act Apr. 13, 1966 (effective 4/1/67, as provided by § 6 of such Act, which appears as 15 USCS § 260 note), substituted this section for one which read: "For the purpose of establishing the standard time of

the United States, the territory of continental United States shall be divided into five zones in the manner hereinafter provided. The standard time of the first zone shall be based on the mean astronomical time of the seventy-fifth degree of longitude west from Greenwich; that of the second zone of the ninetieth degree; that of the third zone on the one hundred and fifth degree; that of the fourth zone on the one hundred and twentieth degree; and that of the fifth zone, which shall include only Alaska, on the one hundred and fiftieth degree. The limits of each zone shall be defined by an order of the Interstate Commerce Commission, having regard for the convenience of commerce and the existing junction points and division points of common carriers engaged in commerce between the several States and with foreign nations, and such order may be modified from time to time.".

1983. Act. Jan. 12, 1983, substituted "Secretary of Transportation" for "Interstate Commerce Commission".

Other provisions:

Scope of Act Mar. 19, 1918. Act Mar. 19, 1918, ch 24, § 3, 40 Stat. 451, repealed all conflicting acts and parts of acts.

Return to standard time. Act Sept. 25, 1945, ch 388, 59 Stat. 537, provided, that, notwithstanding the provisions of Act Jan. 20, 1942, ch 7, 56 Stat. 9, which provided for war time, the standard time for each zone as provided for in 15 USCS §§ 261–264 should again become effective as of Sept. 30, 1945, at 2:00 A. M.

District of Columbia; daylight-saving time. Act March 31, 1949, ch 43, 63 Stat. 29, authorized the Board of Commissioners [the Council of the District of Columbia] to establish daylight-saving time in the District of Columbia.

Application of 1966 amendment. For the application of the 1966 amendment to this section, see Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as 15 USCS § 260 note.

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS §§ 260, 260a, 262, 266, 267; 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:
Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:
74 Am Jur 2d, Time §§ 2, 3.

Annotations:
Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

INTERPRETIVE NOTES AND DECISIONS

1. Generally
2. Prohibition against local variations
3. Applicability to contracts
4. Applicability to criminal actions

1. Generally

Courts will take judicial notice of establishment and adoption of standard time and of its beneficial and necessary use in operation of railroad trains. McFarlane v Whitney (1940) 134 Tex 394, 134 SW2d 1047.

Congress enacted 15 USCS §§ 261–264 to remove confusion and in interest of interstate trade and commerce. State v Badolati (1942) 241 Wis 496, 6 NW2d 220, 143 ALR 1234.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1168.

2. Prohibition against local variations

Under state statute, city can not adopt daylight saving time while state at large remains on standard time. Louisville v Louisville Livestock Exchange (1946) 302 Ky 536, 195 SW2d 76.

State liquor commission did not have authority under state statute to establish daylight saving time in municipalities where merchants had decided to operate on time voluntarily, but where state legislature had not made legal change of time. MacDonald v Sheriff (1953) 148 Me 365, 94 A2d 555.

3. Applicability to contracts

Where contract to sell made time of essence and standard time was in use when contract was made, standard time must be used in fulfilling contract; when legislature changed to daylight saving time after contract was made, it would change condition of contract by acceleration by one hour if time of execution were to be daylight saving time. Kilpatrick v Lefkowitz (1947) 141 NJ Eq 18, 55 A2d 824.

4. Applicability to criminal actions

Where defendant, charged with violating state statute prohibiting premises licensed to sell liquor from remaining open between hours of 1 a. m. and 8 a. m., remained open until 1:55 a. m. central war time or 12:55 a. m. central standard time, judgment sustaining his plea in bar would be reversed, where Congress had enacted legislation establishing central war time for zone where state was located. State v Badolati (1942) 241 Wis 496, 6 NW2d 220, 143 ALR 1234.

§ 262. Duty to observe standard time of zones

Within the respective zones created under the authority of this Act the standard time of the zone shall insofar as practicable (as determined by the Secretary of Transportation) govern the movement of all common carriers engaged in interstate or foreign commerce. In all statutes, orders, rules, and regulations relating to the time of performance of any act by any officer or department of the United States, whether in the legislative, executive, or judicial branches of the Government, or relating to the time within which any rights shall accrue or determine, or within which any act shall or shall not be performed by any person subject to the jurisdiction of the United States, it shall be understood and intended that the time shall insofar as practicable (as determined by the Secretary of Transportation) be the United States standard time of the zone within which the act is to be performed.

(Mar. 19, 1918, ch 24, § 2, 40 Stat. 451; Apr. 13, 1966, P. L. 89-387, § 4(b), 80 Stat. 108; Jan. 12, 1983, P. L. 97-449, § 2(c) in part, 96 Stat. 2439)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

References in text:

"This Act", referred to in this section, is Act Apr. 13, 1966, P. L. 89-387, 80 Stat. 107, which appears as 15 USCS §§ 260 et seq. For full classification of this Act, consult USCS Tables volumes.

Amendments:

1966. Act Apr. 13, 1966, (effective 4/1/67, as provided by § 6 of such Act, which appears as 15 USCS § 260 note), substituted "of this Act" for "hereof", inserted "insofar as practicable (as determined by the Interstate Commerce Commission)" in two places, and substituted "interstate or foreign commerce" for "commerce between the several States or between a State and any of the Territories of the United States, or between a State or the Territory of Alaska and any of the insular possessions of the United States or any foreign country".

1983. Act. Jan. 12, 1983, substituted "Secretary of Transportation" for "Interstate Commerce Commission" in two places.

Other provisions:

Application of 1966 amendment. For the application of the 1966 amendment to this section, see Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as 15 USCS § 260 note.

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS §§ 260, 260a, 261, 266, 267; 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:

Economic Development and Stabilization, Fed Proc, L Ed, § 2.:216.

Am Jur:

74 Am Jur 2d, Time §§ 2, 3.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

INTERPRETIVE NOTES AND DECISIONS

1. Generally
2. Effect on state law

1. Generally

Provisions of 15 USCS § 262 manifest general congressional intent that zoned variations in time shall be observed in determining time when statutory rights or liabilities accrue. Sunday v Madigan (1952, CA9 Cal) 301 F2d 871.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

2. Effect on state law

Massachusetts daylight savings act was not inconsistent with 15 USCS §§ 261–264, where state statute applied to state and local governments and institutions and to persons subject to jurisdiction of state. Massachusetts State Grange v Benton (1926) 272 US 525, 71 L Ed 387, 47 S Ct 189.

Provisions of 15 USCS §§ 261–264 can not be applied to shorten time for presenting bill of exceptions under state law. Ellard v Goodall (1919) 203 Ala 476, 83 So 568.

§ 263. Designation of zone standard times

The standard time of the first zone shall be known and designated as Atlantic standard time; that of the second zone shall be known and designated as eastern standard time; that of the third zone shall be known and designated as central standard time; that of the fourth zone shall be known and designated as mountain standard time; that of the fifth zone shall be known and designated as Pacific standard time; that of the sixth zone shall be known and designated as Yukon standard time; that of the seventh zone shall be known and designated as Alaska-Hawaii standard time; and that of the eighth zone shall be known and designated as Bering standard time.

(Mar. 19, 1918, ch 24, § 4, 40 Stat. 451; Apr. 13, 1966, P. L. 89-387 § 4(c), 80 Stat. 108.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Amendments:

1966. Act Apr. 13, 1966 (effective 4/1/67, as provided by § 6 of such Act, which appears as 15 USCS § 260 note), substituted this section for one which read: "The standard time of the first zone shall be known and designated as United States standard eastern time; that of the second zone shall be known and designated as United States standard central time; that of the third zone shall be known and designated as United States standard mountain time; that of the fourth zone shall be known and designated as United States standard Pacific time; and that of the fifth zone shall be known and designated as United States standard Alaska time.".

Other provisions:

Application of 1966 amendment. For the application of the 1966 amendment to this section, see Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as 15 USCS § 260 note.

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS §§ 260, 260a, 261, 262, 266, 267; 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:
Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:
74 Am Jur 2d, Time §§ 2, 3.

Annotations:
Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 114..

INTERPRETIVE NOTES AND DECISIONS

Decree enjoining use of lighted recreation area prior to 7 a.m. and after 10 p.m. was modified so that instead of using term "Mountain Standard Time," decree should read "prevailing Mountain Time," so that when daylight saving time was in effect under Uniform Time Act of 1956, decree would be applicable to that time. Corporation of Presiding Bishop, etc. v Ashton (1968) 92 Idaho 571, 448 P2d 185.

§ 264. Part of Idaho in third zone

In the division of territory, and in the definition of the limits of each zone, as hereinbefore provided so much of the State of Idaho as lies south of the Salmon River, traversing the State from east to west near forty-five degrees thirty minutes latitude shall be embraced in the third zone: Provided, That common carriers within such portion of the State of Idaho may conduct their operations on Pacific time.

(Mar. 19, 1918, ch 24, § 3, as added Mar. 3, 1923, ch 216, 42 Stat. 1434; June 24, 1948, ch 631, § 1, 62 Stat. 646.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Amendments:
1948. Act June 24, 1948 (effective 2 o'clock antemeridian of the second Monday following 6/24/48, as provided by § 2 of such Act), inserted ": Provided, That common carriers within such portion of the State of Idaho may conduct their operations on Pacific Time.".

Other provisions:
Repeal of prior law. Act Mar. 19, 1918, ch 24, § 3, 40 Stat. 451, providing for daylight-savings, was repealed by Act Aug. 20, 1919, ch 51, 41 Stat. 280.

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS §§ 260, 260a, 261, 262, 266; 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:
Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:
74 Am Jur 2d, Time §§ 2, 3.

Annotations:
Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

§ 265. Transfer of certain territory to standard central-time zone

The Panhandle and Plains section of Texas and Oklahoma be, and the same are hereby, transferred to and placed within the United States standard central time zone.

The Secretary of Transportation is hereby authorized and directed to issue an order placing the western boundary line of the United States standard central time zone in so far as the same affect Texas and Oklahoma as follows:

Beginning at a point where such western boundary time zone line crosses the State boundary line between Kansas and Oklahoma; thence westerly along said State boundary line to the northwest corner of the State of Oklahoma; thence in a southerly direction along the west State boundary line of Oklahoma and the west State boundary line of Texas to the southeastern corner of the State of New Mexico; thence in a westerly direction along the State boundary line between the States of Texas and New Mexico to the Rio Grande River; thence down the Rio Grande River as the boundary line between the United States and Mexico: Provided, That the Chicago, Rock Island and Gulf Railway Company and the Chicago, Rock Island and Pacific Railway Company may use Tucumcari, New Mexico, as the point at which they change from central to mountain time and vice versa; the Colorado Southern and Fort Worth and Denver City Railway Companies may use Sixela, New Mexico, as such changing point; the Atchison, Topeka and Santa Fe Railway Company and other branches of the Santa Fe system may use Clovis, New Mexico, as such changing point, and those railways running into or through El Paso may use El Paso as such point: Provided further, That this Act [15 USCS § 265], shall not, except as herein provided, interfere with the adjustment of time zones as established by the Secretary of Transportation.
(Mar. 4, 1921, ch 173, § 1, 41 Stat. 1446; Jan. 12, 1983, P. L. 97-449, § 2(c) in part, 96 Stat. 2439.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Amendments:
1983. Act Jan. 12, 1983, in the second and third undesignated paras., substituted "Secretary of Transportation" for "Interstate Commerce Commission".

Other provisions:

Scope of Act Mar. 4, 1921. Act Mar. 4, 1921, ch 173, § 2, 41 Stat. 1447, repealed all conflicting laws and parts of laws.

El Paso and Hudspeth counties, Texas, in mountain zone. Act Apr. 10, 1970, P. L. 91-228, 84 Stat. 119, provided: "That notwithstanding the first section of the Act of March 4, 1921, (15 U.S.C. 265) [this section], the Secretary of Transportation may, upon the written request of the County Commissioners Court of El Paso County, Texas, change the boundary line between the central standard time zone and the mountain standard time zone, so as to place El Paso County in the mountain standard time zone, in the manner prescribed in section 1 of the Act of March 19, 1918, as amended (15 U.S.C. 261) [15 USCS § 261], and section 5 of the Act of April 13, 1966 (15 U.S.C. 266) [15 USCS § 266]. In the same manner, the Secretary of Transportation may also place Hudspeth County, Texas, in the mountain standard time zone, if the Hudspeth County Commissioners Court so requests in writing and if El Paso County is to be placed in that time zone.".

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS §§ 260, 260a, 266; 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:

Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:

74 Am Jur 2d, Time §§ 2, 3.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

§ 266. Applicability of administrative procedure provisions

The Administrative Procedure Act (5 U.S.C. 1001–1011) shall apply to all proceedings under this Act, the Act of March 19, 1918 (15 U.S.C. 261–264) [15 USCS §§ 261 et seq.] and the Act of March 4, 1921 (15 U.S.C. 265) [15 USCS § 265].

(Apr. 13, 1966, P. L. 89-387, § 5, 80 Stat. 108.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

References in text:

"The Administrative Procedure Act (5 U.S.C. 1001–1011)", referred to in this section, is Act June 11, 1946, ch 324, 60 Stat. 237, which formerly appeared as 5 USC §§ 1001 et seq. prior to the enactment of such Title 5 into positive law by Act Sept. 6, 1966, P. L. 89-554, § 1,

80 Stat. 378. Similar provisions now appear as 5 USCS §§ 551 et seq., 701 et seq.

"This Act", referred to in this section, is Act Apr. 13, 1966, P. L. 89-387, 80 Stat. 107, which appears generally as 15 USCS §§ 260 et seq. For full classification of this Act, consult USCS Tables volumes.

Effective date of section:

This section is effective Apr. 1, 1967, as provided by Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as 15 USCS § 260 note.

Other provisions:

Application of section. For the application of this section as enacted by Act Apr. 13, 1966, P. L. 89-387, § 5, 80 Stat. 108, see § 6 of such Act, which appears as 15 USCS § 260 note.

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS § 267, 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:

Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:

74 Am Jur 2d, Time § 3.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

§ 267. State defined

As used in this Act, the term "State" includes the District of Columbia, the Commonwealth of Puerto Rico, or any possession of the United States. (Apr. 13, 1966, P. L. 89-387, § 7, 80 Stat. 109.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

References in text:

"This Act", referred to in this section, is Act Apr 13, 1966, P. L. 89-387, 80 Stat. 107, which appears generally as 15 USCS §§ 260 et seq. For full classification of this Act, consult USCS Tables volumes.

Effective date of section:

This section is effective Apr. 1, 1967, as provided by Act Apr. 13, 1966, P. L. 89-387, § 6, 80 Stat. 108, which appears as 15 USCS § 260 note.

Other provisions:

Application of section. For the application of this section as enacted by Act Apr. 13, 1966, P. L. 89-387, § 7, 80 Stat. 109, see § 6 of such Act, which appears as 15 USCS § 260 note.

CODE OF FEDERAL REGULATIONS

Standard time zone boundaries, 49 CFR Part 71.

CROSS REFERENCES

This section is referred to in 15 USCS § 266; 49 USCS § 1655.

RESEARCH GUIDE

Federal Procedure L Ed:

Economic Development and Stabilization, Fed Proc, L Ed, § 27:216.

Am Jur:

74 Am Jur 2d, Time § 3.

Annotations:

Construction and application of Federal Uniform Time Act of 1966 (15 USCS §§ 260–267). 34 ALR3d 1148.

t the metric system of measurement.
a competitive disadvantage when dealing it
lard measurement system, and is sometimes
hich are measured in metric terms.
tem of measurement and standardization of
t savings in certain industries which have

lity to develop procedures and techniques to
voluntarily converts to the metric system of

rovide substantial advantages to the Federal

V, Subtitle B, Part I, Subpart F, § 5164(a),

WS AND DIRECTIVES

REGULATIONS

tates—
ment as the preferred system of weights and
ce:
d... ertain and to the extent economically
se the metric system of measurement in its
ed activities, except to the extent that such
nt inefficiencies or loss of markets to United
s are producing competing products in non-

of the metric system of measurement through
Government publications; and
ystems of weights and measures in nonbusi-

V, Subtitle B, Part I, Subpart F, § 5164(b),

WS AND DIRECTIVES

for one which read:
ited States shall be to coordinate and plan
ited States and to establish a United States
sion to the metric system.".

olicy
ment of this section [enacted Aug. 23, 1988],
ablish guidelines to carry out the policy set
cular emphasis upon the policy set forth in
)], and as part of its annual budget submis-
shall report to the Congress on the actions
as well as the actions which it plans for the
system of measurement in accordance with
agency in the fiscal year after it has fully
SCS § 205b(2)]. As used in this section, the
an Executive agency or military department
nited States Code [5 USCS §§ 501 et seq.].

(b) At the end of the fiscal year 1992, the Comptroller General shall review the implementation of this Act, and upon completion of such review shall report his findings to the Congress along with any legislative recommendations he may have.
(Dec. 23, 1975, P.L. 94-168, § 12, as added Aug. 23, 1988, P. L. 100-418, Title V, Subtitle B, Part I, Subpart F, § 5164(c), 102 Stat. 1452.)

§ 205k. Authorization of appropriations; availability
[Text unchanged]
(Dec. 23, 1975, P. L. 94-168, § 13 [12], 89 Stat. 1012; Aug. 23, 1988, P. L. 100-418, Title V, Subtitle B, Part I, Subpart F, § 5164(c), 102 Stat. 1452.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Redesignation:
This section, enacted as § 12 of Act Dec. 23, 1975, P. L. 94-169, 89 Stat. 1012, was redesignated as § 13 of such Act by Act Aug. 23, 1988, P. L. 100-418, Title V, Subtitle B, Part I, Subpart F, § 5164(c), 102 Stat. 1452.

STANDARD BARRELS

§ 231. Standard barrel for apples; steel barrels

RESEARCH GUIDE

Federal Procedure L Ed:
Food, Drugs, and Cosmetics, Fed Proc, L Ed § 35:414.

§ 232. Barrels below standard; marking

RESEARCH GUIDE

Federal Procedure L Ed:
Food, Drugs, and Cosmetics, Fed Proc, L Ed § 35:414.

§ 233. Penalty for violations

RESEARCH GUIDE

Federal Procedure L Ed:
Food, Drugs, and Cosmetics, Fed Proc, L Ed § 35:414.

STANDARD TIME

§ 260. Congressional declaration of policy; adoption and observance of uniform standard of time; authority of Secretary of Transportation

RESEARCH GUIDE

Federal Procedure L Ed:
10A Fed Proc, L Ed, Economic Development and Stabilization § 27:244.

§ 260a. Advancement of time or changeover dates
(a) Duration of period; State exemption. During the period commencing at 2 o'clock antemeridian on the first Sunday of April of each year and ending at 2 o'clock antemeridian on the last Sunday of October of each year, the standard time of each zone established by the Act of March 19, 1918 (15 U.S.C. 261-264) [15 USCS §§ 261 et seq.], as modified by the Act of March 4, 1921 (15 U.S.C. 265) [15 USCS § 265], shall be advanced one hour and such time as so advanced shall for the purposes of such Act of March 19, 1918 [15 USCS §§ 261 et seq.], as so modified, be the standard time of such zone during such period; however, (1) any State that lies entirely within one time zone may by law exempt itself from the provisions of this subsection providing for the advancement of time, but only if that law provides that the entire State (including all political subdivisions thereof) shall observe the standard time otherwise applicable during that period, and (2) any State with parts thereof in more than one time zone may by law exempt either the entire State as provided in (1) or may exempt the entire area of the State lying within any time zone.
(b), (c) [Unchanged]
(As amended July 8, 1986, P. L. 99-359, § 2(b), 100 Stat 764.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Amendments:
1986. Act July 8, 1986 (effective as provided by § 2(e) of such Act, which appears as a note to this section), in subsec. (a), substituted "first Sunday in April" for "last Sunday in April".

Other provisions:

Congressional findings. Act July 8, 1986, P. L. 99-359, § 2(a), 100 Stat. 764, effective as provided by § 2(e) of such Act, which appears as a note to this section, provides: "(a) The Congress finds—

"(1) that various studies of governmental and nongovernmental agencies indicate that daylight saving time over an expanded period would produce a significant energy savings in electrical power consumption;

"(2) that daylight saving time may yield energy savings in other areas besides electrical power consumption;

"(3) that daylight saving time over an expanded period could serve as an incentive for further energy conservation by individuals, companies, and the various governmental entities at all levels of government, and that such energy conservation efforts could lead to greatly expanded energy savings; and

"(4) that the use of daylight saving time over an expanded period could have other beneficial effects on the public interest, including the reduction of crime, improved traffic safety, more daylight outdoor playtime for the children and youth of our Nation, greater utilization of parks and recreation areas, expanded economic opportunity through extension of daylight hours to peak shopping hours and through extension of domestic office hours to periods of greater overlap with the European Economic Community.".

Effect on state laws in effect on enactment of Act July 8, 1986. Act July 8, 1986, P. L. 99-359, § 2(c), 100 Stat 764, effective as provided by § 2(e) of such Act, which appears as a note to this section, provides: "(c) Any law in effect on the date of the enactment of this Act [enacted July 8, 1986]—

"(1) adopted pursuant to section 3(a)(2) of the Uniform Time Act of 1966 [subsec. (a)(2) of this section] by a State with parts thereof in more than one time zone, or

"(2) adopted pursuant to section 3(a)(1) of such Act [subsec. (a)(1) of this section] by a State that lies entirely within one time zone,

shall be held and considered to remain in effect as the exercise by that State of the exemption permitted by such Act [15 USCS §§ 260 et seq.] unless that State, by law, provides that such exemption shall not apply.".

Adjustment by Federal Communications Commission. Act July 8, 1986, P. L. 99-359, § 2(d), 100 Stat. 764, effective as provided by § 2(e) of such Act, which appears as a note to this section, provides:

"(1) Notwithstanding any other law or any regulation issued under any such law, the Federal Communications Commission shall, consistent with any existing treaty or other agreement, make such adjustment by general rules, or by interim action pending such general rules, with respect to hours of operation of daytime standard amplitude modulation broadcast stations, as may be consistent with the public interest, including the public's interest in receiving interference-free service.

"(2) Such general rules, or interim action, may include variances with respect to operating power and other technical operating characteristics.

"(3) Subsequent to the adoption of such general rules, they may be varied with respect to particular stations and areas because of the exigencies in each case.".

Effective date of § 2 of Act July 8, 1986. Act July 8, 1986, P. L. 99-359, § 2(e), 100 Stat. 765, provides: "This section [amending and adding notes to this section] shall take effect 60 days after the date of enactment of this Act [enacted July 8, 1986] except that if such effective date occurs in any calendar year after March 1, this section [amending and adding notes to this section] shall take effect on the first day of the following calendar year.".

RESEARCH GUIDE

Federal Procedure L Ed:

10A Fed Proc, L Ed, Economic Development and Stabilization § 27:244.

§ 261. Zones for standard time; interstate or foreign commerce

RESEARCH GUIDE

Federal Procedure L Ed:

10A Fed Proc, L Ed, Economic Development and Stabilization § 27:244.

§ 263. Designation of zone standard times

The standard time of the first zone shall be known and designated as Atlantic standard time;

P. L. ...-359, § 2(a), 100 Stat. 764, effective as ars as a note to this section, provides: "(a) The

al and nongovernmental agencies indicate that eriod would produce a significant energy savings

energy savings in other areas besides electrical

xpanded period could serve as an incentive for uals, companies, and the various governmental hat such energy conservation efforts could lead

ne over an expanded period could have other cluding the reduction of crime, improved traffic or the children and youth of our Nation, greater expande economic opportunity through extenhours and through extension of domestic office the European Economic Community.".

of Act July 8, 1986. Act July 8, 1986, P. L. 99d by § 2(e) of such Act, which appears as a note ffect on the date of the enactment of this Act

of the Uniform Time Act of 1966 [subsec. (a)(2) eof in more than one time zone, or

of such Act [subsec. (a)(1) of this section] by a ne,

fect as the exercise by that State of the exemp- et seq.] unless that State, by law, provides that

amission. Act July 8, 1986, P. L. 99-359, § 2(d),) ... h Act, which appears as a note to this

any regulation issued under any such law, the all, consistent with any existing treaty or other neral rules, or by interim action pending such eration of daytime standard amplitude modulasistent with the public interest, including the free service.

, may include variances with respect to operatcharacteristics.

general rules, they may be varied with respect of the exigencies in each case.".

ct July 8, 1986, P. L. 99-359, § 2(e), 100 Stat. dding notes to this section] shall take effect 60 [enacted July 8, 1986] except that if such effecarch 1, this section [amending and adding notes ay of the following calendar year.".

CH GUIDE

it and Stabilization § 27:244.

foreign commerce

CH GUIDE

it and Stabilization § 27:244.

nown and designated as Atlantic standard time;

that of the second zone shall be known and designated as eastern standard time; that of the third zone shall be known and designated as central standard time; that of the fourth zone shall be known and designated as mountain standard time; that of the fifth zone shall be known and designated as Pacific standard time; that of the sixth zone shall be known and designated as Alaska standard time; that of the seventh zone shall be known and designated as Hawaii-Aleutian standard time; and that of the eighth zone shall be known and designated as Samoa standard time.

(As amended Nov. 30, 1983, P. L. 98-181, Title II, § 2003(a), 97 Stat. 1297.)

HISTORY; ANCILLARY LAWS AND DIRECTIVES

Amendments:

1983. Act Nov. 30, 1983, substituted "Alaska" for "Yukon"; substituted "Hawaii-Aleutian" for "Alaka-Hawaii"; and substituted "Samoa" for "Bering".

Other provisions:

References in laws and documents to certain time ... amended. Act Nov. 30, 1983, P. L. 98-181, Title II, § 2003(b), 97 Stat. 1297, provides:

"(b) (1) Any reference to Yukon standard time in any law, regulation, map, document, record, or other paper of the United States shall be held and considered to be a reference to Alaska standard time.

"(2) Any reference to Alaska-Hawaii standard time in any law, regulation, map, document, record, or other paper of the United States shall be held and considered to be a reference to Hawaii-Aleutian standard time.

"(3) Any reference to Bering standard time in any law, regulation, map, document, record, or other paper of the United States shall be held and considered to be a reference to Samoa standard time.".

§ 266. Applicability of administrative procedure provisions .

