



EFFECTIVE USE OF AI FOR CIVIL WORKS PLANNING AND POLICY

Prompts for Planning, Environmental, and Cultural Professionals

- Jerica Richardson, HQ AI Policy & PCoP Lead
- Erin Rooks, AI Technical Advisor
- P.J. Stanton, PM / Planner – Omaha District

25 September 2025



U.S. ARMY



US Army Corps
of Engineers®



AGENDA

- Governance For Planning & Policy and AI Use Cases
- Approved AI Tools
- Prompting Basics for Planners
- Live Demo and Q&A
- Path Forward, Close





GOVERNANCE FOR PLANNING & POLICY AND AI USE CASES



U.S. ARMY



US Army Corps
of Engineers®



Planning & Policy Use Cases

1. **Automate and accelerate analysis** of Planning and Policy guidance in the processing of environmental, hydrologic, economic, and geospatial data.
2. **Improve communication and transparency** in NEPA/Public involvement processes.
3. **Streamline comparison** of plan alternatives across economic, environmental, engineering and social metrics. Assist in model development and launch a chatbot for quick inquiries.
4. **Reduce time and effort** required to generate and review planning reports and documentation.
5. **Develop USACE Specific Training Materials** and Identify Whole-of-Government Collaboration and Opportunities for Practical Uses of AI.



US Army Corps
of Engineers®



What Can Planning & Policy Do To Implement AI?

- Prepare documents and data to be **AI-ready**
- Train and integrate AI **Ethical Principles** to ensure public trust and transparency
- **Train staff** to use existing tools applied to planning
- Collaborate on AI Projects to ensure more **broad applicability** of new tools
- Support **enterprise-wide** approach to sharing prompts, content, and AI development
- **Build, Test and train AI tools** for planners when available





AI Governance

- U.S. Executive Orders:

www.whitehouse.gov/presidential-actions/executive-orders/

- DoD / USACE guidelines (evolving)



REMOVING BARRIERS TO AMERICAN
LEADERSHIP IN ARTIFICIAL INTELLIGENCE



ETHICAL PRINCIPLES FOR AI

- **Responsible:** exercise appropriate levels of judgement and care
- **Equitable:** minimize unintended biases in AI capabilities
- **Traceable:** transparent use in process, design, and methodical procedures
- **Reliable:** ensure explicit, safe, secure, and well-defined uses across life-cycles
- **Governable:** design and engineer capabilities for functional use and include ability to disengage/deactivate, while avoiding unintended consequences and behavior in AI systems



US Army Corps
of Engineers®

<https://www.war.gov/News/Releases/Release/Article/2091996/dod-adopts-ethical-principles-for-artificial-intelligence/>



SAFE USE RECOMMENDATIONS

- **DO USE FOR:** Agendas, Reports, Non-sensitive Data
- **DO NOT USE:** Personal Information, FOUO, Financial/HR Records
- **Be Transparent:** Always cite AI use source in your documents and where it was used for ideas, edits, or generated text



US Army Corps
of Engineers®



APPROVED AI PLATFORMS



U.S. ARMY



US Army Corps
of Engineers®



AI CHATBOTS TO CONSIDER

Tool	Good for:	Caveats
CoPilot (on computer) 	• Chatbot currently on some USACE computers • Potential for AI integrated into Word, PowerPoint and the MS environment to be highly beneficial	• Will be rolled out more in Fall/Winter 2025 • We are not sure what functions we'll get
Army Vantage Threads https://vantage.army.mil/workspace/threads-app/ 	• Chatbot with uploads • Potential to integrate with USACE data in future • Highly secure • Ability to create agents, models and access other Palantir Vantage tools • Ability to search for other AI agents, data and USACE tools & connect with CoPilot, ChatGPT, PowerBI, etc.	• Small learning curve • Doesn't like some file formats • File upload can be confusing
AskSage https://chat.genai.army.mil/login 	• Access to many large language models (pics, text, audio, video) • Highly secure • Keeps chat history • Other advanced features	• Limited token and use unless working with a COCOM that has unlimited access (COCOM Codes for greater access.) • Registration/sign-on can be confusing



US Army Corps
of Engineers®

AI CoP keeps a list of AI platforms and chatbots here - <https://usace.dps.mil/sites/KMP-AI>

Note: AI Tools are changing quickly, so this slide may be out-of-date quickly.



