

Spring 2024

Alberta PlantWatch

NEWSLETTER



2023 PlantWatch volunteers have fun tracking bloom times. Plants bloom in response to rising temperatures, so spring events happen in a sequence, and our volunteers learn the sequence!

More Info: <https://naturealberta.ca/plantwatch/>



May 2024: Alberta PlantWatch Annual Newsletter

A big Thank You! to all our Alberta volunteers, for watching our selected plants and reporting bloom dates! This information helps us understand the impacts of climate change, and to predict the best timing for practices in fire management, forestry, agriculture, human health, remote sensing, and even forensic medicine!

2023 Weather in Alberta

2023 was a very unusual year. Albertans were impacted by smoke, some by floods, some had to evacuate their homes due to wildfires, and as you will read below, hail and strong winds were an issue for many. The effects of climate change are very evident! The 2023 Berkeley earth review said “We conclude that 2023 was the warmest year on Earth since 1850, exceeding the previous record set in 2016 by a clear and definitive margin”. <https://berkeleyearth.org/global-temperature-report-for-2023/#:~:text=At%20present%2C%20Berkeley%20Earth%20shows,2023%20at%201.48%20%C2%BC>

Goodbye to El Niño

The effects of El Niño were very obvious, with increased heat and drought. Luckily, the forecast (as of April 2024) was for a transition to ENSO-neutral this spring, with La Niña potentially developing during late summer 2024. Here is a well illustrated article on El Niño and the effects of the changing jet stream <https://www.climate.gov/news-features/blogs/what-we-talk-about-when-we-talk-about-jet-stream-and-el-nino>



Photo: FPinnovations

2023 Observer Comments NORTHERN ALBERTA

Wood Buffalo National Park. K. LePointe.

This year was incredibly dry and hot with frequent winds accompanied by strong gusts. Very little precipitation occurred in early spring and throughout the summer. The previous year (2022) was considered a drought year. The ground was already dry spring 2023 and the lack of precipitation kept the humidity low. Saskatoon berries appeared two weeks early and began to dry before they were ripe.

With the lack of precipitation and water in the ponds, we experienced a very low number of mosquitoes and flies in general. Grasshoppers were out and hopping in early April while the remaining snow was still on the ground.

The NWT and Alberta experienced a very busy fire season with indices being high all throughout the season.

Lac LaBiche. R. E. Creelman. Very dry April and May. Everything came fast with the heat. June to end of Aug, we had 25 inches rain. More pollinators this year.

Athabasca. J. and N. Fuller. We missed some early observations due to short holiday then returning to an evacuation alert. We had one of the hottest and driest springs I can remember. There was very little rainfall until mid-July. Then the monsoons came for 2 weeks. One thing we noticed was how much the hazelnuts, dogwoods and alders grew this year. They must really like the heat.

Incredible year for violets. We had almost no Blueberries, Saskatoons, Choke cherries or Pin cherries this year. Wonderful blooms in spring but no fruit set. We seem to have lost our pollinators as very few bumble bees were observed on/around our property. Even our apple trees produced very little fruit. It's possible that the heavy smoke through most of May from a nearby forest fire had some part to play in this as

well. We are noticing some strawberries and hare bells flowering again in mid-September.

(editor comment: Were they possibly fertilized by nutrients in smoke? A well known arborist from Olds College, Gerard Fournier said "There was some recent research that that plant smoke was acting as a reproductive hormone in several tree species, increasing both fertility and growth in conifers, for example". He told me that wildfire smoke effects plant growth – this article says that plant derived smoke can increase germination of seeds, as well as stimulating flowering and rooting of plants.

<https://biotecharticles.com/Agriculture-Article/Karrikins-A-New-Family-of-Plant-Growth-Hormones-in-Plant-Derived-Smoke-3163.html-google-vignette>).

Athabasca (Meanook) area. E. Slatter.

