

Climate and Vine—Representation and communication of spatio-temporal relationships in the web application AustrianVineyards.com

Dominik Wieser, Karel Kriz



universität
wien



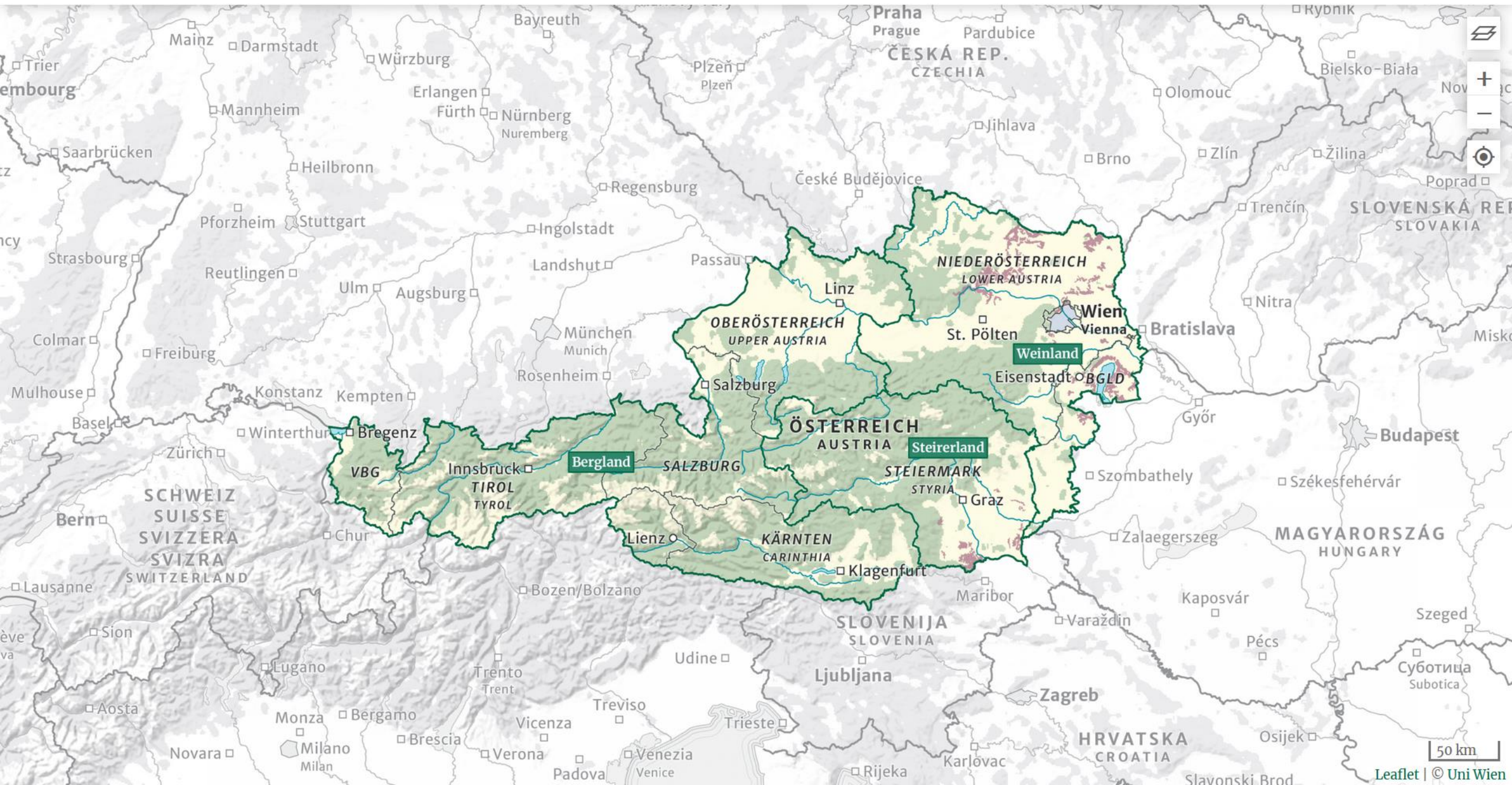




Image: Austrian Wine





UNTERE SCHOS

RIED (SINGLE VINEYARD)

2.7 ha

200-237 m (Ø 215 m)

South (57 %)

4-21° (Ø 10.0°)

ORIGIN

Winegrowing cadastral municipality: [Nußdorf](#)

Winegrowing municipality: [Wien](#)

CLIMATE

Seasons



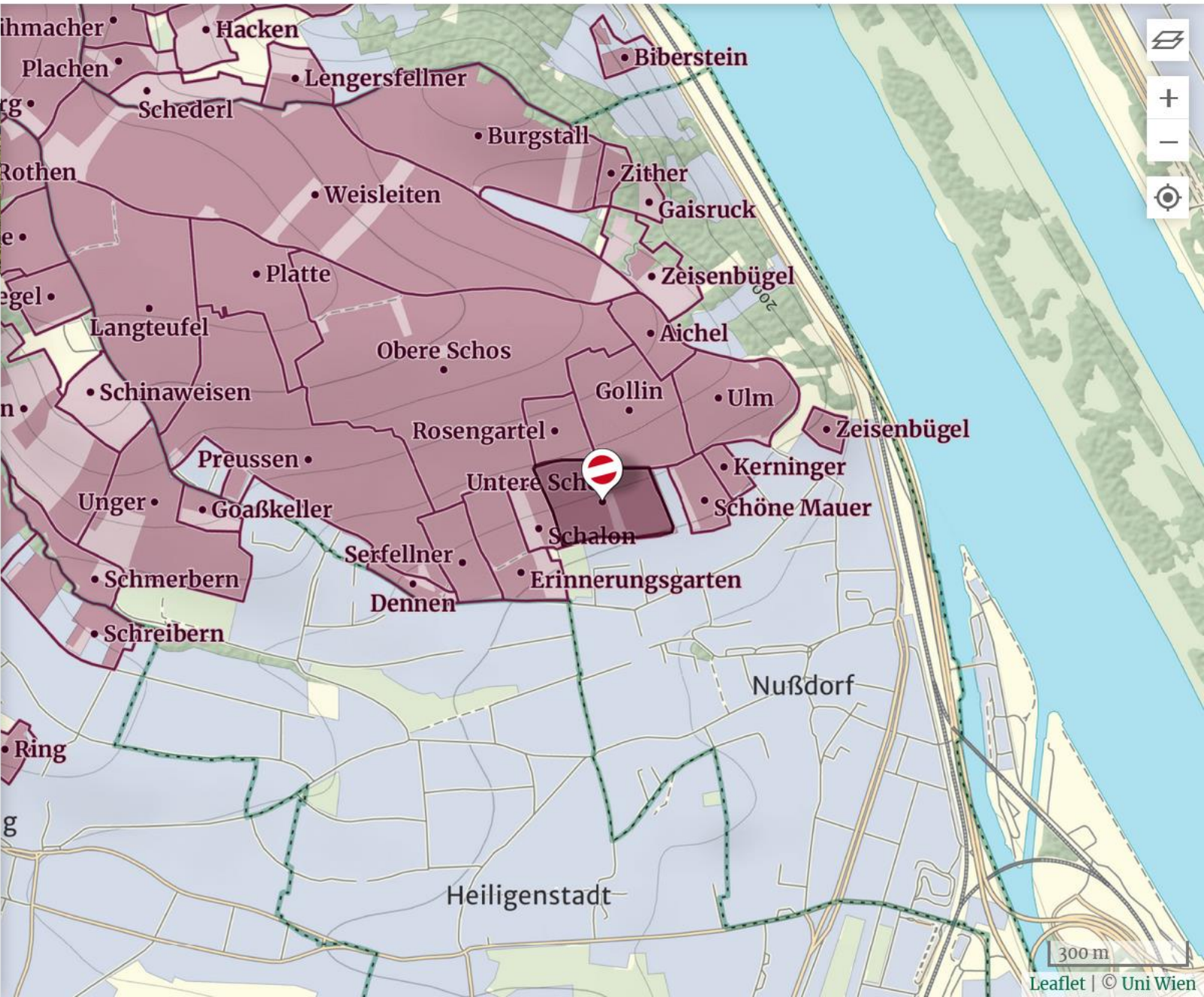
Temperature 11.1 20.6 10.7 1.6 Ø 11.0 °C

