

Design climate and building envelope

Parcel scope: Flurstück 16/24, area 627 m². The review checked Climate normals (DWD), Climate normals at this location, Dry spells and summer water balance (DWD HYRAS) using 9 sources listed in the appendix ledger, retrieved on 27 September 2026. The main result for this parcel is: Mean annual precipitation at the report point (DWD HYRAS 2015–2024): 882 mm. Before committing to the purchase, request Site-specific specialist figure on “Rainwater-harvesting potential (DWD HYRAS)”.

SOURCE	METHOD	AS AT	GEOMETRY
DWD; DWD WMS and 4 more (Appendix A.1)	public-data GIS query and screening	27 September 2026	Chapter findings summarised; each finding states its spatial relationship on its own evidence page



FIG. 10.1 – Design climate and building envelope DWD; DWD WMS and 4 more (Appendix A.1).

Analyst read

- FINDING: The review established: Longest dry spell at the report point (DWD HYRAS 2015–2024): 31 days.
- CONSEQUENCE: The source position is supported by 9 of 9 responses; no query remains open. For the buyer, this point should be checked before the purchase decision.
- NEXT ACTION: ask Geotechnical, structural and energy professionals for frost depth, snow load, heat load and solar yield.

Questions and evidence on climate and the building envelope

Use the normals only as a screen and obtain the four controlling building-specific checks. Evidence requested: Frost depth, snow load, heat load and solar yield; Office: Geotechnical, structural and energy professionals.

SOURCE	METHOD	AS AT	GEOMETRY
DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation	public-data GIS query and screening	27 September 2026	Questions for the competent authorities; they concern the selected parcel and measure nothing themselves

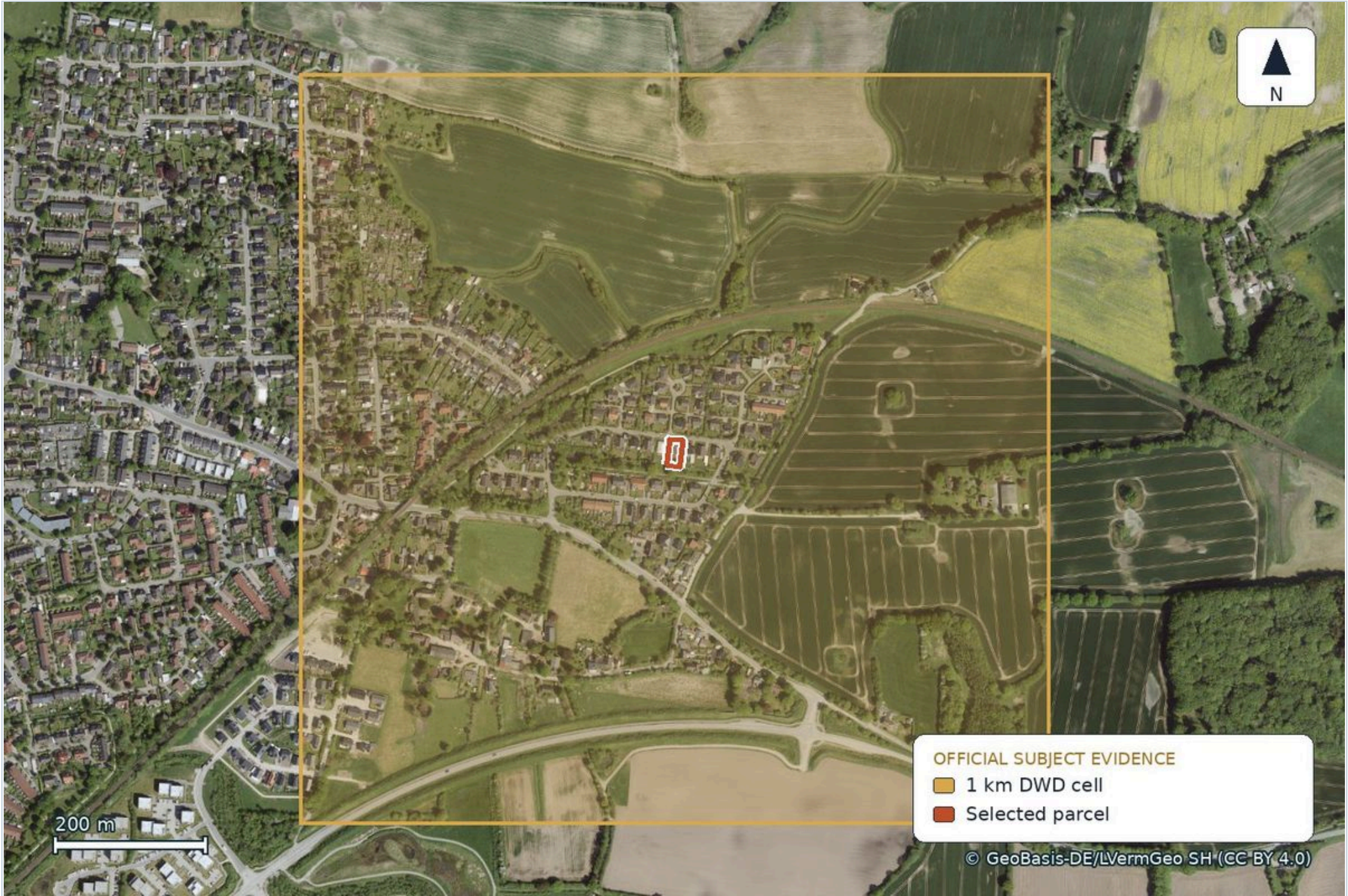


FIG. 10.2 – Questions and evidence on climate and the building envelope DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation.

Analyst read

- FINDING: Each value is neither current weather nor a measurement on this parcel.
- CONSEQUENCE: They differ from this chapter's DWD 1991–2020 normals and HYRAS 2015–2024 values because they cover older normal periods (1961–1990, 1971–2000); for “Climate normals at this location”, a confirmed response from Geotechnical, structural and energy professionals is carried into the purchase review; a qualified, conflicting or absent response leaves that finding unresolved. Frost depth, snow load, heat load and solar yield: Geotechnical, structural and energy professionals.
- NEXT ACTION: have this point confirmed in writing by the competent authority before you commit.

10.1 Design climate and building envelope

- ◆ **Climate normals at this location**
 - In addition, six named DWD WMS products were read on 27 September 2026; 6 of 6 returned values. Each value is neither current weather nor a measurement on this parcel.
- ◆ **Hot days at or above 35 °C at the report point (DWD HYRAS 2015–2024)**
 - 0.0 per year. Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · summer heat/night temperature · as at 27 September 2026.
- ◆ **Mean annual precipitation at the report point (DWD HYRAS 2015–2024)**
 - 882 mm. Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · rainwater-harvesting potential · as at 27 September 2026. Give the reported finding to the responsible body and obtain written confirmation of how it applies to the parcel. Meaning for the purchase: Use the grid value for mean annual precipitation as a purchase screen; local measurement and professional design remain controlling. Before committing to the purchase, request Site-specific specialist figure on “Rainwater-harvesting potential (DWD HYRAS)”.
- ◆ **Longest dry spell at the report point (DWD HYRAS 2015–2024)**
 - 31 days. Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · dry spells/water balance · as at 27 September 2026.
- ◆ **Frost days at the report point (DWD HYRAS 2015–2024)**
 - 49.9 per year. Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · frost/ice days/heating degree days · as at 27 September 2026.

Source: DWD; DWD WMS and 4 more (Appendix A.1) · As at 27 September 2026

10.2 Questions and evidence on climate and the building envelope

- ◆ **Frost depth, snow load, heat load and solar yield**
 - Geotechnical, structural and energy professionals · Use the normals only as a screen and obtain the four controlling building-specific checks.
- ◆ **Site-specific specialist figure on “Summer heat and night-time cooling (DWD HYRAS)”**
 - competent specialist office or qualified professional · Give the reported finding to the responsible body and obtain written confirmation of how it applies to the parcel. Meaning for the purchase: Use the grid value for hot days at or above 35 °C as a purchase screen; local measurement and professional design remain controlling.
- ◆ **Appendix source ledger**
 - The 9 sources behind chapter 10 are listed there one by one.

When you query a finding, quote the source and its retrieval date from that list.
- ◆ **Site-specific specialist figure on “Dry spells and summer water balance (DWD HYRAS)”**
 - competent specialist office or qualified professional · Give the reported finding to the responsible body and obtain written confirmation of how it applies to the parcel. Meaning for the purchase: Use the grid value for longest dry spell as a purchase screen; local measurement and professional design remain controlling.
- ◆ **Site-specific specialist figure on “Frost, ice days and heating season (DWD HYRAS)”**
 - competent specialist office or qualified professional · Give the reported finding to the responsible body and obtain written confirmation of how it applies to the parcel. Meaning for the purchase: Use the grid value for frost days as a purchase screen; local measurement and professional design remain controlling.

