Subject Index - S

Sacramento River, hydrographic data of, Clapp on, [il], 38: 795
Sacramento Valley, Cal., reclamation of, problem of, 37: 956
Saint Elmo's fire, 26: 565
Saint Ignatius College, meteorological history of, 29: 355
Saint Louis Observatory, cessation of work at, 49: 90-91
Saint Michael, Alaska, ice and navigation at, 28: 162-63
Saint Swithin's day, fallacy of, Morrison on, 35: 274-76
Sakurashima, eruption of, Jan. 1914, 42: 138
Salt, mixture of, and ice, lowest temperature obtainable obtainable with, Gortner on, 42: 167-68
Salt River Power Canal, Ariz., schools of fish in, 38: 1089-90
Salt storm, March 22, 1910, Salt Lake City, Utah, 38: 444
Salton Sea, effect of , on climate, 35: 357
____, relation between, and rainfall of Southwest, 34: 557-59
Samoa observatory, establishment of, [il], 36: 292-93
Sampler, snow, Kadel's, [il], 47: 697
San Francisco Municipal Airport, sites for, meteorological survey of, Eklund on, 57: 8-11
"San Nicolas", Hartwell on, 59: 347-48
Sand dunes, effect of wind on, 29: 176-77
Sand storms, See: Dust storms
"Santa Ana", California, 35: 276
"Sastrugus", meaning of, 43: 85-86
Scab, citrus, relation of temperature to, 49: 609
____, wheat, relation between, and soil temperature, 49: 610
Scandinavian geophysicists, congress of, in Gothenburg, Aug. 28-31, 1918, 47: 90
Scheveningen, meteorological radiotelegrams from, to mariners, 43: 32
Schools, effect of blizzards on, 23: 465
____, humidification of, effect of, on intellectual progress of pupils, 45: 301-02
____, orientation of, relation between, and wind direction, Nunn on, 51: 125-27
Science, Germany, 354-56
____, relation between, and mathematics, Woolard on, 51: 645-49
____, work in, government cooperation in, 31: 531-32
Scintillation, 30: 526-27
"Scotia", work of, 1913, Taylor on, 43: 342
Scottish Meteorological Society, incorporation of, with Royal Meteorological Society, 49: 91
____, prize offered by, 37: 47
Screens, color, glass, use of, in study of atmospheric depletion of solar radiation, 61: 80-83
Scripps Institution of Oceanography, annual progress report of , 1930, McEwen and Gorton on, 58: 495
Sea, effect of, on Long Island climate, Clowes on, 45: 347
____, gravity of, variation of, 31: 336
____, proximity to, effect of, on thunderstorm periods, 26: 452-54
____, salt, accumulation of sun's heat in, Rozsa on, 43: 510
____, time-zones at, 45: 603
Sea-level, effect of wind on, 47: 105

____, mean, fluctuation of, relation of, relation between, and variations in barometric pressure, Franklin on, 47: 105
____, mean, Thompson on, 48: 146-47
Sea-water, density of, measurement of, on board ship, instrument for, Thuras on, 47: 105
____, salinity of, measuring, method of, electrical conductivity, Thuras on, 49: 243-44
____, salinity of, recording, instrument for, electrical, 47: 105-06
Search light, use of, in meteorology, 25: 206-07; 26: 58-59
Seasons, change in, Root on, 49: 24
____, cold, relative length of, and warm, 29: 55-56, 74
____, dry, Idaho, Donnel on, 38: 1279-80
____, dry, Panama Canal, Kirkpatrick on, 59: 241-42
____, dry, Portland, Me., greatest, Jones on, 36: 412
____, dry, San Diego, study of, Carpenter on, 40: 121-22
____, dry, United States, Henry on, 50: 484-85
____, growing, effect of frost on, Reed on, 46: 516-17
____, growing, Kentucky, length of, relation between, and killing frost, Walz on, 45: 348-53
____, growing, probable, Reed on, 44: 509-12
____, growing, relation between, and climate, Nunns on, 50: 477-81
____, growing, relation between, and crops, 27: 475
____, hurricane, del Monte on, 31: 420-21
____, periodicity of, 24: 290-92
____, variability of, Stupart on, 48: 101
____, warm, relative length of, and cold, 29: 55-56, 74
Sediments, aqueo-glacial, deposition in, seasonal, Sayles on, 48: 660
Seiches, Denison on, 26: 562-63; 27: 102-03
____, Lake Garda, 31: 532-33
____, Lake Michigan, May 1912, Bormann on, 40: 1334-35
____, Lake Tasawa, ordinary and internal, Honda on, 43: 511
____, mechanical explanation of, 34: 226
____, theory of, Chrystal's explanation of, to Lake Vetter, Woolard on, 54: 297-98
Seismic changes, causes of, by building operations, 27: 582
Seismic noises, See: Noises, seismic
Seismic zone, detection of, by barometric gradient, Nakamura on, 43: 360
Seismograph, Carson City Observatory, [il], 28: 245
____, Establishment of, at meteorological stations, 25: 259
____, improvements in, with mechanical registration, Marvin on, [il], 34: 212-17
____, Marvin, [il], 23: 250-52
____, Milne, records by, [il pl. V-VI], 27: 214-16
____, records of Canadian, Stupart on, 33: 207-08
____, records of, sheet for, 33: 240-41
____, United States, establishment of, 27: 310
____, universal, for horizontal motion, Marvin on, [il], 35: 522-34
____, Weather Bureau, Marvin on, [il], 31: 271-75
Seismological Society of America, organization of, 35: 183
Seismology, Honduras, Lenda on, 43: 610
____, Humphreys on, 42: 687-89

____, Libbey circle in, 33: 253
____, Philippine Islands, 42: 170-71
____, promotion of, organizations for, 35: 120-21
____, publications in, See: Bibliography
____, Publications in, Japanese, 35: 159-60
____, United States, 33: 252-53
Seismometers, use of, in meteorology, 29: 420
Selenium, use of, for measurement of sunshine, 27: 99-100
Selenium cells, photoelectric properties of, Guthe on, 34: 223-24
Self-registers, hourly results from, 25: 252-56
Semaquir, 26: 65-66
"Seneca", meteorological observations of, April-July 1915, Blair on, [il], Suppl. 3, pt. 2
Sewer, storm, design of, relation between, and rain intensities, Horton on, 47: 721
Shadow bands, 30: 526-27
____, observations of, without eclipse, 34: 227
Shoeburyness system of pilot ballooning, 47: 230-31
Shoshone reservoir, Palmer on, 38: 394-95
____, water supply for, Cole on, 38: 395
Showers, Corpus Christi, Tex., afternoon, phenomena of, McAuliffe on, 61: 229
____, difference between, and drizzle, Humphreys on, 59: 431-32
____, fish, 33: 322
____, Gulf of Mexico, morning, and afternoon showers near Corpus Christi, Tex., McAuliffe on, 61: 229
____, midsummer, Galveston, Tex., Stewart on, 41: 1225-26
____, midwinter, Dec. 4-5, 1927, Grand Forks, N. Dak., Berry on, 56: 15-16
____, mud, April 11, 1902, 30: 269
____, mud, April 7, 1930, Edenton, N. Car., 58: 210
____, organic matter, McAtee on, 45: 217-24
Signals, storm, illustrations of, 36: chart 88
____, storm, Norway, Johnson on, 36: 372
____, storm, United States Weather Bureau, [il], 42: 544
____, weather, search light for, 26: 58-59
____, weather, United States Weather Bureau, [il], 29: 14-15; 42: 544
Silt, Nile, enrichment of soil by, 57: 343-44
Sirocco, Europe, central, Herrmann on, 58: 334
____, Palestine, southwestern, Georgii on, 48:40
____, Sinai desert, Spath on, 49: 276-77
"Skift", origin of, 28: 18
Sky, blue, 27: 113-14
____, blue, color and polarization of, 28: 382-89
____, blue, measurement of, Apia, Samoa, Thomson on, 56: 499
____, blue, measurements of, Hand on, 55: 235-36
____, blue, measurements of, Washington, D. C., Hand on, 55: 225-26
____, blue, Pacini on, 44: 246
____, blue, Rayleigh on, 48: 353
____, blue, transition from rain to, methods of, Milham on, 42: 94-97