Precipitation 173 214 158 128 Σ 672 mm

Sunshine hours 6.9 8.9 4.3 2.6 Ø 5.7 h/d

Reference weather station: [Wien Hohe Warte](#)

Data: [ZAMG](#), Values 1990-2020





UNTERE SCHOS

RIED (SINGLE VINEYARD)

🍷 2.7 ha

🏔️ 200-237 m (Ø 215 m)

📍 South (57%)

📐 4-21° (Ø 10.0°)

ORIGIN

Winegrowing cadastral municipality: [Nußdorf](#)

Winegrowing municipality: [Wien](#)

CLIMATE

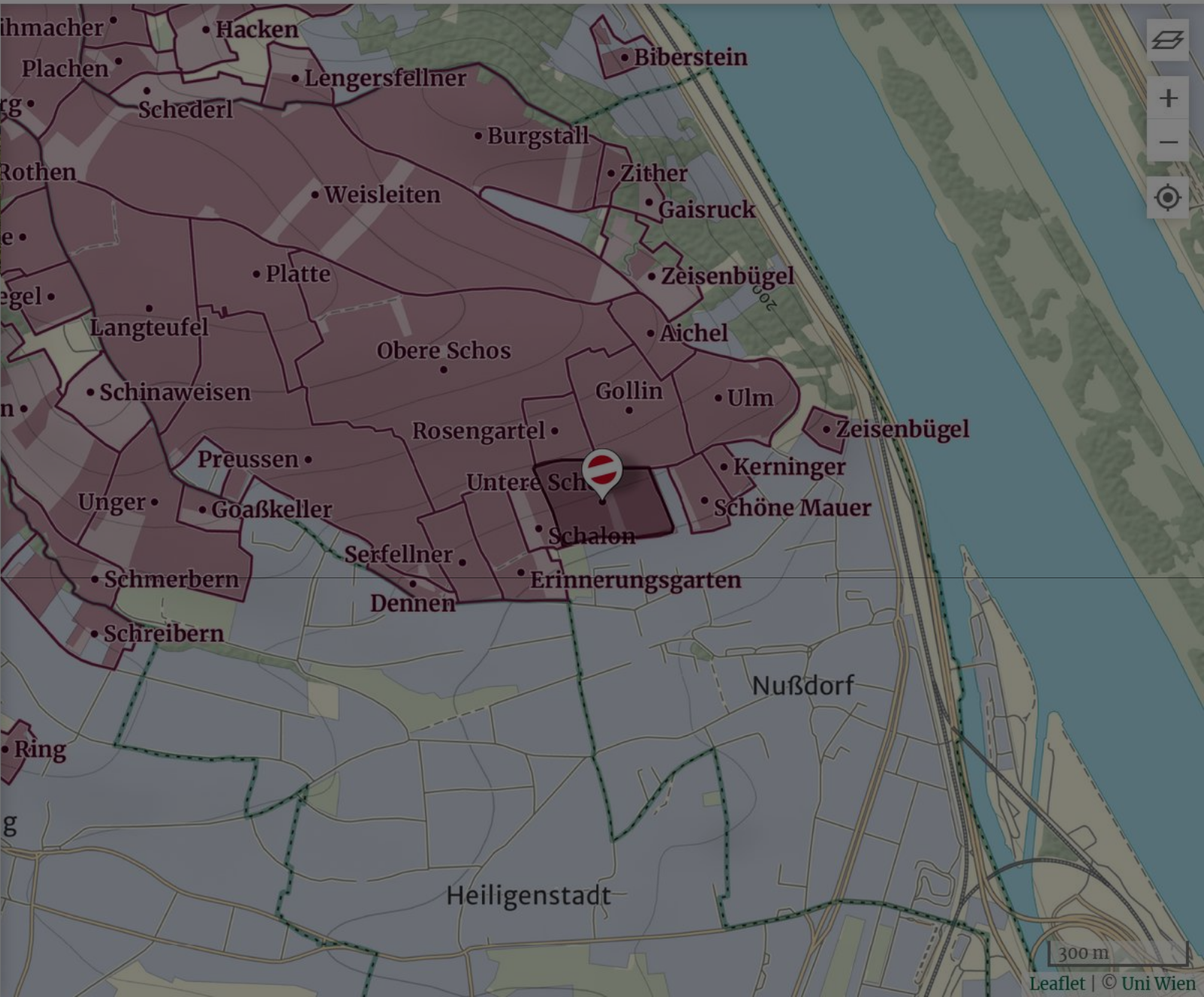
Seasons



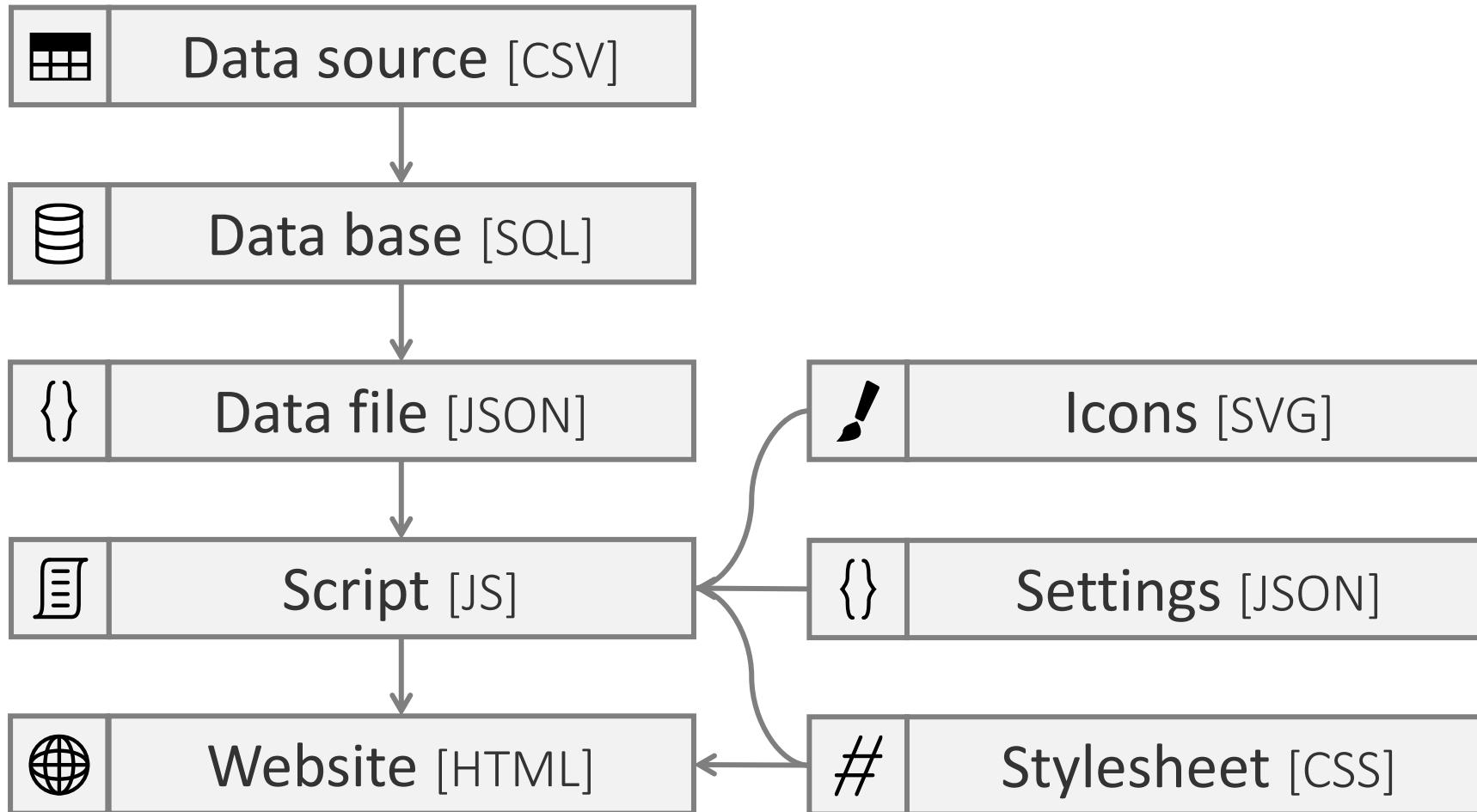
	Spring	Summer	Autumn	Winter	Ø
🌡️ Temperature	11.1	20.6	10.7	1.6	Ø 11.0 °C
💧 Precipitation	173	214	158	128	Σ 672 mm
☀️ Sunshine hours	6.9	8.9	4.3	2.6	Ø 5.7 h/d

Reference weather station: [Wien Hohe Warte](#)