RESEARCH GUIDE

Federal Procedure L Ed:

10A Fed Proc, L Ed, Economic Development and Stabilization § 27:244

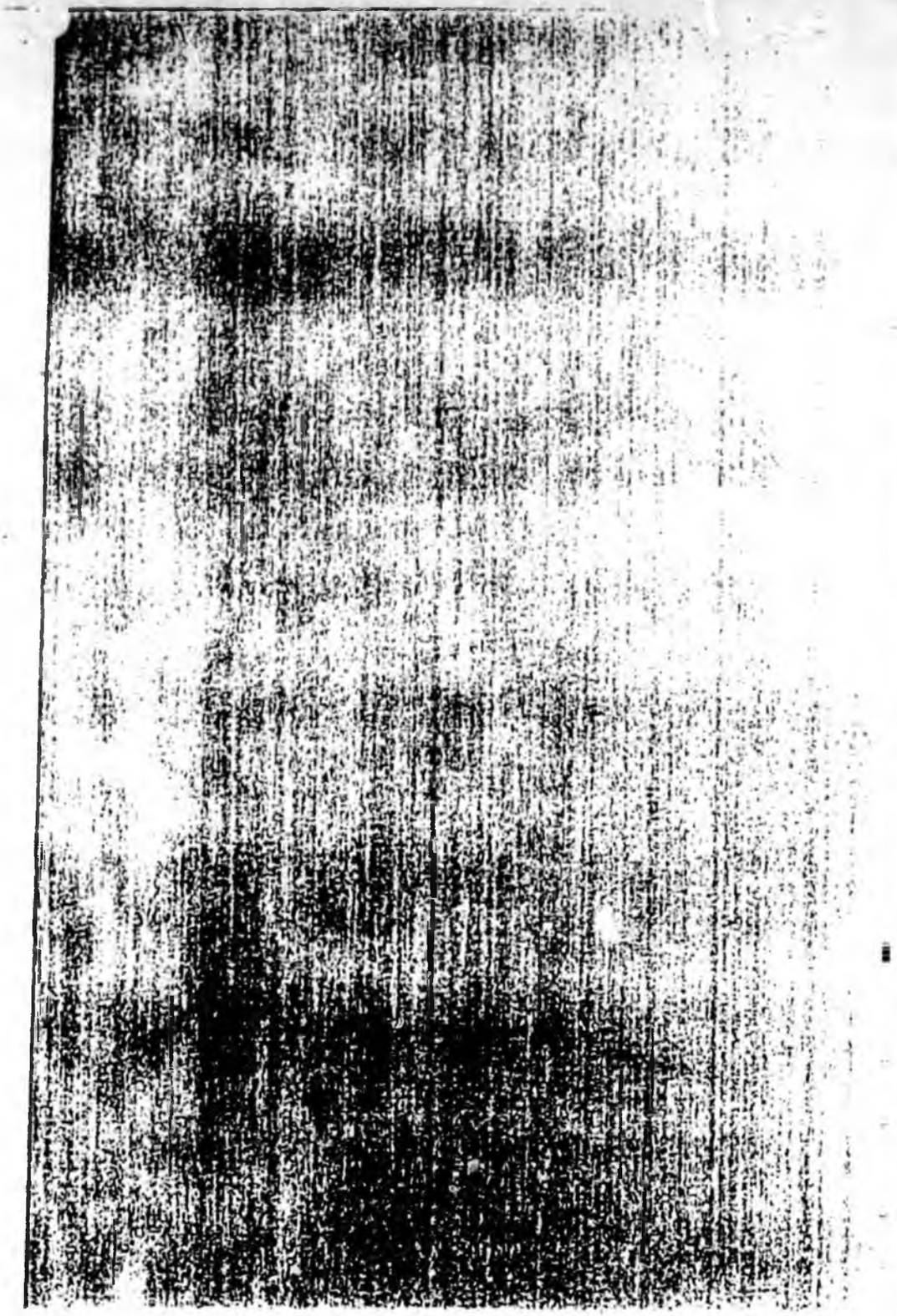
CHAPTER 7. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Section

272a. Technology services
272b. Annual budget submission
275c. Fees for services
278. Visiting Committee on Advanced Technology
278g-1. Financial assistance to current and prospective employees
278g-2. Post-doctoral fellowship program
278g-3. Establishment of computer standards program
278g-4. Establishment of a Computer System Security and Privacy Advisory Board
278i. Reports to Congress
278j. Studies by the National Research Council
278k. Regional Centers for the Transfer of Manufacturing Technology
278l. Assistance to State technology programs
278m. Non-energy inventions program
278n. Advanced technology program
278o. User fees
280. [Repealed]
281. [Repealed]

Committee for Time Uniformity

1101 17TH STREET, N.W. • WASHINGTON, D. C. 20036



SUNRISE AND SUNSET AT ANCHORAGE, ALASKA

NO.1005

STANDARD TIME OF THE 150th MERIDIAN WEST.

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	9 14	2 54	8 21	4 07	7 01	5 25	5 24	6 45	3 52	8 04	2 37	9 20	2 28	9 39	3 32	8 39	4 51	7 07	6 06	5 32	7 27	3 59	8 45	2 53
2	9 13	2 55	8 18	4 10	6 58	5 27	5 21	6 48	3 49	8 07	2 35	9 22	2 29	9 38	3 34	8 36	4 54	7 04	6 08	5 29	7 30	3 56	8 47	2 51
3	9 12	2 57	8 15	4 13	6 55	5 30	5 17	6 51	3 46	8 09	2 34	9 23	2 30	9 37	3 37	8 33	4 56	7 01	6 11	5 26	7 33	3 53	8 49	2 50
4	9 12	2 59	8 13	4 16	6 52	5 33	5 14	6 53	3 43	8 12	2 32	9 25	2 32	9 36	3 40	8 31	4 59	6 57	6 13	5 22	7 35	3 51	8 51	2 49
5	9 11	3 01	8 10	4 19	6 49	5 35	5 11	6 56	3 40	8 15	2 31	9 27	2 33	9 35	3 42	8 28	5 01	6 54	6 16	5 19	7 38	3 48	8 53	2 48
6	9 10	3 02	8 08	4 21	6 46	5 38	5 08	6 58	3 38	8 17	2 30	9 29	2 35	9 33	3 45	8 25	5 04	6 51	6 19	5 16	7 41	3 45	8 55	2 47
7	9 09	3 04	8 05	4 24	6 43	5 41	5 05	7 01	3 35	8 20	2 28	9 30	2 36	9 32	3 47	8 22	5 06	6 48	6 21	5 13	7 44	3 43	8 57	2 46
8	9 08	3 06	8 02	4 27	6 39	5 43	5 02	7 04	3 32	8 23	2 27	9 32	2 38	9 31	3 50	8 19	5 09	6 45	6 24	5 10	7 46	3 40	8 59	2 45
9	9 06	3 09	8 00	4 30	6 36	5 46	4 59	7 06	3 29	8 25	2 26	9 33	2 40	9 29	3 52	8 16	5 11	6 42	6 26	5 07	7 49	3 38	9 01	2 44
10	9 05	3 11	7 57	4 33	6 33	5 49	4 55	7 09	3 27	8 28	2 25	9 34	2 42	9 28	3 55	8 14	5 14	6 38	6 29	5 04	7 52	3 35	9 02	2 43
11	9 04	3 13	7 54	4 36	6 30	5 51	4 52	7 11	3 24	8 30	2 24	9 35	2 43	9 26	3 58	8 11	5 16	6 35	6 31	5 01	7 55	3 33	9 04	2 43
12	9 02	3 15	7 51	4 38	6 27	5 54	4 49	7 14	3 21	8 33	2 24	9 37	2 45	9 24	4 00	8 08	5 19	6 32	6 34	4 58	7 57	3 30	9 05	2 42
13	9 01	3 17	7 48	4 41	6 24	5 56	4 46	7 17	3 19	8 36	2 23	9 38	2 47	9 22	4 03	8 05	5 21	6 29	6 37	4 55	8 00	3 28	9 07	2 42
14	8 59	3 20	7 46	4 44	6 21	5 59	4 43	7 19	3 16	8 38	2 22	9 39	2 49	9 21	4 05	8 02	5 24	6 26	6 39	4 52	8 03	3 25	9 08	2 41
15	8 57	3 22	7 43	4 47	6 18	6 02	4 40	7 22	3 14	8 41	2 22	9 39	2 51	9 19	4 08	7 59	5 26	6 23	6 42	4 49	8 05	3 23	9 09	2 41
16	8 56	3 25	7 40	4 49	6 14	6 04	4 37	7 24	3 11	8 43	2 21	9 40	2 54	9 17	4 10	7 56	5 29	6 19	6 44	4 45	8 08	3 21	9 10	2 41
17	8 54	3 27	7 37	4 52	6 11	6 07	4 34	7 27	3 09	8 46	2 21	9 41	2 56	9 15	4 13	7 53	5 31	6 16	6 47	4 42	8 11	3 19	9 11	2 41
18	8 52	3 30	7 34	4 55	6 08	6 09	4 31	7 30	3 06	8 48	2 21	9 41	2 58	9 13	4 16	7 50	5 34	6 13	6 50	4 39	8 13	3 16	9 12	2 41
19	8 50	3 32	7 31	4 58	6 05	6 12	4 28	7 32	3 04	8 51	2 21	9 42	3 00	9 10	4 18	7 47	5 36	6 10	6 52	4 36	8 16	3 14	9 13	2 41
20	8 48	3 35	7 28	5 00	6 02	6 15	4 25	7 35	3 01	8 53	2 21	9 42	3 03	9 08	4 21	7 44	5 38	6 07	6 55	4 33	8 19	3 12	9 13	2 42
21	8 46	3 37	7 25	5 03	5 59	6 17	4 21	7 38	2 59	8 56	2 21	9 42	3 05	9 06	4 23	7 41	5 41	6 04	6 58	4 30	8 21	3 10	9 14	2 42
22	8 44	3 40	7 22	5 06	5 55	6 20	4 18	7 40	2 57	8 58	2 21	9 42	3 07	9 04	4 26	7 38	5 43	6 00	7 00	4 28	8 24	3 08	9 15	2 43
23	8 42	3 43	7 19	5 09	5 52	6 22	4 15	7 43	2 55	9 00	2 22	9 42	3 10	9 01	4 28	7 35	5 46	5 57	7 03	4 25	8 26	3 06	9 15	2 43
24	8 40	3 45	7 16	5 11	5 49	6 25	4 12	7 45	2 52	9 03	2 22	9 42	3 12	8 59	4 31	7 32	5 48	5 54	7 06	4 22	8 29	3 04	9 15	2 44
25	8 37	3 48	7 13	5 14	5 46	6 27	4 09	7 48	2 50	9 05	2 23	9 42	3 14	8 57	4 34	7 29	5 51	5 51	7 08	4 19	8 31	3 02	9 15	2 45
26	8 35	3 51	7 10	5 17	5 43	6 30	4 06	7 51	2 48	9 07	2 23	9 42	3 17	8 54	4 36	7 26	5 53	5 48	7 11	4 16	8 34	3 00	9 16	2 46
27	8 33	3 54	7 07	5 19	5 40	6 33	4 04	7 53	2 46	9 09	2 24	9 41	3 19	8 52	4 39	7 22	5 56	5 45	7 14	4 13	8 36	2 59	9 16	2 47
28	8 30	3 56	7 04	5 22	5 36	6 35	4 01	7 56	2 44	9 12	2 25	9 41	3 22	8 49	4 41	7 19	5 58	5 41	7 16	4 10	8 38	2 57	9 15	2 48
29	8 28	3 59	7 03	5 24	5 33	6 38	3 58	7 59	2 42	9 14	2 26	9 40	3 24	8 47	4 44	7 16	6 01	5 38	7 19	4 07	8 41	2 55	9 15	2 49
30	8 26	4 02			5 30	6 40	3 55	8 01	2 40	9 16	2 27	9 40	3 27	8 44	4 46	7 13	6 03	5 35	7 22	4 04	8 43	2 54	9 15	2 50
31	8 23	4 05			5 27	6 43			2 39	9 18			3 29	8 41	4 49	7 10			7 24	4 02			9 14	2 52

Add one hour for Daylight Saving Time if and when in use.

Prepared by
NAUTICAL ALMANAC OFFICE
UNITED STATES NAVAL OBSERVATORY
WASHINGTON, D.C. 20390

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1969

(OVER)

Attachment 7

TABLES OF SUNRISE AND SUNSET

SECOND PRINTING

The table on the other side of this sheet may be used in any year of the twentieth century and within the geographical boundary of the stated place with an error not exceeding 2 minutes and generally less than 1 minute. It may also be used anywhere in the vicinity of the stated place with an additional error of less than 1 minute for each nine miles, reckoned from the station of the U.S. Weather Bureau for the stated place, or reckoned from the nearest boundary in cases when no station of the Weather Bureau existed for the stated place.

Tables are available for almost all stations of the U.S. Weather Bureau, and all cities of over 50,000 population (1950 census) which are sufficiently remote from other cities of like size to require a separate computation.

The standard time shown is in conformity with time zone boundaries specified by the Interstate Commerce Commission as of 1 June 1969.

Eastern Standard Time is the local time of the 75th meridian. Central Standard Time is the local time of the 90th meridian. Mountain Standard Time is the local time of the 105th meridian. Pacific Standard Time is the local time of the 120th meridian.

Sunrise and sunset are considered to occur when the upper edge of the disk of the Sun appears to be exactly on the horizon. The times of sunrise and sunset given in this table are for an unobstructed horizon, with normal atmospheric conditions, at zero elevation above the Earth's surface in a level region.

The computations are based on a constant semidiameter of the Sun of 16 minutes of arc, an adopted refraction at the horizon of 34 minutes of arc, and the path of the Sun for the year 1966.

Should greater precision be required, corrections for elevation of the observer, angular elevation of the visible horizon, deviations from standard atmospheric conditions, and for a specific year may be derived from "Tables of Sunrise, Sunset and Twilight," Supplement to the American Ephemeris, 1946, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

ADDITIONAL TABLES

CALIFORNIA
S1040-5 Salinas

LOUISIANA
S1119-5 Boothville

MAINE
S1125-2 Houlton
S1125-5 Millinocket
S1125-7 Old Town

MARYLAND
S1129-5 Salisbury

MASSACHUSETTS
S1132-5 Hyannis
S1137-5 Westfield

NEW HAMPSHIRE
S1187-5 Lebanon

NEW JERSEY
S1190-5 Millville
S1190-7 Morristown

NEW YORK
S1200-2 Elmira
S1200-4 Glens Falls
S1200-6 Islip
S1200-8 Massena
S1202-5 Poughkeepsie
S1206-5 Watertown

NORTH CAROLINA
S1209-5 Elizabeth City
S1209-7 Fayetteville
S1210-2 Hickory
S1210-5 New Bern
S1211-5 Rocky Mount

OHIO
S1223-5 Findlay
S1226-5 Mansfield
S1230-5 Zanesville

OREGON
S1235-5 Klamath Falls

PENNSYLVANIA
S1244-5 Bradford
S1245-5 Du Bois
S1251-5 Philipsburg

SOUTH CAROLINA
S1260-5 Anderson

VIRGINIA
S1299-5 Blackstone
S1300-2 Charlottesville
S1300-5 Danville
S1300-7 Dulles Airport
S1301-5 Newport News
S1305-5 Wallops Island

WEST VIRGINIA
S1313-5 Beckley
S1313-7 Bluefield
S1314-5 Elkins
S1315-5 Martinsburg
S1315-7 Morgantown

PUERTO RICO
S1330 San Juan

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1015 Kotzebue
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S1180 Valentine

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UTAH
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WASHINGTON
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WEST VIRGINIA
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WISCONSIN
1318 Green Bay
1319 Kenosha
1320 La Crosse
1321 Madison
1322 Milwaukee
1323 Racine

WYOMING
1324 Casper
1325 Cheyenne
1326 Lander
1327 Sheridan

* U. S. GOVERNMENT PRINTING OFFICE : 1972 O - 388-127

SUNRISE AND SUNSET AT BARROW, ALASKA

NO. 1007

STANDARD TIME OF THE 150th MERIDIAN WEST.

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1			10 37	2 46	8 01	5 20	5 26	7 39	2 36	10 19							4 33	8 18	6 44	5 47	9 14	3 07		
2			10 30	2 53	7 55	5 25	5 21	7 43	2 28	10 26						11 51	4 38	8 12	6 49	5 42	9 19	3 01		
3			10 24	3 00	7 50	5 30	5 16	7 48	2 21	10 34					1 16	11 36	4 42	8 07	6 53	5 37	9 25	2 55		
4			10 17	3 06	7 45	5 34	5 11	7 52	2 13	10 42					1 32	11 23	4 47	8 02	6 57	5 32	9 31	2 49		
5			10 11	3 13	7 40	5 39	5 06	7 57	2 04	10 51					1 44	11 12	4 52	7 57	7 02	5 27	9 38	2 43		
6			10 05	3 19	7 35	5 43	5 01	8 02	1 55	11 01					1 55	11 02	4 56	7 52	7 06	5 22	9 44	2 36		
7			9 59	3 25	7 30	5 48	4 55	8 06	1 45	11 12					2 05	10 53	5 01	7 47	7 11	5 17	9 50	2 30		
8			9 53	3 31	7 26	5 52	4 50	8 11	1 34	11 24					2 13	10 45	5 05	7 42	7 15	5 12	9 57	2 23		
9			9 47	3 37	7 21	5 57	4 45	8 16	1 22	11 40					2 22	10 37	5 10	7 36	7 19	5 07	10 04	2 17		
10			9 41	3 43	7 16	6 01	4 40	8 20	1 06						2 29	10 29	5 14	7 31	7 24	5 02	10 11	2 10		
11			9 35	3 49	7 11	6 06	4 34	8 25							2 37	10 22	5 18	7 26	7 28	4 57	10 19	2 02		
12			9 30	3 55	7 06	6 10	4 29	8 30							2 44	10 15	5 23	7 21	7 33	4 52	10 27	1 55		
13			9 24	4 00	7 01	6 15	4 24	8 35			Sun				2 51	10 08	5 27	7 16	7 38	4 47	10 35	1 47	Sun	
14	Sun		9 19	4 06	6 56	6 19	4 18	8 40			above				2 57	10 01	5 31	7 11	7 42	4 42	10 44	1 38	below	
15	below		9 13	4 11	6 51	6 24	4 13	8 45			Horizon				3 03	9 55	5 36	7 06	7 47	4 37	10 54	1 29	Horizon	
16	Horizon		9 08	4 16	6 46	6 28	4 07	8 50							3 09	9 48	5 40	7 01	7 51	4 32	11 05	1 18		
17			9 02	4 22	6 41	6 32	4 02	8 55							3 15	9 42	5 44	6 56	7 56	4 27	11 17	1 06		
18			8 57	4 27	6 36	6 37	3 56	9 00							3 21	9 36	5 49	6 51	8 01	4 22	11 33	12 50		
19			8 52	4 32	6 31	6 41	3 51	9 06							3 27	9 30	5 53	6 46	8 06	4 17				
20			8 47	4 37	6 26	6 46	3 45	9 11							3 33	9 24	5 57	6 41	8 11	4 12				
21			8 41	4 42	6 21	6 50	3 39	9 17							3 38	9 18	6 01	6 36	8 15	4 06				
22			8 36	4 47	6 16	6 54	3 33	9 22							3 43	9 12	6 06	6 32	8 20	4 01				
23			8 31	4 52	6 11	6 59	3 27	9 28							3 49	9 07	6 10	6 27	8 25	3 56				
24	11 51	1 29	8 26	4 57	6 06	7 03	3 21	9 34							3 54	9 01	6 14	6 22	8 30	3 51				
25	11 38	1 43	8 21	5 01	6 01	7 08	3 15	9 40							3 59	8 56	6 19	6 17	8 36	3 45				
26	11 27	1 54	8 16	5 06	5 56	7 12	3 09	9 46							4 04	8 50	6 23	6 12	8 41	3 40				
27	11 17	2 04	8 11	5 11	5 51	7 16	3 03	9 52							4 09	8 44	6 27	6 07	8 46	3 35				
28	11 08	2 14	8 06	5 16	5 46	7 21	2 56	9 58							4 14	8 39	6 31	6 02	8 51	3 29				
29	11 00	2 22	8 04	5 18	5 41	7 25	2 49	10 05							4 19	8 34	6 36	5 57	8 57	3 24				
30	10 52	2 30			5 36	7 30	2 43	10 12							4 24	8 28	6 40	5 52	9 02	3 18				
31	10 44	2 38			5 31	7 34									4 28	8 23			9 08	3 12				

Add one hour for Daylight Saving Time if and when in use.

Near the dates when the Sun remains above or below the horizon for more than 24 hours a physical indeterminacy exists and no absolute limit on the accuracy can be assigned.

Prepared by
NAUTICAL ALMANAC OFFICE
UNITED STATES NAVAL OBSERVATORY
WASHINGTON, D.C. 20390

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1965
[illegible]ER)

TABLES OF SUNRISE AND SUNSET

SECOND PRINTING

The table on the other side of this sheet may be used in any year of the twentieth century and within the geographical boundary of the stated place with an error not exceeding 2 minutes and generally less than 1 minute. It may also be used anywhere in the vicinity of the stated place with an additional error of less than 1 minute for each nine miles, reckoned from the station of the U.S. Weather Bureau for the stated place, or reckoned from the nearest boundary in cases when no station of the Weather Bureau existed for the stated place.

Tables are available for almost all stations of the U.S. Weather Bureau, and all cities of over 50,000 population (1950 census) which are sufficiently remote from other cities of like size to require a separate computation.

The standard time shown is in conformity with time zone boundaries specified by the Interstate Commerce Commission as of 1 June 1962.

Eastern Standard Time is the local time of the 75th meridian. Central Standard Time is the local time of the 90th meridian. Mountain Standard Time is the local time of the 105th meridian. Pacific Standard Time is the local time of the 120th meridian.

Sunrise and sunset are considered to occur when the upper edge of the disk of the Sun appears to be exactly on the horizon. The times of sunrise and sunset given in this table are for an unobstructed horizon, with normal atmospheric conditions, at zero elevation above the Earth's surface in a level region.

The computations are based on a constant semidiameter of the Sun of 16 minutes of arc, an adopted refraction at the horizon of 34 minutes of arc, and the path of the Sun for the year 1966.

Should greater precision be required, corrections for elevation of the observer, angular elevation of the visible horizon, deviations from standard atmospheric conditions, and for a specific year may be derived from "Tables of Sunrise, Sunset and Twilight," Supplement to the American Ephemeris, 1946, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

ADDITIONAL TABLES

CALIFORNIA
S1040-5 Salinas

LOUISIANA
S1119-5 Boothville

MAINE
S1125-2 Houlton
S1125-5 Millinocket
S1125-7 Old Town

MARYLAND
S1129-5 Salisbury

MASSACHUSETTS
S1132-5 Hyannis
S1137-5 Westfield

NEW HAMPSHIRE
S1187-5 Lebanon

NEW JERSEY
S1190-5 Millville
S1190-7 Morristown

NEW YORK
S1200-2 Elmira
S1200-4 Glens Falls
S1200-6 Islip
S1200-8 Massena
S1202-5 Poughkeepsie
S1206-5 Watertown

NORTH CAROLINA
S1209-5 Elizabeth City
S1209-7 Fayetteville
S1210-2 Hickory
S1210-5 New Bern
S1211-5 Rocky Mount

OHIO
S1223-5 Findlay
S1226-5 Mansfield
S1230-5 Zanesville

OREGON
S1235-5 Klamath Falls

PENNSYLVANIA
S1244-5 Bradford
S1245-5 Du Bois
S1251-5 Phillipsburg

SOUTH CAROLINA
S1260-5 Anderson

VIRGINIA
S1299-5 Blackstone
S1300-2 Charlottesville
S1300-5 Danville
S1300-7 Dulles Airport
S1301-5 Newport News
S1305-5 Wallops Island

WEST VIRGINIA
S1313-5 Beckley
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WISCONSIN
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1320 La Crosse
1321 Madison
1322 Milwaukee
1323 Racine

WYOMING
1324 Casper
1325 Cheyenne
1326 Lander
1327 Sheridan

U. S. GOVERNMENT PRINTING OFFICE : 1966 O - 778-631

SUNRISE AND SUNSET AT FAIRBANKS, ALASKA

NO. 1012

STANDARD TIME OF THE 150th MERIDIAN WEST.

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	9 55	1 56	8 38	3 34	7 01	5 08	5 09	6 44	3 19	8 20	1 34	10 07	1 11	10 37	2 50	9 02	4 31	7 10	6 00	5 20	7 39	3 31	9 19	2 02
2	9 53	1 58	8 34	3 37	6 58	5 11	5 05	6 47	3 15	8 24	1 31	10 10	1 13	10 35	2 54	8 59	4 34	7 06	6 03	5 17	7 42	3 27	9 22	2 00
3	9 52	2 00	8 31	3 41	6 54	5 14	5 01	6 50	3 12	8 27	1 28	10 13	1 16	10 33	2 57	8 55	4 37	7 03	6 07	5 13	7 45	3 24	9 25	1 57
4	9 51	2 03	8 28	3 44	6 51	5 17	4 58	6 53	3 08	8 31	1 25	10 17	1 19	10 31	3 01	8 52	4 40	6 59	6 10	5 09	7 49	3 20	9 28	1 55
5	9 49	2 05	8 25	3 48	6 47	5 20	4 54	6 56	3 05	8 34	1 23	10 20	1 21	10 28	3 04	8 48	4 43	6 55	6 13	5 06	7 52	3 17	9 30	1 54
6	9 47	2 08	8 21	3 51	6 43	5 24	4 50	6 59	3 01	8 37	1 20	10 22	1 24	10 26	3 07	8 45	4 46	6 52	6 16	5 02	7 55	3 14	9 33	1 52
7	9 45	2 11	8 18	3 55	6 40	5 27	4 47	7 03	2 58	8 41	1 18	10 25	1 27	10 23	3 11	8 41	4 49	6 48	6 19	4 58	7 59	3 11	9 36	1 50
8	9 43	2 14	8 15	3 58	6 36	5 30	4 43	7 06	2 54	8 44	1 15	10 28	1 30	10 21	3 14	8 37	4 52	6 44	6 22	4 55	8 02	3 07	9 38	1 48
9	9 41	2 17	8 11	4 01	6 33	5 33	4 39	7 09	2 50	8 48	1 13	10 30	1 33	10 18	3 17	8 34	4 55	6 41	6 25	4 51	8 06	3 04	9 40	1 47
10	9 39	2 19	8 08	4 05	6 29	5 36	4 36	7 12	2 47	8 51	1 11	10 33	1 36	10 15	3 21	8 30	4 58	6 37	6 28	4 46	8 09	3 01	9 43	1 46
11	9 37	2 23	8 04	4 08	6 25	5 39	4 32	7 15	2 43	8 55	1 09	10 35	1 39	10 12	3 24	8 27	5 01	6 33	6 31	4 44	8 12	2 58	9 45	1 44
12	9 35	2 26	8 01	4 12	6 22	5 42	4 28	7 18	2 40	8 58	1 07	10 37	1 42	10 09	3 27	8 23	5 04	6 30	6 34	4 40	8 16	2 54	9 47	1 43
13	9 32	2 29	7 58	4 15	6 18	5 45	4 25	7 21	2 36	9 02	1 05	10 39	1 46	10 06	3 31	8 19	5 07	6 26	6 37	4 37	8 19	2 51	9 49	1 42
14	9 30	2 32	7 54	4 19	6 14	5 49	4 21	7 25	2 33	9 05	1 03	10 41	1 49	10 03	3 34	8 16	5 10	6 22	6 40	4 33	8 23	2 48	9 51	1 42
15	9 27	2 35	7 51	4 22	6 11	5 52	4 17	7 28	2 29	9 09	1 02	10 43	1 52	10 00	3 37	8 12	5 13	6 19	6 43	4 30	8 26	2 45	9 52	1 41
16	9 25	2 38	7 47	4 25	6 07	5 55	4 14	7 31	2 26	9 12	1 01	10 44	1 56	9 57	3 40	8 09	5 16	6 15	6 47	4 26	8 30	2 42	9 54	1 41
17	9 22	2 42	7 44	4 29	6 04	5 58	4 10	7 34	2 22	9 16	1 00	10 45	1 59	9 53	3 44	8 05	5 19	6 11	6 50	4 23	8 33	2 39	9 55	1 40
18	9 20	2 45	7 40	4 32	6 00	6 01	4 06	7 37	2 19	9 19	12 59	10 46	2 02	9 50	3 47	8 01	5 22	6 08	6 53	4 19	8 37	2 36	9 56	1 40
19	9 17	2 49	7 37	4 35	5 56	6 04	4 03	7 41	2 16	9 23	12 59	10 47	2 06	9 47	3 50	7 58	5 25	6 04	6 56	4 16	8 40	2 33	9 57	1 40
20	9 14	2 52	7 33	4 39	5 53	6 07	3 59	7 44	2 12	9 26	12 59	10 48	2 09	9 44	3 53	7 54	5 28	6 00	6 59	4 12	8 43	2 30	9 58	1 40
21	9 11	2 55	7 30	4 42	5 49	6 10	3 55	7 47	2 09	9 30	12 59	10 48	2 13	9 40	3 56	7 50	5 31	5 57	7 02	4 09	8 47	2 27	9 59	1 41
22	9 08	2 59	7 26	4 45	5 45	6 13	3 52	7 50	2 06	9 33	12 59	10 48	2 16	9 37	4 00	7 47	5 34	5 53	7 06	4 05	8 50	2 25	9 59	1 41
23	9 05	3 02	7 23	4 48	5 42	6 16	3 48	7 54	2 02	9 37	12 59	10 47	2 19	9 34	4 03	7 43	5 37	5 49	7 09	4 02	8 53	2 22	9 59	1 42
24	9 02	3 06	7 19	4 52	5 38	6 19	3 44	7 57	1 59	9 40	1 00	10 47	2 23	9 30	4 06	7 39	5 40	5 46	7 12	3 58	8 57	2 19	10 00	1 43
25	8 59	3 09	7 16	4 55	5 34	6 22	3 41	8 00	1 56	9 44	1 01	10 46	2 26	9 27	4 09	7 36	5 43	5 42	7 15	3 55	9 00	2 16	10 00	1 44
26	8 56	3 13	7 12	4 58	5 31	6 25	3 37	8 04	1 52	9 47	1 02	10 45	2 30	9 23	4 12	7 32	5 46	5 38	7 19	3 51	9 03	2 14	9 59	1 45
27	8 53	3 16	7 08	5 01	5 27	6 29	3 34	8 07	1 49	9 51	1 04	10 44	2 33	9 20	4 15	7 28	5 49	5 35	7 22	3 48	9 06	2 11	9 59	1 46
28	8 50	3 20	7 05	5 05	5 23	6 32	3 30	8 10	1 46	9 54	1 05	10 43	2 37	9 16	4 18	7 25	5 51	5 31	7 25	3 44	9 10	2 09	9 59	1 48
29	8 47	3 23	7 03	5 07	5 20	6 35	3 26	8 14	1 43	9 57	1 07	10 41	2 40	9 13	4 22	7 21	5 54	5 27	7 29	3 41	9 13	2 06	9 58	1 50
30	8 44	3 27			5 16	6 38	3 23	8 17	1 40	10 01	1 09	10 39	2 44	9 09	4 25	7 17	5 57	5 24	7 32	3 37	9 16	2 04	9 57	1 51
31	8 41	3 30			5 12	6 41			1 37	10 04			2 47	9 06	4 28	7 14			7 35	3 34			9 56	1 53

Add one hour for Daylight Saving Time if and when in use.

