

Climate and Location

Adelaide (including West Croydon, SA 5008) has a Mediterranean climate (Köppen Csa) with **hot, dry summers** and **mild, wet winters** ¹. Average summer daytime highs reach ~27–29°C (mid-70s°F), with winter highs around 14–16°C ² ³. Nighttime lows average ~16–17°C in summer and ~7–9°C in winter ² ³. Extreme swings occur: e.g. Adelaide hit 46.6°C (115.9°F) on 24 Jan 2019 ⁴. **Annual rainfall is ~520–530 mm**, mostly in May–September (peak June ~72 mm) ⁵. Summers are very dry (January ~12–20 mm rain). Mean relative humidity is moderate (~58% annually ⁶), but can be lower in summer and higher in winter. Average wind speeds are around 20 km/h ⁷, providing good ventilation potential. Coastal proximity gives bright sunlight and long summer days (~14–14.5 hours daylight in December) and short winter days (~9.5–10 h in July) ¹ ³ (as illustrated above).

Seasonal daylight in Adelaide (yellow=daylight, red=night). Long summer days (>14 h) shrink to ~10 h in midwinter ¹ ³.

Soil and Terrain

West Croydon lies on the Adelaide plains, underlain by **calcareous loam/clay soils** that are often highly reactive (the infamous “Bay of Biscay” soils) ⁸. These clay-rich soils **shrink in drought and swell in rain** ⁸, which must be considered for pot stability and house construction. Soil pH in Adelaide is typically neutral to slightly alkaline (often 7+ due to carbonates), but for cannabis the **optimal soil pH is slightly acidic-neutral (pH ~6–7)** ⁹ so soil amendments (sulfur to lower pH or lime to raise it) may be needed. Organic carbon and nutrient levels in typical urban soils are modest (often ~1–2% organic C in the topsoil ¹⁰), so enriched potting mixes or fertilizers are recommended. Cannabis nutrition needs shift from vegetative (high nitrogen, moderate phosphorus) to flowering (reduced nitrogen, higher phosphorus/potassium) ¹¹, so feeding regimes should adjust accordingly.

Water and Irrigation

Despite winter rain, Adelaide’s **hot, rainless summers** mean outdoor-grown cannabis will require irrigation. Cannabis is **water-intensive**: research suggests a single plant may use on the order of 20–25 L per day at peak growth ¹². Compared to normal crops, cannabis can demand roughly double the water of some alternatives. With Adelaide’s 525 mm annual rain mainly in winter, relying on rainfall alone is insufficient. Growers should plan irrigation from town water or tanks. Note that South Australia often imposes summer water restrictions (e.g. limiting sprinkler use to certain off-peak hours) ¹³, so watering schedules must comply with local rules. Using **high-quality irrigation water** is important – SA hemp trial guidelines recommend water <1500 ppm salts (<2700 µS/cm) ¹⁴ to avoid salt stress. Mulching and drip irrigation can help conserve moisture under the hot sun.

Light and Photoperiod

Cannabis thrives in **full sun**. Adelaide's high summer sun angle and long days (~14+ hours) favor vigorous vegetative growth. As a photoperiod plant, cannabis will **initiate flowering when day-length falls below a critical threshold** (typically ~12–14 hours light) in late autumn. In Adelaide this naturally occurs around April–May. If grown outdoors, planting in early spring and harvesting by late autumn aligns the cycle with seasonal light changes. Alternatively, indoor or greenhouse growth can use artificial lighting to control day length and accelerate growth or flowering. The **solar radiation intensity** in Adelaide is very high (ample UV and PAR), which is good for cannabinoid production but also increases water demand. Light quality (full spectrum) and light duration should mimic these conditions.

Temperature and Humidity Control

Cannabis **prefers temperatures ~20–30°C** during the day ¹⁵. Adelaide meets this in spring/fall and often exceeds it in peak summer, so plants may need some heat protection on extreme days (shade cloth or ventilation above 30°C, since < 35°C is ideal). Nighttime should be cooler, which occurs naturally (as low as 8°C on average in winter). Freezing temperatures (< 0°C) are extremely rare in Adelaide's suburbs, so frost damage is unlikely even in winter. Relative humidity is moderate (~30–70% seasonally) – growers typically aim for ~40–60% RH during vegetative growth and lower (~40%) during flowering to prevent mold. Good air circulation (fans or natural breezes) is important: it cools plants on hot days and reduces **Botrytis (gray mold)** risk in the humid spring/wet months. In fact, common cannabis pests and diseases in this climate include **spider mites, whiteflies, thrips, aphids**, and fungal issues like powdery mildew or Botrytis ¹⁶. Preventive IPM (sticky traps, predatory mites, organic sprays) and hygiene (no standing water, remove dead leaves) are recommended.

