



THE NATURAL CYCLES

Almanac

November 2026 - October 2027 · Irwin & North Huntingdon, ZIP 15642 · Westmoreland County, PA

Moons, seasons, frost, El Niño and the signals nature gives,
in plain words, for the year ahead.



El Niño: very strong

Pacific forecast +2.39 °C for winter
2026-27



Winter leans mild

6 of 7 strong El Niño winters here
were milder



Less snow likely

7 of 7 had below-usual snow



Last frost ≈ Apr 23

first fall frost ≈ Oct 22



The year ahead in a nutshell

Our best reading of the signals, in six lines.



A mild winter is the safe bet.

A very strong El Niño is building in the Pacific (over 99% likely by winter). Here, 6 of the 7 strong El Niño winters since 1951 ran milder than usual, by about 3 °F on average. Cold snaps will still come; they just tend to be shorter.



Expect less snow.

Every one of those 7 strong El Niño winters had below-usual snowfall: about 28 inches on average, against 41 in a typical winter.



A mild winter is not an early spring.

After strong El Niño winters, spring warmth here arrived on its usual schedule. The risk is a warm spell that wakes buds early, then a frost. The last frost is usually around April 23.



A warm year overall.

NOAA leans warmer than normal for every season through next fall. Part of that is El Niño; most of it is the long, steady warming of these records.



Watch for a flip next winter.

After a strong El Niño, the Pacific often swings the other way. 5 of the past 7 were followed by a cooler Pacific the next winter (3 by a full La Niña), which can mean a colder, snowier 2027-28.



The growing season keeps stretching.

The frost-free season here has grown by about 18 days since 1951: spring frosts end earlier and fall frosts come later.



See this winter's odds in 3D



The Pacific connection in 3D

How to use this almanac

Start with the outlook and the signals for growers, then keep the calendar pages handy. Each month gives the usual temperature and how it has changed, NOAA's outlook, sunrise and sunset, moon phases, Christian holidays, typical frost dates, and what's happening in nature. Everything is worked out for Irwin & North Huntingdon, with weather records from Pittsburgh, PA.



full moon



new moon



frost date



holiday

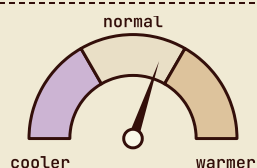


The outlook: 3, 6, 9 and 12 months

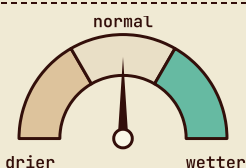
Temperature and rain odds from NOAA's Climate Prediction Center, with what El Niño and the local records add.

Long-range forecasts work like a weighted die with three faces: colder, near normal or warmer than usual (and drier, near normal or wetter). A fair die gives each face 33%. The dials show which way NOAA's die is weighted for this area. A needle pointing straight up means no lean.

3 MONTHS November - January 2027



Temperature: 40%
warmer

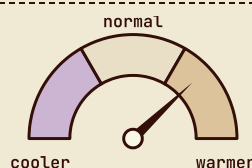


Rain & snow: equal
chances

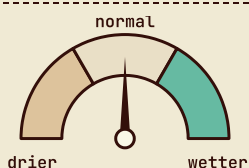
El Niño at full strength.

Mild spells will outnumber deep freezes, and snow will most likely run light: 7 of 7 strong El Niño winters here were less snowy than usual. Holiday-season cold is still possible, but long Arctic outbreaks are less likely.

6 MONTHS February - April 2027



Temperature: 50%
warmer

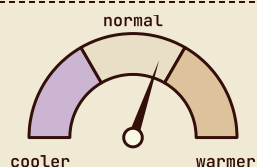


Rain & snow: equal
chances

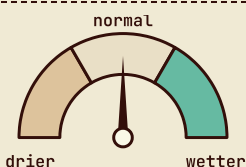
Late winter turns to spring.

El Niño usually stays strong through February, then weakens. Expect early thaws and an early start to sap runs, with fewer good sap days overall. Mild spells can coax buds out early, and the last frost (around April 23) can still bite.

9 MONTHS May - July 2027



Temperature: 40%
warmer

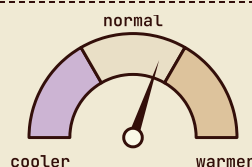


Rain & snow: equal
chances

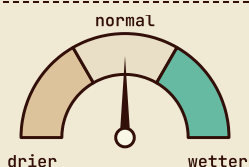
The growing season begins.

By early summer El Niño is usually fading toward neutral and has little grip on our weather. Warmth mostly follows the long-term trend. Summer rain is the real wildcard; no seasonal forecast sees it well.

12 MONTHS August - October 2027



Temperature: 40%
warmer



Rain & snow: equal
chances

Harvest, and the next turn.

First fall frost usually arrives around October 22. Watch the Pacific: after strong El Niños, 5 of 7 swung cooler by the next winter. NOAA's outlook for 2027-28 will show whether La Niña is on the way.