Data: [ZAMG](#), Values 1990-2020

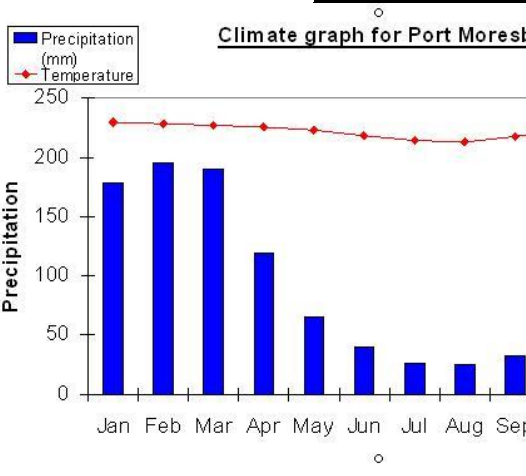
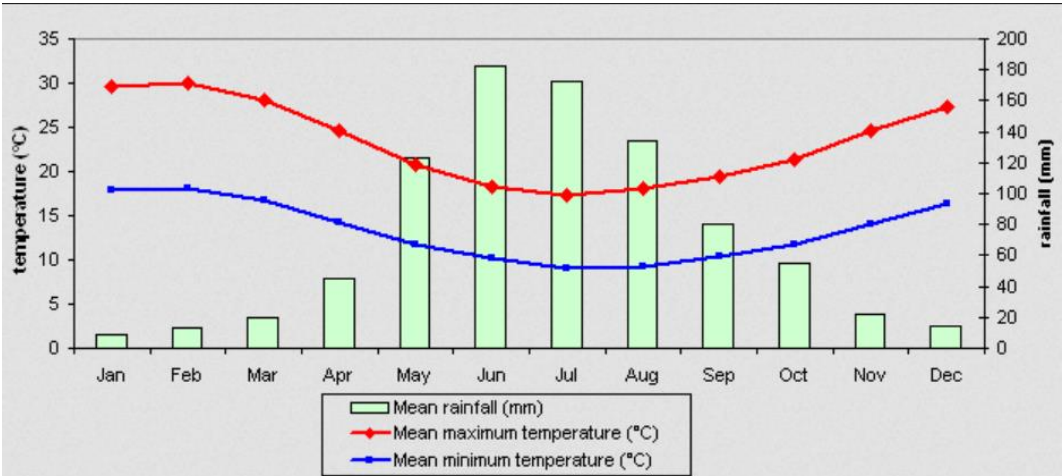
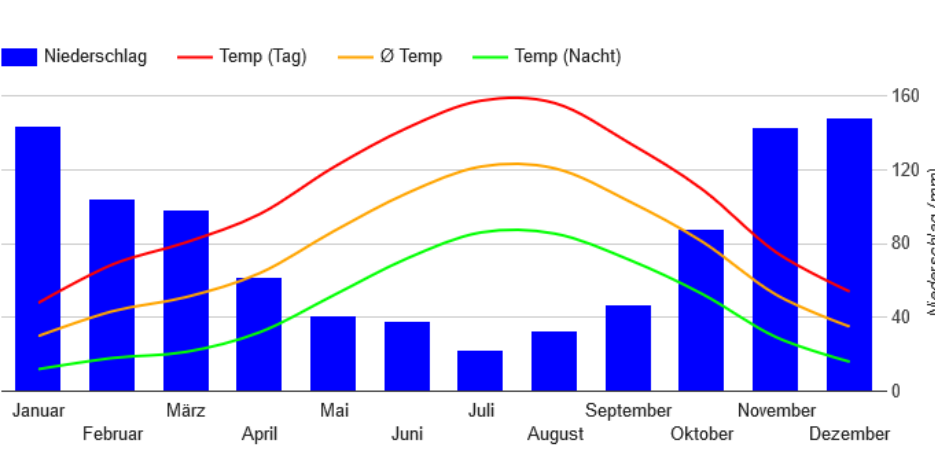
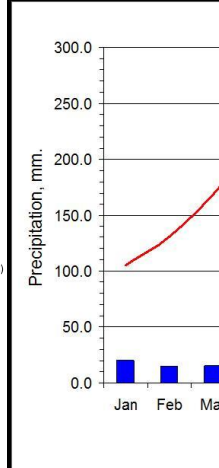
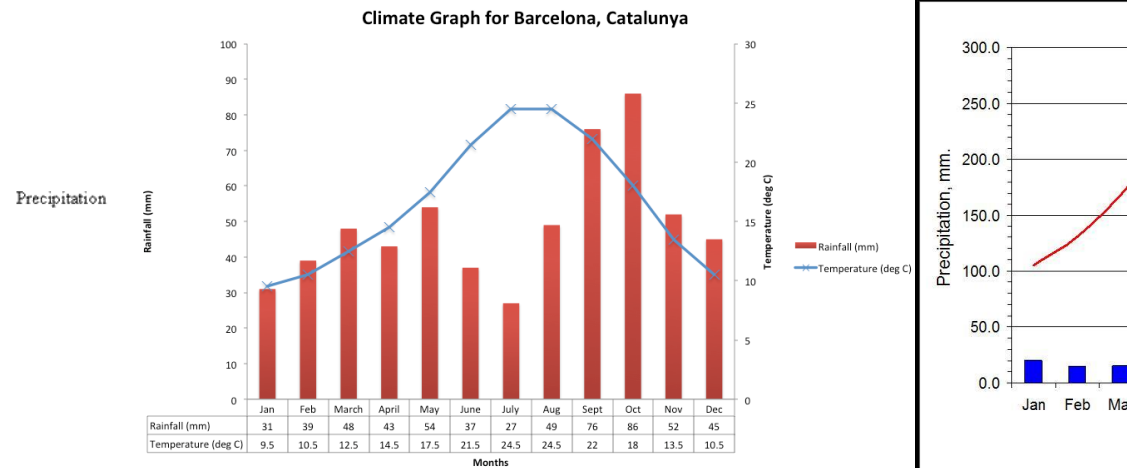