Prepared by
NAUTICAL ALMANAC OFFICE
UNITED STATES NAVAL OBSERVATORY
WASHINGTON, D.C. 20390

U.S. GOVERNMENT PRINTING OFFICE
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(COVER)

TABLES OF SUNRISE AND SUNSET

SECOND PRINTING

The table on the other side of this sheet may be used in any year of the twentieth century and within the geographical boundary of the stated place with an error not exceeding 2 minutes and generally less than 1 minute. It may also be used anywhere in the vicinity of the stated place with an additional error of less than 1 minute for each nine miles, reckoned from the station of the U.S. Weather Bureau for the stated place, or reckoned from the nearest boundary in cases when no station of the Weather Bureau existed for the stated place.

Tables are available for almost all stations of the U.S. Weather Bureau, and all cities of over 50,000 population (1950 census) which are sufficiently remote from other cities of like size to require a separate computation.

The standard time shown is in conformity with time zone boundaries specified by the Interstate Commerce Commission as of 1 June 1962.

Eastern Standard Time is the local time of the 75th meridian. Central Standard Time is the local time of the 90th meridian. Mountain Standard Time is the local time of the 105th meridian. Pacific Standard Time is the local time of the 120th meridian.

Sunrise and sunset are considered to occur when the upper edge of the disk of the Sun appears to be exactly on the horizon. The times of sunrise and sunset given in this table are for an unobstructed horizon, with normal atmospheric conditions, at zero elevation above the Earth's surface in a level region.

The computations are based on a constant semidiameter of the Sun of 16 minutes of arc, an adopted refraction at the horizon of 34 minutes of arc, and the path of the Sun for the year 1966.

Should greater precision be required, corrections for elevation of the observer, angular elevation of the visible horizon, deviations from standard atmospheric conditions, and for a specific year may be derived from "Tables of Sunrise, Sunset and Twilight," Supplement to the American Ephemeris, 1946, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

ADDITIONAL TABLES

CALIFORNIA
S1040-5 Salinas

LOUISIANA
S1119-5 Boothville

MAINE
S1125-2 Houlton
S1125-5 Millinocket
S1125-7 Old Town

MARYLAND
S1129-5 Salisbury

MASSACHUSETTS
S1137-5 Hyannis
S1137-5 Westfield

NEW HAMPSHIRE
S1187-5 Lebanon

NEW JERSEY
S1190-5 Millville
S1190-7 Morristown

NEW YORK
S1200-2 Elmira
S1200-4 Glens Falls
S1200-6 Islip
S1200-8 Massena
S1202-5 Poughkeepsie
S1206-5 Watertown

NORTH CAROLINA
S1209-5 Elizabeth City
S1209-7 Fayetteville
S1210-2 Hickory
S1210-5 New Bern
S1211-5 Rocky Mount

OHIO
S1223-5 Findlay
S1226-5 Mansfield
S1230-5 Zanesville

OREGON
S1235-5 Klamath Falls

PENNSYLVANIA
S1244-5 Bradford
S1245-5 Du Bois
S1251-5 Philipsburg

SOUTH CAROLINA
S1260-5 Anderson

VIRGINIA
S1299-5 Blackstone
S1300-2 Charlottesville
S1300-5 Danville
S1300-7 Dulles Airport
S1301-5 Newport News
S1305-5 Wallops Island

WEST VIRGINIA
S1313-5 Beckley
S13.3-7 Bluefield
S1314-5 Elkins
S1315-5 Martinsburg
S1315-7 Morgantown

PUERTO RICO
S1330 San Juan

TABLE NUMBERS AND LOCATIONS

ALABAMA
1001 Birmingham
1002 Gadsden
1003 Mobile
1004 Montgomery

ALASKA
1005 Anchorage
1006 Annette Island
1007 Barrow
1008 Barter Island
1009 Bethel
1010 Cold Bay
1011 Cordova
1012 Fairbanks
1013 Juneau
1014 King Salmon
1015 Kotzebue
1016 McGrath
1017 Nome
1018 St. Paul Island
1019 Takotat

ARIZONA
1020 Flagstaff
1021 Phoenix
1022 Prescott
1023 Tucson
1024 Winslow
1025 Yuma

ARKANSAS
1026 Fort Smith
1027 Little Rock
1028 Texarkana

CALIFORNIA
1029 Bakersfield
1030 Bishop
1031 Blue Canyon
1032 Burbank
1033 Eureka
1034 Fresno
1035 Los Angeles
1036 Mt. Shasta
1037 Oakland
1038 Pomona
1039 Red Bluff
1040 Sacramento
1041 San Bernardino
1042 Sandberg
1043 San Diego
1044 San Francisco
1045 San Jose
1046 Santa Maria
1047 Stockton

COLORADO
1048 Alamosa
1049 Colorado Springs
1050 Denver
1051 Grand Junction
1052 Pueblo

CONNECTICUT
1053 Bridgeport
1054 Hartford
1055 New Britain
1056 New Haven
1057 Stamford
1058 Waterbury

DELAWARE
1059 Dover
1060 Wilmington

DISTRICT OF COLUMBIA
1061 Washington

FLORIDA
1062 Apalachicola
1063 Daytona Beach
1064 Fort Myers
1065 Jacksonville
1066 Key West
1067 Lakeland
1068 Miami
1069 Orlando
1070 Pensacola
1071 Tallahassee
1072 Tampa
1073 West Palm Beach

GEORGIA
1074 Athens
1075 Atlanta
1076 Augusta
1077 Columbus
1078 Macon
1079 Rome
1080 Savannah
1081 Thomasville
1082 Valdosta

HAWAII
1083 Hilo
1084 Honolulu

IDAHO
1085 Boise
1086 Lewiston
1087 Pocatello

ILLINOIS
1088 Aurora
1089 Cairo
1090 Chicago
1091 Decatur
1092 Evanston
1093 Joliet
1094 Moline
1095 Peoria
1096 Rockford
1097 Springfield

INDIANA
1098 Evansville
S1099 Fort Wayne
1100 Gary
S1101 Indianapolis
S1102 Muncie
1103 South Bend
1104 Terre Haute

IOWA
1105 Burlington
1106 Cedar Rapids
1107 Des Moines
1108 Dubuque
1109 Sioux City
1110 Waterloo

KANSAS
1111 Concordia
1112 Dodge City
1113 Goodland
1114 Topeka
1115 Wichita

KENTUCKY
S1116 Frankfort
S1117 Lexington
S1118 Louisville

LOUISIANA
1119 Baton Rouge
1120 Burrwood
1121 Lake Charles
1122 New Orleans
1123 Shreveport

MAINE
1124 Augusta
1125 Caribou
1126 Portland

MARYLAND
1127 Annapolis
1128 Baltimore
1129 Frederick

MASSACHUSETTS
1130 Boston
1131 Brockton
1132 Fall River
1133 Lawrence
1134 Nantucket
1135 New Bedford
1136 Pittsfield
1137 Springfield
1138 Worcester

MICHIGAN
1139 Alpena
1140 Bay City
1141 Dearborn
1142 Detroit
1143 Escanaba
1144 Flint
1145 Grand Rapids
1146 Jackson
1147 Kalamazoo
1148 Lansing
1149 Marquette
1150 Muskegon
1151 Pontiac
1152 Sault Ste. Marie

MINNESOTA
1153 Duluth
1154 International Falls
1155 Minneapolis
1156 Rochester
1157 St. Cloud

MISSISSIPPI
1158 Jackson
1159 Meridian
1160 Vicksburg

MISSOURI
1161 Columbia
1162 Jefferson City
1163 Kansas City
1164 St. Joseph
1165 St. Louis
1166 Springfield

MONTANA
1167 Billings
1168 Glasgow
1169 Great Falls
1170 Havre
1171 Helena
1172 Kalispell
1173 Missoula

NEBRASKA
1174 Grand Island
1175 Lincoln
1176 Norfolk
1177 North Platte
1178 Omaha
1179 Scottsbluff
1180 Valentine

NEVADA
1181 Carson City
1182 Elko
1183 Ely
1184 Las Vegas
1185 Reno
1186 Winnemucca

NEW HAMPSHIRE
1187 Concord
1188 Manchester

NEW JERSEY
1189 Atlantic City
1190 Camden
1191 Newark
1192 Trenton

NEW MEXICO
1193 Albuquerque
1194 Clayton
1195 Raton
1196 Roswell
1197 Santa Fe

NEW YORK
1198 Albany
1199 Binghamton
1200 Buffalo
1201 New York
1202 Niagara Falls
1203 Rochester
1204 Schenectady
1205 Syracuse
1206 Utica

NORTH CAROLINA
1207 Asheville
1208 Cape Hatteras
1209 Charlotte
1210 Greensboro
1211 Raleigh
1212 Wilmington
1213 Winston-Salem

NORTH DAKOTA
1214 Bismarck
1215 Devils Lake
1216 Fargo
1217 Williston

OHIO
1218 Akron
1219 Cincinnati
1220 Cleveland
1221 Cleveland Heights
1222 Columbus
1223 Dayton
1224 Hamilton
1225 Lima
1226 Lorain
1227 Sandusky
1228 Springfield
1229 Toledo
1230 Youngstown

OKLAHOMA
1231 Oklahoma City
1232 Tulsa

OREGON
1233 Astoria
1234 Burns
1235 Eugene
1236 Meacham
1237 Medford
1238 Pendleton
1239 Portland
1240 Roseburg
1241 Salem
1242 Sexton Summit

PENNSYLVANIA
1243 Allentown
1244 Altoona
1245 Chester
1246 Erie
1247 Harrisburg
1248 Johnstown
1249 Lancaster
1250 McKeesport
1251 Philadelphia
1252 Pittsburgh
1253 Reading
1254 Scranton
1255 Wilkes-Barre
1256 Williamsport
1257 York

RHODE ISLAND
1258 Block Island
1259 Providence
1260 Woonsocket

SOUTH CAROLINA
1261 Charleston
1262 Columbia
1263 Florence
1264 Greenville
1265 Spartanburg

SOUTH DAKOTA
1266 Huron
1267 Pierre
1268 Rapid City
1269 Sioux Falls

TENNESSEE
1270 Bristol
1271 Chattanooga
1272 Knoxville
1273 Memphis
1274 Nashville

TEXAS
1275 Abilene
1276 Amarillo
1277 Austin
1278 Brownsville
1279 Corpus Christi
1280 Dallas
1281 Del Rio
1282 El Paso
1283 Fort Worth
1284 Galveston
1285 Houston
1286 Laredo
1287 Lubbock
1288 Midland
1289 Port Arthur
1290 San Angelo
1291 San Antonio
1292 Victoria
1293 Waco
1294 Wichita Falls

UTAH
1295 Milford
1296 Ogden
1297 Salt Lake City

VERMONT
1298 Burlington
1299 Montpelier

VIRGINIA
1300 Cape Henry
1301 Lynchburg
1302 Norfolk
1303 Portsmouth
1304 Richmond
1305 Roanoke

WASHINGTON
1306 Olympia
1307 Seattle
1308 Spokane
1309 Stampede Pass
1310 Tacoma
1311 Tatoosh Island
1312 Walla Walla
1313 Yakima

WEST VIRGINIA
1314 Charleston
1315 Huntington
1316 Parkersburg
1317 Wheeling

WISCONSIN
1318 Green Bay
1319 Kenosha
1320 La Crosse
1321 Madison
1322 Milwaukee
1323 Racine

WYOMING
1324 Casper
1325 Cheyenne
1326 Lander
1327 Sheridan

U. S. GOVERNMENT PRINTING OFFICE : 1966 O - 778-031

SUNRISE AND SUNSET AT YAKUTAT, ALASKA

NO. 1019

STANDARD TIME OF THE 135th MERIDIAN WEST

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	9 17	3 28	8 30	4 35	7 17	5 47	5 45	7 01	4 19	8 14	3 13	9 21	3 06	9 38	4 02	8 46	5 14	7 21	6 23	5 52	7 39	4 25	8 50	3 25
2	9 16	3 30	8 28	4 38	7 14	5 49	5 42	7 04	4 17	8 16	3 11	9 23	3 07	9 38	4 04	8 44	5 17	7 18	6 26	5 49	7 41	4 25	8 52	3 24
3	9 16	3 31	8 26	4 40	7 11	5 52	5 39	7 06	4 14	8 19	3 10	9 25	3 08	9 37	4 07	8 41	5 19	7 15	6 28	5 46	7 44	4 20	8 53	3 23
4	9 15	3 33	8 23	4 43	7 08	5 54	5 36	7 09	4 12	8 21	3 09	9 26	3 09	9 36	4 09	8 39	5 21	7 13	6 30	5 43	7 46	4 18	8 55	3 22
5	9 14	3 34	8 21	4 46	7 05	5 57	5 33	7 11	4 09	8 23	3 08	9 28	3 10	9 35	4 11	8 36	5 24	7 10	6 33	5 40	7 49	4 15	8 57	3 21
6	9 13	3 36	8 18	4 48	7 02	5 59	5 30	7 13	4 06	8 26	3 06	9 29	3 12	9 34	4 14	8 34	5 26	7 07	6 35	5 37	7 51	4 13	8 59	3 20
7	9 13	3 38	8 16	4 51	6 59	6 01	5 27	7 16	4 04	8 28	3 05	9 30	3 13	9 33	4 16	8 31	5 28	7 04	6 37	5 34	7 54	4 10	9 01	3 20
8	9 12	3 40	8 13	4 53	6 56	6 04	5 24	7 18	4 01	8 31	3 04	9 32	3 14	9 32	4 18	8 29	5 30	7 01	6 40	5 31	7 56	4 08	9 02	3 19
9	9 11	3 42	8 11	4 56	6 53	6 06	5 21	7 21	3 59	8 33	3 04	9 33	3 16	9 31	4 21	8 26	5 33	6 58	6 42	5 28	7 59	4 06	9 04	3 18
10	9 09	3 44	8 08	4 59	6 50	6 09	5 19	7 23	3 56	8 35	3 03	9 34	3 18	9 29	4 23	8 23	5 35	6 55	6 45	5 26	8 01	4 03	9 05	3 18
11	9 08	3 46	8 06	5 01	6 48	6 11	5 16	7 25	3 54	8 38	3 02	9 35	3 19	9 28	4 25	8 21	5 37	6 52	6 47	5 23	8 04	4 01	9 07	3 17
12	9 07	3 48	8 03	5 04	6 45	6 14	5 13	7 28	3 52	8 40	3 01	9 36	3 21	9 26	4 28	8 18	5 40	6 49	6 49	5 20	8 06	3 59	9 08	3 17
13	9 06	3 50	8 01	5 06	6 42	6 16	5 10	7 30	3 49	8 42	3 01	9 37	3 23	9 25	4 30	8 15	5 42	6 46	6 52	5 17	8 09	3 57	9 09	3 17
14	9 04	3 52	7 58	5 09	6 39	6 18	5 07	7 33	3 47	8 45	3 00	9 38	3 24	9 23	4 32	8 13	5 44	6 43	6 54	5 14	8 11	3 54	9 10	3 16
15	9 03	3 54	7 55	5 11	6 36	6 21	5 04	7 35	3 45	8 47	3 00	9 38	3 26	9 22	4 35	8 10	5 47	6 40	6 57	5 11	8 14	3 52	9 11	3 16
16	9 01	3 56	7 53	5 14	6 33	6 23	5 01	7 37	3 42	8 49	3 00	9 39	3 28	9 20	4 37	8 07	5 49	6 37	6 59	5 08	8 16	3 50	9 12	3 16
17	9 00	3 59	7 50	5 16	6 30	6 26	4 58	7 40	3 40	8 51	3 00	9 40	3 30	9 18	4 39	8 04	5 51	6 34	7 01	5 06	8 18	3 48	9 13	3 16
18	8 58	4 01	7 47	5 19	6 27	6 28	4 55	7 42	3 38	8 54	2 59	9 40	3 32	9 16	4 42	8 02	5 53	6 31	7 04	5 03	8 21	3 46	9 14	3 16
19	8 56	4 03	7 45	5 22	6 24	6 30	4 53	7 45	3 36	8 56	2 59	9 41	3 34	9 14	4 44	7 59	5 56	6 28	7 06	5 00	8 23	3 44	9 15	3 17
20	8 55	4 05	7 42	5 24	6 21	6 33	4 50	7 47	3 34	8 58	2 59	9 41	3 36	9 13	4 46	7 56	5 58	6 25	7 09	4 57	8 26	3 42	9 16	3 17
21	8 53	4 08	7 39	5 27	6 18	6 35	4 47	7 50	3 32	9 00	3 00	9 41	3 38	9 11	4 49	7 53	6 00	6 22	7 11	4 54	8 28	3 41	9 16	3 17
22	8 51	4 10	7 36	5 29	6 15	6 38	4 44	7 52	3 30	9 02	3 00	9 41	3 40	9 09	4 51	7 50	6 03	6 19	7 14	4 52	8 30	3 39	9 17	3 18
23	8 49	4 13	7 34	5 32	6 12	6 40	4 41	7 54	3 28	9 04	3 00	9 41	3 42	9 06	4 53	7 47	6 05	6 16	7 16	4 49	8 33	3 37	9 17	3 19
24	8 47	4 15	7 31	5 34	6 09	6 42	4 38	7 57	3 26	9 06	3 01	9 41	3 44	9 04	4 56	7 45	6 07	6 13	7 19	4 46	8 35	3 35	9 17	3 19
25	8 45	4 18	7 28	5 37	6 06	6 45	4 36	7 59	3 24	9 08	3 01	9 41	3 46	9 02	4 58	7 42	6 10	6 10	7 21	4 43	8 37	3 34	9 18	3 20
26	8 43	4 20	7 25	5 39	6 03	6 47	4 33	8 02	3 22	9 10	3 02	9 41	3 49	9 00	5 00	7 39	6 12	6 07	7 24	4 41	8 39	3 32	9 18	3 21
27	8 41	4 23	7 22	5 42	6 00	6 50	4 30	8 04	3 20	9 12	3 02	9 41	3 51	8 58	5 03	7 36	6 14	6 04	7 26	4 38	8 41	3 31	9 18	3 22
28	8 39	4 25	7 19	5 44	5 57	6 52	4 27	8 06	3 19	9 14	3 03	9 40	3 53	8 56	5 05	7 33	6 16	6 01	7 29	4 35	8 44	3 29	9 18	3 23
29	8 37	4 28	7 18	5 46	5 54	6 54	4 25	8 09	3 17	9 16	3 04	9 40	3 55	8 53	5 07	7 30	6 19	5 58	7 31	4 33	8 46	3 28	9 18	3 24
30	8 35	4 30			5 51	6 57	4 22	8 11	3 16	9 18	3 05	9 39	3 57	8 51	5 10	7 27	6 21	5 55	7 34	4 30	8 48	3 27	9 18	3 25
31	8 32	4 33			5 48	6 59			3 14	9 20			4 00	8 49	5 12	7 24			7 36	4 28			9 17	3 26

Add one hour for Daylight Saving Time if and when in use.

I certify that the above data are the result of an accurate and true computation by the Nautical Almanac Office, United States Naval Observatory, an agency charged by Federal Statute (9 Stat. L 374, 375) with the duty of making such computations and publishing the results.

E. W. WOOLARD
Director Nautical Almanac
U. S. Naval Observatory

C. G. CHRISTIE
Captain, USN
Superintendent
U. S. Naval Observatory

(OVER)

TABLES OF SUNRISE AND SUNSET

The table on the other side of this sheet may be used in any year of the twentieth century and within the geographical boundary of the stated place with an error not exceeding 2 minutes and generally less than 1 minute. It may also be used anywhere in the vicinity of the stated place with an additional error of less than 1 minute for each nine miles, reckoned from the station of the U.S. Weather Bureau for the stated place, as of 1958, or reckoned from the nearest boundary in cases when no station of the Weather Bureau existed for the stated place.

Tables are available for almost all stations of the U.S. Weather Bureau, and all cities of over 50,000 population (1950 census) which are sufficiently remote from other cities of like size to require a separate computation.

The standard time shown is in conformity with time zone boundaries specified by the Interstate Commerce Commission as of 1958.

Eastern Standard Time is the local time of the 75th meridian. Central Standard Time is the local time of the 90th meridian. Mountain Standard Time is the local time of the 105th meridian. Pacific Standard Time is the local time of the 120th meridian.

Sunrise and sunset are considered to occur when the upper edge of the disk of the Sun appears to be exactly on the horizon. The times of sunrise and sunset given in this table are for an unobstructed horizon, with normal atmospheric conditions, at zero elevation above the Earth's surface in a level region.

The computations are based on a constant semidiameter of the Sun of 16 minutes of arc, an adopted refraction at the horizon of 34 minutes of arc, and the path of the Sun for the year 1966.

