

AI Tools for Atmospheric and Environmental Scientists: Practical Skills for Research, Writing and Communication

107th AMS Annual Meeting | Short Course Agenda | Half-Day (4 Hours)

Time	Activity/Method	Content Description	Support Materials	Estimated Time
8:00 – 8:15 AM	Welcome	Introduce instructors and course goals. Participants briefly share their names, backgrounds, and what they hope to gain. Overview of the session structure and logistics.	Handouts: Instructor contact info; Participant list; Course overview one-pager	15 min
8:15 – 8:50 AM	Lecture & Discussion	Introduction to generative AI tools: what they are, how they work (conceptually), and their current landscape (ChatGPT, Gemini, Claude, NotebookLM, etc.). Balanced overview of demonstrated benefits and documented risks — including confabulation, unreliable citations, data privacy considerations, and appropriate use norms in research settings.	Google Docs: Course instructions and prompts (link provided at session start); Reference card: AI tool comparison	35 min
8:50 – 9:40 AM	Demonstration + Hands-On Exercise	Instructor demonstrates AI-assisted literature review using a sample dataset. Participants replicate the workflow using their own research topics or provided sample materials. Includes live demonstration of citation hallucination and verification strategies.	Google Docs: Course instructions and prompts; Sample dataset and reference list; Laptop (participant-supplied); Free LLM account (ChatGPT, Gemini, Claude, or NotebookLM)	50 min
9:40 – 10:30 AM	Demonstration + Hands-On Exercise	Instructor demonstrates AI-assisted research proposal refinement and adaptation of technical content for different audiences (e.g., policymakers, the public, operational forecasters). Participants practice with their own writing or provided examples. Brief segment on using AI for project organization and job	Google Docs: Course instructions and prompts; Sample proposal excerpt; Audience adaptation worksheet; Optional: participant job description	50 min

		interview preparation (participants may bring a job description and/or CV).		
10:30 – 10:45 AM	Break			15 min
10:45 – 11:30 AM	Closing Reflections & Discussion	Review key takeaways: when AI tools add value, when they introduce risk, and how to develop personal workflows that are effective and responsible. Participants share one insight and one remaining question. Instructor responds to open questions. Collect feedback.	Google Docs: Key concepts summary; Feedback form (QR code link)	45 min

Note: Participants should bring a laptop and a free account for one or more AI tools (ChatGPT, Gemini, Claude, NotebookLM, etc.). Those interested in the job interview segment may bring a position description; sharing a CV with an LLM is optional and at each participant's discretion.