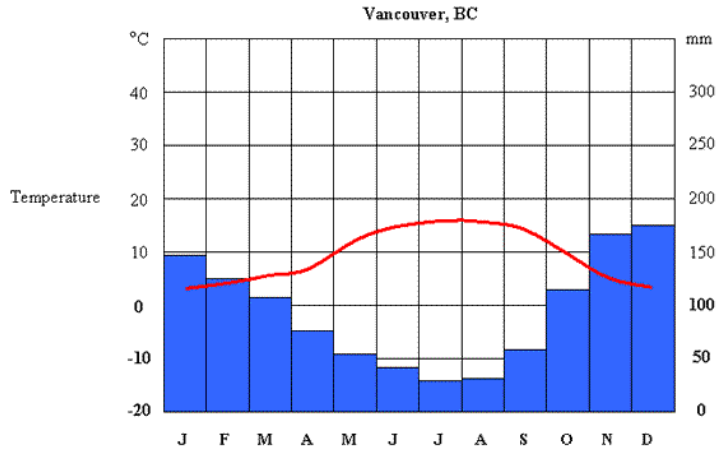
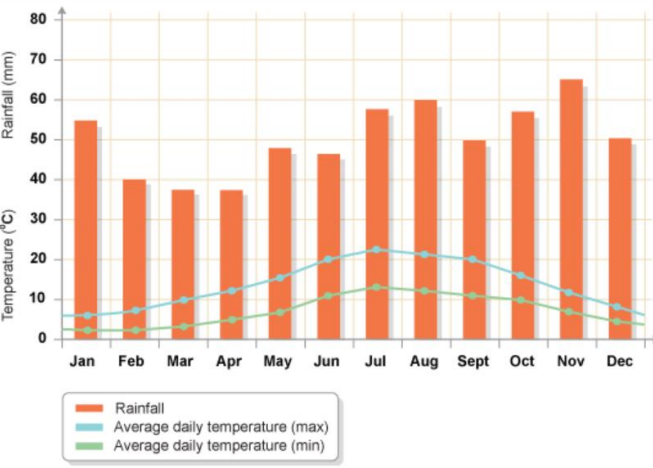
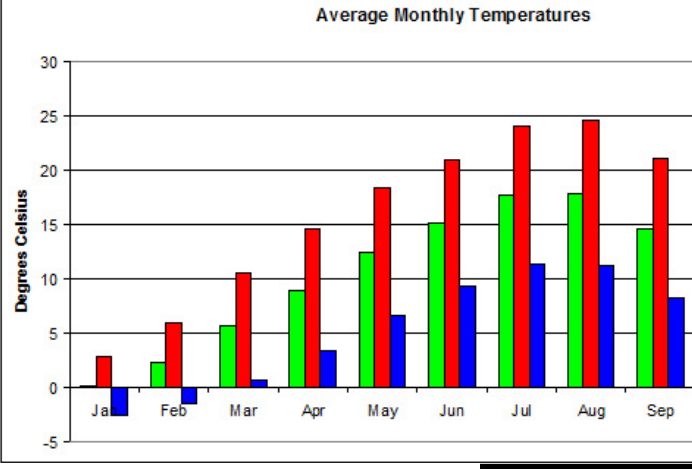
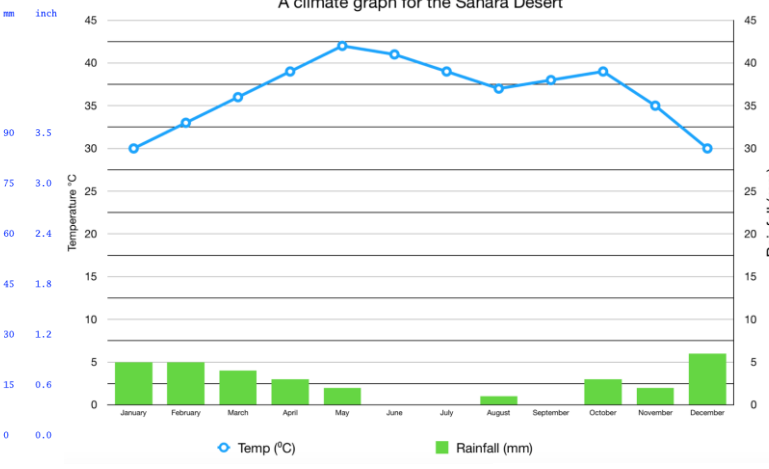
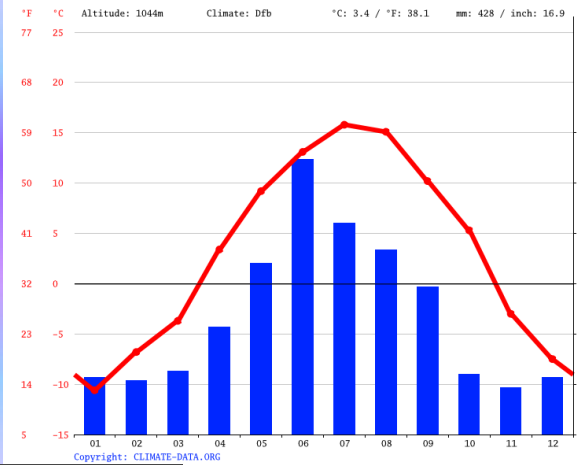
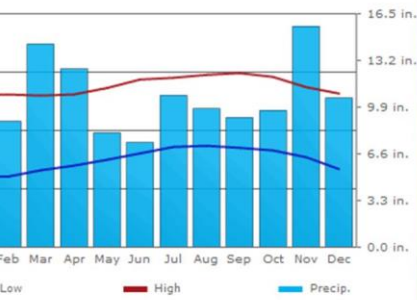