Should greater precision be required, corrections for elevation of the observer, angular elevation of the visible horizon, deviations from standard atmospheric conditions, and for a specific year may be derived from "Tables of Sunrise, Sunset and Twilight," Supplement to the American Ephemeris, 1946, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1959

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TABLE NUMBERS AND LOCATIONS

ALABAMA
1001 Birmingham
1002 Gadsden
1003 Mobile
1004 Montgomery

ALASKA
1005 Anchorage
1006 Annette Island
1007 Barrow
1008 Barter Island
1009 Bethel
1010 Cold Bay
1011 Cordova
1012 Fairbanks
1013 Juneau
1014 King Salmon
1015 Kotzebue
1016 McGrath
1017 Nome
1018 St. Paul Island
1019 Yakutat

ARIZONA
1020 Flagstaff
1021 Phoenix
1022 Prescott
1023 Tucson
1024 Winslow
1025 Yuma

ARKANSAS
1026 Fort Smith
1027 Little Rock
1028 Texarkana

CALIFORNIA
1029 Bakersfield
1030 Bishop
1031 Blue Canyon
1032 Burbank
1033 Eureka
1034 Fresno
1035 Los Angeles
1036 Mt. Shasta
1037 Oakland
1038 Pomona
1039 Red Bluff
1040 Sacramento
1041 San Bernardino
1042 Sandberg
1043 San Diego
1044 San Francisco
1045 San Jose
1046 Santa Maria
1047 Stockton

COLORADO
1048 Alamosa
1049 Colorado Springs
1050 Denver
1051 Grand Junction
1052 Pueblo

CONNECTICUT
1053 Bridgeport
1054 Hartford
1055 New Britain
1056 New Haven
1057 Stamford
1058 Waterbury

DELAWARE
1059 Dover
1060 Wilmington

DISTRICT OF COLUMBIA
1061 Washington

FLORIDA
1062 Apalachicola
1063 Daytona Beach
1064 Fort Myers
1065 Jacksonville
1066 Key West
1067 Lakeland
1068 Miami
1069 Orlando
1070 Pensacola
1071 Tallahassee
1072 Tampa
1073 West Palm Beach

GEORGIA
1074 Athens
1075 Atlanta
1076 Augusta
1077 Columbus
1078 Macon
1079 Rome
1080 Savannah
1081 Thomasville
1082 Valdosta

HAWAII
1083 Hilo
1084 Honolulu

IDAHO
1085 Boise
1086 Lewiston
1087 Pocatello

ILLINOIS
1088 Aurora
1089 Cairo
1090 Chicago
1091 Decatur
1092 Evanston
1093 Joliet
1094 Moline
1095 Peoria
1096 Rockford
1097 Springfield

INDIANA
1098 Evansville
1099 Fort Wayne
1100 Gary
1101 Indianapolis
1102 Muncie
1103 South Bend
1104 Terre Haute

IOWA
1105 Burlington
1106 Cedar Rapids
1107 Des Moines
1108 Dubuque
1109 Sioux City
1110 Waterloo

KANSAS
1111 Concordia
1112 Dodge City
1113 Goodland
1114 Topeka
1115 Wichita

KENTUCKY
1116 Frankfort
1117 Lexington
1118 Louisville

LOUISIANA
1119 Baton Rouge
1120 Burrwood
1121 Lake Charles
1122 New Orleans
1123 Shreveport

MAINE
1124 Augusta
1125 Caribou
1126 Portland

MARYLAND
1127 Annapolis
1128 Baltimore
1129 Frederick

MASSACHUSETTS
1130 Boston
1131 Brockton
1132 Fall River
1133 Lawrence
1134 Nantucket
1135 New Bedford
1136 Pittsfield
1137 Springfield
1138 Worcester

MICHIGAN
1139 Alpena
1140 Bay City
1141 Dearborn
1142 Detroit
1143 Escanaba
1144 Flint
1145 Grand Rapids
1146 Jackson
1147 Kalamazoo
1148 Lansing
1149 Marquette
1150 Muskegon
1151 Pontiac
1152 Sault Ste. Marie

MINNESOTA
1153 Duluth
1154 International Falls
1155 Minneapolis
1156 Rochester
1157 St. Cloud

MISSISSIPPI
1158 Jackson
1159 Meridian
1160 Vicksburg

MISSOURI
1161 Columbia
1162 Jefferson City
1163 Kansas City
1164 St. Joseph
1165 St. Louis
1166 Springfield

MONTANA
1167 Billings
1168 Glasgow
1169 Great Falls
1170 Havre
1171 Helena
1172 Kalispell
1173 Missoula

NEBRASKA
1174 Grand Island
1175 Lincoln
1176 Norfolk
1177 North Platte
1178 Omaha
1179 Scottsbluff
1180 Valentine

NEVADA
1181 Carson City
1182 Elko
1183 Ely
1184 Las Vegas
1185 Reno
1186 Winnemucca

NEW HAMPSHIRE
1187 Concord
1188 Manchester

NEW JERSEY
1189 Atlantic City
1190 Camden
1191 Newark
1192 Trenton

NEW MEXICO
1193 Albuquerque
1194 Clayton
1195 Raton
1196 Roswell
1197 Santa Fe

NEW YORK
1198 Albany
1199 Binghamton
1200 Buffalo
1201 New York
1202 Niagara Falls
1203 Rochester
1204 Schenectady
1205 Syracuse
1206 Utica

NORTH CAROLINA
1207 Asheville
1208 Cape Hatteras
1209 Charlotte
1210 Greensboro
1211 Raleigh
1212 Wilmington
1213 Winston-Salem

NORTH DAKOTA
1214 Bismarck
1215 Devils Lake
1216 Fargo
1217 Williston

OHIO
1218 Akron
1219 Cincinnati
1220 Cleveland
1221 Cleveland Heights
1222 Columbus
1223 Dayton
1224 Hamilton
1225 Lima
1226 Loraine
1227 Sandusky
1228 Springfield
1229 Toledo
1230 Youngstown

OKLAHOMA
1231 Oklahoma City
1232 Tulsa

OREGON
1233 Astoria
1234 Burns
1235 Eugene
1236 Meacham
1237 Medford
1238 Pendleton
1239 Portland
1240 Roseburg
1241 Salem
1242 Sexton Summit

PENNSYLVANIA
1243 Allentown
1244 Altoona
1245 Chester
1246 Erie
1247 Harrisburg
1248 Johnstown
1249 Lancaster
1250 McKeesport
1251 Philadelphia
1252 Pittsburgh
1253 Reading
1254 Scranton
1255 Wilkes-Barre
1256 Williamsport
1257 York

RHODE ISLAND
1258 Block Island
1259 Providence
1260 Woonsocket

SOUTH CAROLINA
1261 Charleston
1262 Columbia
1263 Florence
1264 Greenville
1265 Spartanburg

SOUTH DAKOTA
1266 Huron
1267 Pierre
1268 Rapid City
1269 Sioux Falls

TENNESSEE
1270 Bristol
1271 Chattanooga
1272 Knoxville
1273 Memphis
1274 Nashville

TEXAS
1275 Abilene
1276 Amarillo
1277 Austin
1278 Brownsville
1279 Corpus Christi
1280 Dallas
1281 Del Rio
1282 El Paso
1283 Fort Worth
1284 Galveston
1285 Houston
1286 Laredo
1287 Lubbock
1288 Midland
1289 Port Arthur
1290 San Angelo
1291 San Antonio
1292 Victoria
1293 Waco
1294 Wichita Falls

UTAH
1295 Milford
1296 Ogden
1297 Salt Lake City

VERMONT
1298 Burlington
1299 Montpelier

VIRGINIA
1300 Cape Henry
1301 Lynchburg
1302 Norfolk
1303 Portsmouth
1304 Richmond
1305 Roanoke

WASHINGTON
1306 Olympia
1307 Seattle
1308 Spokane
1309 Stampede Pass
1310 Tacoma
1311 Tatoosh Island
1312 Walla Walla
1313 Yakima

WEST VIRGINIA
1314 Charleston
1315 Huntington
1316 Parkersburg
1317 Wheeling

WISCONSIN
1318 Green Bay
1319 Kenosha
1320 La Crosse
1321 Madison
1322 Milwaukee
1323 Racine

WYOMING
1324 Casper
1325 Cheyenne
1326 Lander
1327 Sheridan

SUNRISE AND SUNSET AT NOME, ALASKA

NO. 1017

STANDARD TIME OF THE 168th MERIDIAN WEST

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	9 59	2 12	8 45	3 47	7 11	5 19	5 19	6 51	3 32	8 28	1 50	10 11	1 30	10 39	3 04	9 09	4 42	7 19	6 11	5 31	7 47	3 43	9 25	2 16
2	9 58	2 14	8 42	3 50	7 07	5 22	5 16	6 57	3 28	8 32	1 48	10 14	1 33	10 37	3 08	9 06	4 45	7 15	6 14	5 27	7 50	3 39	9 28	2 14
3	9 57	2 16	8 39	3 54	7 04	5 25	5 12	7 00	3 25	8 35	1 45	10 17	1 35	10 35	3 11	9 02	4 48	7 12	6 17	5 23	7 54	3 36	9 30	2 12
4	9 56	2 18	8 36	3 57	7 00	5 28	5 09	7 03	3 21	8 38	1 42	10 20	1 37	10 33	3 14	8 59	4 51	7 08	6 19	5 20	7 57	3 33	9 33	2 11
5	9 54	2 21	8 32	4 00	6 56	5 32	5 05	7 06	3 18	8 42	1 40	10 22	1 40	10 31	3 17	8 55	4 54	7 04	6 22	5 16	8 00	3 30	9 36	2 09
6	9 52	2 23	8 29	4 04	6 53	5 35	5 01	7 09	3 14	8 45	1 38	10 25	1 42	10 29	3 21	8 52	4 57	7 01	6 25	5 13	8 04	3 26	9 38	2 07
7	9 51	2 26	8 26	4 07	6 49	5 38	4 58	7 12	3 11	8 48	1 35	10 28	1 45	10 26	3 24	8 48	5 00	6 57	6 28	5 09	8 07	3 23	9 41	2 05
8	9 49	2 29	8 23	4 11	6 46	5 41	4 54	7 15	3 07	8 52	1 33	10 30	1 47	10 24	3 27	8 45	5 03	6 54	6 31	5 06	8 10	3 20	9 43	2 04
9	9 47	2 32	8 19	4 14	6 42	5 44	4 50	7 18	3 04	8 55	1 31	10 32	1 50	10 21	3 31	8 41	5 06	6 50	6 34	5 02	8 14	3 17	9 45	2 03
10	9 45	2 35	8 16	4 17	6 39	5 47	4 47	7 21	3 00	8 58	1 29	10 35	1 53	10 18	3 34	8 38	5 09	6 46	6 38	4 59	8 17	3 14	9 48	2 01
11	9 43	2 37	8 13	4 21	6 35	5 50	4 43	7 24	2 57	9 02	1 27	10 37	1 56	10 16	3 37	8 34	5 12	6 43	6 41	4 55	8 20	3 [illegible]	9 50	2 00
12	9 40	2 40	8 09	4 24	6 31	5 53	4 40	7 27	2 53	9 05	1 26	10 39	1 59	10 13	3 40	8 31	5 15	6 39	6 44	4 51	8 24	3 07	9 52	1 59
13	9 38	2 43	8 06	4 27	6 28	5 56	4 36	7 31	2 50	9 09	1 24	10 40	2 02	10 10	3 43	8 27	5 18	6 36	6 47	4 48	8 27	3 04	9 53	1 58
14	9 36	2 47	8 03	4 31	6 24	5 59	4 32	7 34	2 47	9 12	1 23	10 42	2 05	10 07	3 47	8 24	5 21	6 32	6 50	4 44	8 30	3 01	9 55	1 58
15	9 33	2 50	7 59	4 34	6 21	6 02	4 29	7 37	2 43	9 15	1 22	10 43	2 08	10 04	3 50	8 20	5 24	6 28	6 53	4 41	8 34	2 58	9 57	1 57
16	9 31	2 53	7 56	4 37	6 17	6 05	4 25	7 40	2 40	9 19	1 21	10 45	2 12	10 01	3 53	8 17	5 27	6 25	6 56	4 37	8 37	2 55	9 58	1 57
17	9 28	2 56	7 52	4 41	6 14	6 08	4 22	7 43	2 37	9 22	1 20	10 46	2 15	9 58	3 56	8 13	5 30	6 21	6 59	4 34	8 40	2 52	9 59	1 57
18	9 26	2 59	7 49	4 44	6 10	6 11	4 18	7 46	2 33	9 26	1 20	10 47	2 18	9 55	3 59	8 09	5 32	6 17	7 02	4 30	8 44	2 49	10 00	1 56
19	9 23	3 03	7 45	4 47	6 06	6 14	4 14	7 49	2 30	9 29	1 19	10 47	2 21	9 52	4 02	8 06	5 35	6 14	7 05	4 27	8 47	2 47	10 01	1 56
20	9 21	3 06	7 42	4 50	6 03	6 17	4 11	7 53	2 27	9 32	1 19	10 48	2 24	9 49	4 06	8 02	5 38	6 10	7 08	4 23	8 50	2 44	10 02	1 57
21	9 18	3 09	7 39	4 54	5 59	6 20	4 07	7 56	2 23	9 36	1 19	10 48	2 28	9 46	4 09	7 59	5 41	6 07	7 12	4 20	8 54	2 41	10 03	1 57
22	9 15	3 13	7 35	4 57	5 56	6 23	4 04	7 59	2 20	9 39	1 19	10 48	2 31	9 43	4 12	7 55	5 44	6 03	7 15	4 17	8 57	2 38	10 03	1 58
23	9 12	3 16	7 32	5 00	5 52	6 26	4 00	8 02	2 17	9 42	1 20	10 48	2 34	9 39	4 15	7 51	5 47	5 59	7 18	4 13	9 00	2 36	10 04	1 58
24	9 09	3 19	7 28	5 03	5 48	6 29	3 56	8 05	2 14	9 46	1 20	10 47	2 38	9 36	4 18	7 48	5 50	5 56	7 21	4 10	9 03	2 33	10 04	1 59
25	9 06	3 23	7 25	5 06	5 45	6 32	3 53	8 09	2 11	9 49	1 21	10 47	2 41	9 33	4 21	7 44	5 53	5 52	7 24	4 06	9 06	2 30	10 04	2 00
26	9 03	3 26	7 21	5 10	5 41	6 36	3 49	8 12	2 08	9 52	1 22	10 46	2 44	9 29	4 24	7 41	5 56	5 49	7 27	4 03	9 10	2 28	10 04	2 01
27	9 00	3 30	7 18	5 13	5 37	6 39	3 46	8 15	2 05	9 55	1 24	10 45	2 48	9 26	4 27	7 37	5 59	5 45	7 31	3 59	9 13	2 26	10 03	2 03
28	8 57	3 33	7 14	5 16	5 34	6 42	3 42	8 18	2 02	9 59	1 25	10 43	2 51	9 23	4 30	7 33	6 02	5 41	7 34	3 56	9 16	2 23	10 03	2 04
29	8 54	3 36	7 13	5 18	5 30	6 45	3 39	8 22	1 59	10 02	1 27	10 42	2 54	9 19	4 33	7 30	6 05	5 38	7 37	3 53	9 19	2 21	10 02	2 06
30	8 51	3 40			5 27	6 48	3 35	8 25	1 56	10 05	1 28	10 41	2 58	9 16	4 36	7 26	6 08	5 34	7 40	3 49	9 22	2 19	10 02	2 07
31	8 48	3 43			5 23	6 51			1 53	10 08			3 01	9 13	4 39	7 23			7 44	3 46			10 01	2 09

Add one hour for Daylight Saving Time if and when in use.

I certify that the above data are the result of an accurate and true computation by the Nautical Almanac Office, United States Naval Observatory, an agency charged by Federal Statute (9 Stat. L 374, 375) with the duty of making such computations and publishing the results.

E. W. WOOLARD
Director Nautical Almanac
U. S. Naval Observatory

C. G. CHRISTIE
Captain, USN
Superintendent
U. S. Naval Observatory

(OVER)

SUNRISE AND SUNSET AT JUNEAU, ALASKA

NO. 1013

PACIFIC STANDARD TIME

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	9 47	4 17	9 04	5 21	7 54	6 28	6 26	7 39	5 05	8 48	4 02	9 51	3 57	10 07	4 49	9 19	5 57	7 58	7 02	6 32	8 14	5 09	9 21	4 14
2	9 46	4 19	9 02	5 23	7 51	6 31	6 24	7 42	5 02	8 50	4 01	9 52	3 58	10 06	4 51	9 17	5 59	7 55	7 05	6 30	8 16	5 07	9 22	4 13
3	9 46	4 20	9 00	5 26	7 49	6 33	6 21	7 44	5 00	8 52	4 00	9 54	3 59	10 06	4 53	9 14	6 01	7 53	7 07	6 27	8 18	5 05	9 24	4 12
4	9 45	4 22	8 58	5 28	7 46	6 35	6 18	7 46	4 57	8 55	3 59	9 55	4 00	10 05	4 55	9 12	6 03	7 50	7 09	6 24	8 21	5 02	9 26	4 11
5	9 45	4 23	8 55	5 30	7 43	6 38	6 15	7 49	4 55	8 57	3 58	9 56	4 01	10 04	4 57	9 10	6 06	7 47	7 11	6 21	8 23	5 00	9 28	4 10
6	9 44	4 25	8 53	5 33	7 40	6 40	6 12	7 51	4 52	8 59	3 57	9 58	4 02	10 03	5 00	9 07	6 08	7 44	7 13	6 18	8 25	4 58	9 29	4 09
7	9 43	4 27	8 51	5 35	7 38	6 42	6 09	7 53	4 50	9 01	3 56	9 59	4 03	10 02	5 02	9 05	6 10	7 41	7 16	6 16	8 28	4 55	9 31	4 09
8	9 42	4 28	8 48	5 38	7 35	6 45	6 07	7 55	4 48	9 03	3 55	10 00	4 05	10 01	5 04	9 02	6 12	7 38	7 18	6 13	8 30	4 53	9 32	4 08
9	9 41	4 30	8 46	5 40	7 32	6 47	6 04	7 58	4 45	9 06	3 54	10 01	4 06	10 00	5 06	9 00	6 14	7 36	7 20	6 10	8 33	4 51	9 34	4 07
10	9 40	4 32	8 44	5 43	7 29	6 49	6 01	8 00	4 43	9 08	3 54	10 02	4 08	9 59	5 08	8 57	6 16	7 33	7 22	6 07	8 35	4 49	9 35	4 07
11	9 39	4 34	8 41	5 45	7 26	6 52	5 58	8 02	4 41	9 10	3 53	10 03	4 09	9 57	5 11	8 55	6 19	7 30	7 25	6 04	8 37	4 47	9 37	4 07
12	9 38	4 36	8 39	5 48	7 23	6 54	5 55	8 04	4 38	9 12	3 52	10 04	4 11	9 56	5 13	8 52	6 21	7 27	7 27	6 02	8 40	4 45	9 38	4 06
13	9 37	4 38	8 36	5 50	7 21	6 56	5 53	8 07	4 36	9 14	3 52	10 05	4 12	9 55	5 15	8 50	6 23	7 24	7 29	5 59	8 42	4 43	9 39	4 06
14	9 36	4 40	8 34	5 52	7 18	6 59	5 50	8 09	4 34	9 17	3 52	10 06	4 14	9 53	5 17	8 47	6 25	7 21	7 32	5 56	8 44	4 41	9 40	4 06
15	9 34	4 42	8 31	5 55	7 15	7 01	5 47	8 11	4 32	9 19	3 51	10 06	4 16	9 52	5 19	8 45	6 27	7 18	7 34	5 53	8 47	4 39	9 41	4 06
16	9 33	4 44	8 29	5 57	7 12	7 03	5 44	8 13	4 30	9 21	3 51	10 07	4 17	9 50	5 22	8 42	6 29	7 15	7 36	5 51	8 49	4 37	9 42	4 06
17	9 32	4 46	8 26	6 00	7 09	7 05	5 42	8 16	4 28	9 23	3 51	10 08	4 19	9 48	5 24	8 39	6 32	7 13	7 38	5 48	8 51	4 35	9 43	4 06
18	9 30	4 48	8 24	6 02	7 06	7 08	5 39	8 19	4 26	9 25	3 51	10 08	4 21	9 47	5 26	8 37	6 34	7 10	7 41	5 45	8 53	4 33	9 44	4 06
19	9 29	4 50	8 21	6 05	7 04	7 10	5 36	8 20	4 24	9 27	3 51	10 08	4 23	9 45	5 28	8 34	6 36	7 07	7 43	5 43	8 56	4 31	9 45	4 06
20	9 27	4 53	8 18	6 07	7 01	7 12	5 33	8 23	4 22	9 29	3 51	10 09	4 25	9 43	5 30	8 31	6 38	7 04	7 45	5 40	8 58	4 29	9 45	4 07
21	9 25	4 55	8 16	6 09	6 58	7 15	5 31	8 25	4 20	9 31	3 51	10 09	4 26	9 42	5 33	8 29	6 40	7 01	7 48	5 37	9 00	4 28	9 46	4 07
22	9 24	4 57	8 13	6 12	6 55	7 17	5 28	8 27	4 18	9 33	3 51	10 09	4 28	9 40	5 35	8 26	6 43	6 58	7 50	5 35	9 02	4 26	9 46	4 08
23	9 22	4 59	8 10	6 14	6 52	7 19	5 25	8 29	4 16	9 35	3 51	10 09	4 30	9 38	5 37	8 23	6 45	6 55	7 52	5 32	9 04	4 25	9 47	4 08
24	9 20	5 02	8 08	6 17	6 49	7 21	5 23	8 32	4 15	9 37	3 52	10 09	4 32	9 36	5 39	8 21	6 47	6 52	7 55	5 29	9 07	4 23	9 47	4 09
25	9 18	5 04	8 05	6 19	6 46	7 24	5 20	8 34	4 13	9 39	3 52	10 09	4 34	9 34	5 41	8 18	6 49	6 50	7 57	5 27	9 09	4 21	9 47	4 10
26	9 16	5 06	8 02	6 21	6 44	7 26	5 17	8 36	4 11	9 41	3 53	10 09	4 36	9 32	5 44	8 15	6 51	6 47	7 59	5 24	9 11	4 20	9 48	4 11
27	9 14	5 09	8 00	6 24	6 41	7 28	5 15	8 39	4 10	9 42	3 53	10 09	4 38	9 30	5 46	8 12	6 53	6 44	8 02	5 22	9 13	4 19	9 48	4 11
28	9 12	5 11	7 57	6 26	6 38	7 30	5 12	8 41	4 08	9 44	3 54	10 08	4 40	9 28	5 48	8 09	6 56	6 41	8 04	5 19	9 15	4 17	9 48	4 12
29	9 10	5 13	7 56	6 27	6 35	7 33	5 10	8 43	4 07	9 46	3 55	10 08	4 42	9 25	5 50	8 07	6 58	6 36	8 06	5 17	9 17	4 16	9 48	4 13
30	9 08	5 16			6 32	7 35	5 07	8 45	4 05	9 47	3 56	10 07	4 45	9 23	5 52	8 04	7 00	6 35	8 09	5 14	9 19	4 15	9 47	4 15
31	9 06	5 18			6 29	7 37			4 04	9 49			4 47	9 21	5 55	8 01			8 12	5 12			9 47	4 16

Add one hour for Daylight Saving Time if and when in use.

I certify that the above data are the result of an accurate and true computation by the Nautical Almanac Office, United States Naval Observatory, an agency charged by Federal Statute (9 Stat. L. 374, 375) with the duty of making such computations and publishing the results.

E. W. Woolard

E. W. WOOLARD
Director Nautical Almanac
U. S. Naval Observatory

C. G. Christie

C. G. CHRISTIE
Captain, USN
Superintendent
U. S. Naval Observatory

(OVER)

TABLES OF SUNRISE AND SUNSET

The table on the other side of this sheet may be used in any year of the twentieth century and within the geographical boundary of the stated place with an error not exceeding 2 minutes and generally less than 1 minute. It may also be used anywhere in the vicinity of the stated place with an additional error of less than 1 minute for each nine miles, reckoned from the station of the U.S. Weather Bureau for the stated place, as of 1958, or reckoned from the nearest boundary in cases when no station of the Weather Bureau existed for the stated place.

Tables are available for almost all stations of the U.S. Weather Bureau, and all cities of over 50,000 population (1950 census) which are sufficiently remote from other cities of like size to require a separate computation.

The standard time shown is in conformity with time zone boundaries specified by the Interstate Commerce Commission as of 1958.

Eastern Standard Time is the local time of the 75th meridian. Central Standard Time is the local time of the 90th meridian. Mountain Standard Time is the local time of the 105th meridian. Pacific Standard Time is the local time of the 120th meridian.

Sunrise and sunset are considered to occur when the upper edge of the disk of the Sun appears to be exactly on the horizon. The times of sunrise and sunset given in this table are for an unobstructed horizon, with normal atmospheric conditions, at zero elevation above the Earth's surface in a level region.

The computations are based on a constant semidiameter of the Sun of 16 minutes of arc, an adopted refraction at the horizon of 34 minutes of arc, and the path of the Sun for the year 1966.

Should greater precision be required, corrections for elevation of the observer, angular elevation of the visible horizon, deviations from standard atmospheric conditions, and for a specific year may be derived from "Tables of Sunrise, Sunset and Twilight," Supplement to the American Ephemeris, 1946, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1959

551961 O - 58

TABLE NUMBERS AND LOCATIONS

ALABAMA
1001 Birmingham
1002 Gadsden
1003 Mobile
1004 Montgomery

ALASKA
1005 Anchorage
1006 Annette Island
1007 Barrow
1008 Barter Island
1009 Bethel
1010 Cold Bay
1011 Cordova
1012 Fairbanks
1013 Juneau
1014 King Salmon
1015 Kodiak
1016 McGrath
1017 Nome
1018 St. Paul Island
1019 Yakutat

ARIZONA
1020 Flagstaff
1021 Phoenix
1022 Prescott
1023 Tucson
1024 Winslow
1025 Yuma

ARKANSAS
1026 Fort Smith
1027 Little Rock
1028 Texarkana

CALIFORNIA
1029 Bakersfield
1030 Bishop
1031 Blue Canyon
1032 Burbank
1033 Eureka
1034 Fresno
1035 Los Angeles
1036 Mt. Shasta
1037 Oakland
1038 Pasadena
1039 Red Bluff
1040 Sacramento
1041 San Bernardino
1042 Sandberg
1043 San Diego
1044 San Francisco
1045 San Jose
1046 Santa Maria
1047 Stockton

COLORADO
1048 Alamosa
1049 Colorado Springs
1050 Denver
1051 Grand Junction
1052 Pueblo

CONNECTICUT
1053 Bridgeport
1054 Hartford
1055 New Britain
1056 New Haven
1057 Stamford
1058 Waterbury

DELAWARE
1059 Dover
1060 Wilmington

DISTRICT OF COLUMBIA
1061 Washington

FLORIDA
1062 Apalachicola
1063 Daytona Beach
1064 Fort Myers
1065 Jacksonville
1066 Key West
1067 Lakeland
1068 Miami
1069 Orlando
1070 Pensacola
1071 Tallahassee
1072 Tampa
1073 West Palm Beach

GEORGIA
1074 Athens
1075 Atlanta
1076 Augusta
1077 Columbus
1078 Macon
1079 Rome
1080 Savannah
1081 Thomasville
1082 Valdosta

HAWAII
1083 Hilo
1084 Honolulu

IDAHO
1085 Boise
1086 Lewiston
1087 Pocatello

ILLINOIS
1088 Aurora
1089 Cairo
1090 Chicago
1091 Decatur
1092 Evanston
1093 Joliet
1094 Moline
1095 Peoria
1096 Rockford
1097 Springfield

INDIANA
1098 Evansville
1099 Fort Wayne
1100 Gary
1101 Indianapolis
1102 Muncie
1103 South Bend
1104 Terre Haute

IOWA
1105 Burlington
1106 Cedar Rapids
1107 Des Moines
1108 Dubuque
1109 Sioux City
1110 Waterloo

KANSAS
1111 Concordia
1112 Dodge City
1113 Goodland
1114 Topeka
1115 Wichita

KENTUCKY
1116 Frankfort
1117 Lexington
1118 Louisville

LOUISIANA
1119 Baton Rouge
1120 Burrwood
1121 Lake Charles
1122 New Orleans
1123 Shreveport

MAINE
1124 Augusta
1125 Caribou
1126 Portland

MARYLAND
1127 Annapolis
1128 Baltimore
1129 Frederick

MASSACHUSETTS
1130 Boston
1131 Brockton
1132 Fall River
1133 Lawrence
1134 Nantucket
1135 New Bedford
1136 Pittsfield
1137 Springfield
1138 Worcester

MICHIGAN
1139 Alpena
1140 Bay City
1141 Dearborn
1142 Detroit
1143 Escanaba
1144 Flint
1145 Grand Rapids
1146 Jackson
1147 Kalamazoo
1148 Lansing
1149 Marquette
1150 Muskegon
1151 Pontiac
1152 Sault Ste. Marie

MINNESOTA
1153 Duluth
1154 International Falls
1155 Minneapolis
1156 Rochester
1157 St. Cloud

MISSISSIPPI
1158 Jackson
1159 Meridian
1160 Vicksburg

MISSOURI
1161 Columbia
1162 Jefferson City
1163 Kansas City
1164 St. Joseph
1165 St. Louis
1166 Springfield

MONTANA
1167 Billings
1168 Glasgow
1169 Great Falls
1170 Havre
1171 Helena
1172 Kalispell
1173 Missoula

NEBRASKA
1174 Grand Island
1175 Lincoln
1176 Norfolk
1177 North Platte
1178 Omaha
1179 Scottsbluff
1180 Valentine

NEVADA
1181 Carson City
1182 Elko
1183 Ely
1184 Las Vegas
1185 Reno
1186 Winnemucca

NEW HAMPSHIRE
1187 Concord
1188 Manchester

NEW JERSEY
1189 Atlantic City
1190 Camden
1191 Newark
1192 Trenton

NEW MEXICO
1193 Albuquerque
1194 Clayton
1195 Roton
1196 Roswell
1197 Santa Fe

NEW YORK
1198 Albany
1199 Binghamton
1200 Buffalo
1201 New York
1202 Niagara Falls
1203 Rochester
1204 Schenectady
1205 Syracuse
1206 Utica

NORTH CAROLINA
1207 Asheville
1208 Cape Hatteras
1209 Charlotte
1210 Greensboro
1211 Raleigh
1212 Wilmington
1213 Winston-Salem

NORTH DAKOTA
1214 Bismarck
1215 Devils Lake
1216 Fargo
1217 Williston

OHIO
1218 Akron
1219 Cincinnati
1220 Cleveland
1221 Cleveland Heights
1222 Columbus
1223 Dayton
1224 Hamilton
1225 Lima
1226 Lorain
1227 Sandusky
1228 Springfield
1229 Toledo
1230 Youngstown

OKLAHOMA
1231 Oklahoma City
1232 Tulsa

OREGON
1233 Astoria
1234 Burns
1235 Eugene
1236 Meacham
1237 Medford
1238 Pendleton
1239 Portland
1240 Roseburg
1241 Salem
1242 Sexton Summit

PENNSYLVANIA
1243 Allentown
1244 Altoona
1245 Chester
1246 Erie
1247 Harrisburg
1248 Johnstown
1249 Lancaster
1250 McKeesport
1251 Philadelphia
1252 Pittsburgh
1253 Reading
1254 Scranton
1255 Wilkes-Barre
1256 Williamsport
1257 York

RHODE ISLAND
1258 Block Island
1259 Providence
1260 Woonsocket

SOUTH CAROLINA
1261 Charleston
1262 Columbia
1263 Florence
1264 Greenville
1265 Spartanburg

SOUTH DAKOTA
1266 Huron
1267 Pierre
1268 Rapid City
1269 Sioux Falls

TENNESSEE
1270 Bristol
1271 Chattanooga
1272 Knoxville
1273 Memphis
1274 Nashville

TEXAS
1275 Abilene
1276 Amarillo
1277 Austin
1278 Brownsville
1279 Corpus Christi
1280 Dallas
1281 Del Rio
1282 El Paso
1283 Fort Worth
1284 Galveston
1285 Houston
1286 Laredo
1287 Lubbock
1288 Midland
1289 Port Arthur
1290 San Angelo
1291 San Antonio
1292 Victoria
1293 Waco
1294 Wichita Falls

UTAH
1295 Milford
1296 Ogden
1297 Salt Lake City

VERMONT
1298 Burlington
1299 Montpelier

VIRGINIA
1300 Cape Henry
1301 Lynchburg
1302 Norfolk
1303 Portsmouth
1304 Richmond
1305 Roanoke

WASHINGTON
1306 Olympia
1307 Seattle
1308 Spokane
1309 Stampede Pass
1310 Tacoma
1311 Tatoosh Island
1312 Walla Walla
1313 Yakima

WEST VIRGINIA
1314 Charleston
1315 Huntington
1316 Parkersburg
1317 Wheeling

WISCONSIN
1318 Green Bay
1319 Kenosha
1320 La Crosse
1321 Madison
1322 Milwaukee
1323 Racine

WYOMING
1324 Casper
1325 Cheyenne
1326 Lander
1327 Sheridan

ALASKA STATE LEGISLATURE
REPRESENTATIVE WOODIE SALMON

SPONSOR STATEMENT

HB 176: An act exempting the state and its political subdivisions from daylight saving time

House Bill 176, an act to exempt the state from daylight saving time, will rid Alaskans of a frustrating and pointless biannual obligation and will help to prevent the disruption of Alaskans' circadian rhythms.

