



Thermal springs in Aachen

The town of Aachen, also known as Bad Aachen, is located in Germany close to the borders with Belgium and the Netherlands. Since Roman times, this city is known as spa town. Till today, thermal water is produced at several fountains and springs, and used in bath infrastructure.

See also

[Thermal anomalies in southern Limburg \(the Netherlands + Belgium\)](#)

Anomalies

A broad range of temperatures between 20 and 72.2 °C has been observed for the Aachen spring water, depending on the spring and the moment of measurement (Hänel, 2020; Herch, 2000; Käß and Käß, 2008; Michel, 1997; Wikipedia, 2008). In most cases, the temperature decreases over the years, often related to over-exploitation. Nevertheless, these springs clearly classify as thermal springs ($T > 12$ °C, the maximum temperature expected for spring water). The Aachen springs thus form a significant anomaly, even though they are located outside the Rhine graben and topography-driven fluid flow solely cannot explain the occurrence of these geomanifestations. The thermal springs south of Aachen are linked to the Variscan Burtscheider thrust fault, while those in the city center (indicated with * in the table below) are linked to the Variscan Aachener thrust fault. In both cases, the extent of anomaly in temperature, as well as in geochemistry, increases closer to the NNW-SSE Rhine graben faults (Herch, 2000). The springs for which CO₂-data are available mostly don't show an anomalous CO₂-content, although systematic data lacks (Käß and Käß, 2008; Michel, 1997).

