FROM THE OLD FARMER'S ALMANAC

PURSLANE: GOURMET BITE OR GARDEN BLIGHT?

THE GIRL WHO STRUCK OUT BABE RUTH

THE ULTIMATE REALITY SHOW: YOUR GARDEN

**SUMMER SALAD RECIPES** 





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# THE MONTH OF JULY

Holidays, History, and More

## **HOLIDAY HAPPENINGS**

July 1: Canada Day July 4: Independence Day

#### **WE DO DECLARE!**

On April 19, 1775, during the Battles of Lexington and Concord (Mass.), the first shots were fired between colonists and



British troops, starting the American Revolution. After these first military conflicts, tension between Britain and her American colonists continued to mount. Finally, on July 2, 1776, the Second Continental Congress voted for independence from Britain.

Two days later, on July 4, the Congress approved the final draft of the Declaration of Independence, which had been written by Thomas Jefferson and edited by John Adams and Benjamin Franklin. On July 8, the first public reading of the Declaration took place at the Pennsylvania State House (now Independence Hall) in Philadelphia, Pennsylvania. Later that same day, other readings occurred in Trenton, New Jersey, and Easton, Pennsylvania.

Printer John Dunlap made about 200 copies of the Declaration dated July 4. Known as the (continued on next page)

#### MOON WATCH

**Last Quarter:** 

July 6, at 3:51 A.M. EDT

New Moon:

July 12, at 10:48 P.M. EDT

First Quarter:

July 19, at 3:52 P.M. EDT

**Full Buck Moon:** 

July 27, at 4:20 P.M. EDT

TAP FOR MORE MOON PHASES

TAP FOR MORE
ABOUT JULY'S FULL
MOON

#### **ANNUAL EVENT**

On July 6, Earth is at aphelion, the point in its orbit at which it is farthest from the Sun. The distance between the two orbs will be 94,507,885 miles.



"Dunlap Broadsides," these were distributed throughout the 13 colonies. However, it wasn't until August 2 that the Declaration was officially signed. John Hancock, president of the Congress, was the first of 56 delegates who signed this enlarged version, writing in big, bold letters.

#### **DID YOU KNOW?**

John Adams believed that July 2 would be the day when Americans would celebrate their independence. On July 3, 1776, he wrote to his wife, Abigail:

The second day of July, 1776, will be the most memorable epocha in the history of America. I am apt to believe that it will be celebrated by succeeding generations as the great anniversary festival.

## **JULY BIRTHDAYS**



**15 YEARS AGO (2003) July 1:** Brynn Rumfallo (American dancer/actress)

# **25 YEARS AGO (1993) July 1:** Raini Rodriguez (American actress/singer)

# **50 YEARS AGO (1968) July 5:** Susan Wojcicki (American tech industry executive)

July 8: Billy Crudup (American actor) July 16: Barry Sanders (American football player)

75 YEARS AGO (1943)
July 4: Geraldo Rivera
(American journalist/
talk show host)
July 26: Sir Michael
Philip "Mick" Jagger
(English singer/
songwriter)

**July 28:** Bill Bradley (American politician/basketball player)

# July 4: "Ann Landers" and "Abigail Van Buren" (American advice columnists) July 6: Sebastian Cabot (English actor) July 14: Ingmar Bergman (Swedish director) July 18: Nelson Mandela

July 18: Nelson Mandela (South African political leader)



**150 YEARS AGO (1868) July 4:** Henrietta Swan
Leavitt (American
astronomer)

**200 YEARS AGO (1818) July 30:** Emily Brontë (English writer)





## **BEST DAYS TO DO THINGS**

These July dates, deemed to be propitious in astrology, are based on the astrological passage of the Moon. However, consider all indicators before making any major decisions. –*Celeste Longacre* 