____, blue, Wood on, 48: 220
____, brightness of, measurements of, Kimball and Hand on, [il], 49: 481-88
____, colors of, measurement of, Linke on, 56: 224-25
____, colors of, theories of, Nichols on, 37: 15-16
____, green color of, Clayden on, 35: 269
____, illumination of, by aurora, Slipher on, 48: 393
____, light of, 25: 207-08; 48: 353-54, 600
____, light of, blue color, and polarization of, 28: 382-89
____, light of, color of, Gockel on, 49: 26
____, light of, diffuse, polarization of, relation between, and absorption of solar radiation, 49: 26
____, light of, polarization of, 32: 131-32
____, light of, polarization of, Gockel on, 45: 576; 49: 26
____, light of, spectrophotometry of, Pacini on, 49: 26
____, mackerel, prognostication of precipitation by, Martin on, 48: 156
____, night, color of, Rayleigh on, 48: 468
____, night, spectrum of, aurora line in, Rayleigh on, 50: 257
____, overcast, study of, Nichols on, 37: 18-21
____, prairie, 26: 217
____, underclouded, brightness of, Uibe on, 49: 26
Sleet, 29: 175
____, definition of, American, Abbe on, 44: 281-86
____, formation of, Brooks on, 48: 69-72
____, occurrence of, at high temperatures, McAuliffe on, 57: 460
____, United States, eastern, precipitation of, Meisinger on, 48: 73-80
____, weight of, Smyth on, 35: 171
Sleet storm, 28: 113-14
____, Nov. 22-24, 1900, western New York, [il], 28: 548
____, Feb. 14-16, 1909, Ohio, 37: 112
____, March 25-27, 1913, northern New York, Bennett on, 41: 372-73
____, Jan. 1920, Lansing, Mich., southerly winds at high altitudes during, Andrus on, 48: 400-01
____, Feb. 1920, demoralization of traffic by, 48: 80
____, Feb. 36, 1924, Wisconsin, Stewart on, 52: 163-64
____, Dec. 19-21, and 25, 1924, Corpus Christi, Tex., McAuliffe on, 52: 586
____, March 19, 1934, Tennessee, Williamson on, 62: 97-98
____, United States, Frankenfield on, 43: 608
Slide rule, computation of, decimal point in, locating, method of, Haas on, 52: 29-30
Slides, Panama Canal, effect of heavy rainfall on, 48: 597
Slope, effect of, on quantity of solar radiation received, Kimball on, Suppl. 17: 20-21
____, geoidal, law of, Marvin on, 48: 565-82
____, surface effect of, on climate, Alter on, 40: 929
Smithsonian Astrophysical Observatory, annals of, [il pl. I], 30: 258-60
____, annual report of, 1914, extracts from, 42: 621-23
____, work of, Calama, Chile, Abbott on, 47: 1-3
Smithsonian instruments, discrepancies between, and Angstrom, Abbott on, 48: 147-49
Smithsonian Meteorological Tables, 47: 572-73
Smithsonian pyrheliometer, comparison between, and Angstrom's, Angstrom on, 47: 798-99

Smoke, arch of, marking increase in wind, Ward on, 48: 399
____, city, effect of, on daylight illumination, 45: 205-07
____, city, effect of, on minimum temperatures, Disterdick on, 58: 330-31
____, cloud of, relation between, and haze of 1916, Kimball on, 45: 49-52
____, disposition of, McAdie on, 38: 1107-08
____, effect of, on visibility and solar radiation intensities, Hand on, 53: 147-48
____, forest fire, Minnesota, Oct. 13-17, 1918, Lyman on, 46: 506-09
____, formation of, in air drainage, Hallenbeck on, 48: 24-25
____, indication of gustiness and convection by, 46: 459-60
____, Krakatoa, Hazen on, 15: 64
____, Krakatoa, motion of, Sept. 1883, 14: 271-72
____, Mount Hood, cause of, Young on, [il], 43: 506-07
____, Nashville, Tenn., effect of, on climate, Jones on, 63: 55-57
____, prevention of, McAdie on, [il], 38: 1423-25
____, problem of, meteorological aspects of, Kimball on, 42: 29-35
____, travel of, from forest fires in Russia, 48: 600
Smoke screens, efficiency of, as protection from frost, Kimball and MacIntire on, 51: 396-99
Smudge, frost protection by, 40: 254
____, frost protection by, Kimball and Young on, 48: 461-62
Smudge-pots, test of, 37: 658-59
____, use of, for prevention of frosts, Wichita, Kans., Sullivan on, 38: 412-13
____, value of, in preventing frost in cranberry bogs, Wells and Parker on, 53: 351-52
Snow, See also: 1. Snow cover 2. Snowfall
____, Algeria, frequency of, 46: 233
____, Alps, French, Benevent on, 47: 699
____, black, April 3, 1889, New York, 17: 89
____, Cascade Range, melting of, effect of forests on, Griffin on, [il], 46: 324-27
____, chlorine in, Peck on, 46: 211
____, clinging qualities of, Weeks on, 49: 17-18
____, colored, 29: 465-66
____, conical, Bentley on, 59: 388
____, crystallization of, under intense cold, Wolley on, 33: 158
____, density of, foot-layer, Alps on, [il], 50: 474-75
____, density of, Henry on, 45: 102-13
____, density of, measurer of, Korhonen on, 50: 475-76
____, depth of, forecasting water supply from, McAdie on, 39: 445-47
____, depth of, seasonal, model showing, 39: 445
____, depth of, Utah mountains, March 1912, 40: 434-35
____, discoloration of, in northern New York, Manning on, 49: 17
____, disposition of, in summer, Alter on, [il], 39: 758-61
____, effect of, on development of vegetation in Spring, Peyriguey on, 48: 222
____, effect of, on railway transportation, Palmer on, [il], 47: 698-99
____, effect of, on winter wheat in Ohio, Smith on, 47: 701-02
____, effect of western yellow pine forest on, [il], 43: 115-26
____, evaporation from, Horton on, 42: 99-100
____, flurries of, Lake Michigan, eastern shore of, Mitchell on, 49: 502-03

