

# Water Quality Dataset: Spreewitz Glacial Channel, Lusatian Mining District

## Basic Information

**Time Period:** April 2024 – May 2026  
**Locations:** 13 sampling sites along the rivers **Spreewitz**, **Kleine Spreewitz**, **Schwarzer Schöps**, and **Struga**  
**Date and Time:** Monthly or bimonthly sampling between April 2024 and May 2026.  
**Data Volume:** 131 records with up to 41 parameters each  
**Document Version:** 0.2

## Column Descriptions

Columns follow the naming convention:  
[Parameter] [Measurement Method] [Unit]  
or  
[Parameter] [Unit]

## Location and Metadata

Column	Description	Unit/Format
sample_time	Date and time of sampling	YYYY-MM-DD HH:MM:SS (TZ: Berlin/Germany)
sample_location	Unique identifier for the sampling site (e.g., burg_kl-spreewitz)	Text
stream_name	Name of the stream where the sample was taken	Text
northing [UTM33N]	Northing coordinate in UTM Zone 33N	Meters
easting [UTM33N]	Easting coordinate in UTM Zone 33N	Meters

crs	Coordinate Reference System	EPSG:25833 (ETRS89 / UTM Zone 33N)
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## On-Site Measurements

Column	Description	Method	Unit
pH [on-site] [-]	pH value measured in the field	WTW SenTix 940-3 pH Sensor / Hach PHC101	-
ec25 [on-site] [mS/cm]	Electrical conductivity at 25°C	WTW TetraCon 925 Conductivity Sensor / Hach CDC401	Millisiemens per centimeter
redoxU [on-site] [mV]	Redox potential	WTW SenTix Rx-T 900 Redox Sensor / Hach OPR Redox MTC101	Millivolts
O2 [on-site] [%]	Dissolved oxygen concentration	WTW FDO 925 Optical Oxygen Sensor / Hach LDO 101 O2-2	Percent saturation
water temp. [on-site] [°C]	Water temperature	WTW TetraCon 925 Conductivity Sensor / Hach CDC401	Degrees Celsius

## Laboratory Measurements

Column	Description	Method	Unit
pH [laboratory] [-]	pH value measured in the lab	-	-
comment [laboratory]	Additional notes or observations	-	Text
K [ICP-OES] [mg/l]	Potassium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Na [ICP-OES] [mg/l]	Sodium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Mg [ICP-OES] [mg/l]	Magnesium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L

Ca [ICP-OES] [mg/l]	Calcium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
NH4 [Photometer] [mg/l]	Ammonium concentration	Photometric method	mg/L
NO2 [IC] [mg/l]	Nitrite concentration	Ion Chromatography	mg/L
Br [IC] [mg/l]	Bromide concentration	Ion Chromatography	mg/L
NO3 [IC] [mg/l]	Nitrate concentration	Ion Chromatography	mg/L
F [IC] [mg/l]	Fluoride concentration	Ion Chromatography	mg/L
Cl [IC] [mg/l]	Chloride concentration	Ion Chromatography	mg/L
SO4 [IC] [mg/l]	Sulfate concentration	Ion Chromatography	mg/L
P [ICP-OES] [mg/l]	Phosphorus concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
HCO3 [Titration] [mg/l]	Bicarbonate concentration	Titration	mg/L
PO4 [ICP-OES] [mg/l]	Phosphate concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
BO2 [ICP-OES] [mg/l]	Boron oxide concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
SiO2 [ICP-OES] [mg/l]	Silicon dioxide concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Fe [ICP-OES] [mg/l]	Iron concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Fe(II) [ICP- OES] [mg/l]	Ferrous iron concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L

Al [ICP-OES] [mg/l]	Aluminum concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Mn [ICP-OES] [mg/l]	Manganese concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
As [ICP-OES] [mg/l]	Arsenic concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
B [ICP-OES] [mg/l]	Boron concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Ba [ICP-OES] [mg/l]	Barium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Be [ICP-OES] [mg/l]	Beryllium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Cd [ICP-OES] [mg/l]	Cadmium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Co [ICP-OES] [mg/l]	Cobalt concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Cr [ICP-OES] [mg/l]	Chromium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Cu [ICP-OES] [mg/l]	Copper concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Li [ICP-OES] [mg/l]	Lithium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Ni [ICP-OES] [mg/l]	Nickel concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Pb [ICP-OES] [mg/l]	Lead concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Si [ICP-OES] [mg/l]	Silicon concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
Sr [ICP-OES] [mg/l]	Strontium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
V [ICP-OES] [mg/l]	Vanadium concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L

Zn [ICP-OES] [mg/l]	Zinc concentration	Inductively Coupled Plasma Optical Emission Spectrometry	mg/L
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## Abbreviations & Methods

Abbreviation	Full Name	Description
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometry	Lab method for measuring metal concentrations
IC	Ion Chromatography	Lab method for measuring anion concentrations
Photometer	Photometric analysis	Lab method for measuring ammonium (NH <sub>4</sub> )
Titration	Acid-base titration	Lab method for measuring bicarbonate (HCO <sub>3</sub> )
UTM33N	Universal Transverse Mercator Zone 33N	Coordinate system for the region
EPSG:25833	ETRS89 / UTM Zone 33N	European coordinate reference system
NaN	Not a Number	Missing or unavailable data

## Notes

- Negative values:** Some laboratory results (e.g., `-0.02 mg/L`) may indicate values below the detection limit. Treat these as **non-detects** or **trace amounts**.
- Ongoing updates:** This dataset will be **regularly updated** as the monitoring campaign continues.
- Coordinate system:** All spatial data is in **EPSG:25833 (UTM Zone 33N)**. Convert to **WGS84 (EPSG:4326)** if needed for mapping.

## Example Data

sample\_time: 2024-04-12 12:00:00

sample\_location: burg\_kl-spree  
stream\_name: Kleine Spree  
northing [UTM33N]: 5702426  
easting [UTM33N]: 455085  
crs: epsg:25833  
ec25 [on-site] [mS/cm]: 478  
pH [laboratory] [-]: 7.2  
K [ICP-OES] [mg/l]: 6.0  
SO4 [IC] [mg/l]: 182.0  
Fe(II) [ICP-OES] [mg/l]: 0.507

## How to Cite

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If you use this dataset, please cite it as:

*"Water Quality Dataset: Spreewitz Glacial Channel, Lusatian Mining District (2024–2026).  
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