Source: DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation · As at 27 September 2026

Climate normals (DWD)

DWD provides nationwide climate normals on a 1 km grid. At the report point the grid returned all twelve monthly values for the 1991–2020 normal period.

SOURCE	METHOD	AS AT	GEOMETRY
DWD · Klimanormalen 1991-2020 (CDC-Raster) · accessed 27 September 2026	1 km grid (ESRI ASCII), sampled at the report point in EPSG:31467	27 September 2026	DWD 1991–2020: single-point query at the report point, not a sweep across the parcel polygon

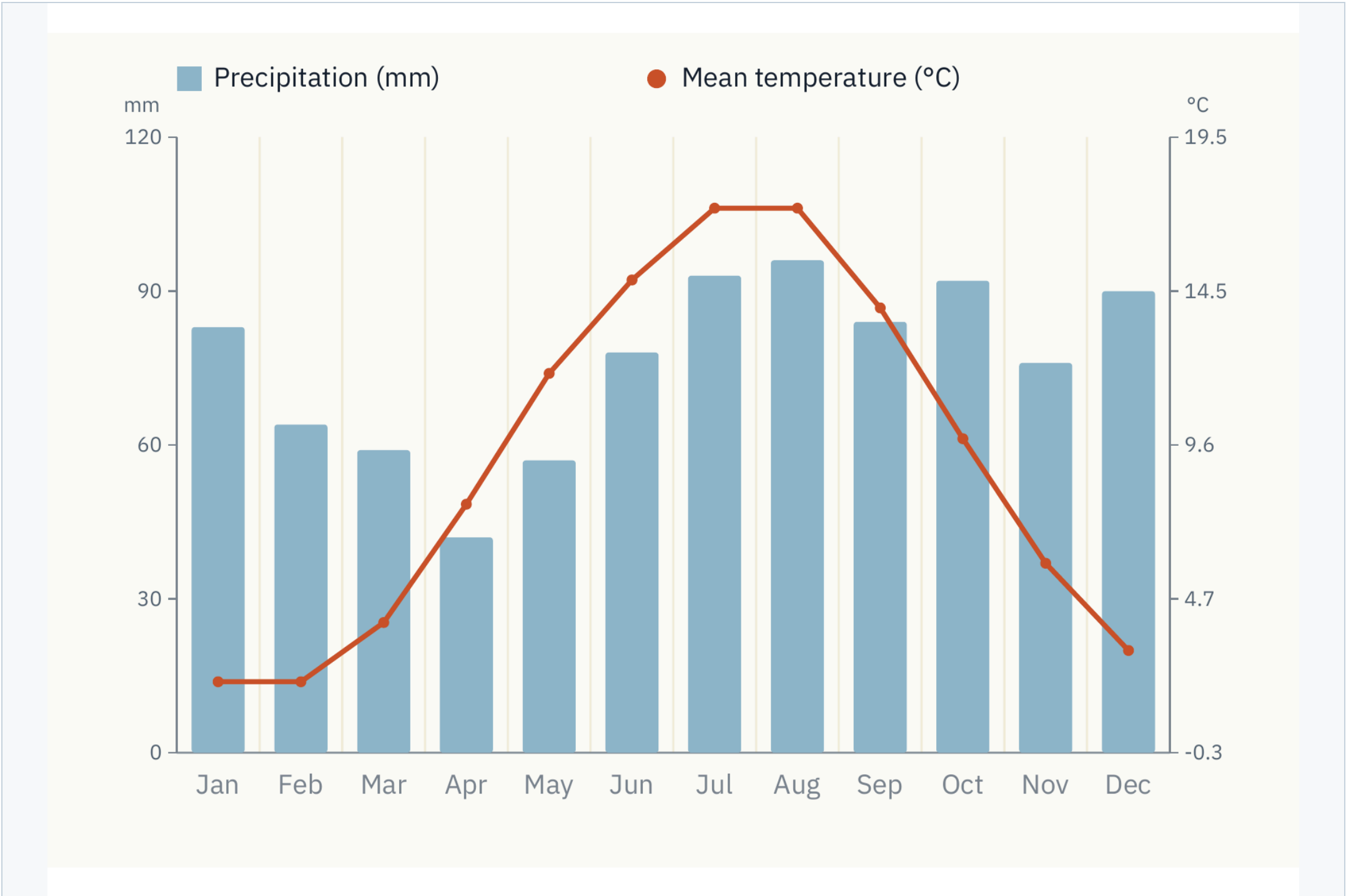


FIG. 10.3 – Climate normals (DWD)

DWD · Klimanormalen 1991-2020 (CDC-Raster) · accessed 27 September 2026.

9.1

°C

Annual mean temperature

909

mm

Annual precipitation

Analyst read

- FINDING: The monthly curve exposes the seasonal pattern relevant to the building envelope and drainage; the hot-day count (1 day) is a grid value too, not a forecast for the building.
- CONSEQUENCE: Use as rough climate context for heating, insulation and irrigation planning, not a weather station or a forecast. DWD 1991–2020 · No statutory pass/fail threshold; the DIN design temperature controls heat-load design. No weather-station measurement, no short-range forecast, no building-level microclimate effect. For energy planning, use the DIN climate zone and the energy consultant's local weather data.

Climate normals at this location

In addition, six named DWD WMS products were read on 27 September 2026; 6 of 6 returned values. Each value is neither current weather nor a measurement on this parcel. They differ from this chapter's DWD 1991–2020 normals and HYRAS 2015–2024 values because they cover older normal periods (1961–1990, 1971–2000).

SOURCE	METHOD	AS AT	GEOMETRY
DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation	WMS GetFeatureInfo per product at the report point; GetMap for the frost-day grid	27 September 2026	report point in the published 1 km grid cell; no average across the parcel and no returned cell boundary

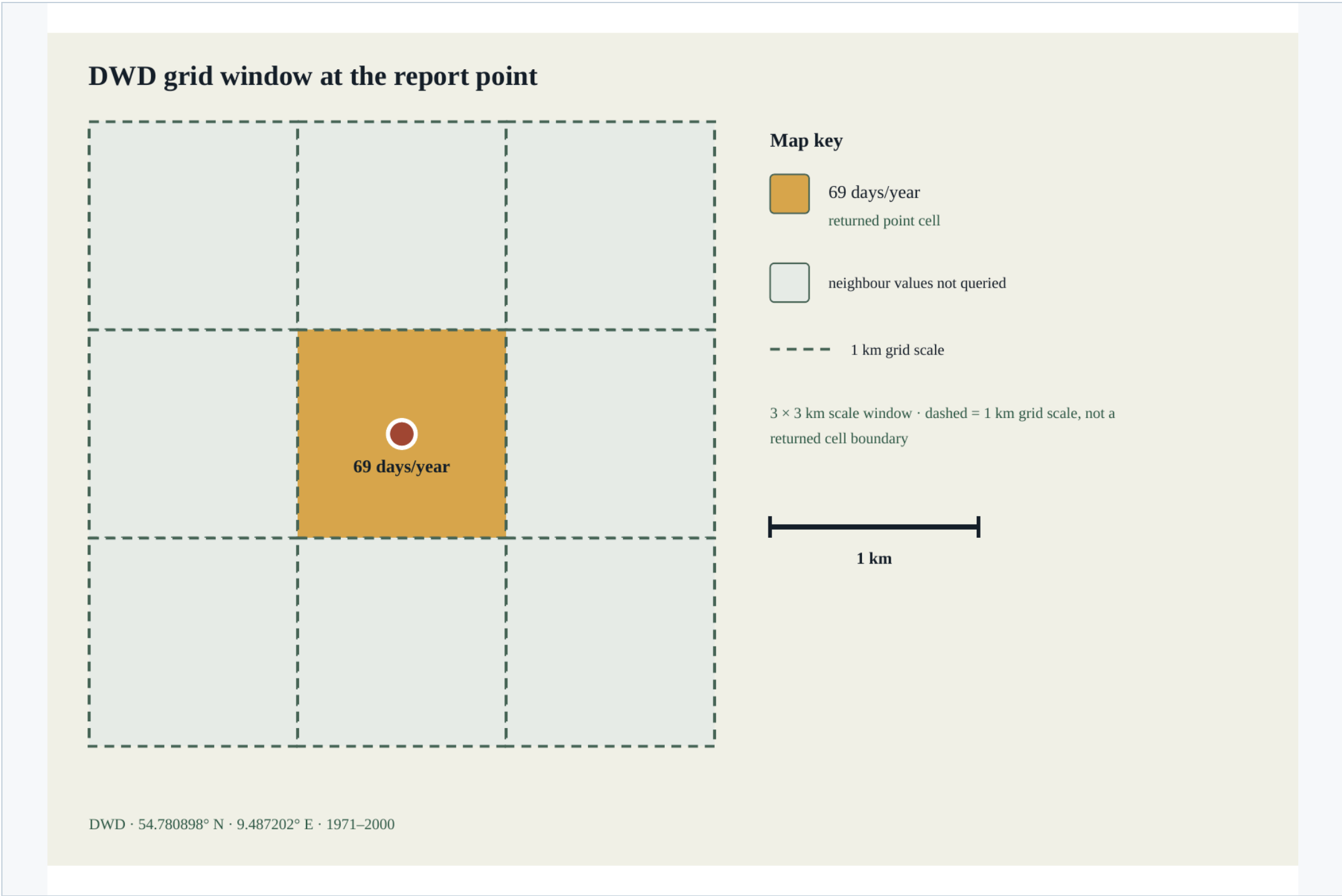


FIG. 10.4 – Climate normals at this location DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation.

