



Thermal water in Schlangenbad

Schlangenbad is a spa town located some 12 km northwest of Wiesbaden. Its thermal springs have been in use since the mid-17th century as cure for rheumatic and other inflammatory diseases.

Anomalies

The akrotothermal (i.e. $T > 20\text{ °C}$, but $\text{TDS} < 1\text{ g/l}$) spring- and shallow ground-water of Schlangenbad is characterized by a uniform temperature between 27.8 and 30.9 °C (Hänel, 2020; Käß and Käß, 2008). This is significantly higher than the expected temperature of shallow groundwater (max. 12 °C < 500 m). This thermal anomaly in Schlangenbad has its origin in a combination of three aspects: (1) geological – steep beds in the folded Rheinischen Schiefergebirge, (2) hydrogeological – the fractured rocks allow a connection to the thermal brines at the southern border of the Taunus plateau such as, for example, in Wiesbaden and (3) geomorphological – steep, eroded valleys (Käß & Käß, 2008).

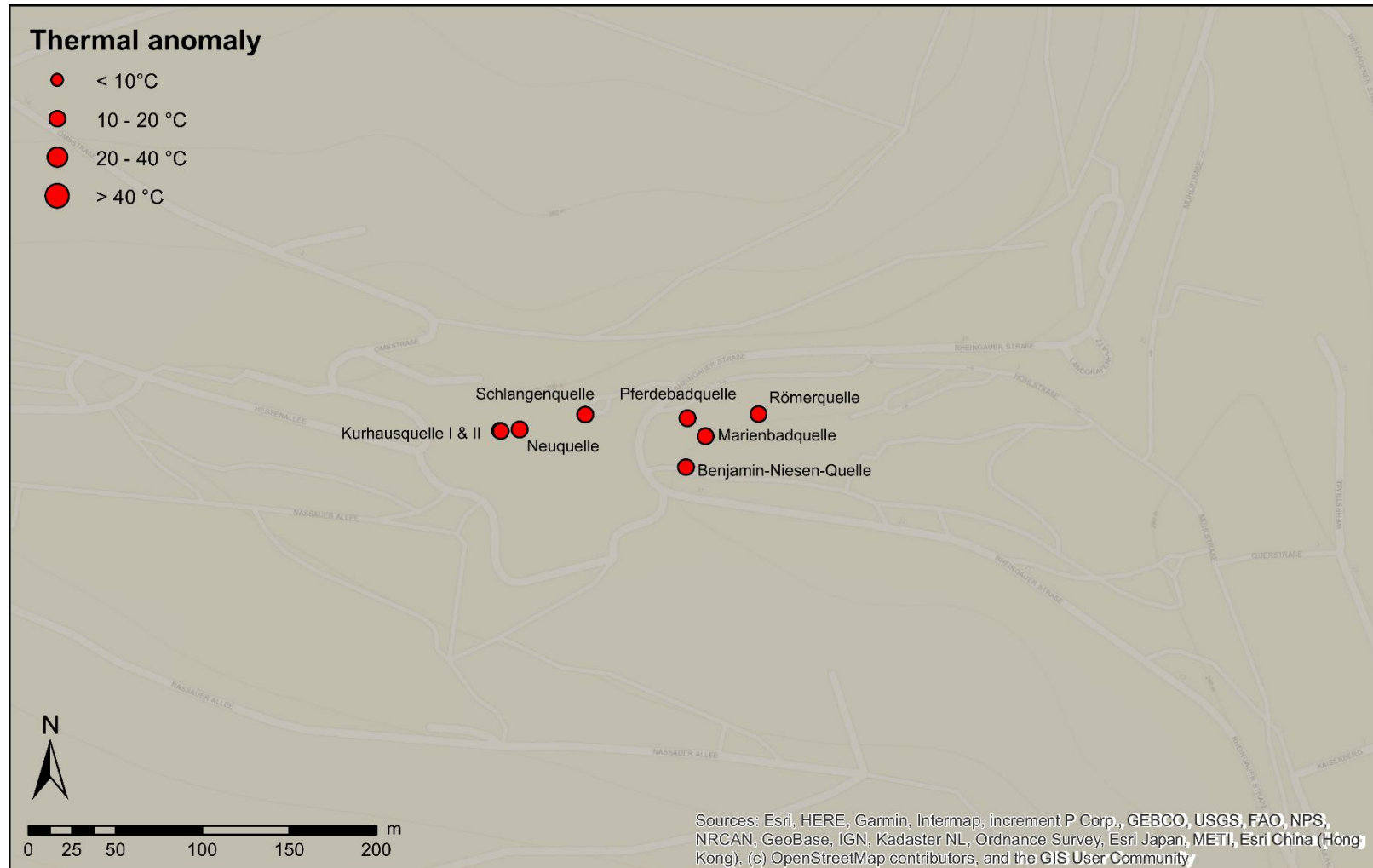


Figure 1: Thermal water in Schlungenbad



Data

ID	Coordinates	T	Depth	TDS°	Cl	Na	SO ₄	Free CO ₂	He	³ He/ ⁴ He	Analysis year	References
		°C	m	g/l	mg/l	mg/l	mg/l	mg/l	ppmv			
Kurhausquelle I	50°05'37" North 08°05'54" East	28.9			153 – 162						<2008	Käβ and Käβ (2008)
Kurhausquelle II	50°05'37" North 08°05'54" East	29			152 – 161						<2008	Käβ and Käβ (2008)
Kurhausquelle III = 3-Mamelucken-Quelle	50°05'37" North 08°05'54" East	29.2			150 – 157						<2008	Käβ and Käβ (2008)
Neuquelle	50°05'37" North 08°05'54" East	29.1			150 – 158						<2008	Käβ and Käβ (2008)
Römerquelle	50°05'37" North 08°06'01" East	30.5		0.39	147 – 156						<2008	Käβ and Käβ (2008)
Schlangenquelle	50°05'37" North 08°05'56" East	27.8			144 – 151						<2008	Käβ and Käβ (2008)
Pferdebadquelle	50°05'37" North 08°05'59" East	29.3			151 – 157						<2008	Käβ and Käβ (2008)
		27.8			160	104	7.8				2009	Hänel (2020)
Marienbadquelle	50°05'37" North 08°06'00" East	30.9			146 – 156						<2008	Käβ and Käβ (2008)
Benjamin-Niesen-Quelle	50°05'36" North 08°05'59" East	28.6	65	0.33	137	89.8	7.58	42.7			2004	Käβ and Käβ (2008)
		28.6			137						<2008	

° TDS = Total Dissolved Solids

References

Hänel, M., 2020. Wasserquellen-Atlas. <http://www.quellenatlas.eu/39994.html>

Käβ, W., Käβ, H., 2008. Deutsches Baderbuch, 2 ed. Vereinigung für Bäder- und Klimakunde e.V., Stuttgart.

Cite this source

Van Daele, J. & Ferket, H., 2021. Thermal water in Schlangenbad [Fact sheet]. Flemish Planning Bureau for the Environment and Spatial Development (VPO).