On April 20th I wrote "A saunter, not a rush towards spring! Pockets of snow, cool nights, pre-migration quiet in the skies. Then, BOOM, it all goes wild. By April 28th, spring was here! Woodfrogs, Eastern Phoebe calling. Great Gray owl on nest! Soil is dry. Sudden warm-up and windy. Then the heat; grass, brush and wildfires. Evacuations and on and on. Tough times (and disaster) for forests, all forest residents, people, etc. A few thoughts on the season; one of EXTREMES: Intense heat and drying from end of April to mid May. Overall though, temps within average range. Severe thunderstorms and deluges of rain: Env Canada reported 50% more precip (for this area) in June-July 2023 than normally reported. Periods of rain continued into Aug. Creeks previously dry for 2 years began to flow in August. Rains brought hail. Big wind events often preceded violent storms: we had numerous blow downs of large mature trees.

Bloom times seemed consistently early. Some early blooms (early blue violets, lingonberry, twinflower) withered and dropped off in the heat: most plant populations did rally though as precipitation increased, so that overall number of blooms was abundant. Flying ants and black beetles out in force in early May with the heat and dry conditions. Insect pollinators abundant in July and August. Bees of all types observed in larger numbers than usual (YAY!) No wasps this summer. Small grasshoppers in June, then an explosion of larger ones from July to early September. Mosquitoes very active, abundant, biting Aug and September.



Two-striped grasshopper - Photo: Dan Johnson

Wild strawberries and raspberries were heavy producers. Good crop of wild blueberries; first ripe berries by July 10 and ending by end of month (EARLY INDEED!) Abundant chokecherry blossoms; birds etc. enjoyed the crop of fruit.

Best production of buffaloberries in several years, early season ripening and falling from bushes.

Anticipated good crop of lingonberry until hail July 30th knocked the ripe berries to the ground. A very large portion of the bunchberry ground cover had the same outcome.

Northern bedstraw and yarrow: both abundant and beautiful in bloom!

St. Paul. v. Hudson. Everything seemed to mature very early – saskatoons, chokecherries, etc., all were ready a good two to three weeks early. Also, my haskap (honeyberry) crop was virtually non-existent. I usually get at least 4 litres of berries and last year I got a handful, literally. I believe it was because it was so dry in April and May, (we recorded ¼" of rain between snow melt and May 30), that the berries just shriveled up on the plants before they could even grow – there were many tiny, shriveled berries on the plants.



Chokecherry, ripening berries
Photo: Greatplainsnursery.com

St. Paul. B. Pattison. It was a very dry spring and early summer and the germination of the cereal crops, especially canola looked poor. The rains did come and at the right time to make for some awesome crops. The wild berries did not yield so well though. There were saskatoons but with the heat they quickly dried up. Raspberries were better but chokecherries were worse. This fall has been incredibly dry. Today is the 20th of November and there has been very little rain or snow since September.

CENTRAL ALBERTA

St Albert. R. Peterson.

April 23 - Hazelnut (*Corylus cornuta*) flowering in Grandin woods, St Albert.

May 3 - Spring started out very dry and with high temperature, about 30C.

May 13 - Last week was cooler and a bit rainy. Hawthorn starting to flower in Grandin Woods, pincherries in full bloom. **June 5** - Generally a very dry spring with showers. Sturgeon River has gone way down to very low. Looks like a stagnant pond.

Edmonton. E. Beaubien. In early July a walk in the Edmonton river valley revealed a poor crop of saskatoons. Some of the chokecherry plants had yellowish leaves and the back of the leaves were full of insect droppings. Entomologist Ruth Craig identified the cause; lacebugs! Over the summer, we were lucky to have some rain in the Edmonton area.

Visit to the foothills north of Hinton revealed that buffaloberries were very scarce, for the 3rd summer in a row. No wonder many bears in the mountains were so hungry last fall - so few berries! In Banff and Canmore, the bears were visiting crabapple trees....



Black bear (Jasper, AB) eating mayday berries

Edmonton. YEG Phenology Group.

Over the summer we noticed robins feeding on saskatoons, particularly the young robins - they take the ones that are turning colour, not the ripe ones. Perhaps the less ripe ones have nutrients in them that the robins need in order to migrate.

Beavers built a dam in the North Saskatchewan river running from the south shore to an island about 50ft or 20m from shore. Most of it was built with stones, with branches woven between the stones.