69

days/year

Frost days

12

days/year

Summer days

Analyst read

- FINDING: Frost days touch foundation frost protection and frost depth; snow-cover days touch snow load; mean temperature touches the heating season and energy demand; sunshine duration touches solar yield.
- CONSEQUENCE: These are screens: geotechnical design, the official snow-load zone, DIN design temperature and building-specific shading control. Summer days and annual precipitation are context only here; building-specific heat-protection evidence and the local KOSTRA design storm control heat and drainage design. No microclimate measurement and no building design values.
- LIMIT: Use the normals only as a screen and obtain the four controlling building-specific checks.

10.3 Climate normals (DWD)

◆ CLEAR · Annual mean temperature — 9.1 °C CONSEQUENCE — DWD 1991–2020 · No statutory pass/fail threshold; the DIN design temperature controls heat-load design.	◆ CLEAR · Annual precipitation — 909 mm CONSEQUENCE — DWD 1991–2020 · No statutory pass/fail threshold; drainage must be checked against the KOSTRA design storm printed in the water chapter.
◆ CLEAR · Frost days per year — 61 days CONSEQUENCE — DWD 1991–2020 · Count threshold: daily minimum < 0 °C; not a building-law limit.	◆ CLEAR · Ice days per year (daily maximum < 0 °C) — 13 days CONSEQUENCE — DWD 1991–2020 · Count threshold: daily maximum < 0 °C; not a building-law limit.
◆ CLEAR · Hot days per year (≥30 °C) — 1 day CONSEQUENCE — DWD 1991–2020 · Count threshold: daily maximum ≥30 °C; the reported days are over that threshold.	◆ CLEAR · Sunshine duration per year — 1,623 hours CONSEQUENCE — DWD 1991–2020 · No statutory pass/fail threshold; a shading study determines building-level usability.
◆ Evidence limit — No weather-station measurement, no short-range forecast, no building-level microclimate effect. CONSEQUENCE — Use as rough climate context for heating, insulation and irrigation planning, not a weather station or a forecast.	◆ Action — Request before committing to the purchase: Climate-zone reference under DIN 4108-2 / VDI 4710. Body: Energy consultant. By: before the heat-load calculation. CONSEQUENCE — Pause the purchase if: the site elevation differs markedly from the reference and nobody accounts for it.
◆ Reading — DWD climate-normals grid (1991–2020) at the report point, twelve monthly values plus the annual figures; accessed 27 September 2026.	

Source: DWD · Klimanormalen 1991-2020 (CDC-Raster) · accessed 27 September 2026 · As at 27 September 2026

10.4 Climate normals at this location

◆ CLEAR · Frost days — 69 days/year CONSEQUENCE — DWD 1971–2000 · 1 km grid. Count threshold: daily minimum <0 °C; not a building-law limit. Touches foundation frost protection and frost depth; local geotechnical and structural design controls.	◆ CLEAR · Summer days — 12 days/year CONSEQUENCE — DWD 1971–2000 · 1 km grid. Count threshold: daily maximum ≥25 °C; not a building-law limit. Context only for summer comfort; not a design value for building heat protection.
◆ CLEAR · Snow-cover days — 26 days/year CONSEQUENCE — DWD 1971–2000 · 1 km grid. DWD snow-cover-day definition; no statutory building pass/fail threshold. Touches snow-load planning only as context; the official snow-load zone and structural calculation control.	◆ CLEAR · Sunshine duration — 1,517 hours/year CONSEQUENCE — DWD 1961–1990 · 1 km grid. No statutory pass/fail threshold; the building shading study controls. Touches solar yield as initial site context; roof geometry, shading and a building-specific yield study control.
◆ CLEAR · Mean temperature — 8.0 °C CONSEQUENCE — DWD 1961–1990 · 1 km grid. No statutory pass/fail threshold; DIN design temperatures control heat-load design. Touches the heating season and energy demand; the DIN design temperature, not this annual mean, controls heat-load design.	◆ CLEAR · Annual precipitation — 861 mm/year CONSEQUENCE — DWD 1961–1990 · 1 km grid. No statutory pass/fail threshold; the KOSTRA design storm of the 5 km cell, printed in the water chapter, controls. Use only to contextualise the annual water balance; do not derive a design-storm duration or return period from it.

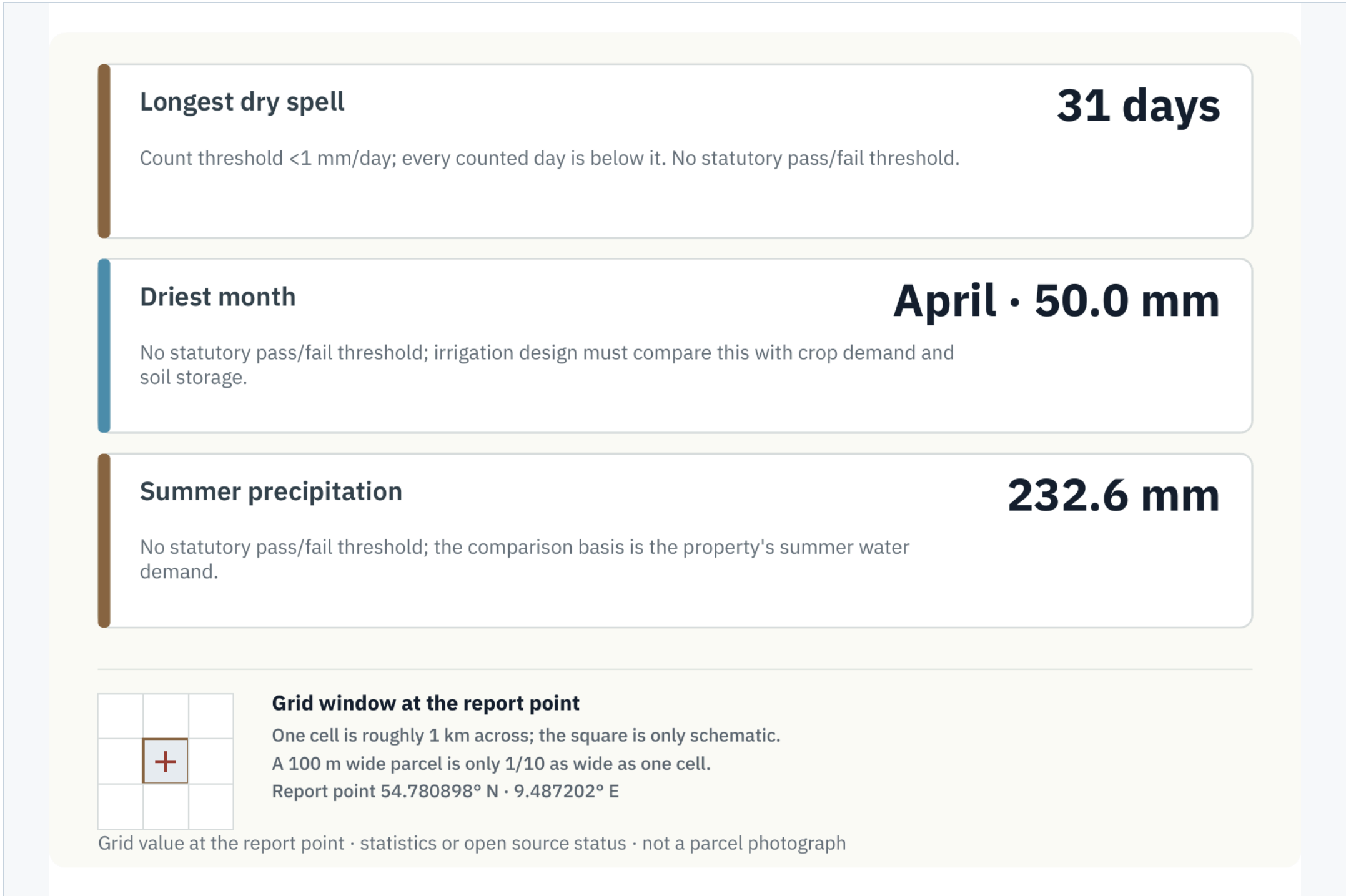
Source: DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation · As at 27 September 2026

10.5

Dry spells and summer water balance (DWD HYRAS)

Longest dry spell at the report point (DWD HYRAS 2015–2024): 31 days.