Workflow



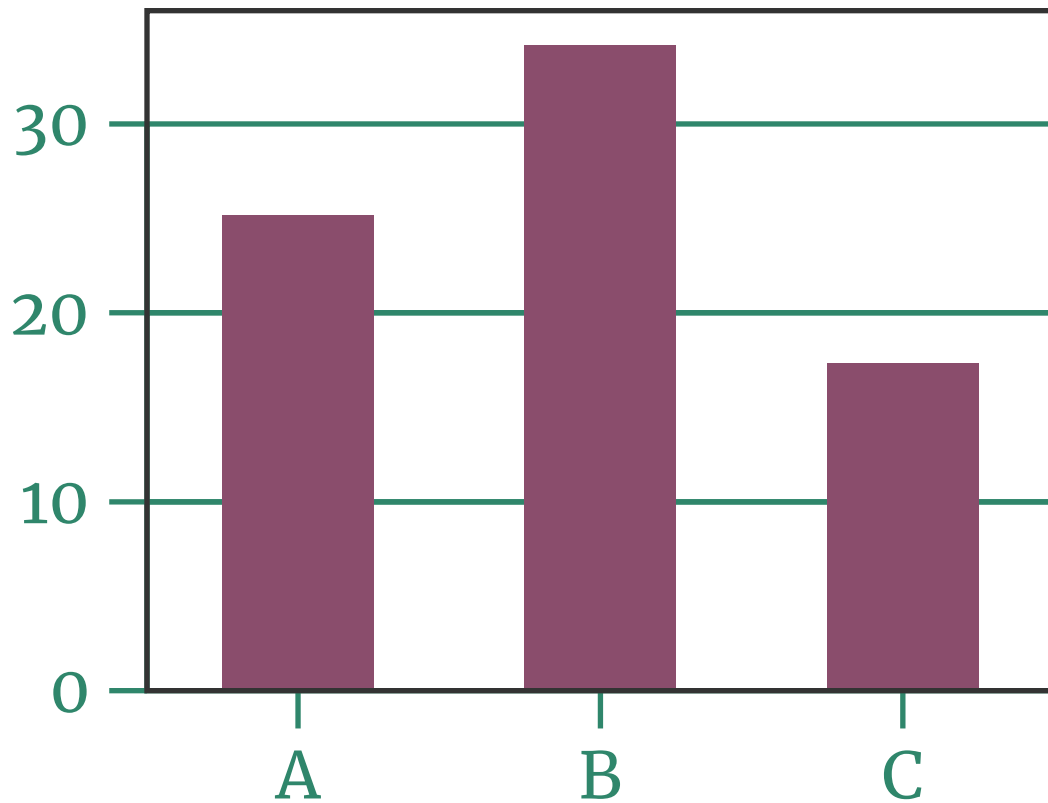
Tropical Rainforest (Af)

Climate Graph - Hawaii Climate Chart



The Structure of each Diagram

Diagram



■ Data encoding marks → diagram type

■ Non-data encoding marks

Font: Merriweather

Colors: #8a4d6c, #2f866b

Aspect ratio: 4:3

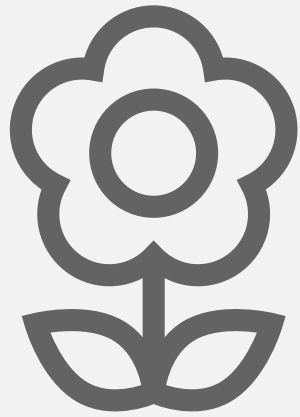
...

According to Harper & Agrawala 2017





Visual attributes



Icons



Climate Table

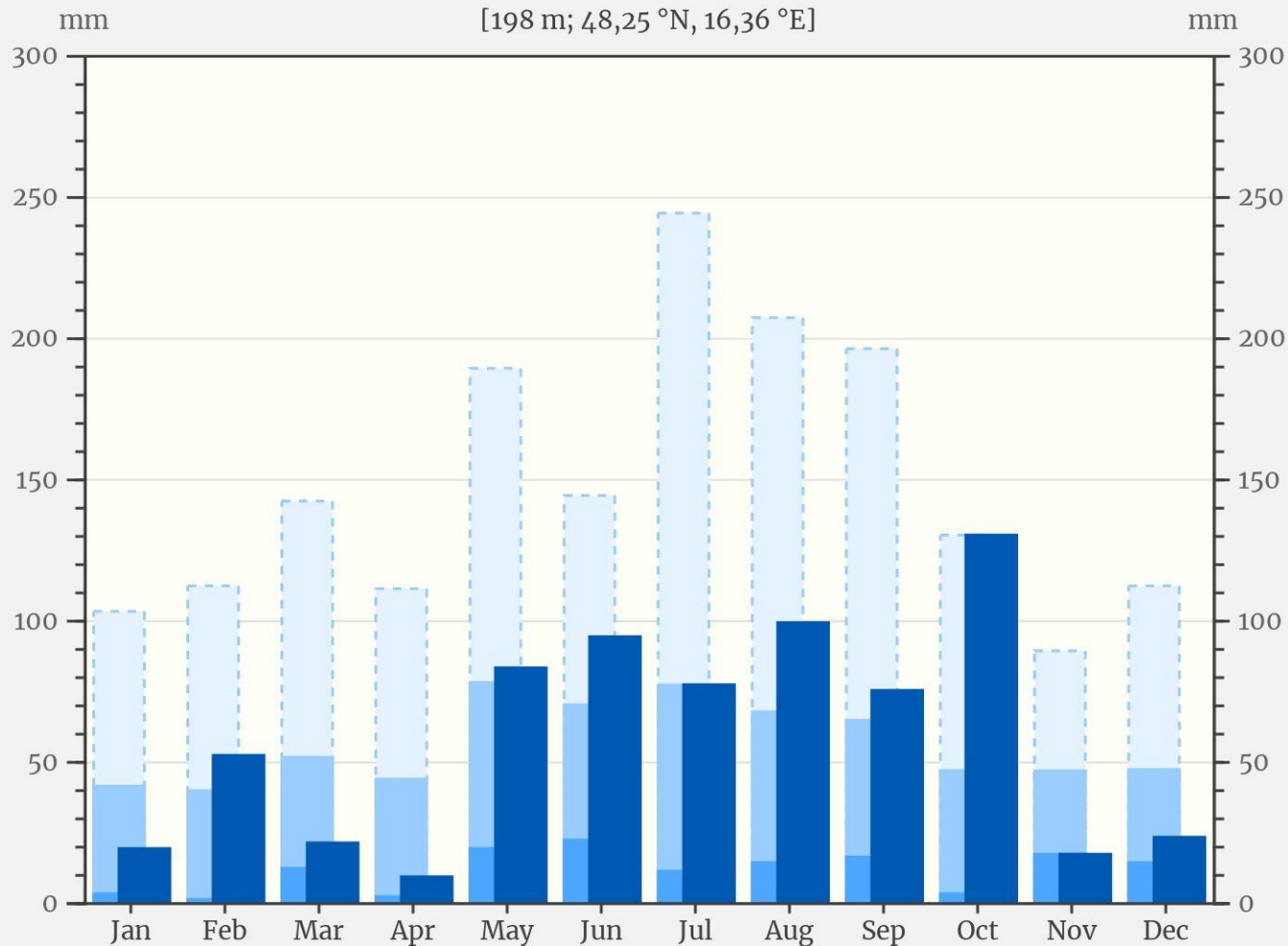
	<i>Season</i>	<i>2020</i>	<i>1990–2020</i>
	<i>Mar–May</i>	113 mm	173 mm
	<i>Jun–Aug</i>	270 mm	214 mm
	<i>Sep–Nov</i>	222 mm	158 mm
	<i>Dec–Feb</i>	94 mm	128 mm