#### IN THE GARDEN

Destroy pests and weeds: 5, 6

Graft or pollinate: 12, 13

Harvest aboveground crops: 16, 17

Harvest belowground crops: 7, 8

Mow to decrease growth: 5, 6

Mow to increase growth: 20, 21

Pick fruit: 16, 17

Plant aboveground crops: 20, 21

Plant belowground crops: 2-4, 30, 31

Prune to discourage growth: 5, 6

Prune to encourage growth: 14, 15



#### **PERSONAL**

Advertise to sell: 20, 21

Ask for a loan: 4, 8

Begin diet to gain weight: 17, 21

Begin diet to lose weight: 4, 8, 31

Buy a home: 17, 21

Color hair: 7, 8

Cut hair to discourage growth: 2–4,

30, 31

Cut hair to encourage growth: 18, 19

Get married: 18, 19

Have dental care: 16, 17

Move (house/household): 10, 11

Perm hair: 1, 27-29

Quit smoking: 4, 8, 31

Straighten hair: 22-24

Travel for pleasure: 14, 15

Wean children: 4, 8, 31

#### **AROUND THE HOUSE**

Bake: 12, 13

Brew: 20, 21

Can, pickle, or make sauerkraut: 2-4,

30, 31

Demolish: 20, 21

Dry fruit/vegetables/meat: 5, 6

End projects: 12

Lay shingles: 14, 15

Make jams/jellies: 2-4, 30-31

Paint: 7, 8, 18, 19

Start projects: 14

Wash floors: 2-4, 30, 31

Wash windows: 5, 6

#### **OUTDOORS**

Begin logging: 25, 26

Go camping: 22-24

Go fishing: 12–27

Set posts or pour concrete: 25, 26

#### **ON THE FARM**

Breed animals: 20, 21

Castrate animals: 1, 27–29

Cut hay: 5, 6

Purchase animals: 12, 13

Set eggs: 26, 27

Slaughter livestock: 20, 21

Wean animals: 4, 8, 31





Use the July dates shown in the Moon's Astrological Place calendar below to find the best days for the following garden tasks:

PLANT, TRANSPLANT, AND GRAFT: Cancer, Scorpio, Pisces, or Taurus

HARVEST: Aries, Leo, Sagittarius, Gemini, or Aquarius

**GARDENING BY THE MOON'S SIGN** 

**BUILD/FIX FENCES OR GARDEN BEDS:** Capricorn

CONTROL INSECT PESTS, PLOW, AND WEED: Aries, Gemini, Leo, Sagittarius, or Aquarius

**PRUNE**: Aries, Leo, or Sagittarius. During a waxing Moon, pruning encourages growth; during a waning Moon, it discourages growth.

#### **TAP FOR** MERCURY IN RETROGRADE DATES

APP EXTRA! TAP FOR JULY MOON **PHASES** 

#### THE MOON'S ASTROLOGICAL PLACE IN JULY

1 Aquarius	9 Gemini	<b>17</b> Virgo	25 Capricorn
2 Pisces	<b>10</b> Gemini	18 Libra	26 Capricorn
3 Pisces	<b>11</b> Gemini	19 Libra	<b>27</b> Aquarius
4 Pisces	12 Cancer	20 Scorpio	28 Aquarius
<b>5</b> Aries	13 Cancer	21 Scorpio	<b>29</b> Aquarius
6 Aries	<b>14</b> Leo	<b>22</b> Sagittarius	30 Pisces
7 Taurus	<b>15</b> Leo	23 Sagittarius	<b>31</b> Pisces
8 Taurus	<b>16</b> Virgo	<b>24</b> Sagittarius	

#### MERCURY IN RETROGRADE

Sometimes the other planets appear to be traveling backward through the zodiac; this is an illusion. We call this illusion *retrograde motion*.

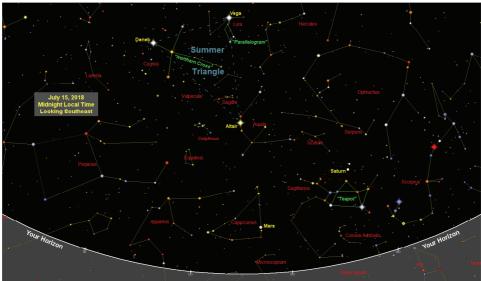
Mercury's retrograde periods can cause our plans to go awry. However, this is an excellent time to reflect on the past. Intuition is high during these periods, and coincidences can be extraordinary.

When Mercury is retrograde, remain flexible, allow extra time for travel, and avoid signing contracts. Review projects and plans at these times, but wait until Mercury is direct again to make any final decisions.

In 2018 to come, Mercury will be retrograde during July 26–August 19 and November 17–December 6.

-Celeste Longacre





APP EXTRA!

TAP TO GET

A PRINTABLE

JULY SKY MAP

APP EXTRA!
TAP TO
FOLLOW
OHIOAN JEFF
DETRAY'S SKY
ADVENTURES

## **LOOKS CAN BE DECEIVING**

ear after year, century after century, stargazers have celebrated the return of the Summer Triangle. At this time every year, the stars Vega, Altair, and Deneb form a distinctive, three-cornered pattern high in the southeastern sky.

The three stars are similar in brightness. Vega, in the constellation Lyra, the Lyre, is the brightest of the trio and the fifth brightest of all stars. In Carl Sagan's novel *Contact*, Vega is the source of the first message ever received from an alien civilization. In the movie version, Jodie Foster seeks the source of the Vega message. Back in the real world, we've yet to hear anything from the possible inhabitants of the Vega system, but researchers are listening to Vega and thousands of other stars every day, just in case.