____, formation of, in cloudless air, 32: 170
____, formation of, Gray on, 34: 78-79
____, Lake Michigan, eastern shore of, flurries of, Mitchell on, 49; 502-03
____, layer of on ground, diurnal heat exchange in, 35: 450-52
____, melting of, effect of, on river floods, 25: 209-10; 31: 173-75
____, melting of, effect of dust on, Jones on, 41: 599
____, melting of, Horton on, 43: 599-605
____, mineral matter in, 20: 20
____, Mt. Vernon, Ia., analysis of, Cottral on, 59: 235
____, Mt. Vernon, Ia., analysis of, Hendrick on, 55: 363
____, Mt. Vernon, Ia., analysis of, Hines on, 62: 90-91
____, Mt. Vernon, Ia., analysis of, Knight on, 62: 163-64
____, Mt. Vernon, Ia., analysis of, Krehl and Knight on, 63: 162-63
____, Mt. Vernon, Ia., analysis of, Kynett and Lohner on, 57: 461
____, Mt. Vernon, Ia., analysis of, Stewart on, 58: 418-19
____, Mt. Vernon, Ia., analysis of, Williams and Beddow on, 61: 141-42
____, nitrogen in, Peck on, 46: 211
____, nitrogen in, Shutt and Dorrance on, 47: 878
____, nitrogen in, Trieschmann on, 47: 807
____, occurrence of, at high temperatures, McAuliffe on, 57: 460
____, penetration of, by bullets, 23: 424
____, perpetual aqueous vapor in relation to, Oct. 1880: 16
____, protective power of, 47: 702
____, radiation and temperature of, Angstrom on, 51: 361
____, radiation and temperature, Angstrom's paper on, note on, 48: 39
____, radioactivity of, Allan on, 30: 576-77
____, red, Michigan, Wiesner on, 37: 156
____, removal of, in northern and eastern states, program for, Reynolds on, 49: 28
____, sampler of, Kadel's, [il], 47: 697
____, Sierra Nevada, densities of, Alciatore on, 44: 523-27
____, Sierra Nevada, disappearance of, Henry on, 44: 150-53
____, specific gravity, Gheury on, 35: 583; 37: 98-100
____, substances in, Ribble and Bowman on, 54: 424
____, substances in, Shaffer on, 49: 404-05
____, sulphates in, Peck on, 46: 211
____, Summit, Cal., layer of, measurements of, 48: 519-20
____, surface of, air convection at, Angstrom on, 51: 361
____, surface of, air convection at, Angstrom's paper on, note on, 48: 39
____, surface of, condensation upon, Rolf on, 43: 466
____, surface of, evaporation from, experiments on, Baker on, 45: 363-66
____, surface of, evaporation from, Rolf on, 43: 466
____, survey of, California, Stafford on, 57:426-28
____, survey of, forecasting summer precipitation by, Monson on, 62: 322-30
____, survey of, on reclamation projects, 51: 359
____, surveying of, Church on, 43: 607
____, unusual, Jan. 12, 1810, Springfield, Mass., 37: 64

____, water equivalent of, 29: 219; 33: 99-100
____, water equivalent of, Mixer on, 31: 173
____, water equivalent of, New York, 31: 151
____, weight of, 22: 174-75
____, yellow, Michigan, 30: 29
Snow from cloudless sky, Feb. 17, 1903, Galena, Ill., 31: 85
____, Russell on, 15: 314-15
Snow board, Horton, snow measurement with, comparison of, and rain gage can, Grand Forks, N. D., 52: 538-40
Snow cocks, [il], 62: 97
Snow cover, albedo of, measurements of, Kalitin on, [il], 58: 59-61
____, Canada, southern, relation between and temperatures, in North Atlantic states and lake region, 59: 383-86
____, density of, change in, with melting, Clyde on, 57: 326-27
____, effect of rain on, Clyde on, 57: 328
____, Michigan, Dole on, 55: 82
____, St. Bernard Road, Wallis, 1904-13, Mercanton on, 47: 699
____, Siberia, eastern, 57: 209
____, Sierra Nevada, 1915-16, growth, settling, and disappearance of, Alciatore on, 45: 109-13
____, Utah, effect of, on temperature distribution, Jan. 1919, Blair on, 47: 165-66
Snow crystals, 29: 118; 33: 156-58
____, Bentley on, [il], 55: 358-59
____, evolution of, Shedd on, [il], 47: 691-94
____, lecture on, 33: 489-90
____, photo-micrographs of, 28: 541-42
____, photo-micrographs of, Bentley on, [il], 46: 359-60
____, studies among, during winter of 1901-02, Bentley on, [il pl. I-XXII], 30: 607-16
____, study of, twenty years, {il pl. I-III], 29: 212-14
____, study of, forty years, Bentley on, [il], 52: 530-32
____, transformations of, Erman on, 37: 13-14
____, Wherry on, [il], 48: 29-31
Snow dust, Jan. 11-12, 1895, [il], 23: 15-19
Snow flakes, gigantic, Jan. 10, 1915, Berlin, 43: 73
Snow garlands, Humphreys on, [il], 63: 162
____, tree limb, Humphreys on, [il], 63: 315
Snow rollers, 23: 465
____, Jan. 17, 1906, Mt. Pleasant, Mich., Calkins on, 34: 326
____, Jan. 18, 1906, Jerich, Vt., Bentley on, [il], 34: 325-26
____, Feb. 19, 1907, Canton, N. Y., Fuller on, [il], 35: 70-71
____, Avon, N. Y., 49: 18
____, Jennings on, 26: 20
____, Reed on, [il], 60: 252
____, Thiessen on, 27: 100
Snow slides, Jan. 1911, Wood river country, Ida., 39: 130
____, Feb. 17, 1926, Bingham, Utah, Alter on, 54: 60-61

____, Jan. 1935, Washington, Fisher on, 63: 58
____, Peugeot on, [il], 40: 927-28
____, reason for, Alter on, 40:608–09
“Snow tornado”, objection to, 27: 256
Snowballs, natural, Hart on, 11: 39-40
Snowfall, See also: 1. Snow 2. Snow cover
____, Alaska, early, 33: 447
____, amount of, Root on, 51: 355-56
____, Big Cottonwood Canyon, Utah, measurement of, Cannon on, [il], 40: 609-11
____, Big Cottonwood Canyon, Utah, surveys of, 1912-16, Burton on, 44: 360-61
____, Big Cottonwood watershed, Utah, survey of, Burton on, 41: 770-71
____, California, monthly and seasonal, distribution of, Sprague on, 62: 438-41
____, California, survey of, Stafford on, 57: 426-28
____, Carson watershed, 1909–16
____, catchment of, by snow bins and towers, Bigelow on, [il], 38: 968-73
____, City Creek Canyon, Utah, survey of, 1914-16, Thiessen on, 44: 216-17
____, Columbia Valley, March 1913, 41: 466
____, Connecticut, early, 1783-1882, 22: 418-19
____, dependence of water supply on, 1900, 28: 493-99
____, distribution of, in cyclones of eastern United States, Brooks on, 42: 318-30; 43: 2-11
____, early, Alaska, 33: 447
____, early, Connecticut, 1783-1882, 22: 418-19
____, Geneva, 1857-1917., Gautier on, 47: 699
____, Grand Forks, N. D., measurement of, Cook on, 52: 538-40
____, heavy, See: Snowstorms
____, Maple Creek Canyon, Utah, layer of, measuring, 39: 601-03, 41: 448
____, Maple Creek watershed, Utah, measurement of, March 4-14, 1912, 40: 435
____, measurement of, Horton on, 47: 294-96
____, measurement of, methods for, comparison of, Horton on, [il], 48: 88-89
____, Mount Rainier, Wash., Fisher on, [il], 46: 327-30
____, mountain, effect of, on flood crests in Colorado river, Sherier on, 51: 639-41
____, mountain, measurements of, Kadel on, 41: 159-61
____, New England, 22: 75-76
____, New England, Brooks on, 45: 271-85
____, New England, Larned on, 22: 75-76
____, New York, 1909-10, Mindling on, 38: 171-72
____, New York, central, 30: 135
____, New York, Horton on, 33: 196-202
____, North Dakota, Bronson on, 23: 463
____, peculiarities of, Moseley on, 31:25
____, Pole Creek watershed, Utah, survey of, Eliason on, 40: 770-71; 41: 771
____, region of greatest snowfall, (Palmer) May 1915 in U. S., 43: 217-21
____, relation between and crops, 58: 117
____, relation between, and yield of winter wheat, Root on, 47: 700
____, Rio Grande, upper, relation between, and run-off, Linney on, 51: 16-19
____, Rocky Mountains, 28: 18