SOURCE	METHOD	AS AT	GEOMETRY
DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · dry spells/water balance	Dry spells and summer water balance (DWD HYRAS): grid cell read	27 September 2026	grid cell at the report point; no average across the parcel



10.6

Summer heat and night-time cooling (DWD HYRAS)

Hot days at or above 35 °C at the report point (DWD HYRAS 2015–2024): 0.0 per year.

SOURCE	METHOD	AS AT	GEOMETRY
DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · summer heat/night temperature	Summer heat and night-time cooling (DWD HYRAS): grid cell read	27 September 2026	grid cell at the report point; no average across the parcel

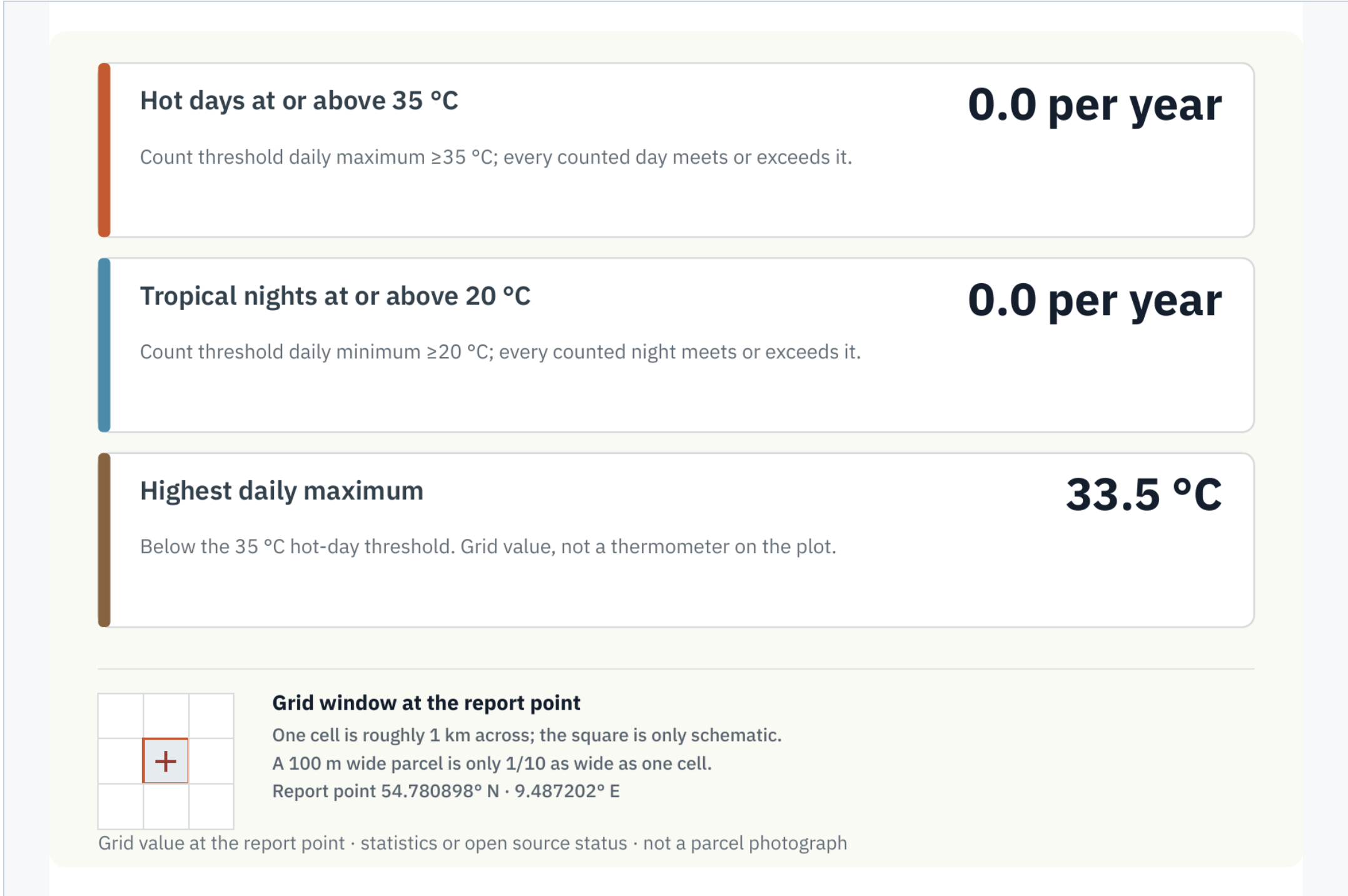


FIG. 10.6 – Summer heat and night-time cooling (DWD HYRAS)

DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · summer heat/night temperature.

0.0

per year

Hot days at or above 35 °C

33.5

°C

Highest daily maximum

- Analyst read
- FINDING: Hot days at or above 35 °C is 0.0 per year and tropical nights at or above 20 °C is 0.0 per year; for hot days at or above 35 °C as a grid value from 2015–2024 daily, local evidence from the architect or energy consultant controls.
 - CONSEQUENCE: Use the grid value for hot days at or above 35 °C as a purchase screen; local measurement and professional design remain controlling. Count threshold daily maximum ≥35 °C; every counted day meets or exceeds it.
 - NEXT ACTION: have this point confirmed in writing by the competent authority before you commit.

Climate normals at this location (continued)

◆ Evidence limit — No microclimate measurement and no building design values. Neither current weather nor a measurement on this parcel. CONSEQUENCE — The six normals give a first estimate for frost depth, snow load, heating demand and solar yield.	◆ Action — Request before committing to the purchase: Frost depth, snow load, heat load and solar yield. Body: Geotechnical, structural and energy professionals. By: before design freeze. CONSEQUENCE — Pause the purchase if: one of the four checks is missing, or a DWD value stays unread and no DWD point value is supplied.
◆ Reading — Six named DWD WMS GetFeatureInfo products at the report point; accessed 27 September 2026.	

Source: DWD WMS · Frost days · Summer days · Snow-cover days · Sunshine duration · Mean temperature · Annual precipitation · As at 27 September 2026

10.5 Dry spells and summer water balance (DWD HYRAS)

◆ CLEAR · Longest dry spell — 31 days CONSEQUENCE — Count threshold <1 mm/day; every counted day is below it. No statutory pass/fail threshold.	◆ Driest month — April · 50.0 mm NEXT ACTION — No statutory pass/fail threshold; irrigation design must compare this with crop demand and soil storage.
◆ CLEAR · Summer precipitation — 232.6 mm CONSEQUENCE — No statutory pass/fail threshold; the comparison basis is the property's summer water demand.	◆ Evidence limit — The grid value for longest dry spell is neither a measurement on the parcel nor a parcel-wide average. CONSEQUENCE — Use the grid value for longest dry spell as a purchase screen; local measurement and professional design remain controlling.
◆ Action — Request before committing to the purchase: Site-specific specialist figure on “Dry spells and summer water balance (DWD HYRAS)”. Body: competent specialist office or qualified professional. CONSEQUENCE — Pause the purchase if: the specialist uses different figures for the site from the grid value read here.	◆ Reading — Period: 2015–2024 daily. Resolution limitation: Dry spells and summer water balance: HYRAS is a 1 km grid interpolated by DWD from station measurements; not a microclimate of the plot and not a station on site.

Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · dry spells/water balance · As at 27 September 2026

10.6 Summer heat and night-time cooling (DWD HYRAS)

◆ CLEAR · Hot days at or above 35 °C — 0.0 per year CONSEQUENCE — Count threshold daily maximum ≥35 °C; every counted day meets or exceeds it.	◆ CLEAR · Tropical nights at or above 20 °C — 0.0 per year CONSEQUENCE — Count threshold daily minimum ≥20 °C; every counted night meets or exceeds it.
◆ CLEAR · Highest daily maximum — 33.5 °C CONSEQUENCE — Below the 35 °C hot-day threshold. Grid value, not a thermometer on the plot.	◆ Evidence limit — The grid value for hot days at or above 35 °C is neither a measurement on the parcel nor a parcel-wide average. CONSEQUENCE — Use the grid value for hot days at or above 35 °C as a purchase screen; local measurement and professional design remain controlling.

Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · summer heat/night temperature · As at 27 September 2026

Frost, ice days and heating season (DWD HYRAS)

Frost days at the report point (DWD HYRAS 2015–2024): 49.9 per year.

SOURCE	METHOD	AS AT	GEOMETRY
DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · frost/ice days/heating degree days	Frost, ice days and heating season (DWD HYRAS): grid cell read	27 September 2026	grid cell at the report point; no average across the parcel

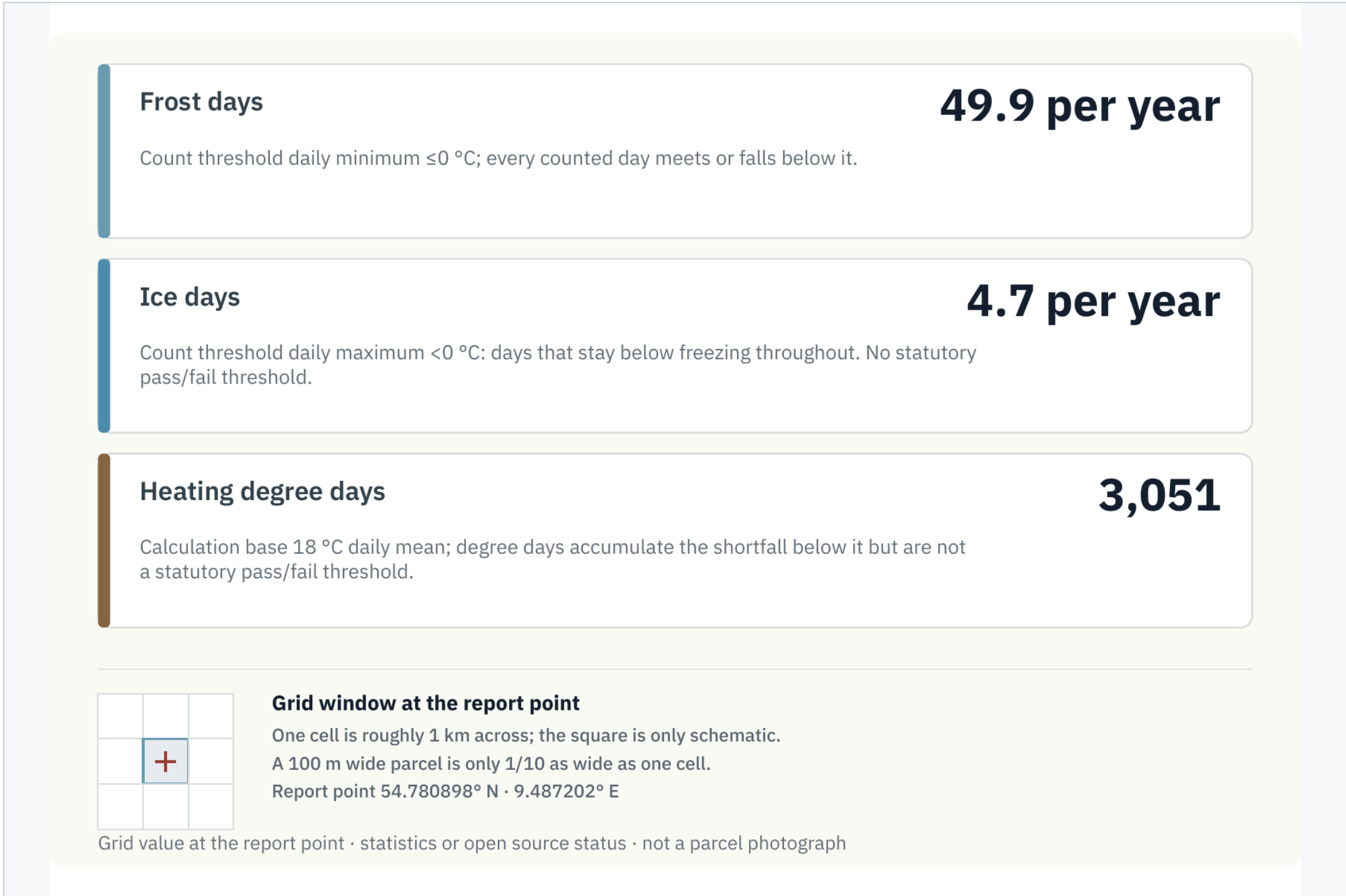


FIG. 10.7 – Frost, ice days and heating season (DWD HYRAS) DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · frost/ice days/heating degree days.

49.9

per year

Frost days

4.7

per year

Ice days

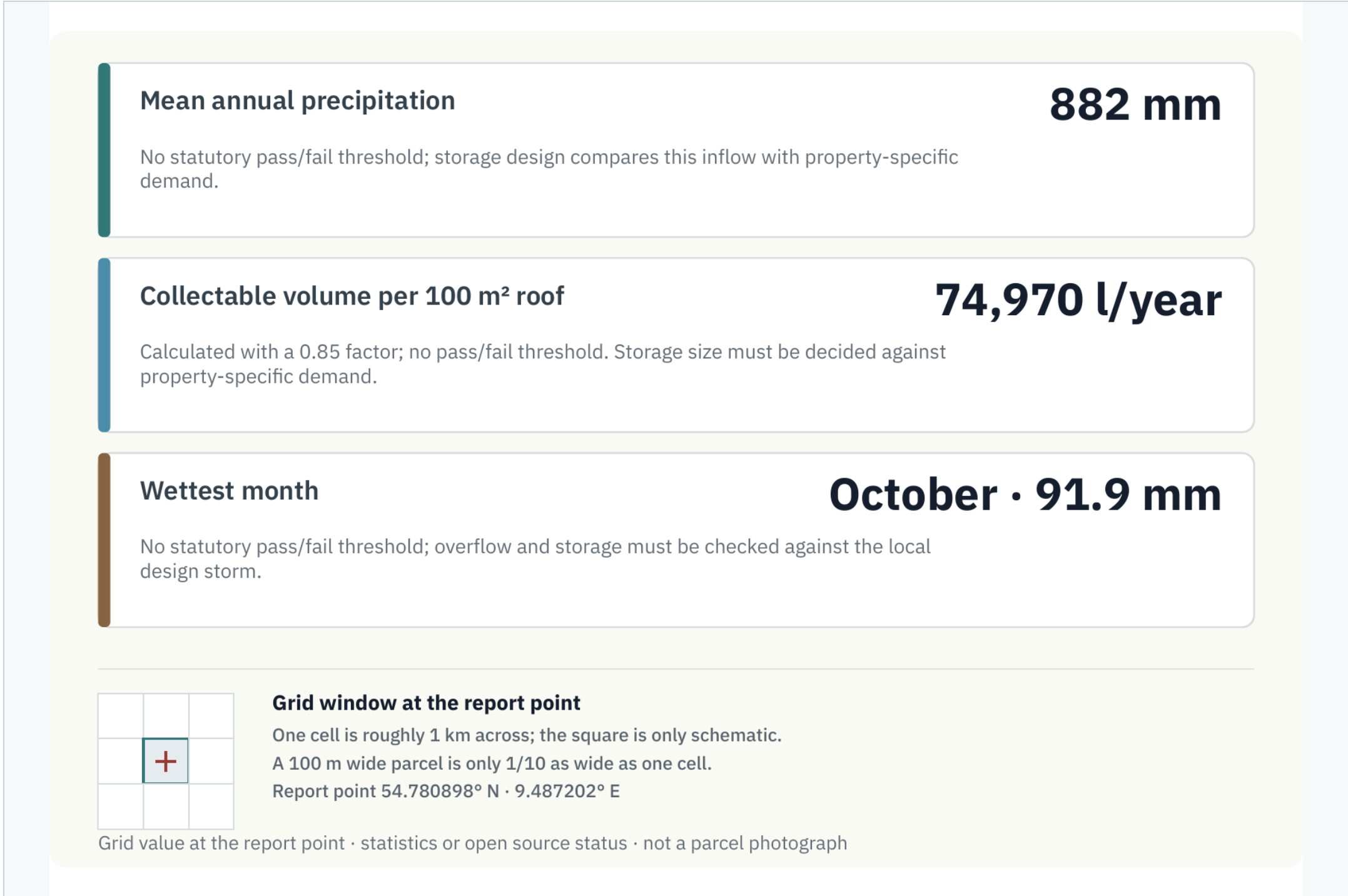
- Analyst read
- FINDING: Frost days is 49.9 per year and ice days is 4.7 per year; for frost days as a grid value from 2015–2024 daily, local evidence from the architect or energy consultant controls.
 - CONSEQUENCE: Use the grid value for frost days as a purchase screen; local measurement and professional design remain controlling. Count threshold daily minimum ≤ 0 °C; every counted day meets or falls below it. The grid value for frost days is neither a measurement on the parcel nor a parcel-wide average. Give the reported finding to the responsible body and obtain written confirmation of how it applies to the parcel.