NOAA outlooks for Pittsburgh, PA, issued 2026-09-17. NOAA updates them every month, around the third Thursday. "Equal chances" on rain means no season ahead shows a reliable lean, so plan for a normal amount and watch the short-range forecast.

☆ The coming winter's odds in 3D

☆ What lines up next, in 3D



El Niño, explained

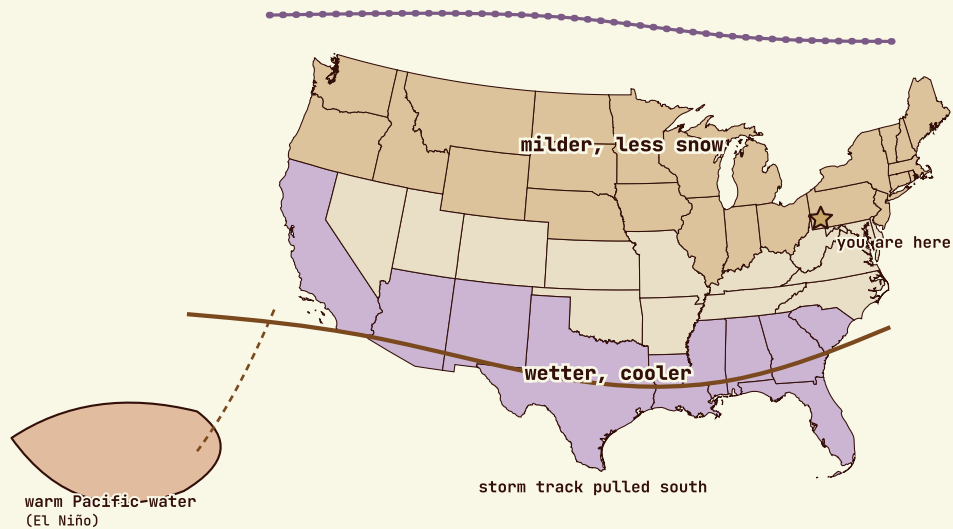
Why a warm patch of ocean 6,000 miles away shapes winter here.

Every few years the tropical Pacific Ocean warms up along the equator. That's **El Niño**. The warm water heats the air above it and bends the jet stream, the fast river of wind that steers storms and cold air across North America.

In an El Niño winter the storm track slides south and the Arctic air's usual route stays farther north. The southern states get wetter and cooler; the northern half of the country, including western Pennsylvania, tends to be **milder and less snowy**.

This year's El Niño is forecast at $+2.39\text{ }^{\circ}\text{C}$ above normal for 2026-27, which counts as very strong. The strongest since 1950 was 2015-16 at $+2.6\text{ }^{\circ}\text{C}$.

Strength matters. Weak and moderate El Niños barely change winter here: across all 26 El Niño winters, the average was only $+0.2\text{ }^{\circ}\text{F}$. The strong ones are different, and this is one of those.



The typical El Niño winter pattern. Shading shows tendencies, not guarantees.

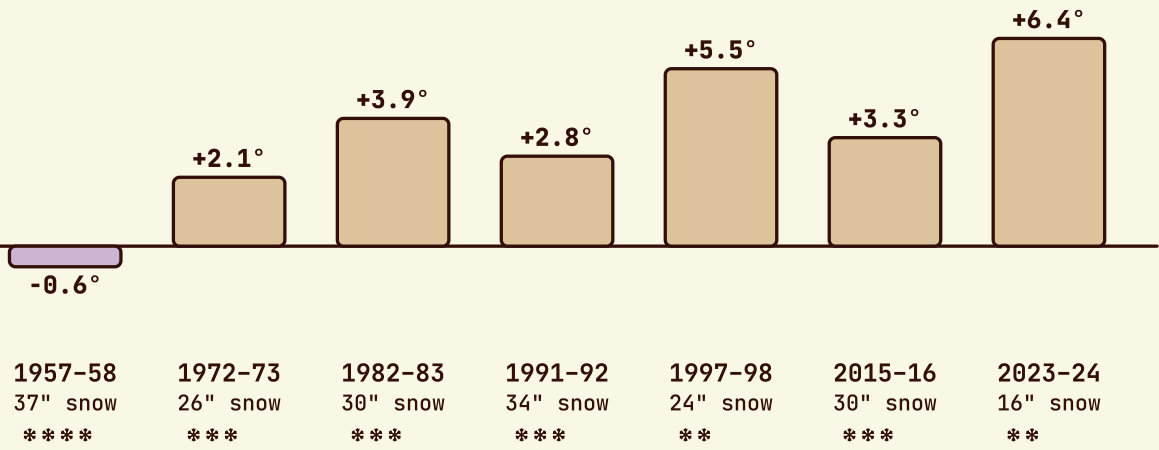
What past strong El Niño winters did here

Usual snowfall here: about 41" a winter

milder

usual

colder



Winter (Dec-Feb) temperature compared with what's usual for its era, at Pittsburgh, PA. Each snowflake is about 10 inches of that winter's snow. Long-term warming is taken out, so old winters aren't counted as cold just for being old.