____, Saint Bernard Road, Wallis, 1904-13, Mercanton on, 47: 699
____, Sierra Nevada, central, surveying, sixteen years, Church on, 54: 43-44
____, Springfield, Mo., abnormal, Hazen on, 40: 403
____, Summit, Cal., McAdie on, 38: 940-41
____, Tripoli, frequency of, 46: 233
____, Truckee watershed, 1909-16, measurements of, Alciatore on, 44: 649-50
____, United States, eastern, Brooks on, 42: 318-30; 43: 2–11
____, United States, greatest, region of, Palmer on, 43: 217-21
____, United States, Ward on, 47: 695-96
____, United States, western, winter of 1919-20, 48: 156
____, Utah mountains, March 1912, depth of, 40: 434-35
____, Walker drainage basin, Nevada, survey of, Cole on, 41: 448-49
____, Walker watershed, 1909-16, measurements of, Alciatore on, 44: 649-50
____, Wisconsin, survey of, 49: 29
Snowstorm, See also: Blizzard
____, Nov. 4-6, 1889, Texas and New Mexico, 17: 305-06
____, Jan. 31- Feb. 1, 1898, 26: 3–4
____, Feb. 18-22, 1898, 26: 47-48
____, Feb. 10-14, 1899, eastern United States, Brooks on, 42: 318-30
____, Nov. 22-24, 1900, western New York, [il], 28: 548
____, Dec. 25, 1906, Mill on, 35: 506-08
____, Nov. 14, 1908, Grand Haven, Mich., Eshleman on, 36: 408-09
____, Feb. 20-23, 1912, Brooks on, 42: 330
____, Feb. 1920, demoralization of traffic by, 48: 80
____, Feb. 9-11, 1920, Palestine, Glazebrook on, 48: 80
____, Nov. 8-9, 1921, southern Michigan, Seeley on, 49: 610-11
____, Jan. 27-29, 1922, Atlantic coast states, Day and Fergusson on, 50: 21-24
____, March 9-10, 1922, Kansas, Flora on, 50: 144
____, March 1923, Wisconsin, Stewart on, [il], 51: 129-30
____, March 11-18, 1923, Dubuque, Ia., and vicinity, Wills on, 51: 130-31
____, May 8-9, 1923, Michigan, Whittier on, 51: 260-61
____, May 9, 1923, Saginaw Valley, Mich., Coleman on, 51: 261-62
____, Feb. 3-6, 1924, Wisconsin, Stewart on, 52: 163-64
____, April 27-28, 1928, Upper Ohio Valley, 56: 226-28
____, Jan. 1929, Dubuque, Ia., Wills on, 57: 21-22
____, Dec. 1929, Texas, Foscue on, 58: 108-12
____, March 25, 1930, Chicago, Ill., Andrus on, 58: 376
____, March 25-26, 1930, Chicago, Lay on, [il], 58: 146-48
____, Oct. 18-19, 1930, near Buffalo, N. Y., Spencer on, [il], 58: 422
____, Feb. 26, 1934, southeastern West Virginia, Humphreys on, 62: 295
____, Lake region, Dole on, 56: 512-13
____, South Dakota, memorable, Glenn on, 25: 15–16
Societe Suisse de Geophysique, Meteorologie, et Astronomie, organization of, 46: 26-27
Societies, physical, 33: 490; 34: 329-30
Soil, arable, absorption of ultra-violet and infra-red radiation by, 43: 510-11
____, atmosphere of, composition of, 47: 878

____, colloids of, relation of, conductivity of soil, Franklin on, 49: 93
____, conditions of, varying, effect of, on night-air temperatures, Haines on, 50: 363-66
____, conductivity of, relation of soil colloids to, Franklin on, 49: 93
____, cooling of, without freezing, Bouyoucos on, 48: 718
____, cooling of, at night, Franklin on, 48: 639-40
____, effect of, on frost damage, 48: 640
____, enrichment of, by silt, Nile, 57: 343-44
____, frozen, Spitzbergen, Werenskiold on, 51: 210
____, moist, evaporation loss from, Lee's, Henry's review of, 52: 99-101
____, moisture of, effect of, on crops for 1931, Snyder on, 59: 120
____, moisture of, effect of forest on, Bode on, 48: 657-58
____, movements of, atmospheric influence on, 36: 436
____, mulches of, effect of, in checking evaporation, Bark on, [il], 38: 1098-99
____, penetration of, periodic temperature waves into, Aichi on, 47: 802
____, Red River valley, 27: 477
____, shading, effect of, 24: 374
____, temperature of, See: Temperature, soil,
Solar, See also: Sun
Solar activity, 1890-1920, 50: 540-41
____, changes in, relation between, and changes in oceanic and atmospheric temperatures, 46: 177-78
____, correlation of, with seven-year period in terrestrial weather, Clough on, 48: 593-96
____, Maurer on, 43: 545-46
____, periodicity of, 28-month, Clough on, 56: 251-64
____, periodicity, secular, Clough on, 61: 99-108
____, relation between, and climate of Far East, Sekiguchi on, 46: 413-15
____, relation between, and cyclonic storms and climatic changes, Huntington on, 43: 609
____, relation between, and radio reception, Austin on, 55: 237-38
____, relation between, and radio reception, Stetson on, 61: 1-3
____, relation between, and terrestrial weather, Marvin on, 47: 3-4
____, relation between, and weather, Walker on, 54: 215
____, variations of, simultaneous, relation between, and pressure, Hanzlik on, 48: 105
Solar atmosphere, See: Atmosphere, solar,
Solar constant, Calama, Chile, measurements of, Abbott on, 47: 182
____, Calama, Chile, values of, correction to, Abbott on, 49: 458-60
____, changes in, Baur on, 60: 242-46
____, comparison of, with barometric gradients, 46: 269-77
____, computing, formula for, Kimball on, 36: 108-10
____, measurement of, with aid of balloons, Abbott on, 42: 77
____, relation between, and sunspots, Angstrom on, 49: 460
____, relation between, and terrestrial weather forecasting, 53: 76-77
____, researches on, Scheiner on, 37: 65
____, values of, 53: 25
____, values of, Abbott and others on, [il], 51: 71-81
____, values of, experiments on, 43: 212-13
____, values of, fluctuations in, Dorne on, 53: 519-21; 54: 63