10.8

Rainwater-harvesting potential (DWD HYRAS)

Mean annual precipitation at the report point (DWD HYRAS 2015–2024): 882 mm.

SOURCE	METHOD	AS AT	GEOMETRY
DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · rainwater-harvesting potential	Rainwater-harvesting potential (DWD HYRAS): grid cell read	27 September 2026	grid cell at the report point; no average across the parcel



Summer heat and night-time cooling (DWD HYRAS) (continued)

◆ Action — Request before committing to the purchase: Site-specific specialist figure on “Summer heat and night-time cooling (DWD HYRAS)”. Body: competent specialist office or qualified professional. CONSEQUENCE — Pause the purchase if: the specialist uses different figures for the site from the grid value read here.	◆ Reading — Period: 2015–2024 daily. Resolution limitation: Summer heat and night-time cooling: HYRAS is a 1 km grid interpolated by DWD from station measurements; not a microclimate of the plot and not a station on site.
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Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · summer heat/night temperature · As at 27 September 2026

10.7 Frost, ice days and heating season (DWD HYRAS)

◆ CLEAR · Frost days — 49.9 per year CONSEQUENCE — Count threshold daily minimum ≤0 °C; every counted day meets or falls below it.	◆ CLEAR · Ice days — 4.7 per year CONSEQUENCE — Count threshold daily maximum <0 °C: days that stay below freezing throughout. No statutory pass/fail threshold.
◆ CLEAR · Heating degree days — 3,051 CONSEQUENCE — Calculation base 18 °C daily mean; degree days accumulate the shortfall below it but are not a statutory pass/fail threshold.	◆ CLEAR · The same count in the DWD normal period — 69 days/year · 1971–2000 CONSEQUENCE — The DWD normal appears in the DWD section of this chapter and counts 1971–2000; HYRAS counts 2015–2024 daily, both on 1 km. The newer 1991–2020 DWD grid normal counts 61 days/year at this point. The difference comes from the period, not the location. Frost protection and frost depth remain governed by the local geotechnical design, not by any of the grid values.
◆ Evidence limit — The grid value for frost days is neither a measurement on the parcel nor a parcel-wide average. CONSEQUENCE — Use the grid value for frost days as a purchase screen; local measurement and professional design remain controlling.	◆ Action — Request before committing to the purchase: Site-specific specialist figure on “Frost, ice days and heating season (DWD HYRAS)”. Body: competent specialist office or qualified professional. CONSEQUENCE — Pause the purchase if: the specialist uses different frost days or heating degree days for the site from the grid value read here.
◆ Reading — Resolution limitation: Frost, ice days and heating season: HYRAS is a 1 km grid interpolated by DWD from station measurements; not a microclimate of the plot and not a station on site.	

Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · frost/ice days/heating degree days · As at 27 September 2026

10.8 Rainwater-harvesting potential (DWD HYRAS)

◆ CLEAR · Mean annual precipitation — 882 mm CONSEQUENCE — No statutory pass/fail threshold; storage design compares this inflow with property-specific demand.	◆ CLEAR · Collectable volume per 100 m² roof — 74,970 l/year CONSEQUENCE — Calculated with a 0.85 factor; no pass/fail threshold. Storage size must be decided against property-specific demand.
◆ CLEAR · Wettest month — October · 91.9 mm CONSEQUENCE — No statutory pass/fail threshold; overflow and storage must be checked against the local design storm.	◆ Evidence limit — The grid value for mean annual precipitation is neither a measurement on the parcel nor a parcel-wide average. CONSEQUENCE — Use the grid value for mean annual precipitation as a purchase screen; local measurement and professional design remain controlling.

Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · rainwater-harvesting potential · As at 27 September 2026

10.9

Regional background air quality (EEA 2024)

PM2.5 at the report point: 7.9 µg/m³.

SOURCE	METHOD	AS AT	GEOMETRY
European Environment Agency (EEA), interpolated air-quality maps 2024 (CC BY 4.0)	Regional background air quality (EEA 2024): grid cell read	27 September 2026	grid cell at the report point; no average across the parcel

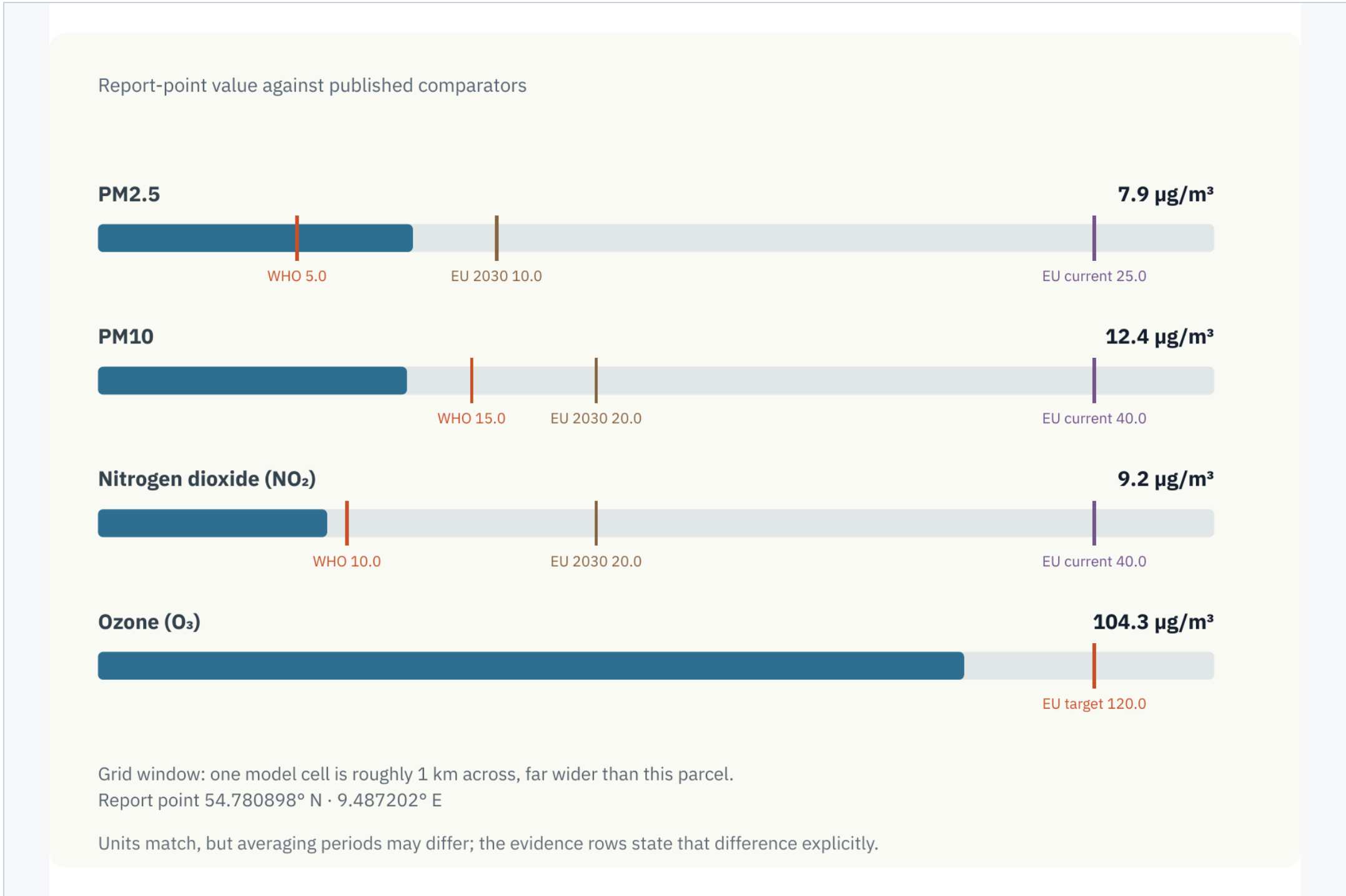


FIG. 10.9 – Regional background air quality (EEA European Environment Agency (EEA), interpolated air-quality maps 2024 (CC BY 2024) 4.0).

- Analyst read
- FINDING: PM2.5 is 7.9 µg/m³ and PM10 is 12.4 µg/m³; for PM2.5 as a grid value from calendar year 2024, local evidence from the local environmental authority or monitoring station controls.
 - CONSEQUENCE: Use the grid value for PM2.5 as a purchase screen; local measurement and professional design remain controlling. PM2.5: the 2024 annual mean of 7.9 µg/m³ is over the WHO annual guideline 5.0 µg/m³.
 - LIMIT: The grid value for PM2.5 is neither a measurement on the parcel nor a parcel-wide average.
 - NEXT ACTION: Give the reported finding to the responsible body and obtain written confirmation of how it applies to the parcel.