Daylight saving time is a frustrating and pointless biannual disturbance of Alaskans' lives. Each April and October, Alaskans must go through the tedious chore of changing all timepieces in their homes and offices in order to conform to the time change. If this time change were particularly helpful to Alaskans, this expenditure of time and effort might be worth the energy involved. However, daylight saving time serves no purpose for the vast majority of Alaskans. The original rationale for daylight saving time was to maximize daylight; given the northern latitudes in which Alaskans live and the resulting darkness that persists in most of Alaska from late fall to early spring, daylight saving time is a senseless interference in Alaskans' lives.

Furthermore, cognitive and human environmental researchers have shown that there is an objectively verifiable disruption to humans' circadian rhythms when they adjust to daylight saving time in the fall and again when they adjust to standard time in the spring. The human body's clock is governed by "circadian rhythms" that oversee daily patterns of sleeping and waking activities including alertness and tiredness, as well as virtually every other human biological function. Circadian rhythms are part of our hardwired physiology, and cannot be easily reset like the hands of a clock.

Several other U.S. states and territories have chosen exemption from daylight saving time. These include Hawaii, American Samoa, Guam, Puerto Rico, the Virgin Islands, most of the Eastern Time Zone portion of the State of Indiana, and the state of Arizona (not the Navajo Indian Reservation, which does observe daylight saving time.) Alaska will certainly not be alone in choosing to exempt itself from observance of daylight saving time.

I respectfully urge your support for House Bill 176.

State Capitol • Juneau, AK 99801-1182 • (907) 465-4527 • Fax (907) 465-2197
Representative_Woodie_Salmon@legis.state.ak.us

ALASKA STATE LEGISLATURE
REPRESENTATIVE WOODIE SALMON

SECTIONAL ANALYSIS

An act exempting the state and its political subdivisions from daylight saving time

Section One exempts the state from adherence to the federal law establishing daylight saving time.

State Capitol • Juneau, AK 99801-1182 • (907) 465-4527 • Fax (907) 465-2197
Representative_Woodie_Salmon@legis.state.ak.us

FISCAL NOTE

STATE OF ALASKA
2005 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HB 176
(H) Publish Date: 4/8/05

Revision Date/Time (Note if correction):
Dept. Affected: Administration
Title "An Act exempting the state and its political subdivisions from daylight savings time."
RDU All
Component All
Sponsor Rep Salmon
Requester (H) Community & Regional Affairs
Component No. 45

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services						
Travel						
Contractual	0.0	0.0	0.0	0.0	0.0	0.0
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2005) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor's FY 2006 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: *(Attach a separate page if necessary)*

This bill exempts the state and all of its political subdivisions from observation of advanced time, also known as daylight savings time, between 2:00 a.m. on the first Sunday in April and 2:00 a.m. on the last Sunday in October in each calendar year. The entire state and all of its political subdivisions shall observe the standard time that is otherwise applicable during that time.

This bill will have no fiscal impact on the department.

Prepared by: Eric Swanson, Director
Phone 465-5655
Division Administrative Services
Date/Time 4/7/05 8:58 AM
Approved by: Michael Tibbles, Deputy Commissioner
Date 4/7/2005
Agency Department of Administration

(Revised 9/23/2004 OMB)

Johns Hopkins Focus: See the Light

The amount and timing of daylight can have a major impact on everyday life.

We are, all of us, slaves to the daylight. Sunlight is, after all, the "spark of life," without which there would be no plant growth, no photosynthesis, no oxygen. On a more personal level, light causes normal physiological fluctuations that can affect the way we feel, think and sleep. Depending on personal sensitivity and the extent of light changes, the effects can range from mild fatigue to severe depression.

Getting into the rhythm

What keeps us tied to the light is a cleverly balanced internal clock, known as circadian rhythm, that synchronizes a variety of physiological systems including heart rate, body temperature and, most importantly, sleep cycles. The clock is set by light; it can be reset by changes in the timing or duration of light exposure.

"Most of us don't think twice about our circadian rhythms," says David N. Neubauer, M.D., assistant professor of psychiatry and behavioral sciences at the Johns Hopkins University School of Medicine and associate director of the Sleep Disorders Center. "We take for granted that we become tired and sleepy at night, awake and alert during the day. We notice the effects only if our internal clock is 'out of sync.' For example, in my sleep disorders research, I see people with circadian rhythm disorders who cannot follow a normal sleep-wake cycle. Instead, they experience 'delayed sleep phase syndrome' or 'advanced sleep phase syndrome'; in other words, they're night owls and early birds." Night owls may be unable to fall asleep until 3 or 4 a.m. — and then they sleep too late. Early birds fall asleep easily but often awaken during those wee hours.

Most people notice the effects of circadian rhythms when they gain or lose time or during seasonal changes in light. Even small changes can cause dramatic symptoms in some people. Many travelers have experienced the lethargy, sleep disruption, difficulty concentrating and general "fuzziness" that occur with jet lag. Depending on the individual, those symptoms can persist for up to a week. And although one hour seems almost inconsequential, the semiannual change to and from daylight-saving time is enough to nudge some people into the same set of symptoms. Studies have found an increased rate of driving accidents the day after the spring time shift — more than may be explained by the simple loss of an hour's sleep.

According to Dr. Neubauer, no one knows exactly how light produces such strong effects. One theory is that light affects production of the hormone melatonin, which in turn influences the sleep-wake cycle. We know that melatonin levels vary throughout a 24-hour period, with large amounts produced at night and nearly none during the day. If you turn on a bright light in the middle of the night, when melatonin production is usually highest, that production temporarily stops.

Scientists are currently studying the use of melatonin supplements to correct circadian rhythm disorders. "In the meantime," Dr. Neubauer warns, "don't take the hormone without first consulting a doctor. Taken at the wrong time or in high doses, melatonin can cause sleepiness, sleep disturbance and impaired work or driving performance — and it may actually shift circadian rhythms in the wrong direction." Moreover, since the Food and Drug Administration doesn't regulate melatonin and

other "dietary supplements" for safety and efficacy, there are no standards for purity or dosages.

Why so SAD?

It's not unusual to be tuned to the seasonal shift in daybreak. Many people tend to sleep slightly later in the wintertime, when it's dark in the morning, and wake up somewhat earlier in the summertime, when dawn comes early. People with Seasonal Affective Disorder, however, have a much stronger, sometimes overwhelming response to that seasonal fluctuation in daylight.

"SAD sufferers regularly experience mood changes that emerge in the autumn, peak in the winter, then vanish in the spring," says Dr. Neubauer. "Along with being tired and depressed, people with SAD also tend to overeat and oversleep in winter, almost as if their bodies were preparing for hibernation. Most sufferers never seek help for the disorder or receive treatment."

Studies have shown that the prevalence of SAD varies with latitude. The farther north you go, the more likely you are to have the disorder. If northerners with SAD travel south in winter when they are depressed, they usually feel back to normal within three or four days. When they return home, their symptoms also return in a few days.

In the early 1980s, researchers discovered that simulating summer daylight — with extra light exposure in the early morning and late evening — often eased symptoms of SAD. Today, the best treatment for SAD is phototherapy, also called bright-light therapy.

Resetting the clock

For people with SAD, says Dr. Neubauer, 30 minutes to two hours of treatment with bright light is as effective as anti-depressant drugs. For jet lag, time changes and circadian rhythm disorders, the internal clock can be reset in either direction — shifted forward or backward, depending upon when light is used. Morning light is best for jump-starting the day for those who need to advance their internal clock, while evening light lengthens the day, delaying the internal clock.

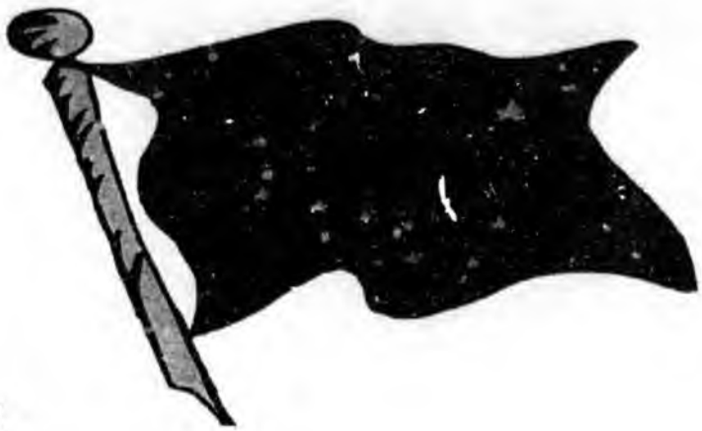
Phototherapy requires high-intensity light boxes designed to provide 2,500 to 10,000 lux (a unit of illumination) at a distance of one to two feet. Banks of fluorescent bulbs provide intense but diffused light without ultraviolet radiation. You can find light box manufacturers listed on the Web site of the Society for Light Treatment and Biological Rhythms (**www.sltbr.org**). Be sure to talk to your doctor about your symptoms before attempting any self-treatment on your own

Other bright ideas

For people who just want to smooth out their sleep-wake cycle and who don't have a serious circadian rhythm problem, Dr. Neubauer suggests these simple measures to manipulate exposure to light:

- If you get up in the middle of the night, avoid turning on bright lights. Light suppresses melatonin production and may make it more difficult to fall back to sleep. Put dimmer switches or nightlights in bathrooms and hallways.
- If you have trouble arising in the morning, maximize the amount of light in your bedroom as soon as you wake up.
- If you wake up too early in the morning, minimize the amount of dawn light. Wear a sleep mask or put blackout curtains on your windows. When you awake, keep lights dim to help gradually shift your usual pattern.
- Get plenty of sleep during the days and weeks before traveling across time zones, or when daylight-saving time begins (the first Sunday in April) and ends (the last Sunday in October). Starting fully rested will ease the transition.
- When traveling, get into the day/night cycle of the time zone you're going to as quickly as possible after you arrive. Don't hide in dark museums or hotel rooms upon arrival at your destination — stay out in the daylight.

Updated March 2004



(UPDATED MARCH 2005)

ABOLISH DAYLIGHT SAVING TIME IN ALASKA

SUPPORT ALASKA HOUSE BILL (HB) 176
AND SENATE BILL (SB) 120
"ELIMINATE DAYLIGHT SAVING TIME"
INTRODUCED IN FEBRUARY 2005

BY LEGISLATION OR BY CITIZEN INITIATIVE, ALASKANS CAN REPEAL DAYLIGHT SAVING TIME IN ALASKA

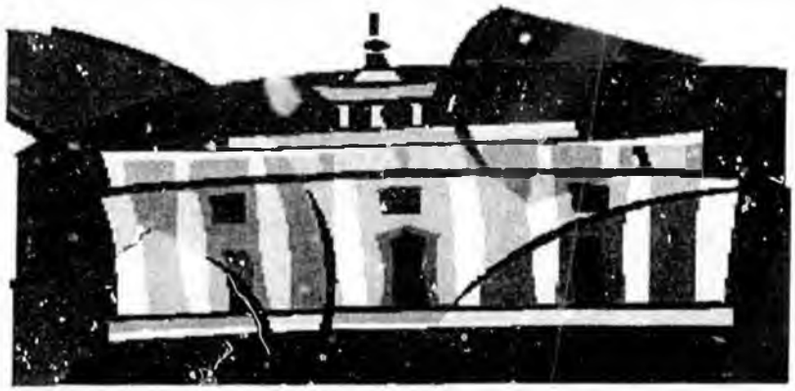
THE LAW: "Under the Uniform Time Act, moving an area on or off DST (Daylight Saving Time) is accomplished through legal action at the state level." (Daylight Saving Time, Heidi G. Yacker,Congressional Reference Division, Congressional Research Service, Library of Congress, No. 98-99C, Feb. 1998. http://webexhibits.org/daylightsaving/congressionalResearchService.html

A MAJORITY OF ALASKANS FAVOR REPEAL.

A STATEWIDE POLL CONDUCTED BY DITTMAN RESEARCH IN APRIL 2004 SHOWS THAT 58% OF ALASKANS FAVOR REPEAL OF DAYLIGHT

SAVING TIME (see appendix for poll data)

DAYLIGHT SAVING TIME IMPACTS ON EVERY ALASKAN TWICE A YEAR AND ITS CONTINUED USE IS WORTHY OF A FULL DEBATE AND VOTE BY THE ENTIRE STATE LEGISLATURE



Legislation has again been introduced to end the use of Daylight Saving Time in Alaska. House Bill 176 and SB 120 (both titled "ELIMINATE DAYLIGHT SAVING TIME) were introduced in February 2005. This is the third attempt in six years to rid Alaskans of this public nuisance. Only public pressure will assure success. Past efforts have been stymied by House Legislative Committee Chairmen who either refused to hold hearings, or refused to allow the bill to advance. Legislation to repeal Daylight Saving Time was introduced in 1999 (House Bill 4) and 2002 (House Bill 409). Both bills died in committee. (1999 Bill History) (2002 Bill History).

A simple telephone call, letter, Public Opinion Message (POM) or email will let the Alaska State Government know how you feel. Contact your State Representative, Senator, and the Office of the Governor and ask them to support HB 176 and SB 120 (ELIMINATE DAYLIGHT SAVING TIME) the current legislation to repeal Daylight Saving Time in Alaska. The Division of Election publishes a list of Alaska's elected officials . During the Legislative Session (January - May) you may call your Legislative Information Office for help to contact a politician.

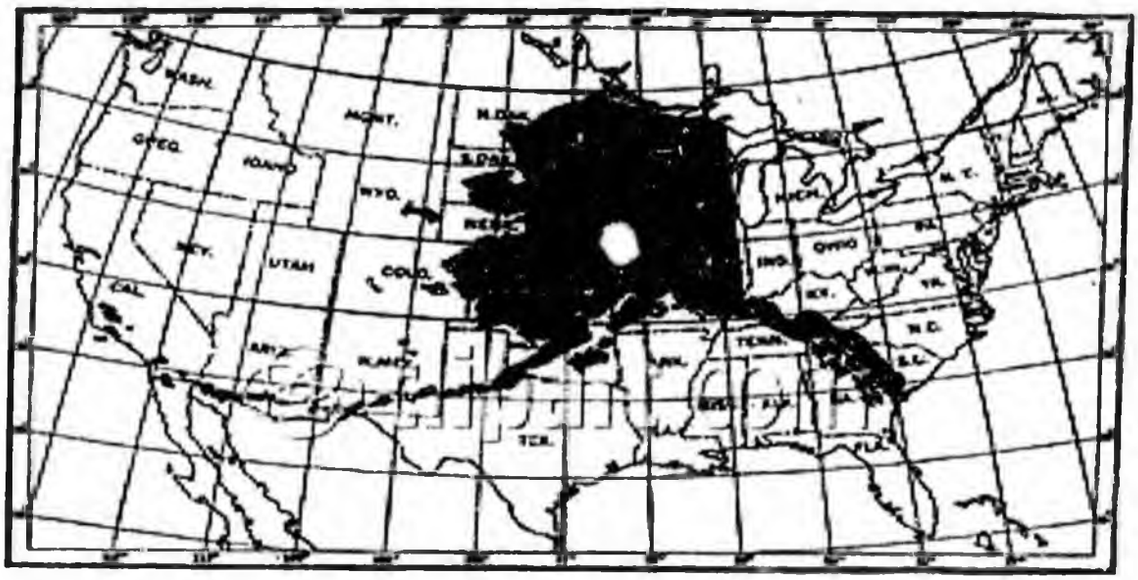
****

AN ARGUMENT TO REPEAL DAYLIGHT SAVING TIME IN ALASKA

"THAT GOVERNMENT IS BEST WHICH GOVERNS LEAST"

(THOMAS PAINE)

FIRST, WE HAVE DONE ENOUGH TIME ZONE CHANGING AND DAYLIGHT SAVING TIME MAKES A BAD SITUATION EVEN WORSE:



Prior to 1983 the great state of Alaska spanned four time zones. The continental United States spans four time zones. Use of four time zones allowed the noon hour to coincide with the highest position of the Sun in the sky across Alaska.

In 1983, the Bering, Yukon, and Alaska Time Zones were combined into a single time zone and our politicians forced all Alaskans (except for those in the far western Aleutians) to share a time zone with the Capital in Juneau. Prior to 1983, using four time zones allowed "sun time" and "clock time" to be synchronized. "Political Time" was created in 1983.

"Political Time" has no regard for the position of the sun in the sky.

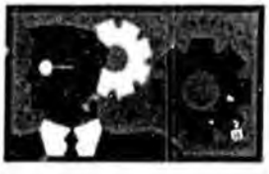
To create "Political time", clocks were permanently advanced in the time zones west of Juneau. Advancing clocks is using Daylight Saving Time. In 1983 Alaska went on permanent Daylight Saving Time.

But forcing all of us into a common time zone did not satisfy a few special interests. Even though we have already changed time zones to please these people, we are still required to change our clocks (and every other time keeping device we own) twice yearly.

From April to October Alaska is actually on double Daylight Saving Time in Alaska. The situation is so bizarre that during periods when Daylight Saving Time is in use, the Sun is highest in the Sky at 2:00 PM in Anchorage and 3:00 PM in Nome. An interesting discussion of this subject is in Ned Rozell's Alaska Science Forum Article #1278 "Alaskans Double Their Daylight Savings".

SECOND, ALASKA'S ECONOMY IS NOT HELPED BY DAYLIGHT SAVING TIME:



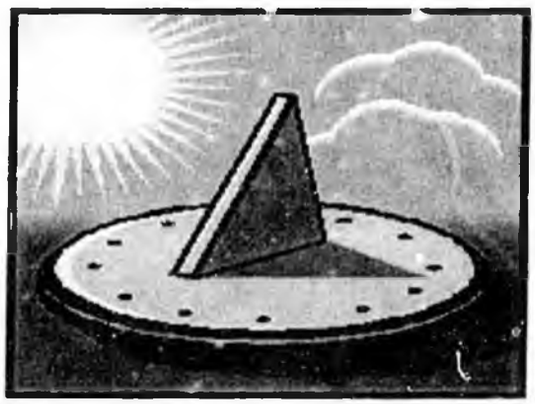



Did the 1983 time zone change in Alaska, and did our subsequent use of Daylight Saving Time, result in any measurable positive economic benefit to Alaska? If our economy benefits from using Daylight Saving Time then we must have by now gained a significant advantage over economies of Hawaii and Arizona; the territories of Puerto Rico, Virgin Islands, and American Samoa; the Canadian Province of Saskatchewan; and the Nations of China and Japan. None of these locations, among many others, use Daylight Saving Time. In

fact, Alaska can exploit its time zone differences to provide services during what would be non business hours in other locations.

The "it benefits commerce" rationale for keeping Daylight Saving Time is in fact a canard used by a few people who want every Alaskan to support their lifestyle. Business hours cannot be the same everywhere unless we all move into the same time zone. Maybe in the past, when business communications were limited to the rotary dial office telephone and the western union telegram, being close to Seattle time or New York time was helpful. However, now we have e-mail, faxes, pagers, voice mail, internet contact, and cell phones which allow you to reach any person or business location at any time of the day.

THIRD, WE ARE PEOPLE WHO LIVE IN THE "LAND OF THE MIDNIGHT SUN":



According to the US Naval Observatory, the Sun rose in Anchorage on April 3, 2004 at 6:14 AM and set at 7:52 PM. The next day, a Sunday morning, saw the return of Daylight Saving Time, and the time of daylight and sunset was instantly an hour different than it was on

Saturday, April 3rd. On Sunday those who forget to "spring forward" were an hour late for church, missed airplane flights, and were late for any other function if they showed up on Sunday using the previous day's time. Of course, by advancing our clocks we didn't really gain a thing, and the length of the day on Sunday April 4th was really only 6 minutes longer than it was the day before.

On June 21, 2004 (the longest day of the year), in Anchorage, the sun rose at 4:20AM and set at 11:42PM for a total of 19 Hours 22 Minutes of daylight, with not a second of daylight added by use of Daylight Saving Time.

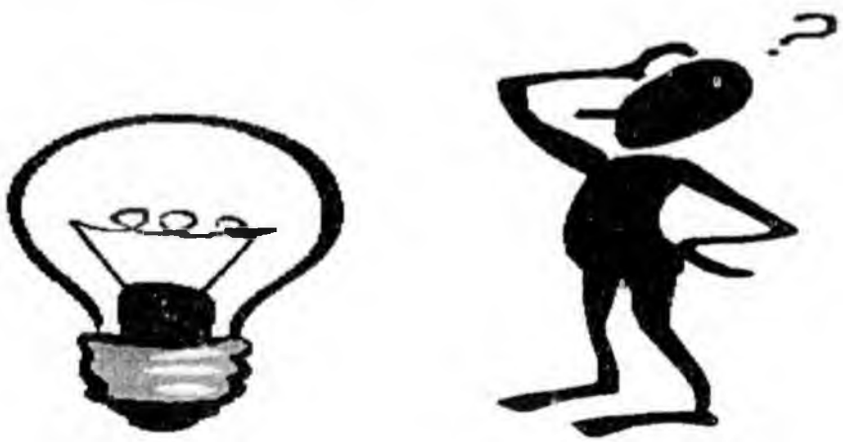
This clock changing is seen as "progress" to some. To please the minority, every Alaskan has to go through the clock changing drill twice a year. Our biological clocks which control our rhythms of sleep, hunger and other life patterns will have once more been assaulted by state sponsored jet lag. Overall public safety and job performance is impacted by sleep depravation. With regard to public safety, delaying sunset also delays sunrise the next morning. What benefit you may gain by more light in the evening may be lost in the extended darkness of the next morning.

This summer of 2004 saw several days of record breaking high temperatures in Alaska. The heat of the day lasted long into the evening partly because Daylight Saving Time has caused the sun to be at its highest in the mid afternoon. In Anchorage, when you arrived home from work at 5:00 PM Alaska Daylight Saving Time you were arriving at 3:00 PM "sun time" and the heat of the day was just beginning to subside.

Some contend that Daylight Saving Time provides daylight for

recreation. This may be true in the lower 48 where day length is about the same year round. That certainly shouldn't be a concern in the "land of the midnight sun". One of the greatest natural resources we have are our long summer days that nature provides, and in this case, nature does not need the assistance of the Alaska State Legislature. At the time of year when we began Daylight Saving Time, we are gaining approximately 6 minutes of real daylight each day. If you want an extra hour of daylight in April, wait 10 days.

FORTH, THERE ARE NO ENERGY SAVINGS FOR ALASKANS BY USING DAYLIGHT SAVING TIME:



If the sun is shining you won't need to turn on the lights and you save energy. Saving energy is the official government reason for using Daylight Saving Time. Time zones may have been adopted for the benefit of commerce, but Daylight Saving time was enacted to save energy. As far as the Federal Government is concerned, Daylight Saving Time was adopted to save energy, not to benefit commerce, not to insure that Alaska is no more than one hour from Seattle, and not to

allow you to play sports late in the evening.

I contacted ENSTAR Natural Gas Company, Matanuska Electric Association, and the Regulatory Commission of Alaska, asking if use of Daylight Saving Time had any impact on energy consumption. None of these agencies has any historical data relating to energy saving and the use of Daylight Saving Time. The consensus was that because of our rapidly changing length of day, Daylight Saving Time can have little impact on energy consumption. Temperature and extended periods of darkness impact energy useage - fiddling with the clock does not.

Has any government agency or business in Alaska praised the use of Daylight Saving Time for saving energy?

LASTLY, THE MAJORITY OF ALASKANS ARE NOT ALONE IN THEIR DESIRE TO END THE USE OF DAYLIGHT SAVING TIME.

Alaska is not the only place where Daylight Saving Time causes problems for its Citizens. This web site has been linked to a web site in Australia http://www.lightofday.primetap.com/Index.html where the use of Daylight Saving Time is being contested. Many of the same issues that cause contention in Alaska cause similar contention in Australia, Mexico and other locations. Daylight Saving Time is not the great

benefactor that some would like you to believe and its continued use needs to be justified.