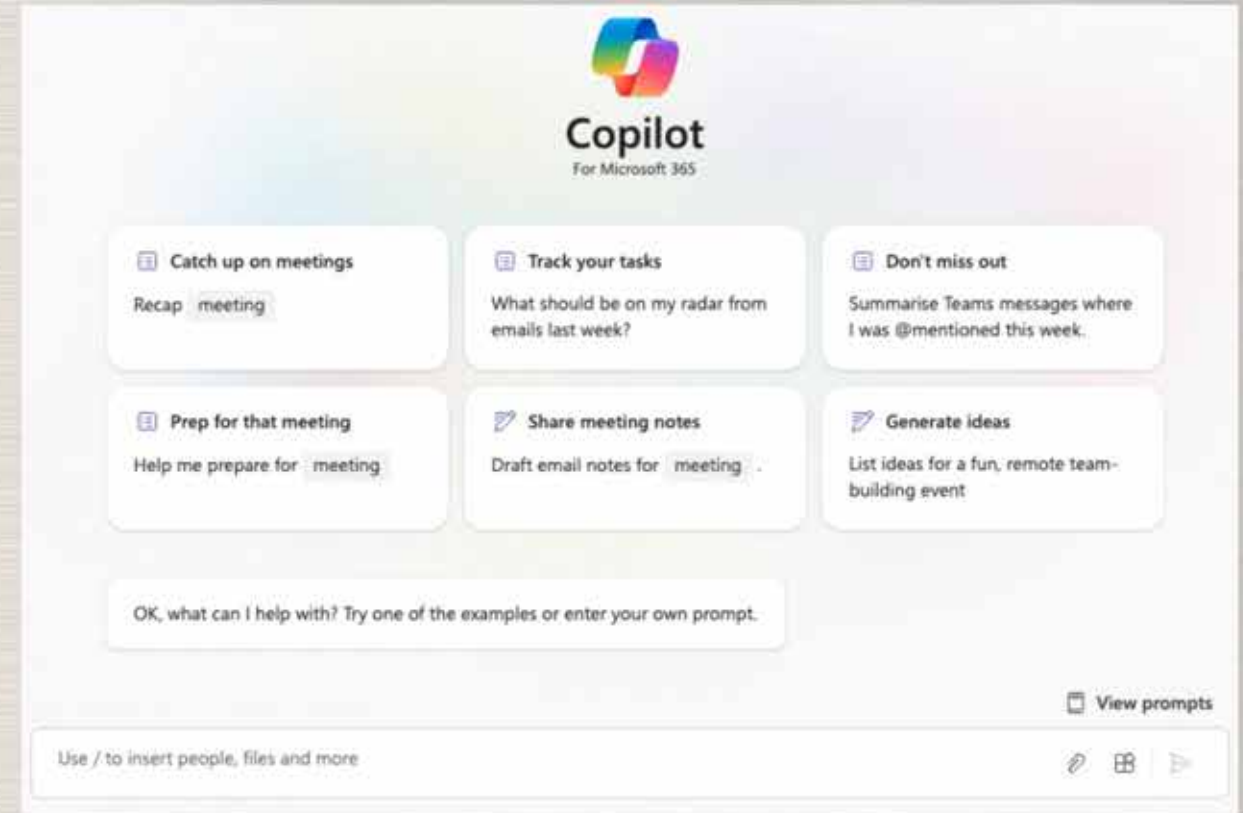
OTHER AI CHATBOTS TO CONSIDER

Tool	Good for:	Caveats
DOD Advana (+ Gamechanger) https://advana.data.mil/ https://gamechanger.advana.data.mil/#/gamechanger 	• Gamechanger is DOD Policy Chatbot, but doesn't include recent USACE Policies • Good for DOD policy references	• Gamechanger has limited usefulness currently
NIPRgpt https://niprgpt.mil 	• Chatbot with uploads • Easier to create file upload space • Accepts various file formats	• Air Force R&D product • Likely to be blocked or shutdown • Currently been working on & off • Update frequently and may lose uploaded files • Library may not be updated for relevant results • Sign-in has changed and could be problematic
CamoGPT https://omni.army.mil/camogpt/ 	Chatbot	• May not be able to get access anymore • Likely to be overtaken by other systems • May not be updated for relevant results



MICROSOFT INTEGRATED AI TOOLS: COPILOT

- Copilot is currently having a phased roll-out in USACE system updates
- Integrated into MS Office suite of applications
- Login is automatic with CAC use



Beginner's Guide available:

https://usace-my.dps.mil/:w:/g/personal/matthew_parks_usace_army_mil/ESMVqH5-7-9PneIZ8Drvx_cBRpZ85qIl4Cz97iheSu6xcg?e=Oz4EeA



PROMPTING FOUNDATIONS



U.S. ARMY



US Army Corps
of Engineers®



Pulse Check

Share your experience level.