Edmonton (Millwoods). Carole Dodd.

Comparison of saskatoon fruit abundance over 4 years: **2020 May 19** – Saskatoon bush covered with flower buds. Later, picked 31 cups berries.

2021 May 14 - Saskatoon bush “burst” into bloom with lots of flowers. But no rain this summer; fruit did not fill out properly. Harvested only 3 cups .

2022 May 7 - lots of buds on Saskatoon. Berries filled out nicely after good rains in June. Harvested 23 cups. Also lots of sour cherries.

2023 –for the first time, a major infestation of “shield bugs’ (stink bugs) this year on many of our native plants. Despite little rain, some watering helped produce lovely plump saskatoons. Picked 7 cups on June 28 (at least 2 weeks early!), then later another 26 cups!



Twice-stabbed stink bug – Photo: CM.Dodd

Sherwood Park. B. Reynolds. He watched bunchberry plants in the fall and then the following spring. He said in the spring “I have taken photos of various old purple brown bunchberry overwintering leaves that a week ago appear to now be transitioning [Here is more on this ‘rhizomatous perennial’ plant: also known to be ‘the fastest plant on earth’! [https://en.wikipedia.org/wiki/Cornus canadensis](https://en.wikipedia.org/wiki/Cornus_canadensis), says “The stamen filaments snap upward flinging pollen out of containers hinged to the filaments. The stamens

accelerate at a rate of 24,000 m/s² !!, sometimes injuring small insects overhead...]

Bill also said: Another observation this spring was the flowering of **chokecherry** which was blooming in full force in Edmonton river valley several days before I saw it just starting to bloom in the Sherwood Park Natural area. A week later I was cruising through Elk Island National Park and the chokecherries were just starting to bloom there (*editor's note : early bloom in the city is due to the stronger 'heat island' effect*)

Hastings lake area, W of Tofield.

L. Kershaw. On May 31, friends gather to walk around the acreage for a May species count, counting how many plant species are in bloom. There were so many flowering native plants this year, it was declared: "This was probably the earliest spring on record" (over the last 3 decades of May counts at that location). One interesting and abundant insect was the 'Linden looper'. These small caterpillars were eating leaves of hazelnut. But the caterpillars are a favourite food of big black ground beetles. These small caterpillars from native insects are exactly what chickadees need for their young. A nest of 4 chicks needs 6000 to 9000 caterpillars before they are big enough to fledge!



Linden Looper – Photo: L. Kershaw

An expert on the history of Alberta May Species counts, **Derek Johnson** did 3 plant counts this spring, then he estimated that spring was 2.5 weeks earlier than usual by end of May 2023. He also had open lilac flowers in west Edmonton on May 13 – the earliest in his 43 years in Edmonton. For info on the May count see <https://naturealberta.ca/may-plant-count/>.

Leduc. T. Abbott.

Dry last fall and right through to a very dry spring this year. No water in the slough and no young frogs this year. One or two rain showers at the end of April and in May; smoke from the forest fires starting in mid May and continuing on and off all summer. Heavy rain mid June and then on and off all summer so we did not water the vegetables very often. The biggest problem

was the thunder storm on 1st July that gave pea to grape sized hail. All the plants seemed to grow very tall this year even the cabbages were tall not round. Had some saskatoons but most dried up. Apple trees: not as much fruit as usual, lots of fruit on rowans (mountain ash) and cotoneasters. No dogwood berries since the numerous deer keep browsing the plants. No mosquitoes until after the first heavy rain and then around for most of the summer. Lots of little snowshoe hares so we had to put wire round some of the garden to keep them out!



Snowshoe hare – Photo: J.Potter

Tofield area. C. Pattenden.

Hot and dry from April to mid June. Some rain and cooler temps starting 16 June. Mosquitoes were present in large numbers beginning early August well into September. Poor saskatoon crop – small berries with lots of insects. Good crops of chokecherries, high bush cranberries (*Viburnum opulus*) and raspberries.

Wainwright. P. Porter.