DAYLIGHT SAVING TIME IS A WASTE OF TIME FOR ALASKANS.
CONTACT YOUR LEGISLATOR
REPEAL DAYLIGHT SAVING TIME IN ALASKA NOW!
THANK YOU.

LYNN WILLIS, EAGLE RIVER

APPENDIX
THE DITTMAN RESEARCH POLL DATA

THE SURVEY QUESTION: In early April, Alaska switched to Daylight Saving Time. In October , we will adjust our clocks and switch back again. What is your opinion about that- do you support Alaska switching to Daylight Saving Time for the summer and then switching back in the fall, or should we leave our clocks the same throughout the year? n=550

	UNSURE	SWITCH CLOCKS	KEEP SAME ALL YEAR	BASE
TOTAL	5%	37%	58%	100%

LOCATION	UNSURE	SWITCH CLOCKS	KEEP SAME ALL YEAR	BASE
RURAL	0%	30%	70%	11.1%
CENTRAL	7%	37%	56%	13.9%
SOUTH-CENTRAL	8%	26%	67%	23.0%
ANCHORAGE	4%	41%	55%	39.9%
SOUTHEAST	5%	55%	40%	12.1%

TIME IN	UNSURE	SWITCH	KEEP SAME	BASE

ALASKA		CLOCKS	ALL YEAR	
0-4 YEARS	0%	26%	74%	2.4%
5-9 YEARS	9%	46%	45%	5.0%
10-14 YEARS	9%	46%	45%	4.5%
15+ YEARS	5%	37%	59%	88.0%

AGE	UNSURE	SWITCH CLOCKS	KEEP SAME ALL YEAR	BASE
18-29 YEARS	4%	63%	33%	6.4%
30-44 YEARS	4%	42%	54%	22.3%
45-59 YEARS	5%	34%	61%	50.4%
60 PLUS	7%	32%	60%	20.9%

REGISTRATION	UNSURE	SWITCH CLOCKS	KEEP SAME ALL YEAR	BASE
DEMOCRAT	7%	40%	52%	15.0%
REPUBLICAN	4%	37%	60%	25.6%
NON-PARTISAN	5%	38%	57%	51.8%
OTHER	9%	24%	67%	7.6%

GENDER	UNSURE	SWITCH CLOCKS	KEEP SAME ALL YEAR	BASE
MALE	7%	35%	58%	52.5%
FEMALE	3%	40%	57%	47.8%

EMPLOYER	UNSURE	SWITCH CLOCKS	KEEP SAME ALL YEAR	BASE
FEDERAL	7%	25%	68%	7.5%
STATE	2%	36%	62%	9.7%
LOCAL	1%	41%	58%	11.2%
PRIVATE	5%	39%	56%	45%
NOT IN WORKFORCE	9%	36%	56%	26.6%

Springing ahead can make us feel like falling behind

Spring forward, fall back. It's a catchy phrase that helps us remember how to change our clocks in the transition to daylight-saving time in the spring and back to standard time in the fall.

And while the switch to daylight-saving time April 7 will mean most of the nation will enjoy longer evenings, a University researcher says the change can have quite an impact on our "biological clocks."

James S. Ferraro, an associate professor of physiology, studies circadian rhythms, the internal clocks that regulate sleep and other activities in everything from amoebas to humans. "All organisms have an internal clock," said Ferraro. "That clock basically establishes a pattern, or daily rhythm, that controls how we function. It works all by itself; it is not controlled by environmental factors."

James S. Ferraro, an associate professor of physiology, studies circadian rhythms, the internal clock that controls sleep and other activities.

Unfortunately for humans, that clock doesn't run on a 24-hour cycle. "It's more like 25 hours," Ferraro said. "And while we use environmental stimuli, such as alarm clocks, to keep things under control, time does catch up with us."

For instance, most people will stay up late on Friday and Saturday nights and get up later on Saturday and Sunday mornings. "If we go to bed an hour later than normal on those nights, we're looking at a two-hour difference come Monday morning, hence the term 'Monday blahs.'

"Most of the time, it's not a big deal, and we recover fairly quickly," Ferarro said. But factor in another hour lost in the switch to daylight-saving time and the problem is compounded.

"Most of the time, the effects are not readily apparent," Ferraro noted. "But when you look at a larger population base, you start to notice certain trends."
For example, traffic accidents and on-the-job injuries tend to increase in the days following the time changes.

"It's not a matter of losing sleep, it's a matter of adjusting the body's internal clock," he said. "It generally takes three or four days for us to get back on track.

While most people may not notice any change or inconvenience, Ferraro notes that some of us may not feel well for a few days. "We have to re-adjust our body clocks to the social cues that are on a 24-hour cycle," he said.

Ferraro, who earned a bachelor's degree from the University of Wisconsin, Parkside, in 1980 and a doctorate in physiology from The Chicago Medical School in 1984, has conducted research to determine how light affects the circadian clock of various organisms. "Light is an environmental factor and controls daily activities to a certain degree," said Ferraro. "But what happens in the absence of light? How does an organism function when environmental stimuli aren't present?

"Light is a correctional cue -- most living things reset their clocks every day to fit with solar time."

So what is it that controls our internal clock and gives us problems with the standard 24-hour daily time frame?

"The supra-chiasmatic nuclei, cells located in the base of the brain, are what makes human beings tick," said Ferraro. "If left to our own devices, without any social cues, we would probably get up later by the day and have our daily meals on a different cycle." So while getting back on track in the days following the switch to daylight-saving time may not be easy for some, take heart. The next time change isn't until Oct. 27.

- Rod Sievers
April 3, 2002

Supporters of HB 176

Alaska State Public Opinion Message System:

On 3/30/2005 Robert Weber of Wasilla (Dist 14) wrote:
My 11 daughter has to get up at 530 in the morning to go to school and I would like to have some one explain to me why she has to get up an hour early starting next Monday April 4th. Alaska's the only state in the that time zone.

On 3/26/2005 Jackie Bowling of Anchorage (Dist 21) wrote:
Please vote to repeal Daylight Savings Time in Alaska. I haven't seen any good reason to keep it. The whining businessmen don't make a good case for it. How do businessmen conduct business with companies halfway around the world? Please get rid of Daylight Savings Time in Alaska. Thank you.

On 3/22/2005 Martin Spargo of Wasilla (Dist 14) wrote:
SB120/HB176. This may seem small but I could support the idea of not having to reset my clock a couple times per year I mention it only because it is currently on your agenda. Thanks!

On 3/18/2005 Michael Hansen of Chugiak (Dist 16) wrote:
and SB 120. Please support any action to eliminate daylight savings time. It's a senseless waste of time.

On 3/16/2005 Jermey Beshaw of Glennallen (Dist 12) wrote:
Time to act! Time to stop thining about it! Time to go to work!

On 3/10/2005 Susan Novak of Kenai (Dist 33) wrote:
I want to express my support for eliminating daylight savings time. As a long-time Alaskan, I know that there is no reason to have this time change in Alaska. It serves no practical purpose.

On 3/9/2005 Sara Fann of Kenai (Dist 33) wrote:
Please vote to eliminate daylight savings time. With the short winter days in Alaska, I see no benefit for the inconvenience caused by the change in time.

On 3/9/2005 Rose Scaggs of Sterling (Dist 34) wrote:
Eliminate daylight savings time. It is a nuisance trying to adjust to the change, especially when you drive a significant distance to work, you want the daylight to avoid moose. It is always worse in the morning.

On 3/9/2005 Henry Novak of Kenai (Dist 33) wrote:
Please eliminate daylight savings time as it is ridiculous in Alaska with our seasonal variations in light.

On 3/9/2005 Barbara Parker of Anchorage (Dist 23) wrote:
I urge your support of HB 176 and SB 120 that will eliminate the ludicrous daylight savings time.

On 3/7/2005 James Jordan of Anchorage (Dist 23) wrote:
and SB 120. I support these bills.

On 3/11/2005 Patricia Curtis of Anchorage (Dist 21) wrote:
I strongly urge you to eliminate Daylight Savings Time. Thanks

On 4/3/2005 Jackie Bowling of Anchorage (Dist 21) wrote:
Please get the Daylight Saving bill out of committee and to the floor for a vote. There is no good reason to have that archaic policy in effect for Alaska. Hawaii, Arizona and parts of Indiana don't have it. I think businesses there are doing okay without it.

On 4/4/2005 Joel Gaynor of Anchorage (Dist 16) wrote:
Please authorize HB 176 and SB 120. Make a big difference in quality of life for all. Alaskans now coping with time that is two hours off of the sun. Thank you.

On 4/4/2005 Mildred Mcmichael of Homer (Dist 35) wrote:
Please get rid of daylight savings time and also the extra hour that Sheffield put on us as we don't need it.

On 4/5/2005 Deloris Scott of Willow (Dist 15) wrote:
Please eliminate the daylight savings time and the changing of the clocks.

On 4/6/2005 Joel Gaynor of Anchorage (Dist 16) wrote:
I hope you support HB176 and SB120 and end daylight saving time. Ending DST will make a marked improvement in the lives of Alaskans. Everyone I talk to hates it, I've found nobody in favor of it. Please end DST for us now.

On 4/6/2005 Corey Williamson of Fairbanks (Dist 08) wrote:
PLEASE SUPPORT HB176 AND SB120

On 4/6/2005 June Wharam of Eagle River (Dist 32) wrote:
House Bill 176 and Senate Bill 120 have both been written to put an end to daylight saving time in Alaska. I strongly urge you to support these measures! Thank you for your consideration.

On 3/18/2005 Michael Hansen of Chugiak (Dist 16) wrote:
and SB 120. Please support any action to eliminate daylight savings time. It's a senseless waste of time.

On 3/9/2005 Barbara Parker of Anchorage (Dist 23) wrote:
I urge your support of HB 176 and SB 120 that will eliminate the ludicrous daylight savings time.

On 4/12/2005 Charles Serra of Anchorage (Dist 27) wrote:
Daylight savings time serves no purpose for Alaskans; we need morning light not late night light. Economics are not hurt six months of the year when we are one more hour from the east coast, that is a tired argument. Electronic media has changed how we do business.

On 4/9/2005 Christine Oconnor of Dillingham (Dist 37) wrote:
Please support elimination of daylight savings time in Alaska.

On 4/10/2005 Linda Plante of Anchorage (Dist 29) wrote:
Hello, Because of all the daylight in Alaska it seems irrelevant that we would really need to set our clocks back or ahead! I vote we use one time all year, Keep it simple!

On 4/10/2005 Sheryl Maney of Anchorage (Dist 29) wrote:
Please get us out of Daylight Savings Time. We don't need it here, never have. It seems pretty ridiculous up here in the land of the midnight sun to "save daylight". I vote we get rid of it NOW!

On 4/11/2005 Weaver Franklin of Anchorage (Dist 23) wrote:
Abolish daylight savings time. Demonstrate to all Alaskan's that you occasionally exercise good judgment and reason without costing a bundle of state money.

On 4/11/2005 Roger Laber of Soldotna (Dist 33) wrote:
Lobbyists are not demanding it. Gov. Murkowski hasn't requested it. It doesn't enhance taxes. It doesn't cost anything. It benefits all real Alaskans. Maybe the legislature will do something on its own and stop Alaska daylight saving time.

On 4/4/2005 Larry Ramage of Wasilla (Dist 16) wrote:
Please opt Alaska out of the daylight saving time program. What a waste of "time". This is Alaska, where are the advantages here?

On 4/9/2005 Sheila Lankford of Anchorage (Dist 28) wrote:
PLEASE eliminate daylight savings time. Email and internet availability have considerably reduced the impact to business; business is routinely conducted around the world regardless of time zone. I also represent business; I am co-owner of Montana Creek Campground. Incoming telephone calls have almost disappeared since we joined the computer world.

From: Cox, Randal L. [rcox@anvilcorp.com]
Sent: Friday, April 08, 2005 8:03 AM
To: salmon@akdemocrats.org
Subject: NEWS RELEASE: Salmon Acts to Eliminate Daylight Savings

Hi Woodie,
Thanks for stepping up!

Don't forget the time wasted to reset every time piece.
It takes one hour to change both cars, the clocks, VCRs and appliances.

Good job!
Randy

Rep. Woodie Salmon

From: shawn [sourdoug@gci.net]
Sent: Saturday, April 09, 2005 12:09 PM
To: Rep. Woodie Salmon
Subject: DST

I am writing in support of HB 176, the elimination of daylight savings time. Daylight savings time I think is not necessary In Alaska. Why save an hour when we get 20 hours as it is. Also with todays Internet and e-mail technology, communicating on the east coast is easier than ever.

Thank you for your time,

Shawn McVettie (sourdoug@gci.net)

From: Marjorie & Dan Dunaway [mwdnt@nushtel.com]
Sent: Sunday, April 10, 2005 11:00 PM
To: salmon@akdemocrats.org
Cc: Rep. Carl Moses
Subject: daylight savings

Yeah!!! I support your initiative.

We are always on Daylight savings while we're on Yukon standard time - that's bad enough. Going on Yukon daylight is even worse for those of us out here in western AK.

I used to try to go to bed in Unalaska at midnight and the sun was blasting in my windows very high in the sky.

Its almost as bad here in Dillingham.

Go for it.

Dan Dunaway
PO Box 1490
Dillingham, Alaska

Rep. Woodie Salmon

From: akdonn@acsalaska.net
Sent: Sunday, April 10, 2005 11:15 PM
To: Rep. Paul Seaton; Rep. Carl Gatto; Rep. Berta Gardner; Rep. Bob Lynn; Representative_Jay_Ramras@legis.state.ak.usRepresentative_Jim_Elkins@legis.state.ak.us; Rep. Max Gruenberg
Cc: Rep. Woodie Salmon; Rep. Vic Kohring; Rep. Eric Croft
Subject: Daylight Savings Time

House State Affairs Committee Members:

I am writing in support of SB 176, "An Act exempting the state and its political subdivisions from daylight saving time."

We do not need Daylight Savings Time, and it is nothing more than a twice annual inconvenience. Please pass this bill out of committee with a do pass recommendation.

Thank you,
Donn Liston
3000 Princeton Way
Anchorage, AK 99508

Rep. Woodie Salmon

From: Joy Shantz [joy_shantz@lksd.org]
Sent: Monday, April 11, 2005 8:24 AM
To: Sen. Lyman Hoffman; Rep. Mary Kapsner; Rep. Woodie Salmon
Subject: STOP DAYLIGHT SAVINGS TIME

Daylight savings time...

WE DON"T NEED IT IN ALASKA!

Come on, leaders, DO SOMETHING that will be good for everyone in Alaska. Nobody gets hurt, swindled, embarrassed, short-sided or taxed. Urbanites will benefit equally to ruralites.

JUST DO IT!

Joy Shantz
LKSD Graphics Department
Bethel, Alaska
907-543-4929

Rep. Woodie Salmon

From: Carl Williams [carl_williams@lksd.org]
Sent: Monday, April 11, 2005 9:29 AM
To: Rep. Woodie Salmon; Representatiive_Mary_Kapsner@legis.state.ak.us; Sen. Lyman Hoffman
Subject: Re: Day-Light saving time, Schools and Testing

I read the Saturday article on the testing pain and woes of Anchorage schools and teachers with the new Standards Based Assessments with more than a little ineterest. It means that now that Anchorage students have had to face what my students have been dealing with for 5 years, maybe we will see some shift toward testing that is less intrusive in the instructional program. My last student finished their testing at 9:20 PM on Tuesday, the last student finished at 4:20 PM on Wednesday, and Thursday my last student finished at 6:20 PM.

This is hard enough, but to do this the week daylight savings started made things worse. In fact, Daylight Savings Time makes a lot of things worse.
The sun is setting at about 10:00 PM, and Nautical Twilight (which my kids seem to follow) is now within a few minutes of midnight. It is not the loss of the hour, except during testing week, that is the issue. The issue for the balance of the school lies in our not being able to work as effectively as we would like with students whose body clocks are so far out of cycle with the school day.

Please support this measure.

Carl Williams, Principal
Akiuk Memorial School
Kasigluk, AK 99609

Rep. Woodie Salmon

From: rbeck [rbeck@gci.net]

Sent: Monday, April 11, 2005 6:14 PM

To: Rep. Tom Anderson; Rep. Ethan Berkowitz; Rep. Mike Chenault; Rep. Sharon Cissna; Rep. John Coghill; Rep. Harry Crawford; Rep. Eric Croft; Rep. Nancy Dahlstrom; Rep. Jim Elkins; Rep. Richard Foster; Rep. Les Gara; Rep. Berta Gardner; Rep. Carl Gatto; Rep. Max Gruenberg; Rep. John Harris; Rep. Mike Hawker; Rep. Jim Holm; Rep. Reggie Joule; Rep. Mary Kapsner; Rep. Mike Kelly; Rep. Beth Kerttula; Rep. Vic Kohring; Rep. Pete Kott; Rep. Gabrielle LeDoux; Rep. Bob Lynn; Rep. Lesil McGuire; Rep. Kevin Meyer; Rep. Carl Moses; Rep. Mark Neuman; Rep. Kurt Olson; Rep. Jay Ramras; Rep. Norman Rokeberg; Rep. Woodie Salmon; Rep. Ralph Samuels; Rep. Paul Seaton; Rep. Bill Stoltze; Rep. Bill Thomas; Rep. Bruce Weyhrauch; Rep. Peggy Wilson

Subject: No More Daylight Savings Time Please!

I would just like to say I support not having daylight savings time in Alaska. I agree that it makes no sense for us from an energy or light savings standpoint. It does not make it any safer or easier to do anything up here!

What also seems to be overlooked is the loss of productivity twice a year when people are forced to change their internal clocks. There are enough problems without having to change families (especially children's) schedules.

As for work, I do business with both Arizona and Hawaii and have had to deal with those states not changing for years. So I'm quite sure any competent person will be able to adjust to the fact the other states would change their clocks without us. It's not that hard to do!

Finally for those of you that have lived here a long time, I'm sure you remember that Alaska originally had (about) 4 times zones. I don't recall when, but years ago they moved us closer (in time) to the west coast. If you want to fix that too, I'm sure a lot of folks would appreciate moving us back into our correct time zones!!! The sun would actually be overhead at noon again!

Sincerely,

Rick Beck

ps: Whatever happened to "We don't care how they do it outside

Rep. Woodie Salmon

From: Rita Kalistook [Rita_Kalistook@ykhc.org]
Sent: Tuesday, April 12, 2005 8:50 AM
To: Sen. Lyman Hoffman; Rep. Mary Kapsner; Rep. Woodie Salmon
Subject: Daylight savings time.

I am writing to express my support for ending "daylight savings time".
Here in western Alaska we do not need the disruption. Being farthest west in a unnaturally large time zone already makes our sunrise and sun set later than the rest of the state. Adding daylight savings time makes this time of year very hard on children because their routines, bedtime and schooling are adversely affected. Concerns for children, lifestyles and common sense should prevail over business interests regarding this topic.
Thankyou

Rita Kalistook RN, MSN, FNP
Basic Training Clinical Instructor
Community Health Aide Program
Yukon Kuskokwim Health Corporation
Bethel, Alaska
907-543-6151

Alaska State Legislature

Please enter into the record my testimony to the House Community and Regional Affairs
committee name

Committee on HB 176 , dated Thursday, April 7, 2005
bill # / subject public hearing date

I am fervently opposed to Daylight Savings Time in Alaska as well as the rest of the country. I have never seen a need for DST, especially in Alaska where we are blessed with 24 hours of daylight during the summer months and less than 6 hours of daylight during the winter. In both cases, trying to "save" an hour here or there proves useless and only becomes an inconvenience to the public, trying to adjust their biological clocks to accommodate this needless bi-annual ritual.

Signed: Ruth M. Ranson
Testifier

Representing (optional)

PO Box 522 Sterling AK 99672
Address

907-260-5952
Phone number

Alaska State Legislature

Please enter into the record my testimony to the House Community and Regional Affairs committee name

Committee on HB 176 bill # / subject , dated Thursday, April 7, 2005 public hearing date

I am passionately opposed to daylight savings time for the reasons listed below:

1. Because the Yukon Time Zone was removed, Alaskans are already one hour ahead of sun time. When we are on daylight savings time, our clocks are two hours off the natural rhythm of the light/dark cycle.
2. Studies have shown that more auto accidents occur during daylight savings time months, and more sickness occurs, as a result of the body's defenses being diminished by disrupted sleep patterns.
3. I have never been given an explanation for DST that justifies the inconvenience and hardship of manipulating our clocks.
4. There is not a realistic connection between our society and the world into which DST was introduced.
5. Technology makes communication between time zones seamless.
6. DST is a hardship on families with small children who need regular bedtimes, but are forced to fit into a schedule that doesn't match their internal clock.
7. Everyone I know is adamantly opposed to DST. It is a practice imposed by government regulation that is not supported by the general public.

Signed: Teresa M. Danielson
Testifier

PO Box 1322, Sterling, AK 99672
Address

907 262-7761
Phone number

April 5, 2005

Rep. Salmon;

I support HB 176 and would like to share an article from the April 2005 Better Homes & Garden Issue. Maybe it will help you with this bill. Please let me know if there is anything I can do to help get this bill moving.

DENNY KAY WEATHERS
From House District 5
Phone: 907-424-3745
Email northerngirl@teak.net

SPRING AHEAD, FALL BEHIND (ON SLEEP)

If you live in a time zone that observes daylight saving time, you know that April is the month that clocks go ahead an hour. But do you also know that you should head to bed an hour early to compensate? Canadian researchers recently showed that traffic accidents jump 8 percent on the Monday following the time change. The study, published in the *New England Journal of Medicine*, attributed the rise in accidents to the drowsiness caused by an hour of lost sleep.

PHOTOGRAPH GETTY IMAGES

Paula Rak
PO Box 1852 Wrangell, Alaska 99929
(907) 874-3824 voice/fax
E-mail: paularak@aptalaska.net

April 7, 2006

House State Affairs Committee:

I would like to express my opposition to HB 176, which requests an elimination of Daylight Savings Time. Although it is inconvenient to spend a few minutes twice a year changing clocks, it is not worth the inconvenience of being two hours off Seattle half the year. Federal Statue 15 USC 260-64, time zones was established in the United States with "regard for the convenience of commerce and the existing junction points and division points of common carriers engaged in interstate commerce". The convenience of commerce has been defined to include consideration of all the impacts upon a community, which include impacts on individuals, families, businesses and other organizations.

Because of our location in the Pacific Northwest, our commerce has historically been tied to the Seattle area, which observes Pacific Time. The proposed change would mean that we would be one hour different from Seattle in the winter and two hours different in the summer. In 1983, our elected officials wanted to "unify Alaska" by combining time zones. When they proposed that most of Alaska change to Alaska Standard Time, there was a loud outcry from Southeast Alaska. We were on PST/PDT (along with Seattle), and most residents did not want to change. Votes were held in many communities in Southern Southeast and it was overwhelmingly shown that SE wanted to stay on PST/PDT. Now we are being asked to swallow being an additional hour away from the "natural" and preferred time zone for part of the year.

When most of Alaska switched to one time zone, it put the farthest east and the farthest west residents on a time zone that was not "natural" for the rhythms of the sun for either area. It was touted as a compromise to unify the state. Unfortunately, we all find it inconvenient. I suggest that we either learn to live with this compromise or switch back to the way we were before the change in 1983. If the objection is spending a few minutes changing clocks twice a year, then we could compromise by staying on Daylight Savings Time year round. I personally do not find it objectionable to switch clocks.

As a business owner, I find it very inconvenient to be 4 hours different from the East Coast. This change would mean that we would be 5 hours different for part of the year and that we would have to try to remember when the rest of the country changes. Most people can't remember now without reminders, let alone try to remember when we are no longer switching ourselves (when there would be no reminders).

As an individual, I would sorely miss that lost hour of evening daylight. It would be greatly missed in the spring and summer when the days are shorter. Please remember that SE is much farther south than your districts and our longest days are shorter than yours are. As a parent, the children would miss that hour of playtime after school. I realize that it would not make as much difference in areas outside of Southeast Alaska, but the difference would be significant here. Longitudinally speaking, SE Alaska belongs on PST/PDT. Anchorage, being farther east, belongs two hours away, just as it was.

We were all forced to compromise to join into one time zone. Now, some northern residents have found that inconvenient and want to essentially go back to the time zone that they were in before the compromise and take SE with them. Most SE residents do not like the present time zone either. If northern residents do not like the present situation, then change your situation and leave us alone.

Sincerely yours,

Paula Rak

Alaska Science Forum

March 28, 1996

Alaskans Double Their Daylight Savings

Article #1278

by Ned Rozell

This column is provided as a public service by the Geophysical Institute, University of Alaska Fairbanks, in cooperation with the UAF research community. Ned Rozell, is a science writer at the institute.

On April 7th, it's time to "spring forward" again. Time to pull the clock off the wall and watch a precious hour slip away as fast as you can turn the minute hand. We all know the ritual as daylight savings time, but in the most populated parts of Alaska it would be more appropriate to say we're going on "double daylight savings time."

That's what researchers such as Carl Benson, a Geophysical Institute professor emeritus, call it. At lower latitudes, daylight savings time brightens evenings by taking an hour of morning light and pasting it on the end of the day. This knocks Lower 48 communities an hour out of tune with the sun; the sun is highest in the sky at 1 p.m., instead of noon.

Most of Alaska gets a double dose of daylight savings. When we push our clocks ahead for the daylight savings time period---the first Sunday in April until the last Sunday in October---the sun reaches its zenith at

about 2 p.m. in Fairbanks and Anchorage. Many scientists refer to this in summer field notes as double daylight savings time because noon is two hours from where it should be. The root of the sun-sync problem was a successful lobbying job by the Alaska delegation to Congress in 1983. That's the year when three of Alaska's four time zones--Yukon, Alaska, and Bering--were combined into one. About 99 percent of Alaska's population is now synchronized to Alaska time, except for those on the westernmost string of Aleutians west of Umnak Island; clocks there are set to Hawaii-Aleutian time.

With the time-zone trimming, Juneau time became Anchorage and Fairbanks time. Before 1983, when it was 5 p.m. in Fairbanks and Anchorage, it was 7 p.m. in Juneau (Southeast Alaska was put on Pacific Time during World War II to synchronize the state capital with San Francisco and Seattle).

While the time-zone adjustment made it less complicated to call a state senator, it defeated the historic purpose of time zones--to make noon as close as possible to when the sun is at its high point in the sky.

Before time zones were established in 1883, different U.S. cities adjusted their clocks to the sun, with chaotic results. When it was noon in Boston, for example, clocks in Atlanta displayed 11:06 a.m. Expanding railroads magnified the problem. Travelers heading for a short trip west could arrive at a destination earlier than they departed, or so it seemed.

As a solution, the U.S. and Canada adopted an idea by Canadian engineer Sandford Fleming. Fleming divided the globe lengthwise into wedges, like a peeled orange. The 24 wedges each represented one

hour and 15 degrees of longitude because it takes 24 hours for the earth to complete a 360-degree spin on its axis.

The wedges became time zones. To avoid population centers, planners drew boundaries as crooked as the path of a wandering ant.

Because of Alaska's size, the state straddled four time zones: Bering, Alaska, Yukon and an unnamed zone in the far western Aleutians.

Alaska covers 57.5 degrees of longitude, almost exactly the same as the 57.6 degrees spanned between Maine and Washington.