Where are you at with AI?

- 1** Never tried it
- 2** Dabbled a few times
- 3** Use it weekly
- 4** Use it daily

**Drop your
answer (1-4)
in the chat!**



US Army Corps
of Engineers®



What is a Prompt?

How we communicate with AI.

The instructions you give an AI tool, like a tasker for your virtual assistant.

YOU → PROMPT → AI → OUTPUT

Think of it like scoping a planning task.
Clear intent = better results.

You're not coding, you're **giving the tool direction** using plain language.

Garbage In = Garbage Out



U.S. ARMY



US Army Corps
of Engineers®



Why This Matters for Planners

Because your time is valuable.



Planners Juggle

Complex Studies | Stakeholder Needs | Evolving Policy & Guidance



AI Can Help

Draft Documents | Simplify Guidance | Summarize Reports



Prompts Turn Intent into Action

Get a Head Start | Get Your Wheels Turning | Fill the Blank Page



Strong Documentation is Critical

Decision-making | Risk Communication | Policy Compliance



US Army Corps
of Engineers®



Weak vs. Strong Prompts

Some prompts are better than others.

WEAK PROMPT

“Write about flood risk.”



WEAK OUTPUT

“Flooding is a natural disaster that happens when water levels rise. It can cause damage to homes and businesses. Communities should be prepared for flooding by having plans in place.”

STRONG PROMPT

“I’m working on a USACE CAP Section 205 flood risk management study for a small community along the Big Sioux River. Draft an outline of the *Affected Environment* section for the NEPA document, for the Project Delivery Team. Make it a professional bulleted outline.”

100

STRONG OUTPUT

- **Soils & Geology** – alluvial soils, erosion-prone areas
- **Hydrology & Floodplain** – Big Sioux River flows, historic flood stages
- **Biological Resources** – riparian habitat, common fish/wildlife species
- **Cultural Resources** – proximity to historic sites, tribal consultation needs
- **Socioeconomic Setting** – population, vulnerable groups, critical infrastructure



US Army Corps
of Engineers®

Where would you rather start?



PROMPTING FRAMEWORK



U.S. ARMY



US Army Corps
of Engineers®



Key Takeaways

- COAT your prompts → Context, Objective, Audience, Tone/Format
- Stay in guardrails → Draft, don't decide; assistant, not authority
- Start small → Try it on your next outline, table, or summary



U.S. ARMY



US Army Corps
of Engineers®



The C.O.A.T Framework

Anatomy of a great prompt.



C



Context

What's the situation or background? What role would you like AI to play?

O



Objective

What do you want it to do?

A



Audience

Who for? What do they care about?

T



Tone

What style, emotion, or voice would you like to convey?



U.S. ARMY



US Army Corps
of Engineers®



C.O.A.T in Action

Revisiting Weak vs. Strong Prompt.

WEAK PROMPT

“Write about flood risk.”



WEAK OUTPUT

“Flooding is a natural disaster that happens when water levels rise. It can cause damage to homes and businesses. Communities should be prepared for flooding by having plans in place.”

STRONG PROMPT

Context: CAP 205 study for small community on the Big Sioux River.
Objective: Draft outline of the *Affected Environment* section for NEPA.
Audience: Project Delivery Team.
Tone/Format: Professional bulleted outline.



STRONG OUTPUT

- **Soils & Geology** – alluvial soils, erosion-prone areas
- **Hydrology & Floodplain** – Big Sioux River flows, historic flood stages
- **Biological Resources** – riparian habitat, common fish/wildlife species
- **Cultural Resources** – proximity to historic sites, tribal consultation needs
- **Socioeconomic Setting** – population, vulnerable groups, critical infrastructure

100



US Army Corps
of Engineers®

STRONG COAT → structured & relevant.



Summarize & Synthesize

C.O.A.T Variation

PROMPT (COAT Applied)

Context

I have 50 public comments from a scoping meeting about a flood risk management study.

Objective

Summarize the main themes and concerns.

Audience

PDT preparing the scoping report.

Tone/Format

Bulleted list with themes + example quotes.



OUTPUT

- **Flood Protection Concerns**
 - Desire for levee improvements, especially near school
 - *"We worry about the next flood hitting the elementary."*
- **Environmental Issues**
 - Concerns about wetland loss and habitat impacts
 - *"Wildlife areas are already shrinking."*
- **Property & Relocation**
 - Questions about buyouts, compensation, fairness
 - *"Will families be forced to move?"*



U.S. ARMY



US Army Corps
of Engineers®

Find themes & insights faster.