Overall weather summary for East-central Alberta: The ground was very dry heading into fall, 2022. The winter snows soaked in rapidly with very little to no runoff in spring, 2023. A moisture deficit in May. Luckily we had some rain in June which help alleviate droughty conditions and the dry rangelands, pastures and hay land rebounded somewhat. Spotty showers throughout July and August. A variety of crop production from mediocre to average, but cereal crops were harvested earlier than average. September was also extremely dry too. Overall, Wainwright had about one third the summer moisture that the Edmonton area had. From what I observed, our saskatoon berry harvests were poor and wild raspberries were superb. Adaptable native flowering plants flowered and took the semi-drought conditions all in stride.

Drayton Valley. B Tamboline.

In the spring we had to evacuate due to wildfires. Our home was not damaged, but the smoke conditions were terrible for multiple weeks after our return.

March 24, 2024- My honeybees are flying their cleansing flights. Brown spots everywhere on the snow, they've been holding it for 5 months. Despite the harsh summer of 2023, they managed to make honey. Quite amazing considering so many nectar sources dried up early.

Ponoka. M.A. Predy.

April and May were very hot and dry. We got 6" of rain in the latter half of June. Very few berries on saskatoon bushes and no black currants. Things seemed to mature quickly this year.

Red Deer. D. Murray.

After 2 weeks away, I returned home April 26 to discover that aspen pollen shed was over, and there were dozens of prairie crocus in full bloom.



Prairie Crocus – Photo: CM.Dodd

The whole summer was characterized by more heat, wind, and smoke than usual. Air quality was very poor for many days due to wildfires. In the first week of May we had Yellow-Rumped Warblers, White-throated Sparrows, Ruby-crowned Kinglets, American Robins, and Chipping Sparrows. Our first Ruby-throated Hummingbird arrived on May 15. Our Dolgo Crabapple tree went from first to mid bloom in just 24 hours May 14-15. Early Blue Violets flourished in the gravel edges of driveway. Our Spreading Dogbane blossomed abundantly from early June onwards. It attracted more butterflies than ever – Painted Ladies, White Admirals, Northern Crescents, a few species of Fritillaries, Milbert's Tortoiseshells, European Skippers plus some

Hummingbird Clearwing moths. We have many other native plant species on our acreage, but the blossoms of Dogbane seem to be the most visited!



Clearwing moth – Photo: CM.Dodd

Red Deer. T. Krause.

The 2022-23 winter was relatively mild with two cold snaps into minus 35-40 C°. The first lasted about ten days in December and then a shorter one in February. Snow arrived very early and winter started in the first days of November 2022. We had about 18 inches of snow and not a lot after that until late February - another good foot. Temperatures in March trended below average by 5 to ten degrees. May was brutal for starting the garden. Bone dry and many days around 30 degrees. But not a single overnight frost all month. This is the 3rd year in a row where gardening has been challenging due to periods of excess heat and drought, or hail. Little in the way of saskatoons and honeyberries. Raspberries: much winter kill and very poor crop. Insects: Hardly any mosquitoes. I was astonished by the absence of wasps; saw maybe 2 over the entire summer on our property. Pretty odd for a dry year when they often thrive!

E of Red Deer. J.R. Potter.

Spring was 2 weeks late, then very dry and hot, no runoff, still no moisture by May 7, grass not growing by May 21st and no rain here at Delburne. Lots of stressed trees retained leaves on into the winter season.

Red Deer County- Spruceview area.

J. Henderson.

A strange spring, cold start then hot, dry and smoky. Never seen so many blooms on bearberry! Early blue violets were like a blue carpet and bloomed again in August. Hardly any birds of any kind until the end of May. Very few strawberry blooms. No berries on mountain ash. Normal rain fall 19 inches, but had only 9.5 inch by 22 August.

FOOTHILLS, MOUNTAINS

Cremona. M.J. Davies and Z. Kondra.

We had moisture to plant; then nothing until June 15th when we received 3 inches! Total June 30 -5 inches. July 31, 9.7 inches total which included a severe ¾ hour hail storm July 16 and also the next day for 5 hr with strong winds. Localized but very destructive. Could not see either building because of severe smoke!

Sundre. M. Halvorson.

