

HOST

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EXECUTIVE SUMMARY

Covering the Planet with the Tools That Tax It

AI for Climate, Science and Environmental Journalists

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San Francisco State University · Host, A Journalist's Guide to AI

Produced with Claude (Anthropic) under the author's direction. All research citations independently verified.

THE LANDSCAPE

Eighty-two percent of journalists now use AI tools in some form (Muck Rack State of Journalism, March 2026, surveying ~900 journalists). The question is no longer whether AI is part of newsroom work; it is what doing it well looks like, especially on beats where the costs of getting it wrong are unusually high. This summary distills a one-hour session into the takeaways you can act on tomorrow.

01 THREE PATTERNS IN NEWSROOMS USING AI WELL

- **Humans stay in the loop.** AI surfaces patterns; reporters make the judgments. The New York Times' Cheatsheet tool helps journalists wrangle datasets they couldn't read in a lifetime, but the reporters decide what's news.
- **The tool is built or chosen for the task.** Off-the-shelf chatbots fail at jobs they weren't designed for. Zetland in Denmark built Good Tape, a custom transcription tool, because the available options weren't private enough for source material.
- **The newsroom keeps control of its data.** Source material shouldn't flow into systems the newsroom can't audit. MAGNA, built by Danish publisher JP/Politikens through a research partnership, was designed to keep editorial control of source material rather than route it through Silicon Valley defaults.

02 THE MATERIAL COSTS AND WHAT TO DO ABOUT THEM

Training Grok 4 produced an estimated 72,816 tons of CO₂ equivalent, roughly the annual

emissions of 17,000 cars (Stanford 2026 AI Index). AI data centers consume an estimated 1.5% of global electricity, projected to more than double by 2030 (IEA). Cite ranges, not single estimates.

RULE OF THUMB

Energy footprint varies more by HOW you use AI than WHETHER you use it.

- **Choose the lighter model.** Mini, Haiku, and Flash variants use a fraction of the energy of full models.
- **Write clearer prompts the first time.** Every regeneration costs the same as the first run. Structure cuts waste.
- **Skip image and video generation unless needed.** Image ≈ a phone charge. Video, much higher.
- **Turn off training-data sharing.** Doesn't cut energy directly, but it protects your sources.

03

FOUR FAILURE MODES THAT HIT THIS BEAT HARDEST

- **Citation hallucination.** A November 2025 Deakin University study found GPT-4o fabricated 19.9% of academic citations in mental health literature reviews. Of the fabricated citations, 64% included DOIs that led to real but unrelated papers.
- **Smoothed uncertainty.** A Royal Society Open Science study (April 2025) of 4,900 AI-generated summaries found DeepSeek, ChatGPT-4o, and LLaMA 3.3 70B overgeneralized in 26–73% of cases. Prompting for accuracy made the problem worse.
- **Retraction blindness.** A Learned Publishing study (August 2025) asked ChatGPT 4o-mini to evaluate 217 retracted articles, 30 times each. None of the 6,510 reports flagged the retractions. 190 papers were rated “world leading” or “internationally excellent.”
- **Confident wrongness on contested science.** Global Witness (December 2025) found Grok recommending climate misinformers as “truth-tellers” when prompted by a user with conspiratorial leanings. A Center for Countering Digital Hate test of Gemini found it produced misinformation on all 10 climate-related narratives tested.

FOUR DEFENSES THAT WORK

- Verify every named source. Treat AI citations as leads, not facts.
- Ask the AI to flag its own uncertainty. “If uncertain, say so” meaningfully improves honesty.
- Ask the AI to argue against you. Force the counter-case to break the echo chamber.
- Use AI for pattern recognition, not pronouncement. “What angles should I consider” is a good question. “What’s true” is not.

04

CCRI — A FRAMEWORK FOR PROMPTING WITH RIGOR

CCRI is a four-part method for writing AI prompts that make errors visible and reduce hallucination. Each element pushes back against one of the failure modes above.

CCRI	WHAT IT DOES
Clarity	Be precise. Name the topic, scope, and format so the AI knows what to focus on. Asks for TYPES of sources, not named ones, which cuts citation hallucination.
Context	Provide background and constraints (audience, purpose, what's already known) so the AI can't invent facts about your situation and so factual drift becomes visible.
Role	Assign a perspective (editor, beat reporter, expert) to shape tone and depth. Tells the AI that accuracy matters more than fluency.
Intent	Define the output (questions, angles, draft) so the AI emphasizes the right things. Can require uncertainty to be flagged. Forces you to answer: what am I going to do with this answer?

CCRI IN PRACTICE

WITHOUT CCRI

"Tell me about wildfire smoke and health."

WITH CCRI

"Act as a public health reporter covering wildfire smoke for a regional newspaper. I'm working on a story about how 2025 wildfire smoke affected outdoor workers, unhoused people, and Bay Area residents in older housing without filtration. I have AQI data and county records. Identify the three most underreported angles. For each, give me two reporting questions and one type of source to seek out. I'll use this to refine my pitch. Don't write copy. Don't name sources unless you can cite them."

05 FIVE THINGS TO TAKE WITH YOU

1 AI's costs are real, both material and epistemic. Cite ranges. Name sources.

2 Use AI on the work where being wrong is recoverable, not where being wrong is published.

3 CCRI is your structure: Clarity, Context, Role, Intent.

4 AI is a thinking partner, not a source.

5 “Should I be using AI for this at all?” matters more than any prompt.

SOURCES

*Stanford 2026 AI Index · IEA Energy and AI Report (2025) · Muck Rack State of Journalism (March 2026)
· Reuters Institute Generative AI and News Report (2025) · Deakin University (Nov 2025) · Royal Society
Open Science (April 2025) · Learned Publishing (2025) · Global Witness (Dec 2025) · Center for
Countering Digital Hate.*