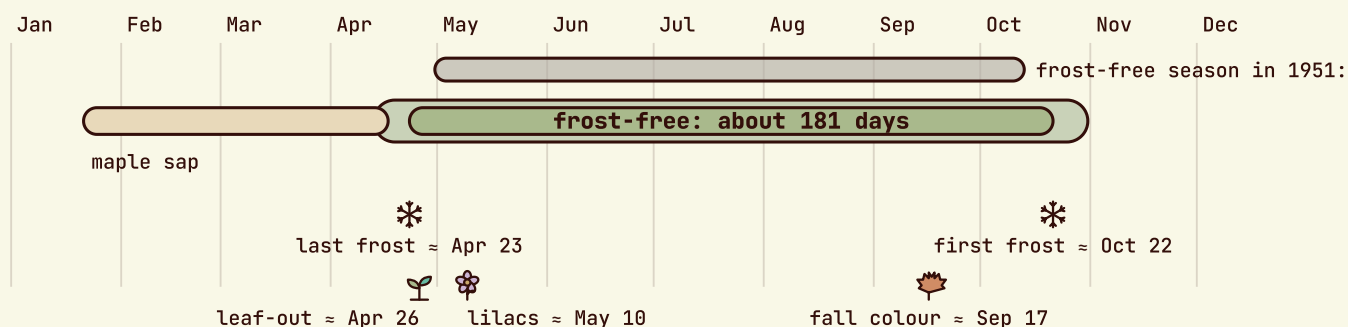
☆ El Niño and Great Lakes ice in 3D

☆ 170 winters of lake ice in 3D



Signals for growers

Frost, heat, sap, bugs and water: the natural signals that matter on the farm and in the garden.



The coming growing season at Pittsburgh, PA. Dark band = typical frost-free season; pale band = the range in most years. Grey bar = the season as it was in 1951. Plant dates are Great Lakes-region averages from the USA National Phenology Network.



Frost dates

Last spring frost: usually around **April 23**; in half of years between Apr 13 and Apr 30, and in 9 years of 10 before May 8.

First fall frost: usually around **October 22**; in half of years between Oct 16 and Oct 31.

Tip: the safe date for tender plants (tomatoes, peppers, basil) is after May 8, when 9 years out of 10 are frost-free.



Mild winter, risky spring

Spring warmth builds by "heat units" (growing degree days). After past strong El Niño winters, heat by the end of May was right on schedule: a mild winter doesn't buy an early spring.

The danger is a **false spring**: a warm March week wakes fruit buds, then a late frost kills the blossoms. Keep frost cloth handy for fruit trees and early plantings through Apr 30.



Maple sugaring

Sap runs on freezing nights and thawing days. The season here usually runs from about **January 21** to **April 17**, best around Mar 9, with about 24 good sap days.

Mild El Niño winters bring fewer hard freezes, so expect a couple fewer sap days than usual. Tap at the first good thaw rather than on the calendar date.



Bugs and ticks

Insects and ticks that spend winter outdoors survive better when it's mild, so pests and ticks can show up earlier and in bigger numbers. Start tick checks early in spring.

Watch the oaks, too. A big acorn year feeds mice, and about two years later that means more ticks carrying Lyme disease.



Water

Less snow means less slow snowmelt soaking into the ground in spring, so spring soil moisture will depend on spring rain. NOAA's outlooks show no lean toward wet or dry for any season ahead.

Yearly rain and melted snow here have crept up over the decades (about 0.8 inch per decade) and show no clear El Niño effect.



Nature's planting signals

Old-time growers planted by nature's clock, and the idea is sound: plants add up the season's warmth for you. Lilacs bloom around **May 10** in this region; sugar maples leaf out about Apr 26.

Sayings like "plant corn when oak leaves are the size of a squirrel's ear" follow the same logic. They're more reliable than a fixed calendar date.



A longer growing season

Since 1951, the frost-free season here has grown by about **18 days**. Seasonal heat (growing degree days) is up about 32 units per decade.

That can mean longer-season varieties and a second planting, but also more heat stress in midsummer and new pests moving north.



Birds as a calendar

Spring migration peaks here around the week of **May 3** (16 tracked species on the move), and fall migration around **September 13**.

Many songbirds time their journeys by day length, which never changes, while their insect food follows temperature. In warm springs, the food can peak before the birds arrive.

☆ The birds' year in 3D

☆ What affects what (acorns → ticks) in 3D

☆ All the clocks at once in 3D



Average temperature: 43 °F (6.0 °C), the 1991–2020 normal at Pittsburgh, PA.

The last 10 years averaged 43 °F (6.0 °C).