Altair, in Aquila, the Eagle, is another Hollywood star, as well as a star in the night sky. In the 1956 film *Forbidden Planet*, a world in the Altair system is home to the relics of



an ancient alien civilization—as well as an eccentric Earth scientist and his beautiful daughter. Altair is the second brightest member of the Summer Triangle and 13th brightest star of all.

Number three in the Summer Triangle and 20th brightest star overall is Deneb, which marks the tail of Cygnus, the Swan. Alas, Deneb has never starred in a major motion picture, but it has other claims to fame. Whereas Vega and Altair are relatively close to us in astronomical terms—25 and 17 light-years away, respectively—Deneb is much farther away, an estimated 2,600 light-years from Earth. A light-year is the distance that light travels in one year—a big, *big* number!

The three stars of the Summer Triangle appear to be about the same brightness. Put another way, their "apparent brightness" is roughly equal. But looks can be deceiving. We now know that Deneb is more than 100 times more distant than Vega and Altair, yet it appears nearly as bright.

How can this be? The only way that Deneb can be both farther away and equal in apparent brightness is if its actual, or "intrinsic," brightness is much greater than that of the others. In fact, Deneb is one of the most luminous of all stars, an astounding 200,000 times brighter than our Sun. The light we see from Deneb left the star at about the time the Pyramids of Egypt were being built.

nce you've spotted the Summer Triangle, you can use it to find other sights. The largest and most prominent asterism (unofficial star pattern) associated with the Triangle is the Northern Cross, composed of the brightest stars in Cygnus. Less prominent—but quite striking—is the perfect little Parallelogram, which hangs just below blazing Vega in Lyra. Sagitta, the Arrow, is a dim but delightful constellation that sits right above Altair. It's one of the smallest constellations, and it really does look like a little arrow!

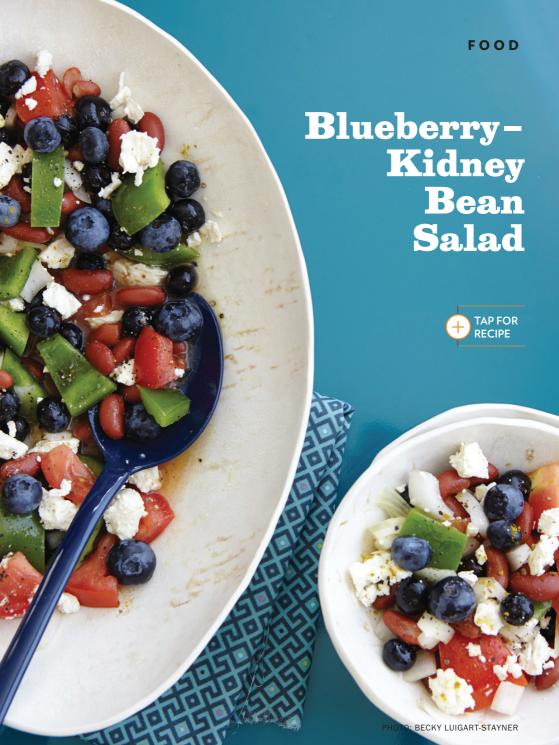
Another notable asterism on this month's map isn't part of the Summer Triangle, but it's always a lovely sight. This is the distinctive Teapot, in Sagittarius in the lower right part of the map. While you're visiting the area, note the planet Saturn right above the Teapot's lid. To the lower left of the Teapot, you'll find Mars. Both Saturn and Mars are near their brightest for the year.

—Jeff DeTray



# Summer Salad Recipes

Summer is the perfect time of year to enjoy salads with fresh vegetables from the garden or farmers' market. We've gathered some creative, fresh, and flavorful recipes to help you celebrate the salad season.



#### **BLUEBERRY-KIDNEY BEAN SALAD**

#### SALAD:

- 1 can (15.5 ounces) red kidney beans, drained and rinsed
- 1 large onion, diced
- 1 large tomato, diced
- 1 large green bell pepper, diced
- 1-1/2 cups fresh blueberries
- 1/4 cup crumbled feta cheese

#### DRESSING:

RECIPE

- 8 tablespoons apple cider vinegar
- 4 tablespoons olive oil
- 1 teaspoon salt
- 1/2 teaspoon freshly ground black pepper
- 1/4 teaspoon curry powder

*For salad:* In a bowl, combine kidney beans, onions, tomatoes, bell peppers, blueberries, and feta.