Monthly total precipitation (mm), 2020

Weather station: Wien Hohe Warte, Wien, Austria

[198 m; 48,25 °N, 16,36 °E]

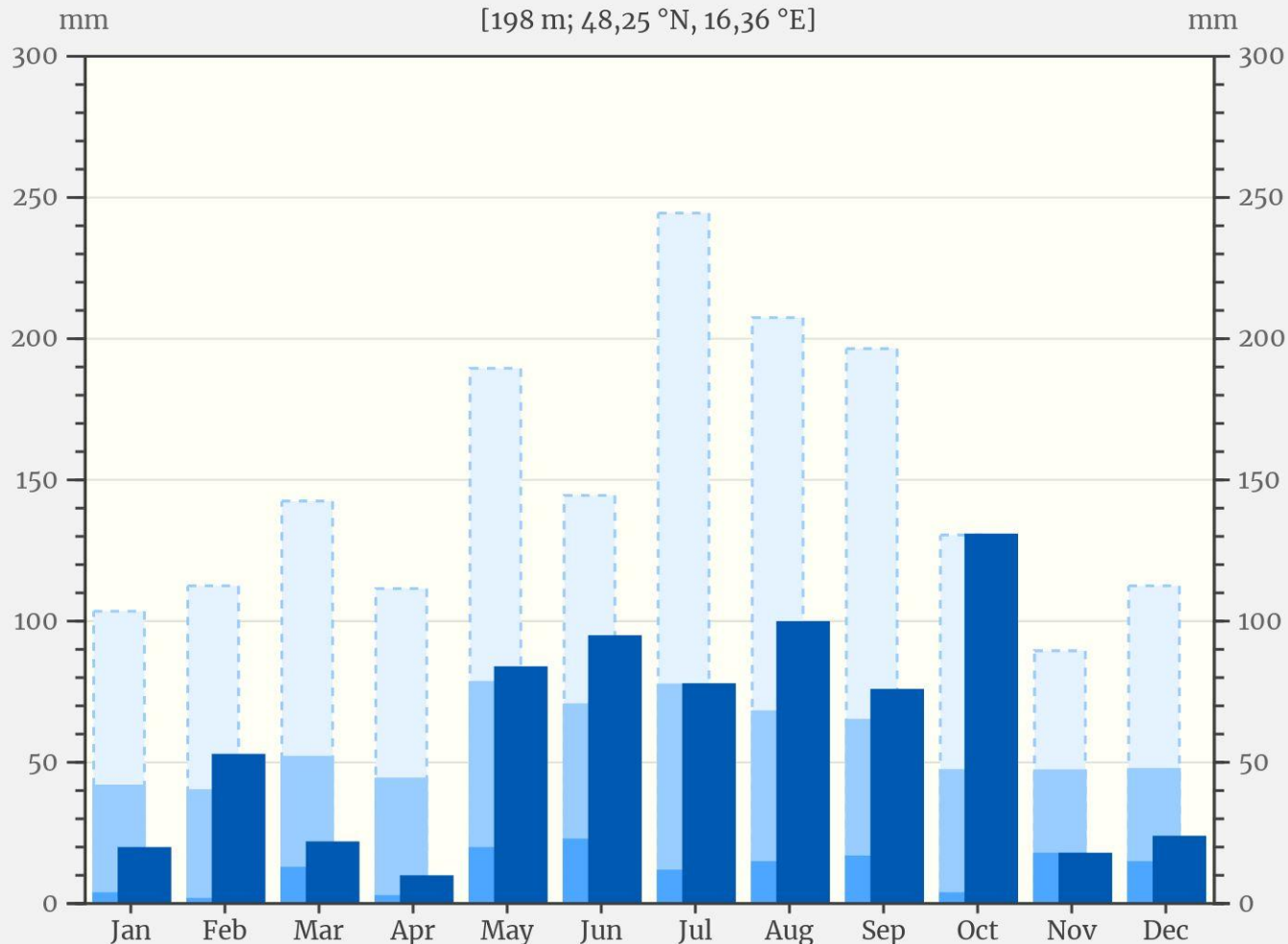


Season	2020	1990-2020
☁ Mar-May	113 mm	173 mm
☀ Jun-Aug	270 mm	214 mm
🍂 Sep-Nov	222 mm	158 mm
❄ Dec-Feb	94 mm	128 mm

Monthly total precipitation (mm), 2020

Weather station: Wien Hohe Warte, Wien, Austria

[198 m; 48,25 °N, 16,36 °E]