____, values of, fluctuations in, Marvin on, 53: 285-303
____, value of, scale for, definitive, Abbott on, 55: 236
____, values of, Smithsonian, Kimball on, 33: 303-06
____, variability of, proof of, based on Mt. Wilson observations, Abbott on, 54: 191-94
____, variations in, Bernheimer on, 57: 412-17
____, variations in, Clayton on, 53: 522-28
____, Very on, 29: 357-66
Solar corona, See: Corona, solar
Solar, corpuscular rays, Birkeland on, 44: 508
Solar cycle, relation between, and Bruckner cycle, Strieff on, 54: 289-96
Solar disturbances, relation between, and terrestrial weather, Huntington on,
46: 123-41, 168-77, 269-77
Solar eruption, relation between, and magnetic storm, 56: 18
Solar laboratory, Johnston, Talman on, 57: 473-74
Solar phenomena, cycle of, 28-months, systematically varying, Clough on, 52: 421-41
____, cycle of, Fritz on, 56: 401-07
____, Hawaii, correlations between, and rainfall, Cox on, 52: 308
____, relation between, and atmospheric ozone, Fowle on, 57: 58
____, relation between, and terrestrial, Abbott on, 54: 214
Solar photosphere, spectrum and temperature of, Amerio on, 43: 501-02
Solar prominence, activity of, 1922, 50: 650
____, typical forms of, 33: July, 1905, pl. III
Solar radiation, See: Radiation, solar
Solar spectrum, See: Spectrum, solar
Solar system, radiation in, Poynting on, 32: 508-11
Solar variations, short-period, weather forecasting on, Marvin on, 48: 149-50
Solarigraphs, Gorczynski on, [il], 54: 381-84
Solarimeters, Gorczynski on, [il], 54: 381-84
____, testing, with pyrheliometric tubes, results of, Gorczynski on, [il], 55: 488-90
Solstices, relation between , and extremes of normal daily temperature, Bowie on, 63: 248-50
Sonora storms, Blake on, 51: 585-88
____, California, Campbell on, 34: 464-65
Sound, audibility of, at great heights, 47: 534
____, measuring and photographing of, [il pl. II-IV], 27: 205-11
____, propagation of in atmosphere, Boys on, 32: 329
____, propagation of, in atmosphere, Everdingen on, 44: 246-47
____, propagation of, in atmosphere, Fujiwhara on, 44: 436-39
____, propagation of, in atmosphere, Rayleigh on, 48: 163
____, propagation of, in atmosphere, Schrodinger on, 46: 211
____, propagation of, in atmosphere, Stewart on, 48: 163
____, propagation of, effect on meteorological conditions on, Bateman on, 42: 258-65
____, ranging, mathematical theory of, Bateman on, 46: 4-11
____, waves of, visibility of, Perret on, 48: 162-63
Soundings, atmospheric, See: Atmosphere, soundings in,
____, meteorograph, evaluation of, graphical, mathematical theory of, Harrison on, [il],
63: 123-35

Spaulding dam, Bear Valley, Cal., Schussler on, [il], 40: 1415-16
Spectrograph, Toepfer, illustration of, 55: 407
Spectrum, auroral, relation between, and upper strata of atmosphere, Vegard on, 51: 359
Spectrum, band, ultra-violet, of ozone, effect of temperature on, Wulf and Melvin's article on, 59: 278
____, night sky, aurora line in, Rayleigh on, 50: 257
____, photosphere, solar, Amerio on, 43: 501-02
____, relation between, and theory of green flash, Danjon and Rougier on, 48: 659
____, sidereal, atmospheric ozone in, absorption bands of, 45: 443
____, skylight, visible, energy distribution in, Kimball on, 53: 112-15
____, solar, aqueous vapor lines of, 31: 532
____, solar, atmospheric ozone in, absorption bands of, 45: 443
____, solar, visible, energy distribution in, Kimball on, 53: 112-15
Spheres, movement of, air resistance to, Brazier on, 49: 574-75
Spider webs, floating, 26: 566-67; 38: 794
Spiders, use of anticyclonic winds by, Carpenter on, 38: 794
Spillways, capacity of, 37: 966
Spokane river, hydro-electric power plants on, review of, Ralston on, [il], 38: 1280-84
Springs, Bagnoles-de-L'Orne, radioactivity of, Ramsey on, 44: 247
Sprinkler, lawn, effect of, on thermograph, Reed on, [il], 46: 281-82
Squall, See also: Windstorms
____, Dec. 11, 1894, West Berkeley, Cal., 22: 509-10
____, Nov. 21, 1910, peculiar, McAdie on, 38: 1740-43
____, May 1, 1917, Baltimore, Md., Hirshberg on, 45: 236-37
____, May 6, 1917, hot, Miami, Fla., 47: 566-67
____, Aug. 5-6, 1920, on lee side of mountainous Sokotra, 49: 352
____, Aug. 15, 1920, hot, Maine coast, Dole on, 48: 453
____, Jan. 18, 1929, Kentucky, 57: 24
____, Aug. 25, 1930, Florida straits, Page on, 58: 342
____, definition of, Henry on, 46: 23-25
____, Durand-Greville on, 42: 97-99
____, line, Jan. 18, 1929, Kentucky, 57: 24
____, line, Africa, West, forecasting, Hubert on, 47: 875
____, line, Andrus on, 57: 94-96
____, line, Giblett's paper on, Henry's abstract of, 56: 7-11
____, line, New Mexico, Hallenbeck on, 56: 402-05
____, Loisel on, 37: 237-39
____, mechanical phenomena of, 35: 264-65
____, North Atlantic, distribution of, annual and geographical, Koppen on, 48: 221
____, rain, Atlantic trade-wind region, 54: 167-68
____, Roseburg, Ore., with rising barometer, Fletcher on, 57: 158-59
____, snow, Lake region, Dole on, 56: 512-13
____, warnings of, 47: 874-75
Standard Oil Co., Bayonne, N. J., burning of, meteorological observations during, July 5-7, 1900, 28: 325-27, 453
Star, heat radiation of, 27: 472; 42: 653

____, pole, recorder, improvement of, Kadel on, [il], 47: 154-55
____, scintillation of, Jan. 1879: 15
____, scintillation of, forecasting weather by, Moye on, 47: 740
____, shooting, See: meteor
Station, aerial sounding, 31: 177-78
____, aerial sounding, Franco-Scandinavian, observations at, 32: 419
____, aerological, Brazil, 50: 146
____, climatological, distribution of, Root on, 48: 714
____, geophysical, need of, Gruner on, 45: 577
____, kite and balloon, near Berlin, Germany, 28: 13
____, magnetical and meteorological, Arctic, 31: 141-42
____, meteorological, Africa, 30: 527
____, meteorological, Arctic, 31: 141-42; 50: 540
____, meteorological, Arctic, Talman on, 58: 67; 59: 39
____, meteorological, Ascension Island, establishment of, 49: 92
____, meteorological, Atlantic Ocean, south, [il], 31: 538-39
____, meteorological, Australia, 26: 166
____, meteorological, Caracoles, importance of, to Transandine railway and aviation, 56: 312-13
____, meteorological, Charles City, Ia., 32: 518
____, meteorological, Ecuador, 1920, Goding on, 48: 99-100
____, meteorological, Europe, mountain, 47: 573
____, meteorological, Grand Saint-Bernard, centennial of, Gautier on, 45: 603
____, meteorological, Greenland, 49: 306
____, meteorological, high latitudes, Stupart on, 51: 10-11
____, meteorological, Jan Mayen, 50: 145-46, 369
____, meteorological, Mongolia, establishment of, 54: 386
____, meteorological, Mount Tamalpais, operation of, 25: 397-98, 493-94
____, meteorological, Mount Weather, Va., coordinates of, 33: 9-11
____, meteorological, mountain, importance of, 33: 406-07
____, meteorological, Navassa Island, 49: 353
____, meteorological, need for, 28: 556
____, meteorological, Nigeria, southern, 35: 444-46
____, meteorological, Port au Prince, Haiti, establishment of, 33: 323-24
____, meteorological, Portillo, Chile, 58: 211
____, meteorological, Southern Rhodesia, 35: 124
____, meteorological, special, for special studies, 33: 547-48
____, meteorological, Tierra del Fuego, 25: 493
____, meteorological, Turks Island, 28: 293
____, meteorological, Willis Island, 54: 384
____, meteorological, Wyoming, high, 28: 17-18
____, meteorological, Yellowstone Park, Wyo., establishment of, 31: 424
____, wireless, Greenland, erection of, 52: 165
Statistics, application of, to meteorology and agriculture, Marvin on, 44: 551-69
Stewart's disease, effect of weather on, 51: 360-61
Stock, grazing of per square mile, relation between, and annual precipitation, Smith on, 48: 311-17