Trend since 1950: warming, +0.27 °F per decade (about +2.1 °F over 75 years), small next to the year-to-year swings.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 6:48–5:15 † All Saints' Day	2 6:49–5:14 † All Souls' Day	3 6:51–5:13	4 6:52–5:12	5 6:53–5:11	6 6:54–5:10	7 6:55–5:09
8 6:56–5:08	9 6:58–5:07	10 6:59–5:06	11 7:00–5:05	12 7:01–5:04	13 7:02–5:03	14 7:03–5:02
15 7:05–5:01	16 7:06–5:00	17 7:07–5:00	18 7:08–4:59	19 7:09–4:58	20 7:10–4:58	21 7:11–4:57
22 7:13–4:56	23 7:14–4:56	24 7:15–4:55	25 7:16–4:55	26 7:17–4:54	27 7:18–4:54	28 7:19–4:54
29 7:20–4:53 † 1st Sunday of Advent	30 7:21–4:53					

 new moon

 first quarter

 full moon

 last quarter

 typical frost date

 Christian holiday

times = sunrise-sunset

☆ Moons & ceremonies

-  Full moon Nov 24
- Gashkadino-giizis*: Ice is Forming Moon (Ojibwe, GLIFWC)
- Thunder: Haudenosaunee ceremony, November
- † Nov 1 All Saints' Day · Nov 2 All Souls' Day · Nov 29 1st Sunday of Advent

 In nature

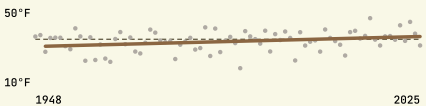
- Typical first frost around October 22 at Pittsburgh, PA.
- Daylight goes from 10 h 27 min to 9 h 32 min.



Average temperature: 34 °F (1.0 °C), the 1991-2020 normal at Pittsburgh, PA.

The last 10 years averaged 35 °F (1.8 °C).

Trend since 1950: warming, +0.66 °F per decade (about +4.9 °F over 75 years), a clear trend.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 7:22-4:53	2 7:23-4:52	3 7:24-4:52	4 7:25-4:52	5 7:26-4:52
6 7:27-4:52 † 2nd Sunday of Advent † St. Nicholas Day	7 7:28-4:52	8 7:29-4:52	9 7:30-4:52	10 7:30-4:52	11 7:31-4:52	12 7:32-4:52
13 7:33-4:52 † 3rd Sunday of Advent Geminids meteors	14 7:33-4:53	15 7:34-4:53	16 7:35-4:53	17 7:35-4:54	18 7:36-4:54	19 7:37-4:54
20 7:37-4:55 † 4th Sunday of Advent	21 7:38-4:55 December solstice	22 7:38-4:56	23 7:39-4:56	24 7:39-4:57 † Christmas Eve	25 7:39-4:57 † Christmas Day	26 7:40-4:58
27 7:40-4:59	28 7:40-4:59	29 7:41-5:00	30 7:41-5:01	31 7:41-5:02		

 new moon  first quarter  full moon  last quarter  typical frost date † Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

-  Full moon Dec 23 (supermoon)
- *Manidoo-giizisoons*: Little Spirit Moon (Ojibwe, GLIFWC)
- End of Seasons: Haudenosaunee ceremony, December
- † Dec 6 2nd Sunday of Advent · Dec 6 St. Nicholas Day · Dec 13 3rd Sunday of Advent · Dec 20 4th Sunday of Advent · Dec 24 Christmas Eve · Dec 25 Christmas Day

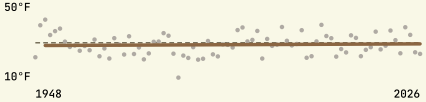
 In nature

- Typical first frost around October 22 at Pittsburgh, PA.
- Dec 13: Geminids meteor shower peak, up to ~150/hour under dark skies · moon 22% lit (good)
- Dec 21: December solstice, 3:50 PM
- Daylight goes from 9 h 31 min to 9 h 21 min.



Average temperature: 29 °F (-1.7 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 29 °F (-1.4 °C).

Trend since 1950: warming, +0.11 °F per decade (about +0.8 °F over 76 years), small next to the year-to-year swings.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 7:41-5:03	2 7:41-5:03
3 7:41-5:04 Quadrantids meteors	4 7:41-5:05	5 7:41-5:06	6 7:41-5:07 † Epiphany	7 7:41-5:08 † Orthodox Christmas	8 7:41-5:09	9 7:41-5:10
10 7:41-5:11	11 7:40-5:12	12 7:40-5:13	13 7:40-5:14	14 7:40-5:15	15 7:39-5:16	16 7:39-5:17
17 7:38-5:19	18 7:38-5:20	19 7:37-5:21	20 7:37-5:22	21 7:36-5:23	22 7:35-5:24	23 7:35-5:25
24 7:34-5:27	25 7:33-5:28	26 7:33-5:29	27 7:32-5:30	28 7:31-5:31	29 7:30-5:33	30 7:29-5:34
31 7:28-5:35						

 new moon

 first quarter

 full moon

 last quarter

 typical frost date

 Christian holiday

times = sunrise-sunset

☆ Moons & ceremonies

- 🌕 Full moon Jan 22 (supermoon)
- *Gichi-manidoo-giizis*: Great Spirit Moon (Ojibwe, GLIFWC)
- Midwinter: Haudenosaunee ceremony, second week in January (about eight days)
- † Jan 6 Epiphany · Jan 7 Orthodox Christmas

🌱 In nature

- Typical last frost around April 23 at Pittsburgh, PA.
- Maple sap season, usually Jan 21 - Apr 17; best around Mar 9.
- Jan 3: Quadrantids meteor shower peak, up to ~110/hour under dark skies · moon 14% lit (good)
- Daylight goes from 9 h 21 min to 10 h 7 min.