When four Alaska time zones were transformed to two, noon didn't fit its definition in most of Alaska anymore. Daylight savings time puts the system further out of whack. In western Alaska towns such as Nome, solar noon comes at about 3 pm. after daylight savings time kicks in.

Daylight savings time was first used by the Germans in World War I to save energy. Brighter nights meant less coal was burned to light homes and businesses. The U.S., including Alaska, adopted daylight savings time in 1967. In 1972, Arizona, Hawaii, Puerto Rico and part of Indiana opted not to recognize it.

It's somewhat surprising that independent-minded Alaska hasn't followed suit. After all, we won't be burning much coal to power our lights on the sunny summer nights ahead.

Click here to return to the original story

Time to get rid of daylight-saving time

Tuesday, April 2, 2002

Please support House Bill 409 by encouraging the Labor and Commerce Committee to pass this bill out of committee and onto the house floor. The committee will review this bill on March 27.

Why should Alaska reject daylight savings time?

1. Daylight-saving time serves no practical purpose to us in Alaska.

2. When we change time in Alaska we don't just move ahead or behind one hour. We move two, three or four hours away from solar time depending on where you live in our great state. Several years ago our Legislature decided to make Alaska all one time zone - that of Juneau. Here on the Kenai Peninsula this means that we are one hour off of solar time - all the time. In Nome this is two hours off of solar time - all the time. With the addition of daylight-saving time (DST) this means that from April to October when the clock reads 9 o'clock at night in Nome it's really only 6 o'clock solar time!

3. Every living organism on earth regulates its life functions to the daylight/darkness cycle. DST and Alaska Standard Time (AST) force our bodies into a clock-based cycle as opposed to a natural cycle.

4. A recent Anchorage School District pamphlet states: "The average teen gets to sleep at 11 p.m. (solar time) because of normal circadian rhythms." (This means the way the body works with the daylight/darkness cycle.) "The best, most restful sleep for teens occurs around 5 a.m." This means that from April to October, if a teen in Anchorage, Fairbanks, or Kenai gets sleepy at 11 p.m. (solar time), the clock will read 1 a.m. If the same teen gets his/her best sleep at 5 a.m (solar time) it is 7 a.m., clock time, and the teen has missed his/her most restful sleep.

5. What percentage of Alaskans need to be on Juneau time? Are our children or legislators more important?

Support HB 409 with an amendment of returning Alaska to its original time zones by contacting Lisa Murkowski, chair, Labor and Commerce at:

800-460-3783 or 465-4954, fax 465-2293, or e-mail:
Representative_Lisa_Murkowski@legis.state.ak.us

Joann Jackinsky
Kasilof

MONITOR ON PSYCHOLOGY

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Sleep deprivation may be undermining teen health

Lack of sufficient sleep--a rampant problem among teens--appears to put adolescents at risk for cognitive and emotional difficulties, poor school performance, accidents and psychopathology, research suggests.

BY SIRI CARPENTER
***Monitor* staff**

On any given school day, teen-agers across the nation stumble out of bed and prepare for the day. For most, the alarm clock buzzes by 6:30 a.m., a scant seven hours after they went to bed. Many students board the school bus before 7 a.m. and are in class by 7:30

In adults, such meager sleep allowances are known to affect day-to-day functioning in myriad ways. In adolescents, who are biologically driven to sleep longer and later than adults do, the effects of insufficient sleep are likely to be even more dramatic--so much so that some sleep experts contend that the nation's early high-school start times, increasingly common, are tantamount to abuse.

"Almost all teen-agers, as they reach puberty, become walking zombies because they are getting far too little sleep," comments Cornell University psychologist James B. Maas, PhD, one of the nation's leading sleep experts.

There can be little question that sleep deprivation has negative effects on adolescents. According to the National Highway Traffic Safety Administration, for example, drowsiness and fatigue cause more than 100,000 traffic accidents each year--and young drivers are at the wheel in more than half of these crashes.

Insufficient sleep has also been shown to cause difficulties in school, including disciplinary problems, sleepiness in class and poor concentration.

"What good does it do to try to educate teen-agers so early in the morning?" asks Maas. "You can be giving the most stimulating, interesting lectures to sleep-deprived kids early in the morning or right after lunch, when they're at their sleepiest, and the overwhelming drive to sleep replaces any chance of alertness, cognition, memory or understanding."

Recent research has also revealed an association between sleep deprivation and poorer grades. In a 1998 survey of more than 3,000 high-school students, for example, psychologists Amy R. Wolfson, PhD, of the College of the Holy Cross, and Mary A. Carskadon, PhD, of Brown University Medical School, found that students who reported that they were getting C's, D's and F's in school obtained about 25 minutes less sleep and went to bed about 40 minutes later than students who reported they were getting A's and B's.

In August, researchers at the University of Minnesota reported the results of a study of more than 7,000 high-school students whose school district had switched in 1997 from a 7:15 a.m. start time to an 8:40 a.m. start time. Compared with students whose schools maintained earlier start times, students with later starts reported getting more sleep on school nights, being less sleepy during the day, getting slightly higher grades and experiencing fewer depressive feelings and behaviors.

Also troubling are findings that adolescent sleep difficulties are often associated with psychopathologies such as depression and attention deficit hyperactivity disorder (ADHD).

This research, combined with studies showing widespread sleep deprivation among teens, has propelled efforts to educate children and adults about the importance of a good night's sleep and to persuade schools to push back high-school starting times.

"There is substantial evidence that the lack of sleep can cause accidents, imperil students' grades and lead to or exacerbate emotional problems," says U.S. Rep. Zoe Lofgren (D-Calif.), who has introduced a bill that would provide federal grants to help school districts defray the cost of pushing back school starting times. Adjusting school schedules, Lofgren says, "could do more to improve education and reduce teen accidents and crime

than many more expensive initiatives."

The research has also spurred further investigations into why teens need extra sleep, the effects of sleep deprivation on cognition, emotion regulation and psychopathology, and the long-term consequences of chronic sleep deprivation.

Dogma reversed

For decades, experts believed that people require less sleep as they move from infancy through adulthood.

It's easy to see why this belief persisted: Adolescents sleep less than they did as children, declining from an average of 10 hours a night during middle childhood to fewer than 7.5 hours by age 16. According to Wolfson and Carskadon's 1998 study, 26 percent of high school students routinely sleep less than 6.5 hours on school nights, and only 15 percent sleep 8.5 hours or more. The same study indicated that to make up for lost sleep, most teens snooze an extra couple of hours on weekend mornings--a habit that can lead to poorer-quality sleep.

But to researchers' surprise, in the past two decades studies have shown that teen-agers require considerably more sleep to perform optimally than do younger children or adults. Starting around the beginning of puberty and continuing into their early 20s, Carskadon and colleagues have shown, adolescents need about 9.2 hours of sleep each night, compared with the 7.5 to 8 hours that adults need.

In addition to needing more sleep, adolescents experience a "phase shift" during puberty, falling asleep later at night than do younger children. Researchers long assumed that this shift was driven by psychosocial factors such as social activities, academic pressures, evening jobs and television and Internet use. In the past several years, however, sleep experts have learned that biology also plays a starring role in adolescents' changing sleep patterns, says Carskadon.

Indeed, Carskadon's research is greatly responsible for that new understanding. In a pair of groundbreaking studies published in 1993 and 1997, she and colleagues found that more physically mature girls preferred activities later in

the day than did less mature girls, and that in more physically mature teens, melatonin production tapered off later than it did in less mature teens. Those findings, Carskadon says, suggest that the brain's circadian timing system--controlled mainly by melatonin--switches on later at night as pubertal development progresses.

Changes in adolescents' circadian timing system, combined with external pressures such as the need to awaken early in the morning for school, produce a potentially destructive pattern of early-morning sleepiness in teen-agers, Carskadon argues. In a laboratory study of 40 high-school students published in the journal Sleep (Vol. 21, No. 8) in 1998, she, Wolfson and colleagues examined the effect of changing school starting times from 8:25 a.m. to 7:20 a.m.

Their results were disturbing: Almost half of the students who began school at 7:20 were "pathologically sleepy" at 8:30, falling directly into REM sleep in an average of only 3.4 minutes--a pattern similar to what is seen in patients with narcolepsy.

Those findings, says Carskadon, persuaded her that "these early school start times are just abusive. These kids may be up and at school at 8:30, but I'm convinced their brains are back on the pillow at home."

Elusive questions

The evidence of adolescents' increased need for sleep and that many--if not most--teen-agers are chronically sleep deprived has raised further questions. Particularly elusive, says Carskadon, has been the question of why adolescents' circadian clocks shift to a later phase around the beginning of puberty.

One possibility, she believes, is that the brain's sensitivity to light changes during adolescence. At the annual meeting of the Associated Professional Sleep Societies in June, she and colleagues presented research showing that in the evening, exposure to even very dim lighting delayed melatonin secretion for participants who were in middle or late puberty, but not for prepubertal participants.

Carskadon is also interested in how teen-age

alcohol use might affect the brain's sleep system. Following up on studies in adults that have established a link between drinking problems and changes in sleep patterns, for example, she and her colleagues plan to examine whether during early development, young people with a family history of problem drinking might have abnormalities in the brain mechanisms that govern sleep.

Just as important as the question of why sleep patterns change during adolescence is the issue of how sleep deprivation influences adolescents' emotion regulation and behavior. Many researchers have noted that sleep-deprived teen-agers appear to be especially vulnerable to psychopathologies such as depression and ADHD, and to have difficulty controlling their emotions and impulses.

Although it's difficult to untangle cause and effect, it's likely that sleep deprivation and problems controlling impulses and emotions exacerbate one another, leading to a "negative spiral" of fatigue and sleepiness, labile emotions, poor decision-making and risky behavior, says Ronald E. Dahl, MD, a professor of psychiatry and pediatrics at the University of Pittsburgh.

Despite the evidence that insufficient sleep affects young people's thinking, emotional balance and behavior, the long-term effects of chronic sleep deprivation on learning, emotion, social relationships and health remain uncertain.

"There's a real need for longitudinal studies to follow through later childhood and adulthood," says psychologist Avi Sadeh, PhD, a sleep researcher at Tel Aviv University. Although research has amply demonstrated that sleep problems affect young people's cognitive skills, behavior and temperament in the short term, he says, "It's not at all clear to what extent these effects are long-lasting."

Researchers push for school changes, public outreach

With such a wealth of evidence about the prevalence of adolescent sleep deprivation and the risks it poses, many sleep researchers have become involved in efforts to persuade school districts to push back high-school starting times so that teens can get their needed rest.

Some schools argue that adjusting school schedules is too expensive and complicated. But others have responded positively to sleep experts' pleas. The Connecticut legislature is considering a bill that would prohibit public schools from starting before 8:30 a.m., and Massachusetts lawmakers are also weighing the issue. And Lofgren's "Zzzzz's to A's" bill, first introduced in the U.S. House of Representatives in 1998, would provide federal grants of up to $25,000 to school districts to help cover the administrative costs of adjusting school start times.

These efforts are a move in the right direction, says Wolfson. But, she says, changing school start times isn't the entire answer. "I think we have to be educating children, parents and teachers about the importance of sleep, just as we educate them about exercise, nutrition and drug and alcohol use."

Toward that end, several public-education efforts are now under way:

* With a grant from the Simmons mattress company, Cornell's Maas recently produced a film on teen-age sleep deprivation, its consequences and the "golden rules" for healthy sleep. The film is scheduled for distribution through parent-teacher associations and school principals this fall. In August, Maas also published a children's book, "Remmy and the Brain Train," which discusses why the brain requires a good night's sleep.

* Next year, the National Center for Sleep Disorders Research at the National Institutes of Health plans to release a supplemental sleep curriculum for 10th-grade biology classes, addressing the biology of sleep, the consequences of insufficient sleep and the major sleep disorders. In a related effort, the center is coordinating a sleep-education campaign aimed at 7- to 11-year-olds.

* Wolfson and colleague Christine A. Marco, PhD, a psychologist at Worcester State College, are pilot-testing an eight-week sleep curriculum for middle-school students. As part of the curriculum, students keep sleep diaries, play creative games and participate in role-playing about sleep, and set goals--for example, for the amount of sleep they want to get or for regulating their caffeine intake. Preliminary results indicate that the curriculum

helps students improve their sleep habits.

"Changing school start times is one critical measure we can take to protect young people's sleep," says Wolfson. "And then, if we can only understand what's going on with sleep in these sixth-, seventh- and eighth-graders, we can intervene to change their sleep behavior before it gets out of hand."

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ERGONOMICS, 1980, VOL. 23, NO. 2, 167–178

Spring and Autumn daylight saving time changes: Studies of adjustment in sleep timings, mood, and efficiency

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Various aspects of adjustment to Daylight Saving Time (DST) changes were investigated using two Spring and two Autumn studies. After both Spring and Autumn DST changes, although adjustment of times of retiring and falling asleep appeared to be instantaneous, waking times took up to a week to adjust. Other analyses suggested that beneficial effects on mood on awakening and perceived sleep quality might appear for much of the week after an Autumn DST change, but predominantly detrimental effects on mood after a Spring one. Performance on a calculations test at 0830 h was significantly enhanced after an Autumn DST change, though this was probably due to the enhancement in mood resulting from the change, rather than to simple lack of adjustment of the performance rhythm. Examination of individual differences in DST adjustment produced results that were consistent with those from previous studies in the shift-work and jet-lag areas, confirming the usefulness of DST changes as a vehicle for studying general problems of adjustment to changes in schedule.

1. Introduction

Circadian (about 24 h) rhythms are known to exist in a wide range of both physiological and psychological measures in man. Such rhythms are entrained by the external environment (e.g. light/dark cues etc.), but are endogenous in that they persist, even when the subject is kept in constant conditions with uniform feeding, and no sleep (Mills, Minors and Waterhouse 1978). One apparent function of such rhythms is to prepare the bodily system for the start of each new day. Suggestive evidence for this is provided by the fact that many people spontaneously wake up just before the alarm clock goes off.

Since man's circadian rhythms are endogenous, they do not adjust instantaneously to the sudden changes in schedule that are occasioned by shiftwork or transmeridian flight ('jet-lag'). The rates at which the phases of various circadian rhythms adjust to such changes have been studied quite extensively (see Aschoff, Hoffman, Pohl and Wever (1975) for a comprehensive review). In normal shiftworkers, adjustment of rhythms is seldom complete. In the 'jet-lag' area, although different variables exhibit different rates of adjustment, and the direction of travel is important (Klein, Wegmann and Hunt 1972), a rough 'rule of thumb' for physiological measures is that one day of recovery is needed for each time zone crossed.

A third possible source of circadian rhythm disruption is the change in routine that is imposed twice a year by Daylight Saving Time (DST) systems such as British Summer Time. Over 25 countries around the world now use a DST system of one kind or another, affecting over 850 million people. The entraining cues, or zeitgeber, can be divided into physical cues, such as the light/dark cycle, and social cues, such as meal times and traffic noise. After transmeridianal flight, both sets of cues encourage

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adjustment, whilst in shiftwork both are often discouraging it. DST changes lie between shiftwork and jet-lag in the degree to which adjustment is discouraged, since although social cues are predominantly encouraging adjustment, the physical cues are still timed to the 'old' system.

The study of adjustment to DST changes is important for two reasons. Firstly, in its own right, it is a condition that is imposed upon large numbers of people without the consequences being fully known. Secondly, it could provide an extremely useful and inexpensive tool for studying the importance of individual differences, such as age, sex, and personality in the adjustment of circadian rhythms to changes in schedule. Hitherto there has only been one jet-lag study involving a single sample size of more than 12, and thus able to study some of these differences properly (Colquhoun and Folkard 1978). Whilst studies of individual differences in adjustment to shiftwork are slightly more common (see review by Akerstedt and Froberg 1976), the broad variation between different studies makes overall conclusions difficult to draw. Thus, although there are important differences between DST, jet-lag and shiftwork changes, DST studies could provide useful indications of which type of people will generally find it easiest to adjust.

Possibly because adjustment would be predicted to take only a single day using the rule of thumb mentioned above, the rate of adjustment to DST changes has hitherto been largely ignored. There appear to be only two studies in the literature. The first, Monk and Folkard (1976) involved 65 subjects who rated their alertness and measured their oral temperatures at 0900 h, and recorded their time of waking, for 17 days around the Autumn 1974 DST change. The main finding of this study was a gradual adjustment in waking times lasting for most of the week after the change. The study also provided suggestive evidence for lack of immediate adjustment in oral temperature and alertness, and hinted at a possible increase in road accidents after Spring DST changes.

The second study (Nicholson and Stone 1978) reported detailed physiological sleep records of 3 subjects in the six nights around a Spring DST change. The subjects retired and were woken at the same clock times each day. Sleep onset latency was significantly increased after the change, as was the amount of Stage 4 ('deepest') sleep. Significant reductions were found in the total duration of wakefulness and in the number of awakenings.

The present studies sought to rectify the neglect that has hitherto characterised this area of research. Various aspects of DST adjustment were investigated, using two Spring and two Autumn DST studies. The four aspects will be dealt with separately in the paper, and are as follows: (i) Adjustment of sleep timings; (ii) Changes in mood on awakening; (iii) Efficiency on a calculations task at 0830 h; (iv) Individual differences in the rate of DST adjustment.

2. Method—General administration of the four DST studies

2.1. *Dates and locations*

The two pairs of DST studies to be described were carried out independently, with collaboration only taking place after all the data has been collected. For ease of reference, the letter (B) or (L) will appear after a date signifying whether it came from the Brighton or London pair of studies.

The dates of DST changes, and locations of the corresponding studies, were as follows: Autumn: 24th October 1976 (B), 23rd October 1977 (L); Spring: 20th March 1977 (B), 19th March 1978 (L). All changes took place at 0200 h on a Sunday morning.

2.2. *Design*

In both pairs of studies, the week immediately after the DST change was designated the 'test' week and the corresponding days of a week unaffected by the change (usually the one immediately before it) as the 'control' week. Saturday and Sunday readings were not taken in the London pair of studies, and in all studies most analyses will be restricted to Monday through Friday data. In the Spring, 1978 (L) study, only the first three days of the test week (Monday–Wednesday) could be used, as the Thursday of that week happened to be Maundy Thursday of the Easter holiday.

2.3. *Subjects*

Details are given in table 1. Twenty-four subjects were common to both Brighton studies, and fourteen common to both London studies. Brighton subjects were simply informed the surveys were of sleeping habits around DST changes, with no further information or hypotheses given. London subjects were not told the purpose of the studies.

3. Adjustment of sleep timings

3.1. *Introduction*

Since an hour is 'lost' by a Spring DST change, lack of adjustment of sleep timings would appear as behaviour occurring later than normal. Conversely, after an Autumn DST change, when an hour is 'gained', unadjusted behaviour would occur earlier than normal. Monk and Folkard (1976) studied the 1974 Autumn DST change and found adjustment in waking times to take up to a week. The aim of this aspect of the present studies was (i) to replicate Monk and Folkard (1976), (ii) to plot the adjustment in waking times after a Spring DST change, and (iii) to plot the adjustment in time of retiring to bed and falling asleep after both Spring and Autumn DST changes.

3.2. *Method*

In both pairs of studies, subjects were required to record their time of waking and the manner in which it occurred (e.g. alarm clock, spontaneous etc.) as soon as possible after waking up. In the Autumn 1976 (B) and Spring 1977 (B) studies, they were also required to record their time of going to bed and estimated time of falling asleep the previous night.

3.3. *Results*

Waking times from the completed records of the Autumn 1976 (B) and Autumn 1977 (L) studies were combined to give a total sample size of 73. The mean difference between 'control' and 'test' weeks for each day of the week is plotted in figure 1. Analysis of variance revealed a significant difference between 'control' and 'test' weeks ($F = 17{\cdot}3$, $df = 1,648$, $p < 0{\cdot}001$) and a significant 'weeks' × 'day of week' interaction ($F = 3{\cdot}76$, $df = 4,648$, $p < 0{\cdot}01$), thus confirming the significance of the DST effect. The results appeared to be very similar to those of Monk and Folkard (1976); the apparent overshoot on the Friday was not significant.

Waking times from the Spring 1977 (B) and Spring 1978 (L) studies could not be combined since the latter only had three 'test' days (see section 2.2). Figure 2 shows the mean difference in time of waking separately for the two studies. Analyses of variance on the five (1977) or three (1978) weekdays (i.e. omitting Saturday and Sunday readings) confirmed the significance of the difference between 'test' and 'control' weeks (Spring 1977 (B): $F = 23{\cdot}5$, $df = 1,261$, $p < 0{\cdot}001$); Spring 1978 (L): $F = 15{\cdot}1$, $df = 1,140$, $p < 0{\cdot}001$),

Table 1 Subjects taking part in the four studies

Study	Total N	No. of males	No. of subjects with missing readings	Paid	Age range (yr)	Average age (yr)	Occupations
Autumn 1976 (B)	39	0	0	80p	19–63	32	100% University Secretaries
Spring 1977 (B)	30	0	0	80p	19–63	34	100% University Secretaries
Autumn 1977 (L)	39	19	5	No	18–79	40	51% Clerical/Professional, 29% Manual, 29% Students
Spring 1978 (L)	31	13	2	No	16–79	36	42% Clerical/Professional, 29% Manual, 29% Students

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but found only slight evidence of a significant interaction between 'week' and 'day of week' (Spring 1977 (B): $F = 2{\cdot}2, df = 4,261, p < 0{\cdot}10$: Spring 1978 (L): $F = 1{\cdot}9, df = 2,140, p > 0{\cdot}10$). These tests were, however, conservative since the Sunday readings were omitted.

As one would expect from the above results, an analysis of how subjects awoke revealed a general increase in the number of spontaneous wakings during much of the week after the Autumn changes, and a general increase in the need for alarm clocks during much of the week after the Spring changes. In the weekdays after the Spring 1978 (B) change, the percentage of 'subject-mornings' composed of alarm wakings rose from 27% to 50% ($\chi^2 = 4{\cdot}4, df = 1, p < 0{\cdot}05$), whilst after the Autumn 1977 (B) change, the percentage of spontaneous wakings rose from 34% to 44% ($\chi^2 = 6{\cdot}0, df = 1, p < 0{\cdot}025$). Some of the changes in mean waking time observed in figures 1 and 2 can thus be accounted for by normally spontaneous wakers requiring their alarm clocks in the Spring, and those who normally needed an alarm clock, waking up before it went off, after the Autumn DST change.

No significant DST effects or interactions emerged ($F < 1{\cdot}7, p > 0{\cdot}10$ in all cases) in either time of retiring to bed or time of falling asleep, in either of the two studies in which they were recorded (Autumn 1976 (B), Spring 1977 (B)). Since these analyses included the Sunday night of the change it would appear that these measures show instantaneous adjustment to DST changes. As one would expect, this instantaneous adjustment in time of falling asleep produced sleep duration DST effects that were similar to (but not as statistically reliable as) those of waking time. Sleep durations averaged 7·2 h for a normal weekday night (Sunday–Thursday) and 7·8 h at weekends.

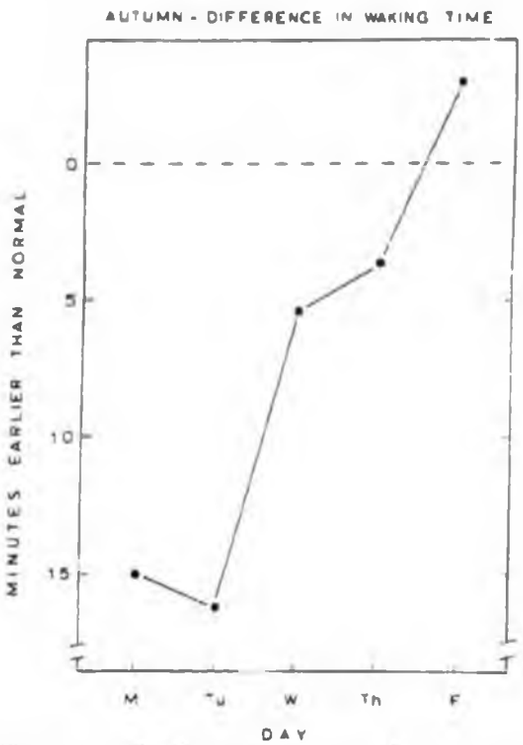

Figure 1. Mean difference in waking times between the weeks immediately before and after an Autumn DST change. The sample size was 73.

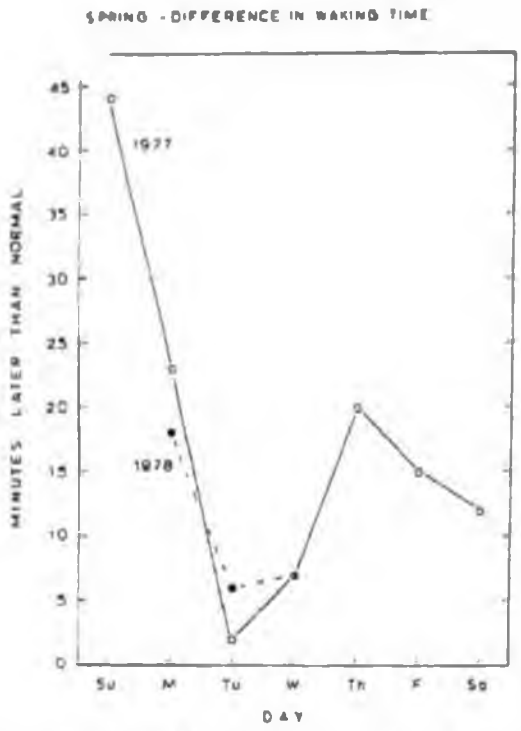

Figure 2. Mean difference in waking times between the weeks immediately before and after a Spring DST change. Sample sizes were 30 (1977) and 31 (1978).

3.4. *Discussion*

Comparison of Figure 1 with the phase adjustment curves typically found in 'jet-lag' studies (e.g. Klein *et al.* 1972) suggests that the sleep/wake cycle might simply be a rhythm gradually adjusting its phase to the new time. However, if this were the case then similar effects should be found in retiring to bed and in 'falling asleep' times. The complete lack of any significant DST effects in these measures suggests that the sleep/wake cycle should not be considered solely as a circadian rhythm. It would rather appear that these results should be interpreted as indicating a gradual phase change in an underlying physiological rhythm (e.g. of cortisol level) that is causing the organism to wake up.

This explanation would require that the pattern of adjustment of this rhythm deviate from a simple monotonic one in the Spring, where a distinct 'rebound effect' seemed to occur. Such effects have indeed been demonstrated in phase adjustment to other schedule changes. Aschoff *et al.* (1975) (p. 31) report rat body temperature data showing rebound effects occurring in response to 6 h advances, but a monotonic function for 6 h delays. This is supportive evidence since the Spring DST change represents an advance and the Autumn change a delay. Similarly, in a 'jet-lag' study, Colquhoun (1979) has demonstrated rebound effects in the temperature rhythm of human subjects experiencing an 8 h advance.

Clearly, it is important to remember that factors other than simple rhythm adjustment may have contributed to the observed results. The Spring group started the 'test' week with up to an hour of sleep lost on the Sunday morning (actually an average of 0·6 h in 1977 (B)), whereas the Autumn group gained an hour (exactly 1 h on average

in 1976 (B)). Thus some of the extra sleep observed in the Spring 'test' week may have resulted from a need to make up for the deficit. However, rhythm adjustment must also have been having an effect, since by the Saturday after the change, a total of 1·2 h extra sleep had been gained. Similarly, it can be seen from Figure 1 that in the five days after the Autumn change, a total of about 0·6 h was lost. Whilst some of this 0·6 h might be the result of the 1 h 'excess' gained on the Sunday, the gradual pattern of the results suggests that a process of rhythm adjustment must have also been occurring.