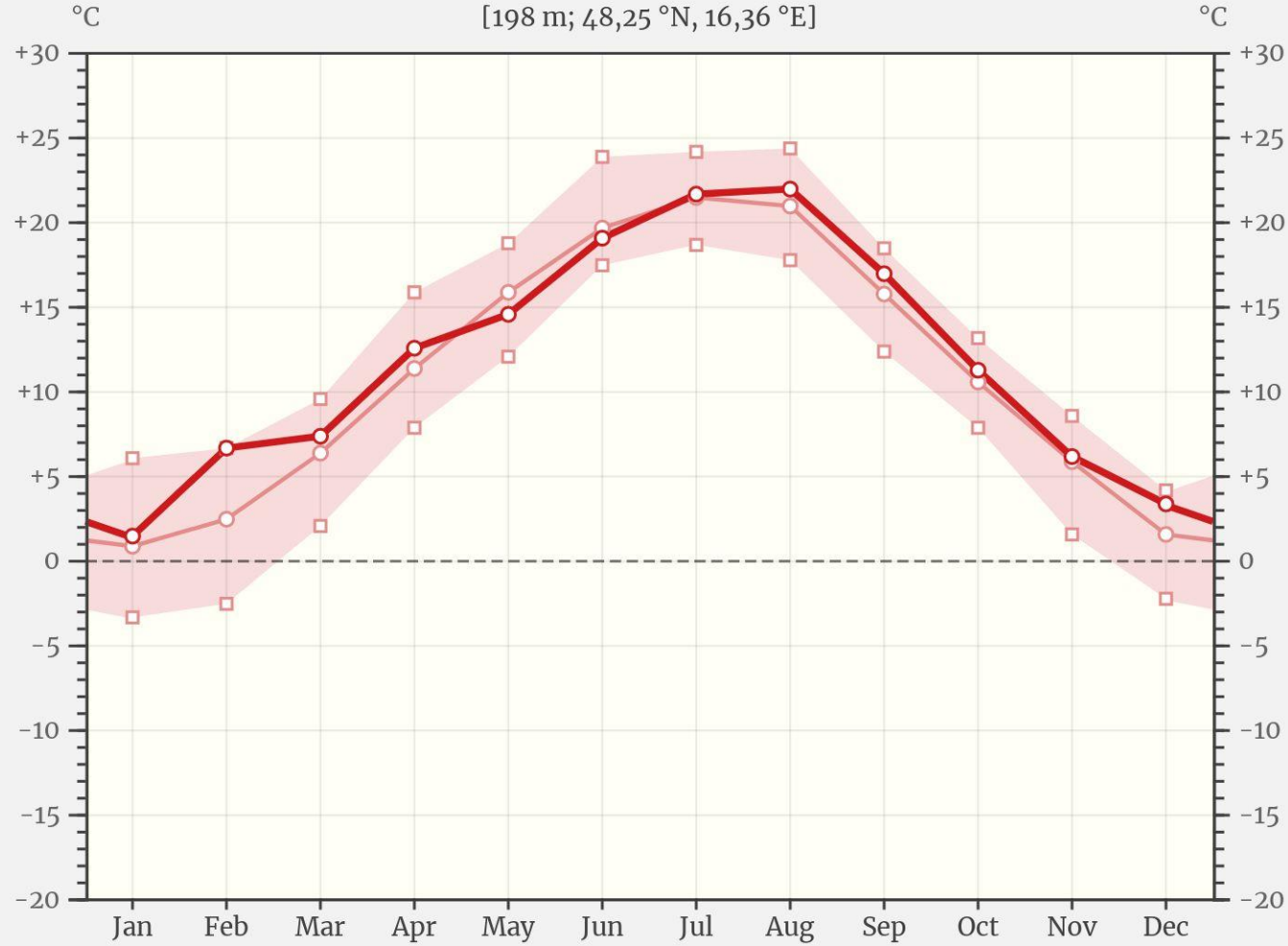
▬ Maxima 1990–2020
█ Value 2020 (Σ 699 mm)
▬ Mean 1990–2020 (ø 672 mm/a)
█ Minima 1990–2020

Season	2020	1990–2020
☁ Mar–May	113 mm	173 mm
☀ Jun–Aug	270 mm	214 mm
🍂 Sep–Nov	222 mm	158 mm
❄ Dec–Feb	94 mm	128 mm



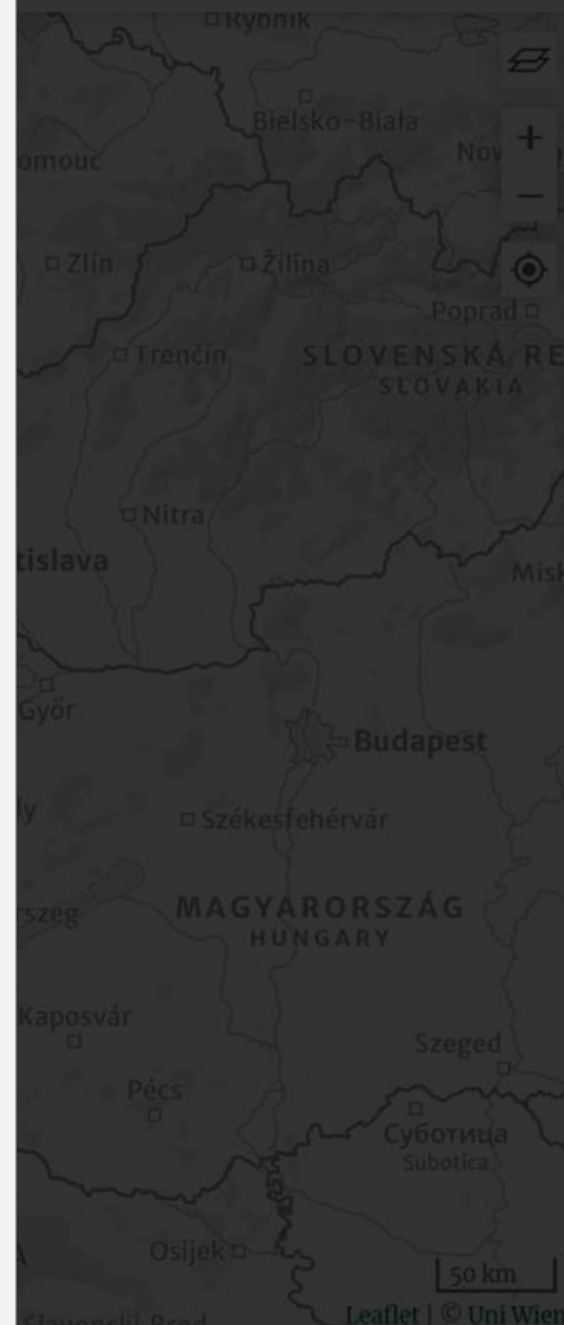
Average air temperature (°C), 2020

Weather station: Wien Hohe Warte, Wien, Austria
[198 m; 48,25 °N, 16,36 °E]



- ø-Maxima 1990–2020
- Value 2020 (ø 11,8 °C)
- Mean 1990–2020 (ø 11,0 °C)
- ø-Minima 1990–2020