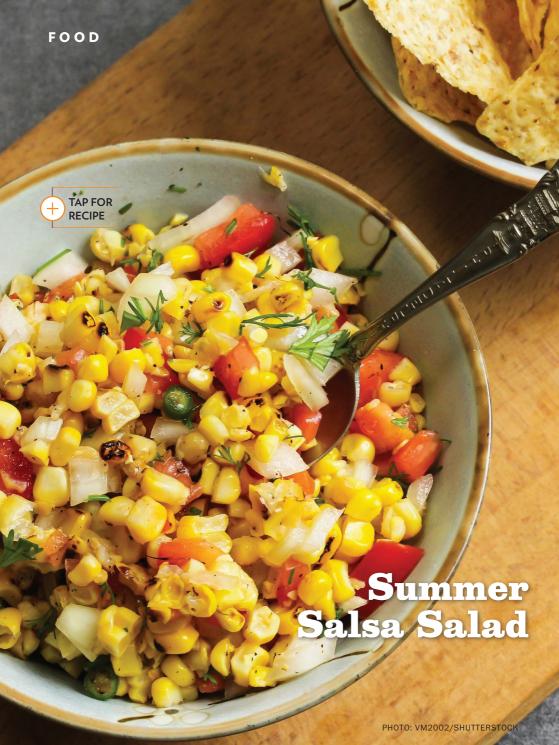
*For dressing:* In a small bowl, whisk together vinegar, oil, salt, black pepper, and curry powder.

Pour dressing over vegetables and stir to coat. Cover bowl and refrigerate for at least 1 hour before serving.

Makes 4 servings.

FOOD TAP FOR RECIPE Potato Salad With Green Beans and Chicken PHOTO: BECKY LUIGART-STAYNER





RECIPE



#### SALAD:

8 ears corn, husked

2 large tomatoes, seeded and coarsely chopped

1/2 cup chopped onion

1/3 cup chopped green bell pepper

1/3 cup chopped red bell pepper

#### DRESSING:

1/2 cup vegetable oil

1/4 cup apple cider vinegar

1/4 cup minced fresh parsley

1 tablespoon chopped fresh basil or 1/2 teaspoon dried basil

2 teaspoons sugar

1-1/2 teaspoons lemon juice

1 teaspoon sea salt (optional)

1/4 teaspoon cayenne pepper

For salad: Bring a large pot of water to a boil. Cook corn for 5 to 7 minutes, or until tender. Drain and set aside to cool. Once cool enough to handle, cut corn off cobs and place in a bowl. Add tomatoes, onions, and peppers.

For dressing: In a small bowl, whisk together oil, vinegar, parsley, basil, sugar, lemon juice, salt (if using), and cayenne.

Pour dressing over vegetables and stir to coat. Cover bowl and refrigerate for several hours or overnight.

Makes 10 servings.

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# Purslane: Gourmet Bite or Garden Blight?



round this time of year, many gardeners find patches of purslane sprouting in unmulched areas. Some feast on its succulent green leaves and thick reddish stem; others pull it out by the roots to eliminate it—often to no avail.

Purslane (Portulaca oleracea) is a survivor. It thrives in any soil, from the poorest to the most fertile, whether loose or compacted. Its seeds tend to germinate when soil temperatures are at or approaching 90°F. It can withstand drought but welcomes precipitation. Uprooted stems, such as those that fall out of the gardener's fist, tend to reroot

wherever they touch bare ground. Purslane seeds remain viable in the soil for years—until tilling brings them to the surface, where light strikes them and sparks germination.

With sufficient moisture on sunny mornings, purslane produces tiny (1/4 inch across) yellow flowers. The blooms beget the seeds of the next generation—as many as 240,000 per plant.

What's a gardener to do? Attempt to eliminate it or learn to love it.

If you accept that purslane is pervasive, you can pull it out of the soil by hand. This method provides immediate gratification and may be more successful when the soil is moist, not dry. Be careful not to drop any pieces of stem that might take root.

You can attempt to minimize purslane by spreading organic mulch

TAP TO LEARN
PURSLANE'S PAST

TAP FOR HOW WEEDS INDICATE SOIL QUALITY

to a depth of 3 inches. The goal is to block all sunlight to the soil surface. You can also deter seed development with sheet plastic or fabric mulch that blocks sunlight but allows air and water to the roots of existing plants.

Baking, or solarizing, the soil is another way to

#### **PURSLANE'S PAST**

Purslane has been eaten and appreciated in India and Persia for more than 2,000 years.

Purslane was first introduced in Massachusetts from Europe as early as 1672. American writer and Massachusetts resident Henry David Thoreau (1817–62) indicated his fondness for purslane in his classic, *Walden:* "I have made a satisfactory dinner, satisfactory on several accounts, simply off a dish of purslane which I gathered in my cornfield, boiled, and salted."

# HOW WEEDS INDICATE SOIL QUALITY

Weeds such as purslane are indicators of specific soil conditions. For example, moss indicates soggy, acidic soil that is low in nutrients, while chickweed or chicory indicates soil that is high in nitrogen. The presence of purslane suggests soil that is high in phosphorus.



eradicate purslane from unseeded or unplanted areas. Water the soil deeply. Cover with clear (not black or white) plastic, such as 1- to 4-mil painter's plastic. Bury the plastic's edges in the soil to retain the heat. Leave this in place undisturbed for at least 4 weeks. Plan to have this in place during the hottest part of the summer. Upon removing the plastic, add compost to the soil. Solarization kills all organisms in the soil, even the beneficial ones.