Very dry until mid-June. Hay off to a poor start. From mid-June to end of July, plenty of showers. No need to water garden. Rest of summer some showers but ground water still low due to dry weather in fall 2022, and spring 2023. Apples not as plentiful as usual but good size. Potatoes and carrots very good. Into October, lawns and pastures still very green without watering. Autumn leaves gorgeous and long lasting.

Banff. L. Dowling.

It was a light snow winter. April became unseasonably warm for about a week and then cool and wet again. May was warm/cool/warm/cool with very little rainfall. Fresh snow on the mountains several times in June. Some plants flowered noticeably early and others right on time. Spring subalpine flowers started and finished early. A hot, smoky summer with very few mosquitoes in town but lots in the backcountry. My vegetable garden was quite good this year. Lots of potatoes, carrots and peas. Cooler and wetter weather didn't prevail until mid September when we were treated to fresh snow on the mountains. A colourful autumn ended when it snowed in the Banff townsite on October 23.

Canmore. J. Buchanan-Mappin.

A sudden end to winter and into 'summer'. Wow, what a heat wave! May was about 3 °C above normal, although 2016 had April temperatures of about 4 °C above normal. In 2023, balsam poplar, lilac, saskatoon, wolf willow, Labrador tea and bunchberry bloomed 1-2 weeks earlier than normal. A lot of the bunchberry had damaged, brown leaves and few flowers. In other areas, the bunchberry flowers were abundant. It was another interesting year.



Cornus canadensis (bunchberry) – Photo: CM Dodd

SOUTHERN ALBERTA

Calgary NW. W. Brideaux.

Drought conditions continued starting 2022. I usually see maybe three crops of dandelions a year [blooming followed by seeds]. Rarely I had seen four. This year I saw a fifth and a sixth in late October! Extremely abundant buffalo (golden) bean flowers. Earliest first bloom of yarrow over 20 years: June 6th. The usual "spring explosion of flowers" May 3-9 (violets, strawberries, shooting stars, three flowered avens, buffalo beans, dandelions).

Calgary - Glenmore Reservoir. L. Sudrich.

I used www.accuweather.com monthly report to calculate weather for week before Bloom dates. April and May 2023 were hotter and drier than average. June was hot and dry, July and Aug were very hot and dry.

Priddis SW of Calgary. P. Kroeker.

'Heavy snow cover all winter. DRY, HOT spring. As of June 13 – hardly a drop of rain for weeks- SO dry. Just one squall blew through. June 25: have had about 2.5 inches rain now, thank goodness. Mock orange bushes are blooming already! Almost always bloom during stampede week, early July. Maltese cross and delphiniums also very early. Saskatoons: good harvest in mid-July. July and August- hot and dry mostly. Tons of beans!



Dragonfly on Delphinium – Photo: CM Dodd

Lethbridge. D. Johnson.

(May 1-10): The golden bean here went from just starting to hillsides of full yellow. [What pollinates golden bean? Info from iNaturalist online, April 2024. 'Blooming in early May through June, the Golden Bean is a source of nectar for butterflies, such as the Afranius duskywing and the Christina Sulphur. It is also used as a food source for the caterpillars of the duskywing and as a place for the Sulphur to lay its eggs. Not only does the Golden Bean provide nectar for butterflies, they also provide pollen for bees].



Lotus corniculatus (golden bean) – Photo: P. Cotterill

Monarch. M. Hafichuk.

We went from winter to summer in May, skipping spring this year. The summer was hot, dry, and long, ending with a short blast of winter (snow and below normal temperatures) the last week of October. Because it was so dry all year, there were few berries.

Crowsnest Pass, Burmis area. D. McIntyre.

Nov 17. Late October snowfall- covering a thirsty, drought-stricken land— this was followed by atypically warm weather, which set the stage for 'spring-in-November' floral displays. As the snow melted, wildflowers bloomed along the eastern flanks of the Livingstone Range in southwestern Alberta. Among the November wildflowers on display: prairie crocus (pasqueflower), kinnikinnick, moss phlox, buffalo (golden) bean, alpine goldenrod, white prairie aster, purple aster, and harebell!

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Alberta PlantWatch: plantwatch.naturealberta.ca (older page with photos and species descriptions)

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