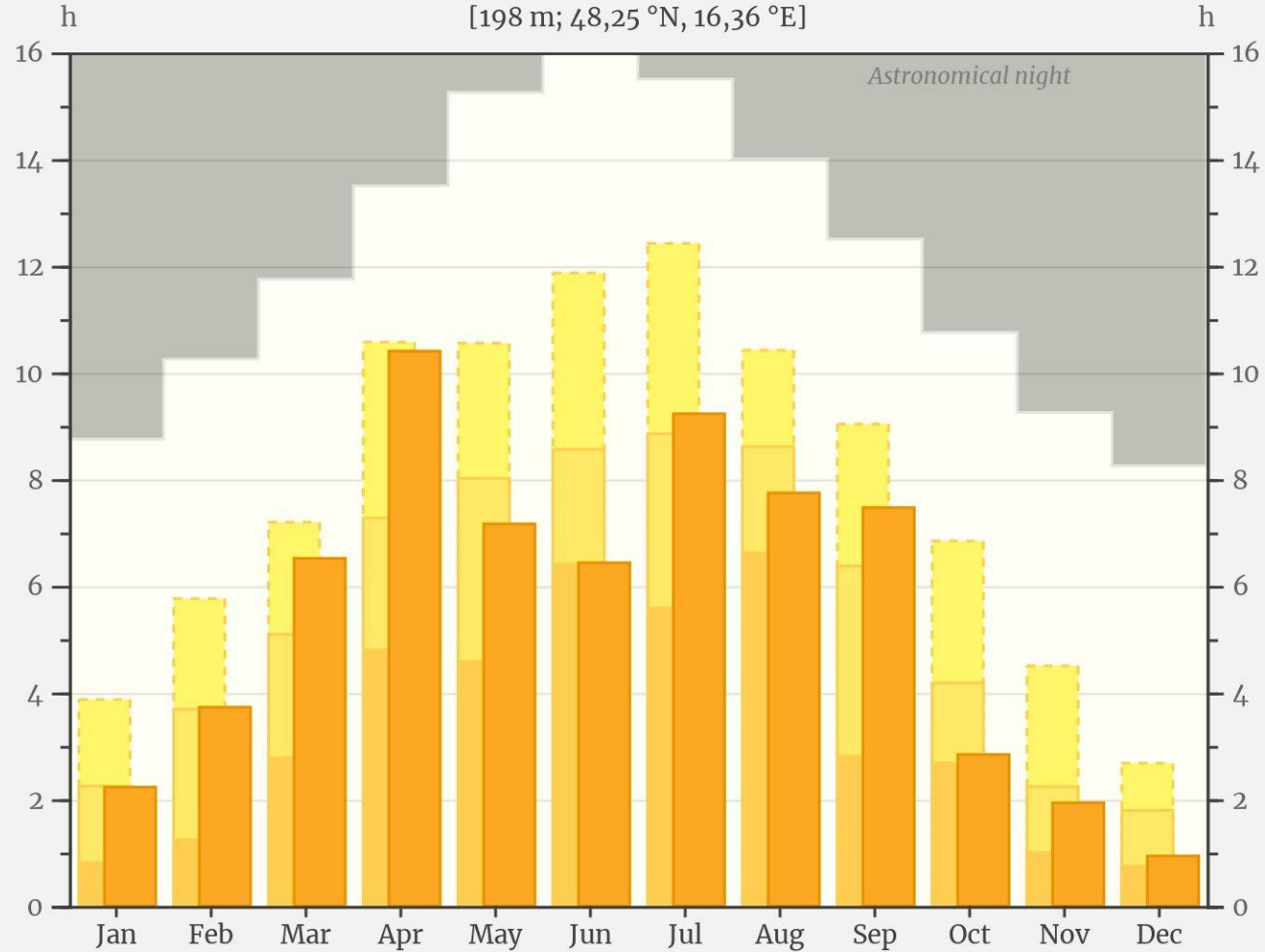
Season	2020	1990–2020
☁ Mar–May	11,4 °C	11,1 °C
☀ Jun–Aug	20,8 °C	20,6 °C
🍂 Sep–Nov	11,4 °C	10,7 °C
❄ Dec–Feb	3,8 °C	1,6 °C



Mean daily sunshine duration (h), 2020

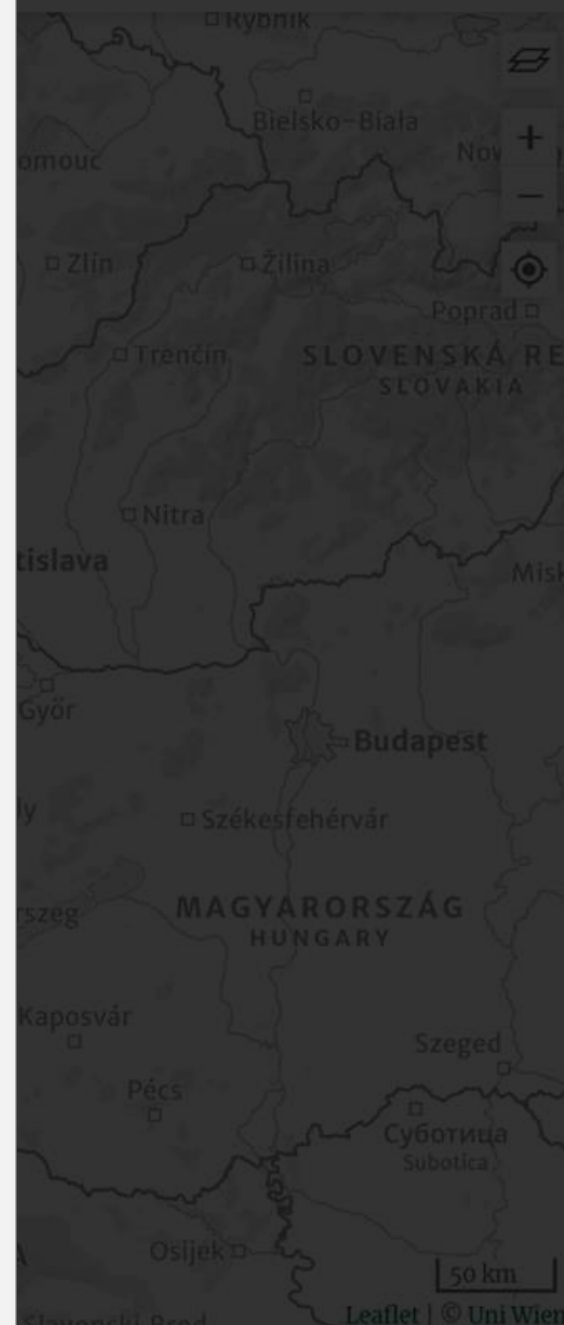
Weather station: Wien Hohe Warte, Wien, Austria

[198 m; 48,25 °N, 16,36 °E]



\bar{x} -Maxima 1990-2020
 Mean 1990-2020 (\bar{x} 2043 h/a)
 Value 2020 (Σ 2031 h)
 \bar{x} -Minima 1990-2020

Season	2020	1990-2020
Mar-May	8,2 h	6,9 h
Jun-Aug	8,0 h	8,9 h
Sep-Nov	4,1 h	4,3 h
Dec-Feb	2,3 h	2,6 h



Conclusion with Outlook

- The diagrams work for **different parameters**.
- Designed from the point of view of a **design rationale**.
- **Flexible changes** of the diagram properties.
- **Workflow** can be applied to other new diagrams.