Average temperature: 32 °F (-0.2 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 35 °F (1.6 °C).

Trend since 1950: warming, +0.40 °F per decade (about +3.0 °F over 76 years), small next to the year-to-year swings.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 7:27-5:36	2 7:26-5:38 † Candlemas	3 7:25-5:39	4 7:24-5:40	5 7:23-5:41	6 7:22-5:42
7 7:21-5:44	8 7:20-5:45	9 7:19-5:46 † Shrove Tuesday	10 7:18-5:47 † Ash Wednesday	11 7:17-5:49	12 7:15-5:50	13 7:14-5:51
14 7:13-5:52	15 7:12-5:53	16 7:10-5:54	17 7:09-5:56	18 7:08-5:57	19 7:06-5:58	20 7:05-5:59 Moon eclipse
21 7:03-6:00	22 7:02-6:01	23 7:01-6:03	24 6:59-6:04	25 6:58-6:05	26 6:56-6:06	27 6:55-6:07
28 6:53-6:08						

new moon first quarter full moon last quarter typical frost date † Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

- ☺ Full moon Feb 20
- Namebini-giizis*: Sucker Moon (Ojibwe, GLIFWC)
- Maple Ceremony: Haudenosaunee ceremony, second week in February (one day)
- † Feb 2 Candlemas · Feb 9 Shrove Tuesday · Feb 10 Ash Wednesday

🌱 In nature

- Typical last frost around April 23 at Pittsburgh, PA.
- Maple sap season, usually Jan 21 - Apr 17; best around Mar 9.
- Feb 20: Lunar eclipse (penumbral) visible here, peak 6:12 PM, moon 2° up
- Daylight goes from 10 h 9 min to 11 h 15 min.

Average temperature: 40 °F (4.4 °C), the 1991–2020 normal at Pittsburgh, PA.

The last 10 years averaged 43 °F (5.9 °C).

Trend since 1950: warming, +0.66 °F per decade (about +5.0 °F over 76 years), a clear trend.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 6:52–6:09	2 6:50–6:11	3 6:49–6:12	4 6:47–6:13	5 6:46–6:14	6 6:44–6:15
7 6:43–6:16	8 6:41–6:17	 9 6:39–6:18	10 6:38–6:19	11 6:36–6:20	12 6:35–6:21	13 6:33–6:23
14 7:31–7:24	15 7:30–7:25	 16 7:28–7:26	17 7:26–7:27 † St. Patrick's Day	18 7:25–7:28	19 7:23–7:29	20 7:22–7:30 March equinox
21 7:20–7:31 † Palm Sunday	22 7:18–7:32	 23 7:17–7:33	24 7:15–7:34	25 7:13–7:35 † Annunciation † Maundy Thursday	26 7:12–7:36 † Good Friday	27 7:10–7:37
28 7:08–7:38 † Easter Sunday	29 7:07–7:39	 30 7:05–7:40	31 7:04–7:41			

new moon

first quarter

full moon

last quarter

typical frost date

Christian holiday

times = sunrise-sunset

☆ Moons & ceremonies

- Full moon Mar 22
- Onaabani-giizis*: Hard Crust on the Snow Moon (Ojibwe, GLIFWC)
- † Mar 17 St. Patrick's Day · Mar 21 Palm Sunday · Mar 25 Annunciation · Mar 25 Maundy Thursday · Mar 26 Good Friday · Mar 28 Easter Sunday

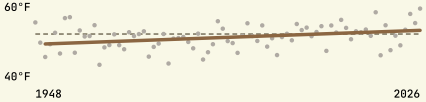
🌱 In nature

- Typical last frost around April 23 at Pittsburgh, PA.
- Maple sap season, usually Jan 21 – Apr 17; best around Mar 9.
- Mar 20: March equinox, 4:24 PM
- Daylight goes from 11 h 18 min to 12 h 38 min.



Average temperature: 52 °F (11.0 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 53 °F (11.5 °C).

