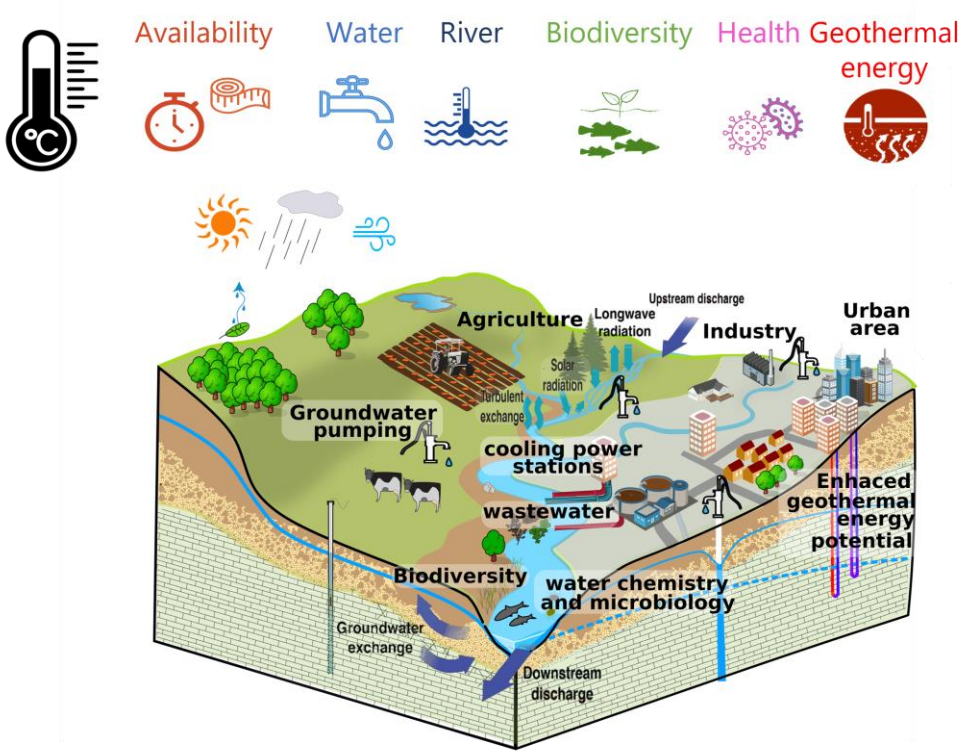
Addressing socio-economic and environmental challenges related to water temperature within surface water and groundwater in the face of global changes is a key priority.

Your environment:

This position is part of the Clim'Seine project, funded by the Transition Institute 1.5. Clim'Seine brings together water and energy stakeholders with the goal of helping them sustain and develop their activities without competing for resources.
Mines Paris–PSL works at the intersection of energy, water resources, environment, and Earth observation, under both anthropogenic and climate-related pressures. Their activities focus on developing advanced statistical methods, machine learning approaches, and mathematical tools.
The project is strongly linked to AquaThermie (Mines Paris, Brgm, Sorbonne Université), which is funded by the Interregional State–Regions Plan Contract for the Seine Valley and backed by ADEME, the Seine-Normandy Water Agency, the Normandy and Île-de-France regions, and the local governments of Normandy and Île-de-France.
In this position, you will have the opportunity to collaborate with:

- An ongoing postdoctoral fellow
- The applied mathematics and geosciences teams at Mines Paris–PSL



Your challenges and responsibilities:

The Clim'Seine project aims to improve our understanding of the past, present, and future spatio-temporal evolution of river and groundwater temperatures. The goal is to provide decision-supporting tools for stakeholders involved in water production, geothermal energy use, and environmental protection, while accounting for the effects of global change.
The project seeks to unify all relevant temperature data, physical parameters, and usage information into a dedicated database. From this resource, a quantitative territorial assessment—

illustrated through maps and indicators—will be produced to define key metrics supporting the activities of water and energy stakeholders. Additionally, the project will evaluate the medium- and long-term impacts of climate change on these activities.
As a postdoctoral researcher, you will:

1. **Engage with water and energy stakeholders** to inventory their existing data and identify their needs.
2. **Collect and integrate** these data into a centralized database.
3. **Develop methodologies** using machine learning for data processing, interpolation, analysis, and clustering based on environmental factors.
4. **Compute and map indicators and aquifer temperatures** to determine the thermal sensitivity of the Seine Valley territory.
5. **Design tools for data visualization and dissemination**, including dashboards, interactive maps, and a website for sharing results and methodologies with stakeholders.
6. **Contribute to knowledge transfer** by writing technical guides and publishing scientific articles

Let's talk about you!...

Are you passionate about leveraging the power of data to address critical environmental challenges? Are you skilled in machine learning and eager to apply your expertise to improve the territory's acknowledgement? If so, we have an exciting opportunity for you! You will play a pivotal role in developing innovative solutions for monitoring and analyzing water temperature. Your work will contribute to the development of intelligent systems and tools that facilitate data-driven decision-making and promote sustainable water and energy management practices. We are collaborating with various stakeholders across the Seine basin in this work.

The main skills required for this post are

Knowledge and skills:

- The candidate should have a PhD in Computer Science, Applied Mathematics, Statistics, Geosciences, or a related field with a specialization in machine learning and data processing.
- Experience in implementing spatial data processing and geostatistical methods
- Strong programming skills in Python and experience using relevant libraries and frameworks.
- Solid understanding of statistical analysis, data visualization, and exploratory data analysis techniques.
- Experience with database systems and query languages for data extraction and manipulation.
- Experience in carrying out interviews.
- Familiarity with hydrology and climate datasets
- Proficiency in both French and English is essential.

Soft skills:

- Strong communication and teamwork abilities.
- Effective written and oral communication skills.
- Effective organizational skills and the ability to coordinate across a broad spectrum of activities.

… And about us! Working at Mines Paris also means:

- Joining a prestigious institution with a rich history

- Playing a part in the digital transition and the transition to carbon neutrality to tackle the climate emergency
- Belonging to PSL University, ranked 41st in the Academic Ranking of World Universities
- Up to 47 days of annual leave
- Meal vouchers valued at €11.52, with 60% covered by the employer

Contract type: Postdoctoral position **fixed-term:** 24 months

Preferred start date: Between December 1, 2025 and January 15, 2026

Work schedule: Full-time, based on a fixed-day rate

Specific working conditions: Regular travel between Fontainebleau, Nice, and Paris

Reporting line: Agnès Rivière (agnes.riviere@minesparis.psl.eu, Mines Paris – PSL)

Application documents to be submitted in this folder (here):
- CV
- Cover letter
- Diploma and academic transcripts
- Two letters of recommendation
- Publications and PhD thesis manuscript

Application deadline: November 15, 2025