Storm-glass, chemical, 23: 421
Storm-sewer, design of, relation between, and rain intensities, Horton on, 47: 721
Storm-waves, See: Waves, storm
Storms, March 12, 1841, low barometer during, 31: 597
____, March 23, 1893, 21: 90
____, Sept. 21, 1894, 22: 369-70
____, Dec. 8, 1894, Ponta Delgada, 22: 508-09
____, Sept. 8, 1895, Kansas, 23: 338-39
____, Oct. 1895, Gulf of California, 23: 379-80
____, Jan. 21-23 and 24-26, 1898, Garriott on, 26: 3
____, April 1898, 26: 140
____, Oct. 1898, Malta, 26: 546
____, Nov. 26-27, 1898, North Atlantic, 26: 493-95
____, Aug. 1-2, 1899, Carabelle, Fla., 27: 348
____, Aug. 2, 1899, 27: 365-66
____, June 17, 1900, Springfield, Mo., 28: 201-02
____, Sept. 13, 1902, southeast coast of Cape Colony, 31: 598
____, May 26, 1903, Des Moines, Ia., 31: 235
____, July 12, 1903, Baltimore, Md., 31: 382-83
____, Oct. 1903, West Indies, 32: 117
____, Nov. 22-29, 1903, Danish West Indies, 31: 534-36
____, Feb. 7, 1904, Kentucky, 32: 113-14
____, Feb. 26, 1904, Portland, Ore., 32: 132
____, Aug. 19, 1904, St. Louis, Mo., 32: 357-58
____, Aug. 20, 1904, Minnesota, 32: 365-66
____, Dec. 24-29, 1904, Bennett on, 32: 561-62
____, Dec. 27-31, 1904, Pacific coast, 32: 568-69
____, May 30, 1906, near Paris, Ill., 34: 220
____, May 30, 1908, Florida, 36: 135-36
____, April-May, 1909, Alabama, Norton on, 37: 208-09
____, April 21, 1909, Cleveland, O., Kenealy on, 37: 153-54
____, May 15, 1909, Michigan, Schneider on, 37: 209
____, Dec. 5, 1909, Terre Haute, Ind., 37: 1023-24
____, Dec. 25, 1909, North Atlantic states, , 37: 999-1000
____, March 27, 1911, Pennsylvania and New Jersey, 39: 320
____, May 19, 1911, Cedar Rapids, Ia., 39: 697
____, July 17, 1911, Pleasantville, N. J., 39: 975
____, July 31, 1911, Abilene, Tex., Green on, 39: 1066
____, Aug. 16, 1911, Galena, Ill., Spencer on, 39: 1187
____, Sept. 6, 1911, Wichita, Kan., Sullivan on, 39: 1382-83
____, Nov. 11-12, 1911, Illinois, Root on, 39: 1683
____, Nov. 11-12, 1911, Ohio Valley, 39: 1659
____, April 2, 1912, New Jersey and Pennsylvania, 40: 489
____, June 8, 1912, Pocatello, Ida., Teeple on, 40: 948
____, June 16, 1912, Kirk on, 40: 840-41
____, July 1912, Illinois, Root on, 40: 1029

____, July 1912, Indiana, Church on, 40: 1029-30
____, July 14-15, 1912, near Georgia coast, 40: 991
____, Sept. 1-2, 1912, upper Ohio Valley, 40: 1319
____, Nov. 1912, Jamaica, West Indies, 40: 1756-57
____, March 1913, Illinois, Root on, 41: 383
____, March 13, 1913, Louisiana, Cline on, 41: 415
____, March 13, 1913, western Tennessee, Emery on, 41: 415-16
____, March 23, 1913, Davenport, Ia., Sherier on, 41: 383-84
____, July 13-14, 1913, Ohio, Kirk on, 41: 996-97
____, July 19, 1913, Virginia, Kimball on, 41: 981-82
____, Sept. 3, 1913, eastern North Carolina, Denson on, 41: 1300
____, Oct. 23, 1915, southeastern Louisiana, Cline on, 41: 1546
____, Nov. 7-10, 1913, over Lake Region, 41: 1678-80
____, Dec. 26, 1913, New Jersey, 41: 1800
____, Aug. 1-2, 1915, Florida, 43: 484-85
____, Sept. 1-9, 1915, in Bermuda region, 43: 469-70
____, Oct. 7-12, 1916, over West Indies, 44: 583-84
____, Oct. 9-19, 1916, West Indies, 44: 584-85
____, Feb. 17, 1917, San Diego, Cal., 45: 118
____, March 16, 1919, Fort Smith, Ark., Guthrie on, 47: 168
____, April 15-16, 1921, Mississippi, Lindley on, 49: 197
____, Nov. 19-21, Oregon, Washington, and Idaho, Wells on, [il], 49: 661-64
____, March 11-12, 1923, Illinois, Root on, 51: 131-32
____, March 21-23, 1924, from Bermuda to New York, Brooks on, 52: 161
____, June 26, 1931, Cleveland, O., Noyes on, 59: 241-43
____, July 24, 1931, Nevada, Fulks on, 59: 353
____, Jan. 26, 1932, Columbus, O., Russell on, 60: 24
____, Oct. 7-15, 1932, Weightman on, 60: 193
____, Dec., 1933, over northeast Pacific ocean and adjacent land areas, Counts on, 62: 58-59
____, analogous, 30: 523
____, Atlantic ocean, Loomis on, Dec. 1878: 11-12
____, Atlantic ocean, north, January, relation between, and strophs of Greenland anticyclone, 54: 286-88
____, benefits and injuries of, 28: 114
____, cold, paths of, Baldit on, 48: 161
____, cold weather, India and America, 21: 295-97
____, designation of, terms for, Weather Bureau, 43: 395-96
____, detection of, by radio, Keyser on, 48: 263-64
____, detector of, wireless, for central lighting station, Wade on, 48: 162
____, distant indication of, by tides in New York, 22: 372-73
____, effect of, on song birds, 26: 354-55
____, effect of, on wells, 28: 293
____, effect of mountains and coast on, Smith on, 37: 64-65
____, energy of, Margules' memoir on, 33: 519-21
____, energy of, Smith on, 34: 280
____, equinoctial, 28: 558; 29: 508-09