Trend since 1950: warming, +0.45 °F per decade (about +3.5 °F over 76 years), a clear trend.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 7:02-7:42	2 7:00-7:43	3 6:59-7:44
4 6:57-7:45	5 6:55-7:46	6 6:54-7:48	 7 6:52-7:49	8 6:51-7:50	9 6:49-7:51	10 6:48-7:52
11 6:46-7:53	12 6:44-7:54	13 6:43-7:55	 14 6:41-7:56	15 6:40-7:57	16 6:38-7:58	17 6:37-7:59
18 6:35-8:00	19 6:34-8:01	20 6:32-8:02	 21 6:31-8:03	22 6:30-8:04	23 6:28-8:05 * ≈ last frost	24 6:27-8:06
25 6:25-8:07	26 6:24-8:08	27 6:23-8:09	28 6:21-8:10	 29 6:20-8:11	30 6:19-8:12	

 new moon  first quarter  full moon  last quarter * typical frost date † Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

-  Full moon Apr 20
- *Iskigamizige-giizis*: Maple Sugar Moon (Ojibwe, GLIFWC)
- Thunder Dance: Haudenosaunee ceremony, first week in April

 In nature

- Typical last frost around April 23 at Pittsburgh, PA.
- Sugar maple leaf-out around April 26 (Great Lakes region average).
- Red maple flowers around April 12 (Great Lakes region average).
- White oak leaf-out around April 26 (Great Lakes region average).
- Maple sap season, usually Jan 21 - Apr 17; best around Mar 9.
- Daylight goes from 12 h 40 min to 13 h 53 min.

Average temperature: 61 °F (16.4 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 62 °F (16.6 °C).

Trend since 1950: warming, +0.35 °F per decade (about +2.6 °F over 76 years), a clear trend.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 6:18-8:13
2 6:16-8:14 † Orthodox Easter	3 6:15-8:15	4 6:14-8:16	5 6:13-8:17	6 6:12-8:18 † Ascension Day Eta Aquariids meteors	7 6:10-8:19	8 6:09-8:20
9 6:08-8:21	10 6:07-8:22	11 6:06-8:23	12 6:05-8:24	13 6:04-8:25 	14 6:03-8:26	15 6:02-8:27
16 6:01-8:28 † Pentecost	17 6:00-8:29	18 5:59-8:30	19 5:59-8:31	20 5:58-8:32 	21 5:57-8:33	22 5:56-8:34
23 5:56-8:35 † Trinity Sunday	24 5:55-8:35	25 5:54-8:36	26 5:54-8:37	27 5:53-8:38	28 5:52-8:39 	29 5:52-8:40
30 5:51-8:40	31 5:51-8:41					

new moon

first quarter

full moon

last quarter

typical frost date

† Christian holiday

times = sunrise-sunset

☆ Moons & ceremonies

- Full moon May 20
- Waabigwanii-giizis*: Flower Moon (Ojibwe, GLIFWC)
- Sun Dance: Haudenosaunee ceremony, beginning of May
- Moon Dance: Haudenosaunee ceremony, second week of May
- Seed Ceremony: Haudenosaunee ceremony, middle of May (one day)
- Planting Ceremony: Haudenosaunee ceremony, end of May
- Strawberry Ceremony: Haudenosaunee ceremony, middle of May (one day)
- † May 2 Orthodox Easter · May 6 Ascension Day · May 16 Pentecost · May 23 Trinity Sunday

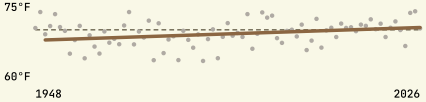
🌱 In nature

- Typical last frost around April 23 at Pittsburgh, PA.
- Lilac blooms around May 10 (Great Lakes region average).
- Spring migration peak (typical week, PA): 16 tracked species moving, e.g. Lesser Yellowlegs, Osprey, Wood Thrush, Rose-breasted Grosbeak
- May 6: Eta Aquariids meteor shower peak, up to ~50/hour under dark skies · moon 0% lit (good)
- Daylight goes from 13 h 56 min to 14 h 50 min.



Average temperature: 70 °F (20.9 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 70 °F (21.2 °C).

Trend since 1950: warming, +0.31 °F per decade (about +2.4 °F over 76 years), a clear trend.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 5:51-8:42	2 5:50-8:43	3 5:50-8:43	4 5:49-8:44 🌑	5 5:49-8:45
6 5:49-8:45	7 5:49-8:46	8 5:48-8:46	9 5:48-8:47	10 5:48-8:48	11 5:48-8:48 🌓	12 5:48-8:49
13 5:48-8:49	14 5:48-8:49	15 5:48-8:50	16 5:48-8:50	17 5:48-8:51	18 5:48-8:51 ☀️	19 5:48-8:51
20 5:48-8:51	21 5:49-8:52 June solstice	22 5:49-8:52	23 5:49-8:52	24 5:49-8:52	25 5:50-8:52	26 5:50-8:52
27 5:50-8:52 🌓	28 5:51-8:52	29 5:51-8:52	30 5:52-8:52			

🌑 new moon 🌓 first quarter ☀️ full moon 🌑 last quarter ❄️ typical frost date † Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

- ☀️ Full moon Jun 18
- Ode'imini-giizis*: Time for Picking Strawberry Moon (Ojibwe, GLIFWC)

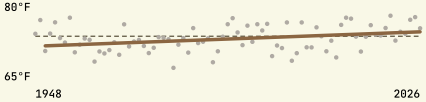
🌱 In nature

- Typical last frost around April 23 at Pittsburgh, PA.
- Jun 21: June solstice, 10:10 AM
- Daylight goes from 14 h 51 min to 15 h 0 min.