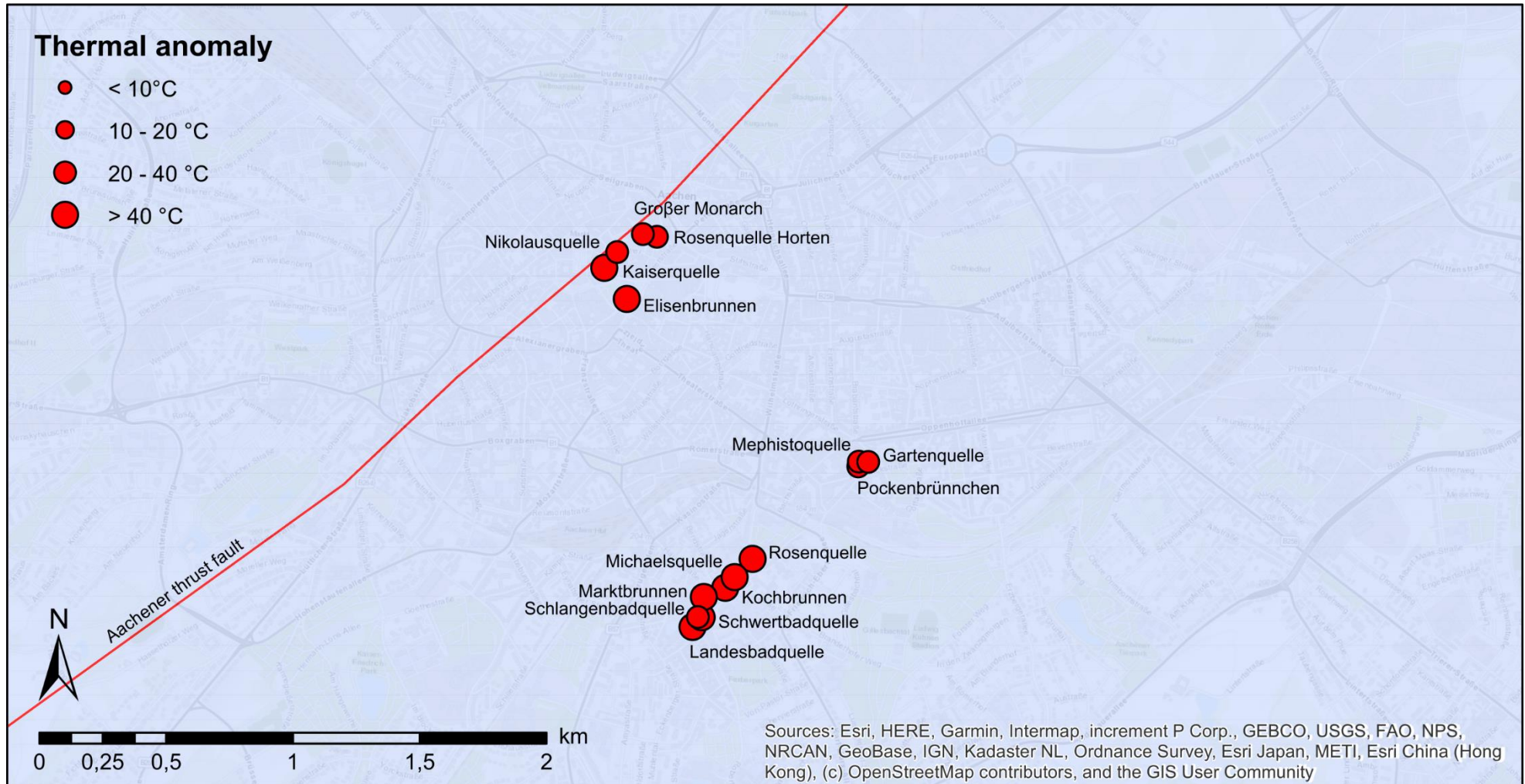


Figure 1: Thermal springs in Aachen



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			
Mephistoquelle	50°46'07" North 06°06'03" East	39.7	0	3.93	1446	1220	280	100			1990	Michel (1997)
		39.3		3.87	1408	1140	264				<2000	Herch (2000)
		36.8 – 39.6		3.92	1385							<2008
Gartenquelle	50°46'07" North 06°06'05" East	38.6		3.98	1442						<2008	Käβ and Käβ (2008)
Pockenbrünchen	50°46'06" North 06°06'03" East	45									1810	Wikipedia (2008)
		37									1822	
		27-32									<2008	
		28.9		3.60	1265						<2008	Käβ and Käβ (2008)
Rosenquelle	50°45'53" North 06°05'41" East	60.5	4	4.20	1592	1306	288	176			1991	Michel (1997)
		62.5		4.12	1532	1243	291				<2000	Herch (2000)
		61 – 62.9		4.16	1540						<2008	Käβ and Käβ (2008)
Michaelsquelle	50°45'50" North 06°05'38" East	61		4.26	1575						<2008	Käβ and Käβ (2008)
Kochbrunnen	50°45'49" North 06°05'36" East	72									1886	Wikipedia (2008)
		44									2007	
		46		4.31	1600						<2008	Käβ and Käβ (2008)
Schwertbadquelle	50°45'45" North 06°05'32" East	68.8	3	4.34	1580	1450	298	300			1989	Michel (1997)
		67.0		4.16	1542	1269	285				<2000	Herch (2000)
		65 – 68.2		4.34	1605						<2008	Käβ and Käβ (2008)
Landesbadquelle	50°45'44" North 06°05'30" East	72.2	8	4.33	1652	1400	306	> 400			1990	Michel (1997)
		71.5		4.13	1554	1233	281				<2000	Herch (2000)
		66.3		4.13	1560	1200	291	52.8			2002	Käβ and Käβ (2008)
		71.5		4.31	1614					<2008		



Schlangenbadquelle	50°45'45" North 06°05'31" East	41.3		4.28	1606						<2008	Käβ and Käβ (2008)
Marktbrunnen	50°45'48" North 06°05'32" East	63									<2020	Hänel (2020)
Rosenquelle Horten*	50°46'35" North 06°05'18" East	47	6	3.97	1460	1208	277	164			1991	Michel (1997)
		46.2		3.90	1429	1135	268				<2000	Herch (2000)
		45.5 – 47.5		3.95	1428						<2008	Käβ and Käβ (2008)
Grosser Monarch*	50°46'36" North 06°05'15" East	41 – 20									<2008	Wikipedia (2008)
		21.6		1.31	215						<2008	Käβ and Käβ (2008)
Nikolausquelle*	50°46'33" North 06°05'10" East	52 – 31		3.9							<2008	Wikipedia (2008)
		28.1		3.92	1478						<2008	Käβ and Käβ (2008)
Kaiserquelle*	50°46'31" North 06°05'08" East				1480	1277	279				1964	Bless et al. (1986)
					1600	1420	275				<1989	van Rooijen (1989)
		53.5	7	4.11	1508	1291	281	168			1991	Michel (1997)
		53.4		3.94	1451	1198	258				<2000	Herch (2000)
		52.3 – 54.2		4.10	1512						<2008	Käβ and Käβ (2008)
Elisenbrunnen*	50°46'27" North 06°05'13" East	52.8			1497	1280	256				<2020	Hänel (2020)

° TDS = Total Dissolved Solids

* Spring in the city center of Aachen



References

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