4. Mood on awakening

4.1. *Introduction*

In a factor analytic study of various measures of mood on awakening, Herbert, Johns and Dore (1976) showed there to be two major dimensions, calmness and alertness. Visual analogue scales measuring these dimensions were used by Folkard, Monk and Lobban (1978) who found different patterns of disruption for the two measures in a group of nightworkers. The aim of the present aspect of the studies was to determine the effect of the adjustment to Spring and Autumn DST changes on these measures of mood on awakening. Measures of perceived sleep quality were also obtained.

4.2. *Method*

Each page of the sleep diary given to the Autumn 1976 (B) and Spring 1977 (B) subjects contained three Visual Analogue Scales (VAS). These rating scales consisted of a question, followed by a 10 cm line with the two extremes of answer at the two ends. Subjects were required to place a mark somewhere along the line to denote their answer that morning. The three questions (followed by the markings at either end of the line) were as follows:

> "How well did you sleep?" (*very badly ... very well*); "On awakening how alert (i.e. quick witted, attentive and energetic) did you feel?" (*not at all ... very much*); "On awakening how calm (i.e. tranquil, contented and relaxed) did you feel?" (*not at all ... very much*).

4.3. *Results*

In each of the studies, the 14 days of readings (7 'control', 7 'test') that comprised a subject's series of scores for a particular measure were ranked from 1 (low) to 14 (high). The changes in median rank score between 'control' and 'test' weeks are illustrated in figure 3. Statistical significance was tested by the *Wilcoxon test*; both for each day separately, and for the medians of the five weekdays (Monday–Friday) taken together. Since the results of the waking time analyses would predict predominantly beneficial effects in the Autumn and the reverse in the Spring, *one-tailed tests* were used. Significant individual comparisons are marked on the figure. The only significant *weekly* comparisons occurred in the Autumn, where all three measures showed an increase between 'control' and 'test' weeks. Although these results are by no means conclusive, it would appear that people may feel more alert, calm and well-slept after an Autumn DST change, but the reverse after a Spring one.

4.4. *Discussion*

The benign effects of the Autumn change on VAS ratings may have had three possible contributory factors: (i) lack of adjustment in circadian rhythms. Since mood

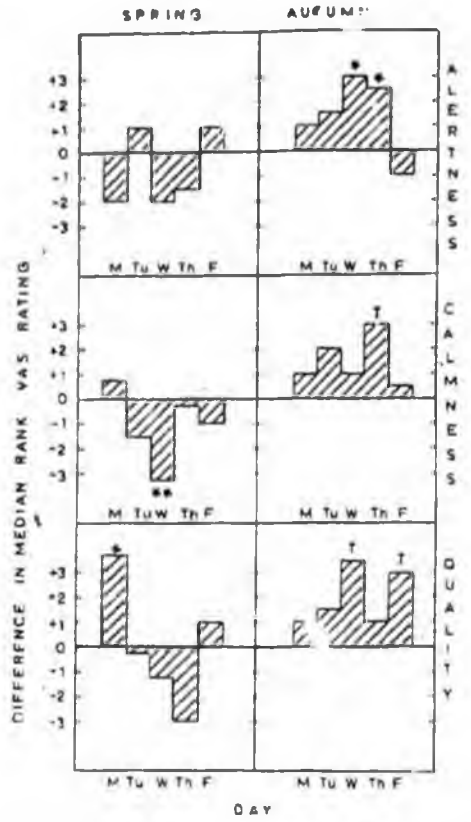

Figure 3. Changes in median rank Visual Analogue Scale (VAS) ratings between 'control' and 'test' weeks of Spring and Autumn DST changes. Bars above the zero line represent increases in alertness, calmness and perceived sleep quality respectively. Significant results were as marked: † = $p < 0{\cdot}10$, * = $p < 0{\cdot}05$, ** = $p < 0{\cdot}01$. Sample sizes were 30 (Spring) and 39 (Autumn).

ratings invariably show a rise from early to mid-morning (Folkard *et al.* 1978), any lack of adjustment after an Autumn DST change would result in 'later' mood ratings according to the old (unadjusted) rhythm, and thus an enhancement; (ii) feelings of well-being inherited from the extra sleep gained on the Sunday of the change, and (iii) feelings of well-being produced by waking spontaneously, rather than by an alarm clock. A complementary argument can be used for deleterious Spring VAS effects. The only exception is the better sleep quality rating on the morning of the Monday after the Spring change. This would seem to stem directly from the length of sleep taken (an average of 20 min longer than a normal week-night), rather than any of the three factors mentioned above.

5. Calculations efficiency at 0830 h

5.1. *Introduction*

It is now well-known that there are circadian rhythms in the efficiency with which various tasks are performed (Hockey and Colquhoun 1972). Although tasks differ in their phase (Folkard, Knauth, Monk and Rutenfranz 1976), the circadian rhythm of performance on a reasonably simple arithmetical task would be expected to show a rise

from 0830 h to 0930 h testing times. Thus any lack of adjustment of this performance rhythm after an Autumn DST change would result in an enhancement of performance at 0830 h compared with a corresponding day of the 'control' week. The present study was designed to test this prediction.

5.2. *Method*

Each subject in the Autumn 1977 (L) study was given a booklet covering each weekday in the two weeks before the DST change and the two weeks after it. For each day there was a set of three calculations: (i) addition of three 4-digit numbers, (ii) 'long multiplication' of a 4-digit number by a 2-digit number, and (iii) subtraction of one 4-digit number from another (larger) 4-digit number. The test was self-administered, the seconds hand of a clock being used to measure the total time taken to do all three calculations. Administrative problems meant that each subject was given exactly the same sequence of calculations. Thus to control for spurious effects due to practice and the particular sums given, a total of 13 naive subjects took part in a parallel study in a 4-week period during which there was no DST change. These data were then used to normalise scores from the Autumn 1977 (L) study.

5.3. *Results*

The average (normalised) score for 'control' and 'test' weeks is plotted in figure 4. Shorter than normal calculation times were apparent in the test week, and the differences were significant ($t \geqslant 2{\cdot}0, df = 33, p < 0{\cdot}05$, one-tailed) on the Wednesday and the Thursday.

5.4. *Discussion*

The hypothesis that performance would be enhanced during the 'test' week was indeed supported. It is, however, questionable that this enhancement can be ascribed solely to lack of rhythm adjustment, since the days on which the enhancement was significant (Wednesday and Thursday) coincided with those on which the increase in

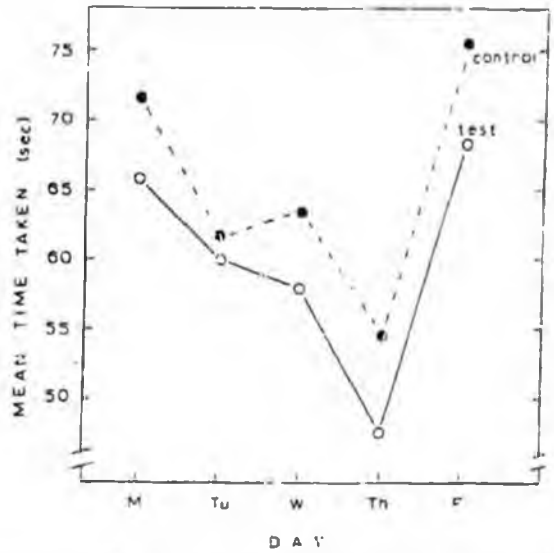

Figure 4. Mean (normalised) times taken on the calculations test for 'control' (●----●) and 'test' (○——○) weeks. The sample size was 39, but there were occasional missing readings.

VAS mood rating in the Autumn 1976(B) study was at its highest (figure 3). It would thus appear likely that the enhanced performance was more of a function of increased alertness and calmness than of lack of performance rhythm adjustment. It should be noted that the normalisation by a parallel group means that the enhancement can *not* be ascribed simply to practice.

Apart from the factors of rhythm adjustment mentioned in the Introduction, there is evidence that *any* change in the timing or duration of sleep will have an effect on performance efficiency. Taub and Berger (1976) measured performance on several tasks (including a mathematical 'additions' test) after extending and reducing sleep by 3 h, and by 3 h changes in its timing. In general, they found any deviation from normal timing or duration to be detrimental to performance. However, the order of magnitude of the individual changes in duration and timing found in the present studies (always less than 30 min) is very different from that of Taub and Berger, and it is thus not surprising that no detrimental effects were observed.

6. Individual differences

6.1. *Introduction*

DST changes differ from those resulting from shiftwork and jet-lag in that (i) they are experienced by the population as a whole, and (ii) they only occur twice per year. Consequently, there is little use for the study of individual differences in DST adjustment as a means of selecting those who might suffer the least DST disruption *per se*. If, however, results can be generalised from DST changes to the shiftwork and/or jet-lag areas, then the study of individual differences in DST adjustment could be used as a powerful and inexpensive tool for examining these more important problems, where selection can be of obvious benefit. Thus the aim of the present aspect of the studies was not just to detect types of individual who find it hard or easy to adjust to DST changes, but also to relate these results to those from the shiftwork and jet-lag areas.

6.2. *Method*

Two questionnaire tests were used, the *Eysenck Personality Inventory* (EPI) (Eysenck and Eysenck 1963) and the *Circadian Type Questionnaire* (CTQ) (Folkard, Monk and Lobban 1979). Factors such as age and sex were also considered. Scores of Extraversion and Neuroticism from the EPI were available from most of the subjects who took part in the Autumn 1974 (Monk and Folkard 1976) and Autumn 1976(B) studies. The CTQ was given to every subject in the Autumn 1976(B) and Spring 1977(B) studies, yielding three measures: rigidity of sleeping habits (R_s), 'morningness' (M) (i.e. degree to which one is a 'morning' as opposed to an 'evening' type of person), and ability to overcome drowsiness (V). These measures have been shown potentially to indicate ease of adjustment to nightwork (Folkard *et al.* 1979).

To reduce each subject's adjustment data to a single measure, a straight line was fitted by least squares to the 7 points representing the difference in waking time between 'control' and 'test' weeks in the Autumn studies. The slope of this line (D) was taken as a measure of disruption for that subject, with high values of D corresponding to increased disruption. The 'rebound effect' (see section 3.3) made a linear approximation and thus the use of D as a measure unacceptable after a Spring DST change. Consequently, for each subject in the Spring 1977(B) study, the simple difference (d) in mean waking time between 'test' and 'control' weeks was taken as the measure of disruption, with high d values indicating greater disruption.

6.3. *Results and discussion*

For the 58 subjects from the Autumn 1974 and Autumn 1976(B) studies, the measure of disruption in waking times (D) showed no significant overall correlation with their Extraversion (E) and Neuroticism (N) scores from the EPI. The results of Colquhoun and Folkard (1978) suggest, however, that such correlations will only appear for those scoring high on the neurotic scale since these authors found neurotic extraverts to suffer less than neurotic introverts from jet-lag and shiftwork disruption. The subjects were thus divided into 26 'Neurotics' ($N > 13$) and 20 'Stables' ($N < 11$). A significant correlation emerged between E and D (in the expected direction) for the 'Neurotics' ($r = -0{\cdot}44$, $df = 25$, $p < 0{\cdot}05$) but not for the 'Stables' ($r = +0{\cdot}26$, $df = 19$, $p > 0{\cdot}10$). Thus the waking behaviour of Neurotic extraverts was less disrupted than that of Neurotic introverts by an Autumn DST change, a result which parallels the shiftwork and jet-lag results of Colquhoun and Folkard (1978).

With regard to the measures of R_s, M and V from the CTQ, no significant correlations with disruption (D) emerged in the Autumn 1976(B) study. In the Spring 1977(B) study, however, a significant correlation ($r = +0{\cdot}40$, $df = 29$, $p < 0{\cdot}05$) was found between R_s and d and an almost significant correlation ($r = -0{\cdot}34$, $df = 29$, $p < 0{\cdot}10$) between V and d. Thus, as suggested in the shiftwork context by Folkard *et al.* (1979), it appears that rigid sleeping habits and a low ability to overcome drowsiness are factors connected with poor adjustment.

No significant differences between the sexes emerged in their rate of adjustment to Autumn or Spring DST changes. In the Autumn 1977 (L) study, there was significant evidence of older (> 40 yr) people adjusting faster than younger ones (< 40 yr) in waking times ($t = 2{\cdot}42$, $df = 37$, $p < 0{\cdot}05$). However, since the reverse of this trend was found in the other Autumn DST studies, it may not be reliable.

In conclusion, questionnaire tests of personality (EPI) and suitability for shiftwork (CTQ) produce results in the DST area that are in broad agreement with those from studies of shiftwork and jet-lag. Consequently, it would indeed seem feasible to use DST changes as a vehicle for studying individual differences in the general rate of adjustment of circadian rhythms.

7. Conclusions

The main conclusions of the studies are: (i) disruption in waking time lasts for up to a week after both Spring and Autumn DST changes; (ii) adjustment in time of retiring and of going to sleep is instantaneous; (iii) Autumn changes seem to be characterised by beneficial effects on ratings of sleep quality, and mood on awakening, and Spring changes by predominantly detrimental effects; (iv) calculations performance (at 08·30) is enhanced after Autumn DST changes, and (v) DST changes can successfully be used to glean information on individual differences in rate of adjustment that will generalise to the jet-lag and shiftwork settings.

Grateful thanks are due to Ms Margot Conrad for help with the Brighton studies, and to Dr M. W. Robins, Miss J. Aplin and Mr & Mrs R. Reed with the London ones. The authors are also extremely grateful to the subjects for so cheerfully and conscientiously giving up their time. The senior author would like to thank Dr Simon Folkard and Professor W. P. Colquhoun for their helpful comments on an early draft of this paper.

Divers aspects de l'ajustement aux changements saisonniers d'heure légale (DST) ont été étudiés en se basant sur les observations de deux périodes printanières et de deux périodes automnales. Après les changements d'heure du printemps et de l'automne, un ajustement instantané des moments de cessation d'activité et des moments de début d'endormissement semble s'être produit, mais les moments de réveil matinal ont mis environ une semaine pour s'ajuster. D'autres analyses ont suggéré que les effets bénéfiques sur l'humeur au réveil et sur la qualité perçue du sommeil pourraient mettre environ une semaine pour

apparaître après la DST d'Automne, mais les effets sur l'humeur seraient plutôt préjudiciables après le changement d'heure du printemps. Les performances dans une épreuve arithmétique effectuée à 8.30 heures étaient significativement améliorées après le changement d'heure en automne, bien qu'il faille probablement attribuer ce fait à une amélioration de l'humeur, plutôt qu'au non-ajustement au rythme des performances. La prise en compte des différences individuelles dans l'ajustement aux DST a fourni des résultats qui sont en accord avec ceux obtenus précédemment dans le domaine du travail en équipes alternantes et dans celui des vols transméridiens, ce qui confirme l'utilité des changements d'heure, comme moyen d'investigation des problèmes liés aux ajustements à des modifications d'horaires.

Verschiedene Aspekte der Anpassung an Sommerzeit (SZ)-Wechsel wurden durch je zwei Frühlings- und Herbst-Studien untersucht. Nach beiden Frühlings-und Herbst-Sommerzeit (SZ)-Wechseln dauerte die Anpassing der Aufwachzeit bis zu einer Woche, obwohl die Anpassung an Zubettgehzeit und Einschlafen verzögerungsfrei schien. Andere Untersuchungen ließen darauf schließen, daß die Stimmung beim Aufwachen und die emfundene Schlafqualität für den größten Teil der Woche nach einem Herbst-SZ-Wechsel günstig beeinflußt wurde, jedoch überwiegend abträgliche Auswirkungen auf die Stimmung nach einem Frühlings-SZ-Wechsel auftreten konnten. Die Leistrungsfähigkeit, gemessen in einem Rechentest um 8:30 Uhr, war nach einem Herbst-SZ-Wechsel signifikant erhöht, obwohl dies wahrscheinlicher auf die aus dem Wechsel resultierende Stimmungsbesserung als auf einen einfachen Anspassungsvorgang an den Abwicklungsrhythmus zurückführen war. Die Untersuchung individueller SZ-Anpassungsunterschiede führte zu Ergebnissen, die mit früheren Studien auf dem Gebiet der Schichtarbeit und Zeitverschiebung bei Jetreisen übereinstimmen, was die Nützlichkeit des SZ-Wechsels für das Studium genereller Anpassungsprobleme an Schemawwchsel bestätigt.

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Manuscript received 12 January 1979.
Revised manuscript received 3 July 1979.

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Juneau Empire
3/31/05

FISCAL NOTE

STATE OF ALASKA
2005 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: CS HB 176(STA)
() Publish Date:

Revision Date/Time (Note if correction):
Dept. Affected: OOG
Title "An Act authorizing an advisory vote on exempting the state from daylight saving time"
RDU Elections
Component Elections
Sponsor Representative Salmon
Requester House State Affairs
Component No. 21

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services						
Travel						
Contractual		1.5				
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	**0.0**	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF		1.5				
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	**0.0**	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2005) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor' FY 2006 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: *(Attach a separate page if necessary)*

If this adfvisory question appears on the 2006 ballot, the cost of providing information about this issue in the Official Election Pamphlet, as required by AS 15.58 is $1.5. Should the addition of this question require printing an 8 1/2 by 18 inch ballot the cost will increase to $22.0.

Prepared by: Lauri Allred, Admin. Assistant Supervisor — Phone 465-4611
Division: Division of Elections — Date/Time 5/5/05 10:38 AM
Approved by: Laura A. Glaiser, Director — Date 5/5/2005
Agency: Office of the Lt. Governor, Division of Elections

(Revised 9/23/2004 OMB)

Louie Flora

From: Rep. Paul Seaton
Sent: Thursday, April 14, 2005 12:52 PM
To: Louie Flora
Subject: FW: Please repeal daylight savings time

From: Alex Koplin [mailto:bubba@xyz.net]
Sent: Tuesday, April 12, 2005 8:25 PM
To: Rep. Paul Seaton
Subject: Please repeal daylight savings time

ALASKA HOUSE BILL (HB) 176

Hello Mr. Seaton,

Last year you came and visited my classroom at Homer Middle School and I appreciated what you did there. You worked with one of my students for about 15 minutes. Anyways, I am asking you to throw your support to do away with Daylight Savings Time. It would really be a benefit to the kids that I work with and also with my own children that we do repeal daylight savings time. Changing the clocks every six months just seems to be a hassle to our bodies and usually causes everyone a day or two to adjust to something that is not natural-just something that is manmade. Thank you for considering this request.

Sincerely,

Alex L. Koplin

Alaska State Legislature

FAXED 9:50 PM 4.23.05 to 283-3075

Please enter into the record my testimony to the House State Affairs committee name

Committee on HB 176-Eliminate Daylight Savings Time, dated Sat. April 23, 2005
bill # / subject public hearing date

Daylight Savings Time (DST) has been a pain for more than 35 years I have worked in commercial fishing, construction and civil engineering in Alaska, primarily in southcentral and western locations. The forenoon is cool and too short—compared to the afternoon—especially for the spring and fall months, and we do not need the extra hour of daylight during summer evening. The extra hour of daylight in the morning would be beneficial in the fall when there is so much work to complete before freeze-up and it is hard to get people and equipment going. In September and October, sometimes it is 10 AM before much is accomplished in the field and two hours later everything stops for lunch. A frequent comment heard around contractors is "we spun our wheels all morning, and if it weren't for the afternoon we wouldn't have gotten anything done." Overtime in the fall is especially inefficient, because the extra morning hour is cold and dark.

On a smaller scale and closer to home, the engineering intern students we hire during the summer usually stay up weeknights until dark, only get 6 hours sleep, and have trouble being alert in the field and awake in the office. After more than 50 years, it is still difficult for me to go to bed before dark, and in the summer I frequently have trouble staying awake in the afternoons while driving, even the 15 minute drive between Kenai or Soldotna and my house and office. Several times each summer I have to pull over and take a 15-minute nap on the drive home. Part of this may be due to me getting older, but I suspect a lot other folks have the same sleep-deprivation problem, do not pull over, and that may account for many traffic accidents.

Eliminating DST may cause some problems for SE Alaska and some who frequently do business with lower-48 locations, but I strongly support the elimination of DST.

Signed: Ronald T. Rozak, PE
Testifier

Rozak Engineering
Representing (optional)

36641 Chinulna Drive, Kenai, AK 99611
Address

907-283-5640
Phone number

Alaska State Legislature

Please enter into the record my testimony to the House State Affairs
committee name

Committee on HB 176, dated 5-5-05
bill # / subject — public hearing date

Testimony from Dr. Peter Hansen, wife Karolee, and many friends in Kenai Alaska.

My family and I are strongly in support of HB 176 to eliminate daylight saving time in Alaska.
Reasons: we would like so very much to be able to get up in the morning at 6 or 7 AM and enjoy a little sunshine and warmth of the day outside in the yard before going to work.
Sport fishing is also better in the early mornings and more sunshine then would warm the backs of our tourists and ourselves.
We would also like to tuck the grandkids into bed earlier in the evening with the sun a bit lower on the horizon so they would go to sleep.

The majority of Alaska's population lives in a time zone presently two hours later than a more true time comparable to the rest of the world. Doing away with daylight saving time in our state would still put the majority of us Alaskans an hour later than the true time most of the world experiences at this time of the year.

Please support this bill!

Signed: Dr. Peter Hansen
Testifier

Self
Representing (optional)

PO Box 1390 Kenai, AK 99611
Address

Phone number

Louie Flora

From: L Willis [akwillis@gci.net]
Sent: Tuesday, April 26, 2005 9:01 PM
To: Louie Flora
Cc: Lynn Willis
Subject: Re: Hearing on House Bill 176

Hello Louie
Thank you for writing. I will admit I am a novice at this but this was an education. I have now testified at four committee hearings over the past three years on this subject. The structure and process has not been the same at every hearing. However, from my vantage point in the distant LIO office in Anchorage that hearing on the 23rd was not an unbiased, disciplined or professional effort to gather facts. It was a kangaroo court.
I listened to the hearing this evening and will take a little time to tell you why I am frustrated.
All opposition witness were directly questioned by the chairman about their occupations. Mr. Poor of Douglas (who agreed with the Chairman) was not asked his occupation (only his affiliation which was later revealed to be a local politician and that was dismissed with a joke by the Chairman). Two opposition witnesses, Mr Fishback and myself, were challenged, each with a single pointed rebuttal question directed to them by the Chairman. Mr. Poor had his testimony embellished by the Chairman. The Chairman allowed committee members to speak without the courtesy of identifying themselves to those of us not in his hearing room.
However the best was saved for last when a Mr. Ramuglia a person who could afford to travel to Juneau and who apparently had not registered to testify but spontaneously wanted to testify at the end of the hearing was invited to "please come up", Mr. Ramuglia was jokingly asked about what he did for a living. Mr Ramuglia thought that the "Gardner Amendment" (which I had not heard of) was a good idea, and was thrown a series of softball questions by the Chairman as if he was an expert witness and old friend. The friendly banter with him continued about such things as his knowing when battery changing is necessasry, his ownership of a carbon monoxide alarm, his changing his clocks, his circadian rhythms, his Hawaiian vacations, his comic book business, legislator's comic book collections, legislators in comic books, Dick Tracy collections and visits by Chester Gould's daughter and other relative information directly bearing on the legislation before the Committee.
I and the other people in the LIO offices had to suffer through this. Like I said, I was on vacation time from work.
Now that I have listened to the recording of the hearing again, I cannot agree with you that Chairman Gotto was in control of a deliberative body. Under Chairman Gotto, any semblence of a level playing field was and has been destroyed.
Also, I was alarmed when the Anchorage LIO thought that HB 176 lacked the necessary symbols (e.g +,*,=) for Anchorage to be included as a site for testimony. I was told that a phone call to you was necessary to insure that testimony would be heard in Anchorage.
Please send this email to whomever you want. I would like to testify again even if the leadership is openly hostile toward my position. Please let me know when this bill will be heard again before your committee. Lynn Willis, Eagle River

----- Original Message -----

From: Louie Flora
To: akwillis@gci.net
Cc: Rep.Carl.Gatto@legis.state.ak.us
Sent: Tuesday, April 26, 2005 1:50 PM
Subject: FW: Hearing on House Bill 176

Dear Lynn,

I am sorry that you came away from the meeting on Saturday with such a bad impression of the committee process. I am the committee aide for House State Affairs and attended the hearing in question, as I have all the committee meetings this session. To my ears this did not seem like anything out of the ordinary, or that Representative Gatto was belittling your view. When this bill comes up again, Representative Seaton will most likely be chairing the meeting, so if you desire to testify again on the matter before him, you will have the chance.

I will make sure that Rep. Seaton recieves your e-mail, as well as Rep. Gatto. I will, however, in my report to Rep. Seaton, maintain that to my ears this meeting did not seem out of control.

Louie Flora
House State Affairs Committee Aide,
Representative Paul Seaton
(907) 465-4963

From: Rep. Paul Seaton
Sent: Tuesday, April 26, 2005 12:37 PM
To: Louie Flora
Subject: FW: Hearing on House Bill 176

Ian Laing
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From: L Willis [mailto:akwillis@gci.net]
Sent: Sunday, April 24, 2005 8:06 AM
To: Rep. Paul Seaton
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Subject: Hearing on House Bill 176

Representative Seaton,
I attended the hearing on House Bill 176 which was chaired in you absence by Representative Gatto. It was an embarrassing and frustrating experience. As chairman, I think you should rectify this situation by holding and organized and unbiased hearing of this legislation . Representative Gatto stated that he was acting upon your wishes to not hold any votes. That sure gives the impression that you were responsible for the hearing .
It soon became obvious that Representative Gatto opposes repeal of Daylight Saving Time- which is fine. But his manner of holding a hearing is a disgrace to you and your committee. His antagonism toward those favoring the legislation was as obvious as his favoritism towards those he agreed with.
During my testimony he as much as called me a liar by declaring that a comment I made was wrong. I stated that I had read that daylight at the equator is the same all year round. He emphatically stated this was wrong, no doubt in a effort to discredit my testimony. Well, according to the US Naval Observatory http://www.usno.navy.mil/ the difference in daylength between 21 June and 21 December (the longest and shortest days in Alaska) at 180 degrees longitude and 0 degrees latitude (the middle of the Pacific Ocean on the equator) is 6 minutes.
Also, when I called the Anchorage LIO on Friday to confirm the time of your hearing, I was told that the symbols on your committee schedule indicated that Anchorago was not going to be a teleconference site despite the statement that it was. I thought this was a mistake, but after hearing the way things were run, I wonder...
If you get a chance, listen to the kid glove handling by Rep Gotto of the Comic Shop owner from Anchorage- whose former office manager is a member of your committee. Please also listen to the out of control rambling about comic book collections etc. I was using my vacation time from work to testify.
I will call your office on Monday and ask if you read this letter and ask if you will allow testimony before this issue is voted on.
Please do what is right. Thanks Lynn Willis, Eagle River 907-696-8112 akwillis@gci.net