Average temperature: 73 °F (23.0 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 75 °F (23.8 °C).

Trend since 1950: warming, +0.35 °F per decade (about +2.7 °F over 76 years), a clear trend.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 5:52-8:52	2 5:53-8:52	3 5:53-8:52 
4 5:54-8:52	5 5:54-8:51	6 5:55-8:51	7 5:56-8:51	8 5:56-8:51	9 5:57-8:50	10 5:58-8:50 
11 5:58-8:49	12 5:59-8:49	13 6:00-8:48	14 6:01-8:48	15 6:01-8:47	16 6:02-8:47	17 6:03-8:46
18 6:04-8:45 	19 6:05-8:45	20 6:05-8:44	21 6:06-8:43	22 6:07-8:43	23 6:08-8:42	24 6:09-8:41
25 6:10-8:40	26 6:11-8:39 	27 6:11-8:38	28 6:12-8:37 Southern Delta Aquariids meteors	29 6:13-8:36	30 6:14-8:35	31 6:15-8:34

 new moon  first quarter  full moon  last quarter  typical frost date  Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

-  Full moon Jul 18
- Aabita-niibino-giizis*: Half Way Through the Summer Moon (Ojibwe, GLIFWC)

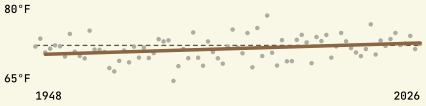
 In nature

- Jul 28: Southern Delta Aquariids meteor shower peak, up to ~25/hour under dark skies · moon 33% lit (good)
- Daylight goes from 14 h 60 min to 14 h 19 min.



Average temperature: 72 °F (22.2 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 72 °F (22.5 °C).

Trend since 1950: warming, +0.28 °F per decade (about +2.2 °F over 76 years), a clear trend.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 6:16–8:33	2 6:17–8:32 	3 6:18–8:31	4 6:19–8:30	5 6:20–8:29	6 6:21–8:28	7 6:22–8:26
8 6:23–8:25	9 6:24–8:24 	10 6:25–8:23	11 6:26–8:21	12 6:27–8:20	13 6:28–8:19	14 6:29–8:17
15 6:29–8:16 † Assumption of Mary	16 6:30–8:15	17 6:31–8:13 Moon eclipse 	18 6:32–8:12	19 6:33–8:11	20 6:34–8:09	21 6:35–8:08
22 6:36–8:06	23 6:37–8:05	24 6:38–8:03 	25 6:39–8:02	26 6:40–8:00	27 6:41–7:59	28 6:42–7:57
29 6:43–7:56	30 6:44–7:54	31 6:45–7:52 				

 new moon

 first quarter

 full moon

 last quarter

 typical frost date

 Christian holiday

times = sunrise-sunset

☆ Moons & ceremonies

-  Full moon Aug 17
- *Manoominike-giizis*: Ricing Moon (Ojibwe, GLIFWC)
- String Bean: Haudenosaunee ceremony, first week in August (one day)
- Corn: Haudenosaunee ceremony, middle of August
- † Aug 15 Assumption of Mary

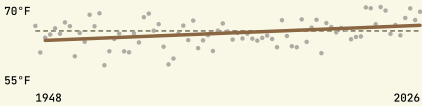
 In nature

- Typical first frost around October 22 at Pittsburgh, PA.
- Aug 17: Lunar eclipse (penumbral) visible here, peak 3:13 AM, moon 30° up
- Daylight goes from 14 h 17 min to 13 h 7 min.



Average temperature: 65 °F (18.4 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 67 °F (19.6 °C).

Trend since 1950: warming, +0.38 °F per decade (about +2.9 °F over 76 years), a clear trend.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 6:46-7:51	2 6:47-7:49	3 6:48-7:48	4 6:49-7:46
5 6:50-7:44	6 6:51-7:43	7 6:52-7:41	8 6:53-7:39	9 6:54-7:38	10 6:54-7:36	11 6:55-7:35
12 6:56-7:33	13 6:57-7:31	14 6:58-7:30	15 6:59-7:28	16 7:00-7:26	17 7:01-7:24	18 7:02-7:23
19 7:03-7:21	20 7:04-7:19	21 7:05-7:18	22 7:06-7:16	23 7:07-7:14 September equinox	24 7:08-7:13	25 7:09-7:11
26 7:10-7:09	27 7:11-7:08	28 7:12-7:06	29 7:13-7:04	30 7:14-7:03		

 new moon  first quarter  full moon  last quarter  typical frost date  Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

-  Full moon Sep 15
- Waatebagaa-giizis*: Leaves Changing Color Moon (Ojibwe, GLIFWC)

 In nature

- Typical first frost around October 22 at Pittsburgh, PA.
- Sugar maple fall colour around September 17 (Great Lakes region average).
- Fall migration peak (typical week, PA): 19 tracked species moving, e.g. Cape May Warbler, Semipalmated Sandpiper, Broad-winged Hawk, Chimney Swift
- Sep 23: September equinox, 2:01 AM
- Daylight goes from 13 h 5 min to 11 h 49 min.