If, on the other hand, you learn to love purslane, you might live longer. Recent research has revealed the presence in purslane of omega 3, a polyunsaturated fatty acid that influences various metabolic pathways, resulting in lower cholesterol levels. To get these benefits, you have to eat purslane. Start by picking clusters of small leaves off the

TAP FOR PURSLANE'S
POISONOUS
IMPERSONATOR

reddish stalks. Wash in several changes of water to remove all the dirt, then spin dry.

Purslane goes especially well with cucumbers. Peel a cucumber and split it in half lengthwise. Run a teaspoon down the middle to remove all seeds. Chop the cucumber coarsely. Add clusters of purslane leaves and stem and season with an oil-and-vinegar dressing.

Alternatively, add clusters snipped from the stems to green salads or toss with cooked beets.

Potatoes also go well with purslane. Try Fingerling Potato Salad With Grainy Mustard Dressing.

-Ralph Costantino, with Almanac editors



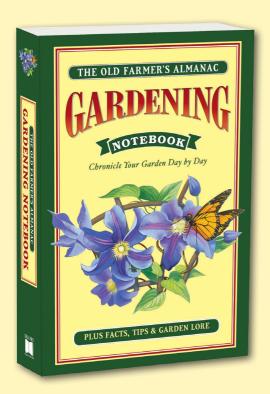
TAP FOR FINGERLING
POTATO SALAD WITH
GRAINY MUSTARD
DRESSING RECIPE

#### PURSLANE'S POISONOUS IMPERSONATOR

Hairy-stemmed spurge is similar in appearance to purslane, with one significant difference: As its name suggests, hairy-stemmed spurge has whiskers. If that characteristic eludes you, the stem of the hairy one contains milky sap. Break or squeeze the stem to check it.

## Chronicle Your Garden Day by Day

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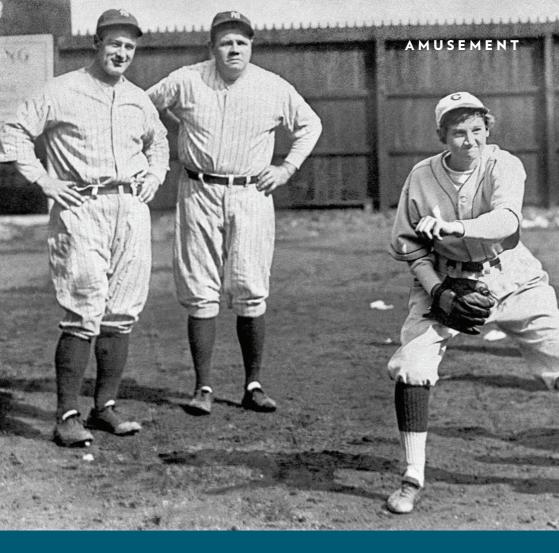
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# The Girl Who Struck Out Babe Ruth

... and then fanned Lou Gehrig



#### LOU GEHRIG (LEFT) AND BABE RUTH (RIGHT)

t was only an exhibition game, and there are those who still maintain that it was a publicity stunt. But a little known chapter in baseball history was written in Chattanooga, Tennessee, just before the start of the 1931 season, when the fabulous New York Yankees played the Chattanooga Lookouts, a team that included 17-year-old pitcher Virnie

Beatrice "Jackie" Mitchell.

Mitchell was a left-handed fastball pitcher from Fall River, Massachusetts, whose lifetime ambition was to strike out the great Babe Ruth. Promoter Joe Engel, who owned the Lookouts, had signed her up just for that confrontation. He had a hunch that sending out a girl to face the Yankees would be a surefire way to fill his stadium.

The ploy worked, and a packed house was present when Mitchell took the mound midway through the first inning, with Babe Ruth coming to bat. Ruth tipped his cap to the pretty teenager when he stepped into the batter's box. She responded by winding up and throwing the baseball as hard as she possibly could. Ruth took a mighty swing! The crowd went wild as he



#### RUTH AND GEHRIG CONGRATULATE MITCHELL.

missed the ball by a foot.

The Babe stepped out of the batter's box and looked out at Mitchell. He shook his head as if perplexed, moved back in, and carefully positioned himself for her next pitch. It was wide, as was the third pitch, and his bat never left his shoulder. Ruth requested a new ball from the umpire. Mitchell wound up, the ball came blazing in over the plate, Ruth swung and missed again. But on her final toss he never moved the bat off his shoulder as the umpire yelled, "Strike threeyou're out!" Ruth merely walked back to the Yankee bench, shaking his head. The crowd loved every minute of it.