Climate projection to 2050 (CMIP6 ensemble)

Change in annual mean temperature at the report point: +1.0 °C.

SOURCE	METHOD	AS AT	GEOMETRY
Copernicus Interactive Climate Atlas (C3S), CMIP6 models, pathway SSP2-4.5 (CC BY 4.0), own analysis	Climate projection to 2050 (CMIP6 ensemble): grid cell read	27 September 2026	grid cell at the report point; no average across the parcel

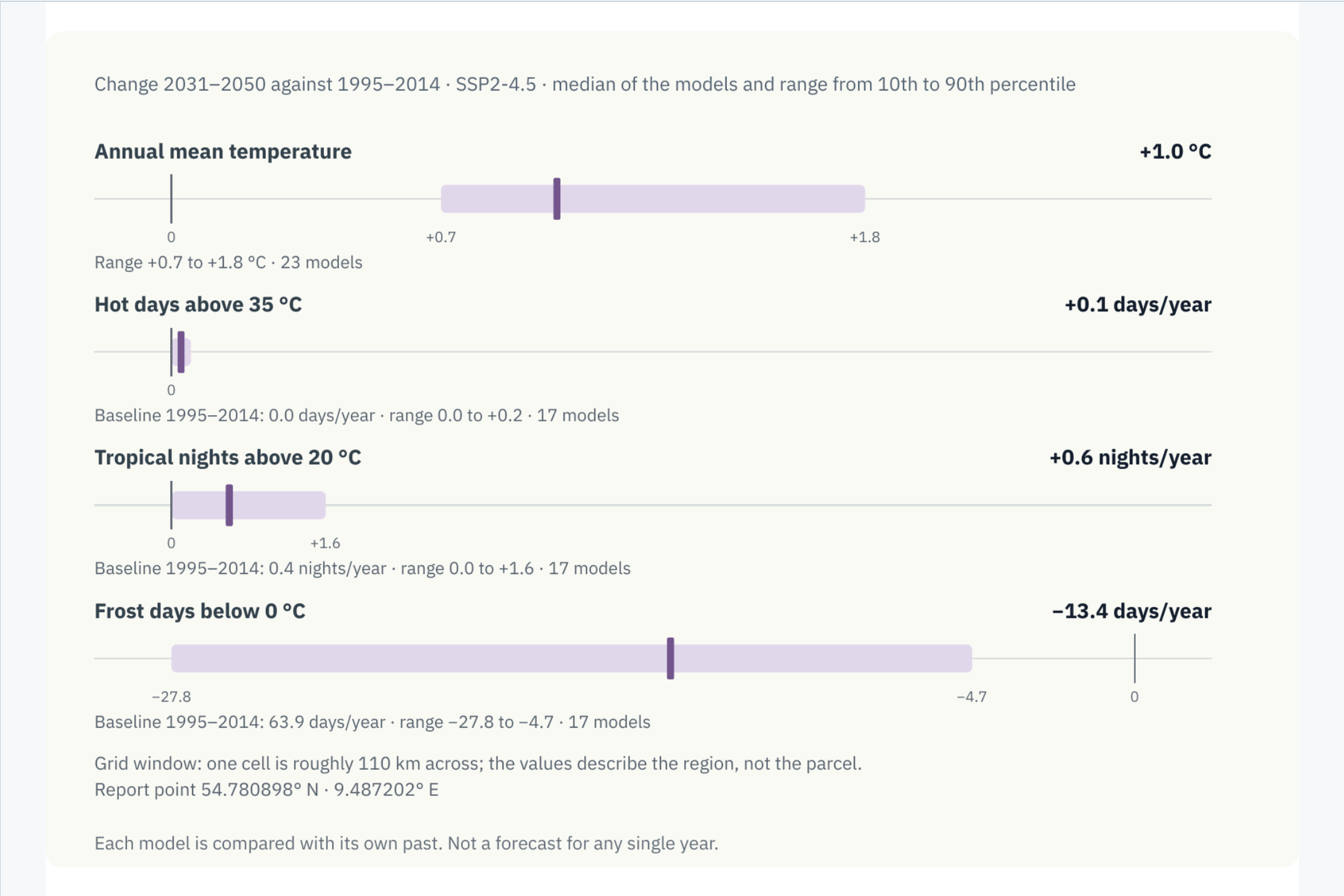


FIG. 10.10 – Climate projection to 2050 (CMIP6 ensemble) Copernicus Interactive Climate Atlas (C3S), CMIP6 models, pathway SSP2-4.5 (CC BY 4.0), own analysis.

+1.0

°C

Change in annual mean temperature

–13.4

days/year

Frost days below 0 °C

- Analyst read
- FINDING: From 1995–2014 to 2031–2050 the annual mean temperature changes by +1.0 °C and frost days below 0 °C by –13.4 days/year (model median).
 - CONSEQUENCE: This is the region's climate signal and cannot be measured on the parcel; an architect or energy consultant uses it to plan summer heat protection and heating demand over the building's life. Tropical nights above 20 °C: +0.6 nights/year.
 - LIMIT: The projection shows where the region's climate is heading to 2050; it does not replace design work on the building. The grid value for change in annual mean temperature is neither a measurement on the parcel nor a parcel-wide average.

Rainwater-harvesting potential (DWD HYRAS) (continued)

◆ **Action**

— Request before committing to the purchase: Site-specific specialist figure on “Rainwater-harvesting potential (DWD HYRAS)”. Body: competent specialist office or qualified professional.

CONSEQUENCE — Pause the purchase if: the specialist uses different figures for the site from the grid value read here.

◆ **Reading**

— Period: 2015–2024 daily. Resolution limitation: Rainwater-harvesting potential: HYRAS is a 1 km grid interpolated by DWD from station measurements; not a microclimate of the plot and not a station on site.

Source: DWD HYRAS-DE v6-1 (CC BY 4.0), daily grids 2015–2024, own analysis · rainwater-harvesting potential · As at 27 September 2026

10.9 Regional background air quality (EEA 2024)

◆ **CLEAR · PM2.5**

— 7.9 µg/m³

CONSEQUENCE — PM2.5: the 2024 annual mean of 7.9 µg/m³ is over the WHO annual guideline 5.0 µg/m³, under the current EU annual limit 25.0 µg/m³ and under the EU limit from 2030 of 10.0 µg/m³.

◆ **CLEAR · PM10**

— 12.4 µg/m³

CONSEQUENCE — PM10: the 2024 annual mean of 12.4 µg/m³ is under the WHO annual guideline 15.0 µg/m³, under the current EU annual limit 40.0 µg/m³ and under the EU limit from 2030 of 20.0 µg/m³.

◆ **CLEAR · Nitrogen dioxide (NO₂)**

— 9.2 µg/m³

CONSEQUENCE — Nitrogen dioxide (NO₂): the 2024 annual mean of 9.2 µg/m³ is under the WHO annual guideline 10.0 µg/m³, under the current EU annual limit 40.0 µg/m³ and under the EU limit from 2030 of 20.0 µg/m³.

◆ **CLEAR · Ozone (O₃)**

— 104.3 µg/m³

CONSEQUENCE — Ozone (O₃): the 26th-highest day of 2024 (93.2 percentile of maximum daily 8-hour means) is 104.3 µg/m³, under the EU target value of 120.0 µg/m³. The target value averages three years; this is one year.

◆ **Evidence limit**

— The grid value for PM2.5 is neither a measurement on the parcel nor a parcel-wide average.

CONSEQUENCE — Use the grid value for PM2.5 as a purchase screen; local measurement and professional design remain controlling.

◆ **Action**

— Request before committing to the purchase: Site-specific specialist figure on “Regional background air quality (EEA 2024)”. Body: competent soil authority or geotechnical engineer.

CONSEQUENCE — Pause the purchase if: the specialist reads the nearest station's measurements differently from the background value read here.

◆ **Reading**

— Period: calendar year 2024. Resolution limitation: The EEA map merges monitoring stations, a chemical transport model and supplementary data on 1 km; it shows the regional background, not a kerbside peak.

Source: European Environment Agency (EEA), interpolated air-quality maps 2024 (CC BY 4.0) · As at 27 September 2026

10.10 Climate projection to 2050 (CMIP6 ensemble)

◆ **Change in annual mean temperature**

— +1.0 °C

CONSEQUENCE — Median of 23 CMIP6 models; model range +0.7 to +1.8 °C (10th to 90th percentile). No statutory threshold.

◆ **CLEAR · Frost days below 0 °C**

— −13.4 days/year

CONSEQUENCE — Baseline 1995–2014: 63.9 days/year. Change to 2031–2050: median of 17 bias-adjusted models, range −27.8 to −4.7. Threshold daily minimum below 0 °C.