____, equinoctial, Garriott on, 35: 276-77
____, equinoctial, Hazen on, 17: 313-14
____, eye of, Haurvitz on, 63: 45–49
____, eye of, Manning on, 52: 108
____, fake, 25: 307
____, forecasting, from pilot-balloon observations, Lacoste on, 50: 200
____, frequency of, charting, method of, Kelsey on, 53: 252
____, Great Lakes, Conger on, 36: 236-44
____, Great Lakes , warnings of, Marr on, 59: 181-83
____, India, warnings of, 49: 304
____, insurance against, West Indies, 34: 158
____, Jamaica, 1655-1915, Hall on, 43: 620
____, Kona, Daingerfield on, 49: 327-29
____, local, course of, 27: 363
____, Loomis' theory of, June 1877: 12; July 1877: 11-12
____, Magnetic, See: Magnetic storms
____, Mexico, west coast of, 22: 510
____, mountain, Elmer on, 25: 307
____, mountain, peculiar, Struble on, 25: 212; 26: 66-67
____, movements of, Loomis on, Feb. 1880: 17-18; Jan. 1881: 19-20
____, movements of, relation between, and forest fires, McCarthy on, 52: 257-59
____, movements of, relation between, and pressure distribution, 34: 61-64
____, northwest side of, cirrus clouds on, 25: 212
____, Oregon coast, warnings of, 28: 211
____, origin of, 22: 512-13
____, Pacific ocean, Beals on, 47: 804-05
____, Pacific ocean, centers of, 27: 114-15
____, Panama, Chapel on, 55: 519-30
____, paths of, 32: 26-27
____, paths of, Van Cleef on, 36: 56-58
____, San Diego area, types of, and resultant precipitation, Blake on, 61: 223-25
____, signals of, See: Signals, storm
____, sonora, Blake on, 51: 585-88
____, sonora, California, Campbell on, 34: 464-65
____, Texas, study of, Hazen on, 23: 54-55
____, Texas coast, early, 47: 641-42
____, theory of Loomis', June 1877: 12; July 1877: 11-12
____, tides of Gulf of Mexico, changes in, relation between, and movements of hurricanes, 48: 127-46
____, tracks of, anomalous, Bowie on, 50: 137-41
____, traveling, 48: 598
____, traveling, air paths in, 31: 318-20
____, tropical, See: Hurricanes
____, United States, frequency of, changes in, Arctowski on, 43: 379-89
____, United States, frequency of, monthly, Kullmer on, 43: 610
____, United States, movements of, average, Bowie and Weightman on, Suppl. 1

____, United States, types of, Bowie and Weightman on, Suppl. 1
____, warnings of, Great Lakes, Marr on, 59: 181-83
____, warnings of, India, 49: 304
____, warnings of, for lake vessels, 33: 484-85
____, warnings of, Oregon coast, 28: 211
____, West Indian, relative intensity of, Hazen on, 21: 333
Stratosphere, base of, minimum temperature at, Humphreys on, 47: 162
____, clouds in, abasence of, Humphreys on, 47: 162-63
____, higher layers of, temperatures in, over Lindenberg, Reger on, 59: 240
____, India, North, Ramanathan on, 57: 64-65
____, lower, temperature in, distribution of, Rao's paper on, Samuels on, 58: 377
____, temperature of, 47: 463
____, temperature of, factor in, Humphreys on, 57: 507-08
____, temperature-gradients in, Dobson on, 48: 11, 160-61
____, wind of, circulation of, over Brazil, Serra on, 62: 164
____, wind of, Dobson on, 48: 11, 160-61
____, wind of, velocity of, Rouch on, 47: 575
Stratus, winter, formation of, Manning on, 45: 60
Straw, use of, as frost protection, McAdie on, [il], 39: 276-78
Strawberries, effect of frost on, 27: 474
____, protection of, from frost by artificial heating, Cook on, [il], 55: 354-57
Strawberry Valley, tunnel in, 40: 926-27
Streak, peculiar, in line with kite wire, Sherry on, 45: 269-70
Stream, discharge of, during floods, 22: 255
____, discharge of, predicting, indicator precipitation stations for, Stoner on, 49: 301-03
____, discharge of, predicting, by precipitation and snow surveys, Alter on, 54: 160-61
Streamflow, Alabama river, average, 40: 177-78
____, Arkansas river, Dardanelle to Pine Bluff, Ark., Smith on, 44: 143-50
____, Chattahoochee river, average, 38: 346-47
____, Colorado, Freeman on, 38: 925-26
____, Colorado river, forecasting of, Church on, 53: 353-54
____, Columbia river, forecasting of, Church on, 53: 353-54
____, Coosa river, average, 40: 177-78
____, Dnieper river, Streiff on, 59: 29-30
____, effect of temperature on, 38: 615
____, effect of vegetation on, Cobb on, 59: 39
____, Flint river, Ga., average, 38: 346-47
____, hydro-electric plants, relation between, and weather, Alter on, 47: 307-09
____, Iowa, work on, 39: 1187
____, Montana, relation between, and precipitation, Young on, 44: 84-86
____, New York, winter, Holden on, 33: 196-202
____, Ocmulgee river, Ga., Mitchell on, 38: 684-85
____, Oconee river, Ga., Mitchell on, 38: 684-85
____, Pascagoula river, Miss., Montgomery on, 38: 1162-63
____, Pearl river, Miss., Montgomery on, 38: 1162-63
____, prediction of, subcommittee on, report of, Streiff on, 59: 73-74

____, relation between, and forests, experimental determination of, 38: 770
____, relation between, and irrigation projects, Mead on, 38: 446-47
____, relation between, and rainfall, Zoch on, 62: 315-22
____, relation between, and water power, Bormann on, 41: 1020-22
____, relation between, and weather, Brandenburg on, 34: 405-06
____, Santee river, S. Car., average, Bauer on, 38: 1323-25
____, Savannah river, average, Emigh on, 39: 333
____, Wagon Wheel Gap, Colo., experiments of, Bates and Henry on, [il], suppl. 17, 30; 49: 637-50; 56: 79-97
Strophs, Greenland anticyclone, relation between, and January storms over North Atlantic, 54: 286-88
Student assistants, U. S. Weather Bureau, 31: 141
Subsoil, moisture of, effect of, on crops for 1931, Snyder on, 59: 120
Sugar beet, effect of climate on, 31: 283-84
____, effect of climate on, Canada, McDougall on, 49: 395
Sugar cane, yield of, effect of weather on, Louisiana, McDonald on, 54: 367-69
Sugar crop, relation between, and weather, 26: 412-13
Sulphates, presence of, in rain and snow, Peck on, 46: 211
Sulphur, rains of, 26: 115
Summer, American, classification of, Alciatore on, 43: 400-02
____, classifying, method for, Angot on, 42: 628-29
____, India, relation between, and winters in Canada, Groissmayr on, 57: 453-56
____, Indian, 33: 407, 489; 43: 44-45
____, Indian, Kittredge's theory of, 44: 208
____, Indian, Matthews on, 30: 19-28, 69-79
____, Indian, Morrow on, 39: 469-70
____, origin of, 44: 207-08
____, Indian, use of, on British ships, Reed on, 44: 575
____, Indian, Wilson on, 30: 440-42
____, Paris, classifying, Angot on, 42: 628-29
____, United States, abnormal, Henry on, 55: 349-53
____, warm, following warm winter of 1920-21, Henry on, 49: 387-90
____, warm, Washington, D. C., relation between, and cold winter, 26: 456
Sun, See also: Solar---
____, activity of, See: Solar activity
____, atmosphere of, See: Atmosphere, solar,
____, effect of, on atmospheric potential-gradient variation, Swann on, 47: 453-56
____, effect of, on weather changes, Gregory on, 48: 465-66
____, fog production by, McAdie on, 41: 778-79
____, green-colored, Sept. 9-10, 1883: 32: 173
____, green-colored, Krakatoa eruption, 34: 408
____, heat of, accumulation of, in salt seas, Rozsa on, 43: 510
____, intensity of, registration of, Angstrom and Dorno on, 49: 135-38
____, mock, See: Parhelia
____, observations of, through dust storm, Elvey on, 62: 201-02
____, rays of, disinfecting action of, on tubercle bacilli, 49: 156