Next in the batting order was Lou Gehrig. He looked as if he really meant business and wasted no time at bat. Gehrig swung at Mitchell's first three pitches, missed them all, and quietly walked back to the dugout to sit next to Ruth.

Engel stood up in the Lookouts dugout and motioned for Mitchell to come in off the mound. The applause lasted for 10 minutes.

This escapade was

essentially the beginning and the end of Mitchell's professional baseball career, although Engel kept her around for a while to pitch in a number of other exhibition games for his Lookouts. She was always headlined as "The Girl Who Struck Out Babe Ruth."

Later, both Ruth and Gehrig averred that the strikeouts were strictly on the level. And each would go on to hit 46 home runs that year, with Ruth batting .373 and Gehrig, .341—proving that there was nothing wrong with their hitting.

-Robert W. Pelton

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- plan a pleasing pathway
- bring chickens home to roost

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The Ultimate Reality Show: Your Garden





e've probably been using gardens as metaphors ever since humans began tending them.

What happens in the garden—love and nurturing; pests and pestilences; drought and drowning; death and dying and rebirth; neverending change; and, despite our illusions of mastery, so very little of it actually under human control—mirrors what goes on in the other areas of our lives.

My garden is surely a metaphor for the rest of my life. You'd never mistake it (or for that matter, my home) for one of those spreads in a home-andgarden magazine, where every plant thrives and yields and readers are encouraged to believe that quackgrass never encroaches and nothing dies or droops, goes to seed, fails to germinate, or gets smothered by invasive weeds, infested with worms, or afflicted with blights.

No magazine would

choose to feature the sight of my young winter squashes, cantaloupes, and sweet potatoes peeking out from openings in a several patches of ugly black plastic that I rescued from a farmer who'd used it to cover corn silage over the winter and was about to haul it to the dump.

Or those lengths of recycled carpet scraps, cardboard, and old newspaper spread under the woodchuck-zapping cords of the electric fence to prevent the weeds and quackgrass from shorting them out.

Or the bed of carrots that, after a month of rain and soil too boggy to walk on, have disappeared into a bed of 6-inch-tall weeds and grasses.

Or the ratty milkweed coves I've allowed to grow up around the garden edges as food for the monarch butterfly larvae.

#### BENIGN NEGLECT

A magazine wouldn't show the chaotic

#### LIVING NATURALLY

domains of what I call my un(in)tended garden either, which emerged from benign neglect a few decades ago.

In the year when my daughter was born—when I hardly ever ventured into the quarter-acre I had planted before her birth— I discovered the "virtues" of letting (some) things go.

Behold: The following April, fresh, tender kale sprouted from the stems of the previous year's planting. Three or four varieties of leaf lettuce. along with dill, cilantro, and parsley, emerged from crops that had gone to seed. What I now call my salad cove has been seeding and reseeding every year since. These volunteers provide us with fresh salad greens and herbs until they send up seed stalks, usually just as the asparagus and edible-pod peas come in.

Volunteer sunflowers, calendulas, zinnias, marigolds, and California poppies pop up to please the bees and beautify the garden.

Yesterday, I noticed a few sturdy volunteer tomatoes coming up in the asparagus bed and squash sprouting around the edges of the compost pile.

Big surprises come from the seeds of hybrid crops, often in the form of bizarre combinations of their parent varieties.

Last year we harvested many delicious, palegreen "zucchini" from one of the volunteer squash plants before forgetting about it when the tomatoes, corn, and fresh peppers came in. I rediscovered it in September, when I stumbled over a mature fruit the size of a swollen baseball bat, a vibrant pumpkin-orange color with deep green streaks. Stunning—but not all that tasty.

In the reality show called your garden, there are sometimes winners and sometimes losers, but the results are always fun and surprising!

-Margaret Boyles



WHEN SHEEP COLLECT AND HUDDLE, TOMORROW WILL BE A PUDDLE.



TAP TO FIND OUT THE WEATHER HISTORY OF THE DAY

LOVE ALL THINGS WEATHER? TAP FOR THE WEATHER FOLKLORE OF THE DAY

## **HOW WE MAKE OUR PREDICTIONS**

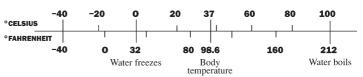
We derive our weather forecasts from a secret formula that was devised by the founder of this Almanac, Robert B. Thomas, in 1792. Thomas believed that weather on Earth was influenced by sunspots, which are magnetic storms on the surface of the Sun.