Legal Context

In South Australia, cannabis cultivation is **strictly controlled by law**. Under the Controlled Substances Act 1984 (SA), *any* cultivation of cannabis is illegal. Cultivating more than the legal limit (five plants) is a serious offense ¹⁷, but even growing **a single plant** is an offense (though a relatively minor one, punishable by fine/imprisonment up to 6 months) ¹⁸. (Only under federal medical licensing can any cultivation be legal.) As such, all cultivation should be considered illicit in an Adelaide suburban setting, and this legal risk is part of the “baseline” environment.

Key Baseline Data (West Croydon / Adelaide)

- **Temperature:** Annual avg ~18°C; typical summer highs 26–29°C, lows 16–17°C ² ⁶; winter highs 14–16°C, lows 7–9°C ³.
- **Rainfall:** ~526 mm/year, mostly May–Sep ⁵; average January ~12 mm, June ~72 mm.
- **Humidity:** ~58% average ⁶; dry summers (~30–40% RH midday) and moister winters.
- **Daylight:** ~9.5–10 h in Jun/Jul, ~14–14.5 h in Dec ¹ ³ (see graphic above).
- **Soil:** Heavy loam/clay (“Bay of Biscay”); ensure good drainage. Amend to pH 6–7 for cannabis ⁹.
- **Water demand:** ~20–25 L/plant/day at peak ¹²; irrigation needed in summer (comply with Stage 2 watering restrictions ¹³).

- **Light:** Full sun; watch heat >30°C. For indoor/greenhouse grows, simulate Adelaide's long summer days with ~14–18 h lights during veg, then 12/12 for flower.
- **Nutrients:** High N in veg; switch to higher P/K in bloom ¹¹. Use Cal/Mg supplements if soil is very calcareous.
- **Pests/Diseases:** Watch for spider mites, aphids, whiteflies, thrips, powdery mildew, Botrytis, etc ¹⁶. Maintain airflow and lower humidity in flowering.
- **Air Quality:** Urban Adelaide has low pollution, so outdoor air is generally clean (good UV index though – consider protective clothing/cream).
- **Regulation:** Cannabis cultivation is **illegal** (even a single plant is an offense) ¹⁷ ¹⁸. This legal context is a critical part of the “baseline.”

Sources: Climate and environmental data are from local climate histories and studies ⁵ ⁶ ¹ ³. Cannabis-specific growing parameters and risks are based on horticultural guides and research ¹⁵ ⁹ ¹⁶ ¹². Local statutes are cited from South Australian law summaries ¹⁷ ¹⁸.

¹ ² ³ ⁴ Climate of Adelaide - Wikipedia

https://en.wikipedia.org/wiki/Climate_of_Adelaide

⁵ West Croydon Weather | Elders Weather

<https://www.eldersweather.com.au/climate-history/sa/west-croydon>

⁶ ⁷ Climate & Weather Averages in West Croydon, South Australia, Australia

<https://www.timeanddate.com/weather/@8348875/climate>

⁸ What are the Main Soil Types in Adelaide? - Urathane Solutions

<https://www.urathanesolutions.com.au/what-are-the-main-soil-types-in-adelaide/>

⁹ ¹¹ Best Soil pH for Cannabis: Tips and Tricks for Maximum Yield – Aqua Ultraviolet

https://aquaultraviolet.com/blogs/blog/maintaining-soil-s-ph-levels-for-healthy-cannabis-growth?srsltid=AfmBOorMS5DRn148BHQw52Cv3tF8CL_YR3pqb-zRP6jmNmAX9i5zEkHo

¹⁰ cdn.environment.sa.gov.au

<https://cdn.environment.sa.gov.au/environment/docs/DEW-Soil-OC-Benchmarks-by-Rainfall-and-Texture.pdf>

¹² Cannabis requires more water than commodity crops, researchers say

<https://mjbizdaily.com/cannabis-requires-more-water-than-commodity-crops-researchers-say/>

¹³ dpc.sa.gov.au

https://www.dpc.sa.gov.au/__data/assets/pdf_file/0017/116252/20061106_Water_Restrictions_Upload.pdf

¹⁴ pir.sa.gov.au

https://pir.sa.gov.au/__data/assets/pdf_file/0010/335638/SA_Industrial_Hemp_Trials_Preliminary_Report_-_October_2018.pdf

¹⁵ Cannabis Temperature Tutorial | Grow Weed Easy

<https://www.growweedeasy.com/temperature>

¹⁶ canna.com.au

<https://www.canna.com.au/sites/australia/files/2024-06/downloads-leaflet-pests-diseases-guide.pdf>

¹⁷ ¹⁸ Cannabis- Personal Use and Supply

<https://lsc.sa.gov.au/dsh/ch12s07.php>