

Technical Hydrology Specialist at the Environment Agency

Shubham's story

My name is Shubham Tiwari and I work in **Water Resources as a Technical Hydrology Specialist at the Environment Agency**, where I help protect and improve the water environment. A key part of my job is ensuring there's enough water to support both human needs and thriving ecosystems. My journey to this rewarding career started with my love for earth sciences and a desire to make a positive environmental impact.

I completed an integrated BS-MS degree in Earth and Environmental Sciences at the Indian Institute of Science Education and Research. The interdisciplinary nature of the programme provided me with a strong foundation in statistics, programming and applied mathematics, which have been invaluable in my work as a hydrologist.

For my master's thesis, I delved into reconstructing daily rainfall data using network theory - this experience solidified my interest in hydrology and water resource management.

Driven to expand my knowledge, I pursued a PhD as an Early Stage Researcher in the Marie Skłodowska-Curie Actions Innovative Training Network at Durham University.



I gained invaluable hands-on experience

This exceptional experience allowed me to collaborate with Early Stage Researchers from across the world, fostering a valuable exchange of ideas and perspectives. Through the project, I gained invaluable hands-on experience in geospatial analysis and fieldwork in varied environments.

One highlight was my research trip to the arid landscapes of Arizona, investigating the impact of water and erosion control structures. This fieldwork enhanced my technical skills and deepened my understanding of the complex interactions between land management practices and ecosystem health.

Another enriching experience was my internship at the University of Natural Resources and Life Sciences in Vienna where I worked alongside freshwater ecology experts.

As I neared the end of my PhD, an exciting opportunity arose: a chance to apply my skills and knowledge to real-world challenges at the Environment Agency. I knew this was the perfect way to translate my academic expertise into a tangible environmental impact.



Now, I develop soil moisture models, conduct river stream surveys, and analyse hydrological data to inform sustainable water management strategies. I particularly enjoy compiling the monthly water situation reports, as they directly influence policy and decision-making. The support from experienced colleagues and practical experience has been crucial in bridging the gap between theory and practice.

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Looking back, I see how each step of my academic journey - from the focus on data analysis in my master's to the holistic understanding of environmental systems gained in my PhD - has uniquely prepared me for my work at the Environment Agency. I get to utilise my technical skills in programming and modelling, but also draw upon the soft skills of communication, collaboration and project management that I honed during my PhD.

For anyone considering a career in hydrology or environmental sciences, I wholeheartedly recommend pursuing opportunities that allow you to apply your knowledge to pressing issues. **Internships, research projects, and fellowships are fantastic ways to gain practical experience and discover your niche.** Organisations like the Environment Agency offer the chance to truly make a difference, while continuously learning and growing in your field.

As I progress in my career, I'm excited to take on new challenges and further explore the intersection of hydrology, policy and sustainability. The environment needs passionate advocates and problem-solvers - could that be you?



Written by Shubham, Technical Hydrology Specialist at the Environment Agency