____, relation between, and earth, 54: 214
____, spectroheliograph of, Aug. 12, 1903, taken at Yerkes Observatory, 33: July 1905, Pl. II
____, spectrum of, See: Spectrum, solar,
____, theory of, Brester's, 45: 485
____, variability of, proof of, based on Mt. Wilson observations, Abbott on, 54: 191-94
Sun dog, See: Parhelia
Sunlight, effect of, on plant growth, Hearn on, 50: 423-24
____, effect of, on plant growth, Seeley on, 47: 327-28
____, effect of, on plant growth and reproduction, 48: 415
____, engineering with respect to, 49: 93
____, pressure of, bearing of, on astronomy and meteorology, Mitchell on, 32: 217-20
____, relation between, and moonlight, Dow on, 45: 532
Sunrise, atmospheric electrical variations at, Nichols on, 44: 507
Sunset, atmospheric electrical variations at, Nichols on, 44: 507
____, colors of, experiment on, Jordan on, 43: 498
____, fire-colored, as clue to existence of tropical storm, dole on, 49: 191
____, red, connection of, with Krakatoa smoke, 14: 271-72;15: 64
Sunshine, 23: 426
____, agricultural significance of, illustrated in California, Palmer on, [il], 48: 151-54
____, Hamburg, Germany, records of, 31: 85
____, measurement of, Marvin on, [il. Pl. I], 29: 454-58
____, measurement of, with selenium, 27: 99-100
____, Panama, Cornthwaite on, [il], 48: 276-77
____, relation between, and cloud, Sutton on, 48: 414
____, relation between, and health, in England, 48: 509
____, Samoa, 1902-06, Tetens on, 37: 240-41
____, United States, bibliographic note on, Ward on, 47: 794-95
____, United States, Kincer on, 48: 12-17
Sunshine receiver, bolometric, Callendar, source of error in, internal reflection as, [il], 43: 264-66
Sunshine recorder, Callendar, comparison of, with Angstrom pyrheliometer, Patterson on, 45: 400
____, improved, Maring on, [il],
____, Jordan's, [il], 25: 486
Sunspots, coincidence of, with thunderstorms and auroras, 15: 206
____, comparison of, with barometric gradients, 46: 123-41
____, comparison of, with weather changes, Huntington on, 46: 168-77
____, cycle of, 11-year, Clough on, 61: 99-108
____, cycle of, 11-year, relation between, and temperature in Northern Hemisphere, 53: 204-07
____, cycle of, permanent, 45: 576
____, cycle of, relation between, and meteorology, 30: 178-81
____, cycle of, relation between, and variations of temperature of atmosphere, 31: 371
____, effect of, on magnetic storms and rainfall, Arctowski on, 45: 538-39
____, effect of, on terrestrial phenomena, 28: 109-10
____, epochs of, application of graphic statistics to, Marvin on, 52: 89-91
____, frequency of 1901-14, tables of, Wolfer on, 43: 314

____, frequency of, 1902-19, tables of, Wolfer on, 48: 459-61
____, frequency of, relation between, and Madras rainfall, 30: 438-40
____, frequency of, relative, 29: 505-06
____, group of, March 1920, relation between, and magnetic storms of March 22-23, 1920, Cortie on, 48: 553
____, high latitude, 50: 490
____, hypothesis of, planetary, test of, Alter on, 57: 143-46
____, investigations on, Brown's, Nov. 1878: 12
____, investigations on, Hunter's, July 1877: 11
____, investigations on, Lancaster's, July 1877: 11
____, investigations on, Wolf's, June 1877: 12
____, numbers of, analysis of, Alter on, 56: 399-401
____, numbers of, relative, 1920-29, Brunner on, 59: 37
____, numbers of, relative, Wolf's, revision of, 30: 171-76
____, numbers of, relative, Wolfer's, 46: 403; 47: 413; 51: 29; 53: 77; 54: 15, 61, 300; 55: 30, 419
____, period of, one-ninth, possible period of rainfall equal to, Alter on, 49: 74-85, 133-34
____, relation between, and atmospheric phenomena, Veeder on, 14: 296-97
____, relation between, and droughts, tropical, Pickering on, 48: 589-92
____, relation between, and Hawaiian eruptions, 27: 144
____, relation between, and meteorological phenomena, Hazen on, 15: 29-31
____, relation between, and meteorology, 29: 263-64; 30: 178-81
____, relation between, and polar ice drift, Ifft on, 50: 631
____, relation between, and pressure, Hanzlik on, 59: 201
____, relation between, and pressure, literature on, review of, Henry on, 49: 281-84
____, relation between, and pressure distribution, Deeley on, 58: 423
____, relation between, and pressure distribution over western Europe, Brooks on, 58: 25
____, relation between, and rainfall, Hunter on, July 1877: 11
____, relation between, and rainfall, Streiff on, 55: 69-71
____, relation between, and solar constant, Angstrom on, 49: 460
____, relation between, and temperature and rainfall of Jamaica, 29: 503-04
____, relation between, and temperature in United States, Henry on, 51: 243-49
____, relation between, and tree growth, Harris on, 54: 13-14
____, relation between, and weather, 31: 424, 475-76; 55: 533
____, relation between, and weather, Bigelow on, 23: 91-92
____, relation between, and weather, Galveston, Tex., Tannehill on, 53: 221-22
____, relation between, and weather, Kimball on, 29: 248-49
____, relation between, and weather cycle, two-and-a-half year, Clough on, 52: 38-39
____, relation between, and weather prediction, Russell's article on, 56: 189
____, spectroheliograph of, Oct. 1903, 33: July 1905, pl. III
____, theory of, Bjerknes', 54: 507
____, variations of, simultaneous with terrestrial atmospheric temperature, 31: 371-73
Sunstroke, California and Arizona, Phillips on, 24: 454-56
____, mortality from, 51: 265-67
Sunstroke weather, Aug. 1896, Phillips on, 24: 409-13
Supersaturation, effect of, on ice formation on airplanes, Humphreys on, 58: 245-46

____, Humphreys on, 61: 303-04
Superstitions, meteorological, 26: 216-17
Surface, heated, convection in, Rossby on, 55: 1-5
____, reflectivity of, Kimball and Hand on, 57: 291-95; 58: 280-82
Sweat, See: Perspiration
Swells, Morocco coast, forecasting of, Gain on, 48: 146
Swiss Greenland Expedition, meteorological results of, Brooks on, 51: 256-60
Swiss Society of Geophysics, Meteorology, and Astronomy, organization of, 46: 26-27
Symbols, actinometry, use of, uniformity in, Angstrom on, 59: 354
____, meteorological, international, 26: 311-12, 414; 33: 524-27
____, meteorological, international, Clayton on, 34: 357
____, meteorological, Talman on, 44: 265-74
Symons Memorial Medal, 1912, presentation of, to Cleveland Abbe, 44: 209
____, 1914, presentation of, to William H. Dines, 45: 606
____, 1916, presentation of, to A. Angot, 45: 606
____, 1918, presentation of, to Hugh R. Mill, 45: 606
____, 1920, presentation of, to Hildebrandsson, 47: 806