◆ **CLEAR · Tropical nights above 20 °C**

— +0.6 nights/year

CONSEQUENCE — Baseline 1995–2014: 0.4 nights/year. Change to 2031–2050: median of 17 bias-adjusted models, range 0.0 to +1.6. Threshold daily minimum above 20 °C.

◆ **CLEAR · Hot days above 35 °C**

— +0.1 days/year

CONSEQUENCE — Baseline 1995–2014: 0.0 days/year. Change to 2031–2050: median of 17 bias-adjusted models, range 0.0 to +0.2. Threshold daily maximum above 35 °C.

Source: Copernicus Interactive Climate Atlas (C3S), CMIP6 models, pathway SSP2-4.5 (CC BY 4.0), own analysis · As at 27 September 2026

Wind zone (DIBt)

Wind zone 3; snow-load zone 2. Both DIBt assignments use the same municipality and are handed to the structural engineer together.

SOURCE	METHOD	AS AT	GEOMETRY
DIBt · wind and snow-load zones	Two table lookups using the same municipality match	7 June 2022 / 8 February 2023	Administrative assignment at municipality level

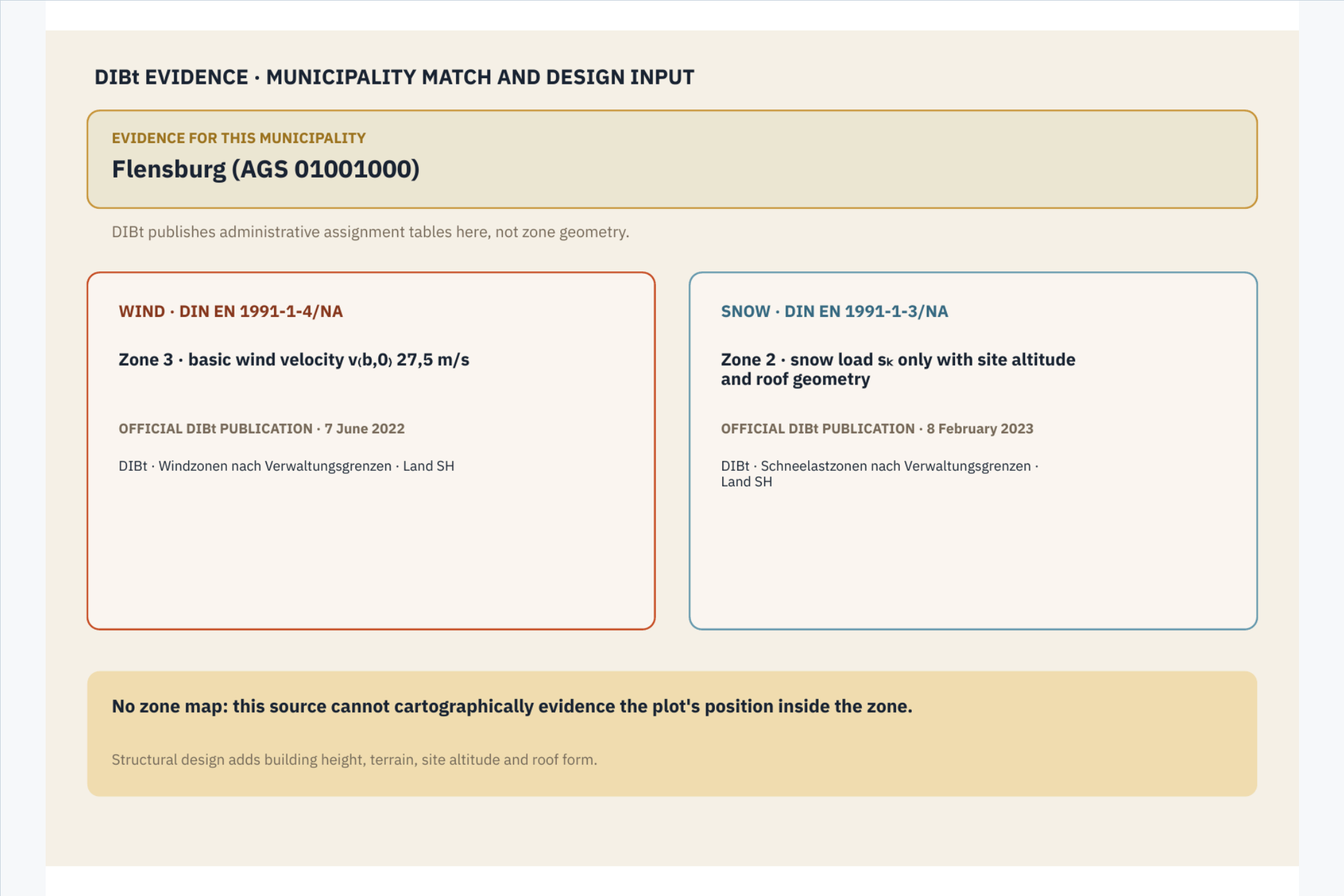


FIG. 10.11 – Wind zone (DIBt)

DIBt · wind and snow-load zones.

Analyst read

- FINDING: Land (federal state): Schleswig-Holstein (SH).
- CONSEQUENCE: Give wind zone 3 and snow-load zone 2 together to the structural engineer. Both DIBt tables are organised per Land, compiled from each Land's own official notices.
- LIMIT: No wind or snow measurement and no structural calculation for a specific building.
- NEXT ACTION: Give this zone to the structural engineer before design work starts.

Climate projection to 2050 (CMIP6 ensemble) (continued)

- ◆ **Evidence limit**

— The grid value for change in annual mean temperature is neither a measurement on the parcel nor a parcel-wide average.

CONSEQUENCE — The projection shows where the region's climate is heading to 2050; it does not replace design work on the building.
- ◆ **Action**

— Request before committing to the purchase: Site-specific specialist figure on “Climate projection to 2050 (CMIP6 ensemble)”. Body: competent specialist office or qualified professional.

CONSEQUENCE — Pause the purchase if: the specialist uses a different scenario or period from the projection read here.
- ◆ **Reading**

— Period: 1995–2014 vs 2031–2050. Resolution limitation: The Atlas grid is 1° (about 110 km) and shows the regional climate signal of the CMIP6 models under the middle emissions pathway SSP2-4.5; not a forecast for any single year and not the microclimate of the plot.

Source: Copernicus Interactive Climate Atlas (C3S), CMIP6 models, pathway SSP2-4.5 (CC BY 4.0), own analysis · As at 27 September 2026

10.11 Wind zone (DIBt)

- ◆ **CLEAR · Land (federal state)**

— Schleswig-Holstein (SH)

CONSEQUENCE — Both DIBt tables are organised per Land, compiled from each Land's own official notices.
- ◆ **CLEAR · Municipality**

— Flensburg (AGS 01001000)

CONSEQUENCE — Resolved via the official municipality key (BKG VG250, queried live at the report point), never assumed.
- ◆ **Wind · Match method**

— independent city's name in the Land table

CONSEQUENCE — SH (01): 1.1 | Kreis Schleswig-Flensburg, kreisfreie Stadt Flensburg | Windzone 3 | all municipalities, unless in wind zone 4
- ◆ **CLEAR · Wind · Zone at the report point**

— 3

CONSEQUENCE — An administrative assignment, not a site measurement; the Land's own official notice governs the structural design.
- ◆ **Wind · Table as published**

— 7 June 2022

NEXT ACTION — Municipality match checked on 27 September 2026. (source in appendix A.1)
- ◆ **CLEAR · Snow load · Match method**

— official municipality key, exact match

CONSEQUENCE — SH (01): Gemeindeschlüssel 01001000
- ◆ **CLEAR · Snow load · Zone at the report point**

— 2

CONSEQUENCE — The shared administrative limit is stated once above.
- ◆ **Snow load · Table as published**

— 8 February 2023

NEXT ACTION — The same municipality match was reused for the snow-load table; checked on 27 September 2026. (source in appendix A.1)
- ◆ **Evidence limit**

— No wind or snow measurement and no structural calculation for a specific building.

CONSEQUENCE — Give wind zone 3 and snow-load zone 2 together to the structural engineer; building height, roof form, terrain and site altitude remain inputs to the design calculation.
- ◆ **Action**

— Request before committing to the purchase: Structural pre-design note under DIN EN 1991-1-3/-4 (NA). Body: Structural engineer. By: before structural design.

CONSEQUENCE — Pause the purchase if: a special case applies (exclave, Amt-level exception).
- ◆ **Reading**

— DIBt wind-zone table dated 7 June 2022 and DIBt snow-load-zone table dated 8 February 2023 for the same municipality match.

Source: DIBt · wind and snow-load zones · As at 7 June 2022 / 8 February 2023