Average temperature: 54 °F (12.0 °C), the 1991-2020 normal at Pittsburgh, PA. The last 10 years averaged 56 °F (13.1 °C).

Trend since 1950: warming, +0.19 °F per decade (about +1.4 °F over 75 years), small next to the year-to-year swings.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 7:15-7:01	2 7:16-7:00
3 7:17-6:58	4 7:18-6:56	5 7:19-6:55	6 7:20-6:53	7 7:21-6:51	8 7:22-6:50	9 7:23-6:48
10 7:24-6:47	11 7:25-6:45	12 7:26-6:44	13 7:27-6:42	14 7:28-6:40	15 7:29-6:39	16 7:30-6:37
17 7:31-6:36	18 7:32-6:34	19 7:33-6:33	20 7:35-6:32	21 7:36-6:30	22 7:37-6:29 * ≈ first frost	23 7:38-6:27
24 7:39-6:26	25 7:40-6:25	26 7:41-6:23	27 7:42-6:22	28 7:43-6:21	29 7:45-6:19	30 7:46-6:18
31 7:47-6:17						

new moon first quarter full moon last quarter typical frost date Christian holiday times = sunrise-sunset

☆ Moons & ceremonies

- Full moon Oct 15
- Binaakwii-giizis*: Falling Leaves Moon (Ojibwe, GLIFWC)
- Harvest: Haudenosaunee ceremony, middle of October (four days)

🌱 In nature

- Typical first frost around October 22 at Pittsburgh, PA.
- Daylight goes from 11 h 46 min to 10 h 30 min.



The cycles behind it all

Nature runs on rhythms. Some are clockwork, some are moods.



The sun's yearly path

Clockwork: exact years ahead

Earth's tilt gives us seasons and day length; today there are 11.5 hours of daylight here. The coldest days lag the shortest day by about a month, because land and water are slow to cool.



The moon

Clockwork: exact years ahead



Full moons come every 29.5 days, so most years have 12 and some have 13. Many nations name each moon for what's happening on the land: the Sugar Moon, the Strawberry Moon, the Ricing Moon. Planting by the moon is a cherished tradition, though studies haven't found that it changes harvests.



El Niño and La Niña

Tilts the odds

The Pacific swings warm and cool every 2-7 years. It's the strongest seasonal signal we have, and it's strongest in the big events like this year's. It can be forecast 6-9 months ahead.



The sun's 11-year cycle

Tilts the odds

The sun's activity rises and falls about every 11 years. We're just past the peak of Cycle 25 (sunspots 95). The next couple of years are still good for northern lights: when a big solar storm hits, look north on clear nights.



Periodical cicadas

Clockwork: exact years ahead

Brood VIII lives under Westmoreland County and comes up every 17 years. It last emerged in 2019, and the next time is 2036. They come up when the soil reaches about 64 °F, usually in late May.



The long warming

A trend, not a cycle

Not a cycle: 12 of 12 months here have warmed since 1950, the most by about 5 °F. That's why "normal" keeps shifting, and why this almanac compares each winter with what was usual for its era.

☆ The sun's 11-year breath in 3D

☆ How we know a rhythm is real, in 3D

☆ Wolves and moose in 3D



Old sayings, tested

We wrote each one down and checked it against 75 years of records. A coin flip scores 50%.

Most sayings land close to the coin-flip line. Note the first one: El Niño winters as a whole aren't reliably mild here; it's the **strong** El Niños that are.

El Niño winters are mild around the Great Lakes.



54% · no better than a coin flip

La Niña winters are snowy around the Great Lakes.



65% · leans right, but could be luck

La Niña winters bring more Great Lakes ice.



47% · no better than a coin flip

A negative Arctic Oscillation winter is a cold winter here.



58% · no better than a coin flip

Winters around solar minimum are colder.



54% · no better than a coin flip

A year with 13 full moons brings a hard winter.



56% · no better than a coin flip

Major lunar standstill years run cold.



60% · leans right, but could be luck

An early first fall freeze means a hard winter.



52% · no better than a coin flip

☆ Sayings vs. a coin flip, in 3D

Where this comes from

Weather records: NOAA GHCN-Daily (Pittsburgh, PA). Outlooks: NOAA Climate Prediction Center. El Niño index: NOAA. Plant timing: USA National Phenology Network. Birds: eBird Status & Trends, Cornell Lab of Ornithology. Sunspots: SILSO, Royal Observatory of Belgium. Cicadas: USDA Forest Service.

Moon names are each nation's own and are credited to them: Ojibwe moon names as published by the Great Lakes Indian Fish & Wildlife Commission (GLIFWC); Haudenosaunee ceremony names and timing as listed by the Haudenosaunee Confederacy, which sets the dates each year by observation.

Forecasts are odds, not promises. Free to share with friends and family; not for sale.