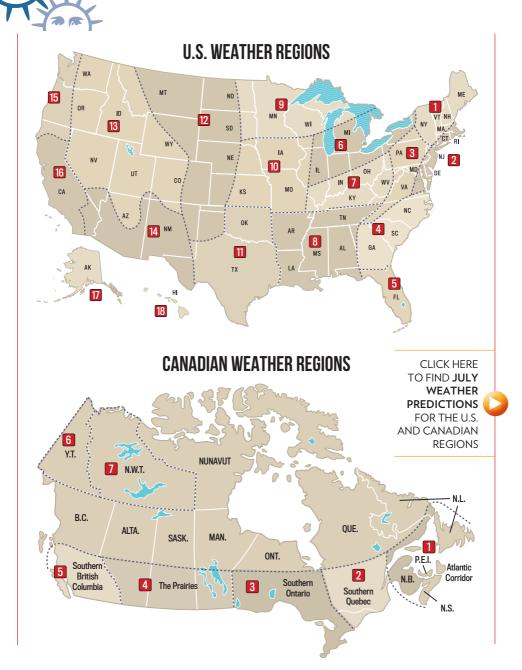
Over the years, we have refined and enhanced this formula with state-of-the-art technology and modern scientific calculations. We employ three scientific disciplines to make our long-range predictions: solar science, the study of sunspots and other solar activity; climatology, the study of prevailing weather patterns; and meteorology, the study of the atmosphere. We predict weather trends and events by comparing solar patterns and historical weather conditions with current solar activity.

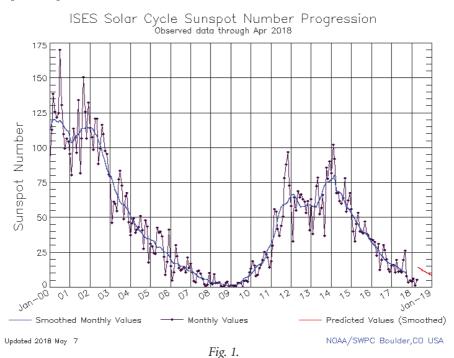
Our forecasts emphasize temperature and precipitation deviations from averages, or normals. These are based on 30-year statistical averages prepared by government meteorological agencies and updated every 10 years. Most-recent tabulations span the period 1981 through 2010.

We believe that nothing in the universe happens haphazardly, that there is a cause-and-effect pattern to all phenomena. However, although neither we nor any other forecasters have as yet gained sufficient insight into the mysteries of the universe to predict the weather with total accuracy, our results are almost always very close to our traditional claim of 80 percent.

#### **CELSIUS-FAHRENHEIT TABLE**







## **SUNSPOTS AND SOLAR CYCLES**

Solar Cycle 24 is approaching its end, which will mean the beginning of Solar Cycle 25.

Fig. 1 is a graph from the NOAA SWPC (National Oceanic and Atmospheric Administration Space Weather Prediction Center) showing Cycle 24's very low level of solar activity—the lowest in more than two centuries, even lower than the level in the early 1900s and comparable to the very low levels of solar activity that occurred in the early 1800s (the

period referred to as the "Dalton Minimum," which coincided with the "Little Ice Age").

As shown in Fig. 2, these three periods have brought the lowest solar activity levels since the Maunder Minimum, the period from about 1645 to 1715, when solar cycles apparently stopped and sunspots were exceedingly rare.

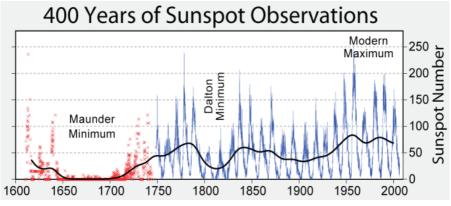


Fig. 2.

As you may know, we at *The Old Farmer's Almanac* use solar activity as the primary driver of our longrange weather forecasts. We believe that changes in the Sun's output, although relatively small, are sufficiently amplified in Earth's upper atmosphere to strongly influence Earth's weather patterns.

One of the most significant relationships that we have found is that periods of low solar activity are associated with colder temperatures, averaged across Earth. Our viewpoint is a controversial one, as most scientists believe that the magnitude of changes in solar activity are insufficient to have a significant effect on Earth's weather, and they view as coincidence that past periods of exceptionally low solar activity have historically corresponded with cold periods.

However, an increasing amount of

research seems to be giving credence to our theory: Although the changes in magnitude of solar activity are small, there is a mechanism in the upper atmosphere that can amplify these changes, causing larger ripples in the lower portion of Earth's atmosphere, where weather occurs.

Historically, all of the periods in the known sunspot record that have had low activity have also had relatively cool temperatures, averaged across the globe. The Maunder Minimum coincided with an exceptionally cold period in many parts of the globe. We believe that with low solar activity continuing for at least the next 10 to 30 years, global temperatures will be cooler than they would otherwise be.

Despite the recent low solar activity, April 2018 was the third warmest April ever recorded, averaged across the globe, behind only April 2017 and April 2016. Incredibly, April was the 400th consecutive month in which temperatures averaged across the entire Earth were warmer than the month's 20th-century average temperature.

So why, you might ask, have Earth's temperatures been so consistently warm when our forecast methodology, which is based primarily on solar activity, says that they should be cool?

The answer is that solar activity is not the only factor in Earth's weather.

For example, one factor that all atmospheric scientists believe can make Earth colder for as much as a few years is a volcanic eruption that spews ash into the middle and upper portions of the atmosphere. While this has not been a major factor in recent years, it has been at times in the past and could be again in the future.

Another factor is increased urbanization. The heat from buildings and human activities in cities makes them warmer than the surrounding countryside—something known as "the urban heat island effect." However, most atmospheric scientists believe that this is a local effect that does not significantly raise Earth's average temperatures.

It is important to note that although Earth, on average, has been warming for decades, not every place is or will be warmer than normal each season. Remember: Other factors are at play, including the normal variation in weather that occurs from day to day and year to year.

The most significant factor (in addition to solar activity) that has been affecting our weather in recent years has been the increase in greenhouse gases—most notably, carbon dioxide and methane—which most (but not all) atmospheric scientists believe has been making Earth progressively warmer. We have been incorporating the influence of these increases into our forecasts as a factor that will offset much of the cooling from our current period of low solar activity.

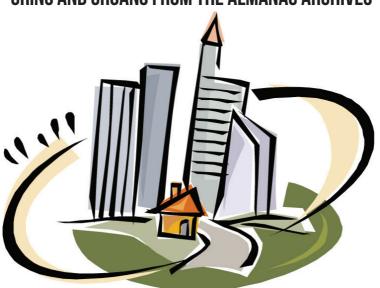
If we are correct in these factors, what this means is that the current period of low solar activity has been partially offsetting the greenhouse warming that has been occurring. This suggests that when the current period of exceptionally low solar activity ends and solar activity returns to a more normal level—perhaps in 30 years or so—we will see a rapid jump in the Earth's average temperatures. Until that time, we would expect the general warming trend to continue, but as a slow warming in which some months set new records for global warmth but many do not.

> -Michael Steinberg, Old Farmer's Almanac meteorologist



# **HUMOR ME**

**GRINS AND GROANS FROM THE ALMANAC ARCHIVES** 



## Simple Enough

"Well, well, my little man," said the condescending uncle to his small nephew, who had just returned from his first visit to the big city, "and how did you find the big metropolis?"

"No trouble at all," replied the little lad. "We just walked out of the station, and there it was."

## AUNT SUSIE'S REVELATION

Aunt Susie, pillar of her rock-ribbed New England church for more than four score years, lay a-dying. A solemn hush pervaded the painfully neat and frugal bedroom, filled now with "brethren" and "sisters" awaiting, mournfully yet expectantly, some last pious revelation from her wise old lips.

The minister leaned



over gently. "Aunt Susie, Aunt Susie, can you hear me?"

A flicker of recognition, and the good man continued: "Aunt Susie, in this vale of tears you have seen much of sorrow and suffering, and yet you have always walked with patience and joy and strength. Oh, tell us, Aunt Susie, tell us the secret of this. What has sustained you?"

The voice of the minister ceased; the flock waited breathlessly while Aunt Susie opened her eyes, aglow now with a fierce and holy light.

"Victuals," she sighed—and lay down in Abraham's bosom.

### Rabbit's Foot

A rabbit's foot will bring good luck,

So do not be without it, They say. But there is

evidence

That causes me to doubt it. The average person thinks that one

Will bring good fortune to him,

But then the rabbit carried four

And what good did it do him?

-Clarence Edwin Flynn



headstones stand in a row:

#1: Here lies Susan Ann, first wife of John Smith.

#2: Here lies Ellen May, second wife of John Smith.

#3: Here lies Arabella Elizabeth, third wife of John Smith.

#4: Here lies John Smith, at rest at last.

#### In Maine:

Here lies the body of John Trollup,

Who used these stones to roll up;

When God took his soul up,

His body filled this hole up.

#### In Massachusetts:

Here old Abel Perry lies. Nobody laughs and nobody cries.

Where he went and how he fares,

Nobody knows and nobody cares.





# WHAT'S NEXT



John Withee's "Bean Bag" for threshing



LIVING
NATURALLY
Simple Ways to
Save \$\$\$



CALENDAR
Moon Watch;
August birthdays;
New Orleans,
the Crescent City



AMUSEMENT
GPS Unplugged—
strange geographical
facts



**FOOD** Zucchini Recipes



**ASTRONOMY** Explore with our Sky Map

Plus: Weather Update • U.S. and Canadian Weather Forecasts • Gardening by the Moon's Sign • Best Days to Do Things • Humor • and much more in the August *EXTRA!* 

**CELEBRATING THE ALMANAC'S 226TH YEAR!**