Summarize & Synthesize

C.O.A.T Variation

Integrating
Basic AI
Data Analysis



US Army Corps
of Engineers®



PUBLIC COMMENTS

OCT 2021 – MAR 2025

Current Stats

Total Comments: 528

Opposed: 94% (493) **For: 2% (13)** **Neutral/Unclear: 4% (22)**

Unique Responses: 82% (434)

Form-Letter Responses: 18% (94)

Majority Contact Method: Email bear-creek-study@usace.army.mil

Summary

Themes in Opposition:

- Loss of Bear Creek Lake Park land (615+ acres)
- Damage to riparian and wildlife habitat
- Negative recreational and aesthetic impacts
- Flood safety concerns for the Denver metro area

Themes in Support:

- Focused on long-term water supply and proactive infrastructure planning
- Still a small minority relative to total feedback

Key Takeaways:

- Public opposition is strong and organized
- Environmental and recreational concerns dominate
- Small but present support for expansion
- Community favors less impactful solutions

Alternatives Suggested by Public:

- Deepen the existing pool
- Construct a secondary pool
- Use gravel pits or aquifer storage
- Limit expansion to less impactful options



Photos of Bear Creek Lake Park, MAR 2025. Credit: Park User, Barbara Mickelson.



Path Forward

- Evaluate public input in decision-making
- Communicate results and plans transparently with stakeholders



Decomposition

C.O.A.T Variation

- 3 Formulate Alternatives
- 4 Evaluate Effects

PROMPT (COAT Applied)

Context

Section 106 consultation for a feasibility study with potential historic properties in the APE.

Objective

Break down the **steps of the consultation process**.

Audience

New PDT members unfamiliar with Section 106.

Tone

Numbered list, plain language.



OUTPUT

1. Define the Area of Potential Effects (APE).
2. Identify historic properties within the APE.
3. Assess potential effects of the project.
4. Consult with SHPO/THPO, Tribes, and other stakeholders.
5. Determine effect (no historic properties affected, no adverse effect, or adverse effect).
6. Resolve adverse effects (MOA, mitigation, etc.).
7. Document the process in the NEPA/Section 106 record.



Decomposition = Break big tasks into clear steps.

Steering = Don't solve it all now — give me step 1, then I'll guide you.



Criteria Checklist

C.O.A.T Variation

PROMPT (COAT Applied)

Context

USACE feasibility study, evaluating flood risk management alternatives.

Objective

Generate a **checklist of evaluation criteria** for comparing alternatives.

Audience

PDT, for internal use.

Tone/Format

Bulleted list, grouped by categories.



OUTPUT

- **Economic**
 - Initial construction cost
 - Operation, maintenance, repair, replacement costs
 - Expected annual damages reduced
- **Environmental**
 - Impacts on wetlands and habitat
 - Water quality effects
 - Mitigation needs
- **Social & Cultural**
 - Community disruption/resettlement needs
 - Effects on cultural/historic properties
 - Environmental justice considerations



US Army Corps
of Engineers®



Comparison Table

C.O.A.T Variation

PROMPT (COAT Applied)



OUTPUT

Context

USACE CAP 205 study, evaluating nonstructural flood risk management measures.

Objective

Create a **comparison table** showing pros/cons of two alternatives: elevation vs. relocation.

Audience

PDT (for internal discussion).

Tone/Format

Professional table with columns for Alternative, Pros, Cons.

Alternative	Pros	Cons
Elevation	Retains homes in place; lower upfront cost than relocation	May not be feasible for multi-story structures; limited protection if flood depths exceed design
Relocation	Removes homes entirely from floodplain; eliminates residual risk	Higher upfront cost; social/community disruption



U.S. ARMY



US Army Corps
of Engineers®



Rewrite for Audience

C.O.A.T Variation

PROMPT (COAT Applied)

Context

Draft text from an environmental assessment about wetland impacts.

Objective

Rewrite the text for a **different audience**.

Audience

Public meeting attendees.

Tone/Format

Plain language, short paragraph.



OUTPUT

Original Text (Technical):

"Project implementation would result in the permanent loss of approximately 2.5 acres of palustrine emergent wetlands. Mitigation will be required in accordance with Section 404 of the Clean Water Act."

Output (Plain Language):

"The project would affect about 2.5 acres of wetlands, which are areas that support wildlife and help manage water. Because of this, we'll need to replace or restore wetlands somewhere else, as required by federal law."



Same content → different voice for the audience.



Critique & Improve

C.O.A.T Variation

- 2 Inventory and Forecast
- 3 Formulate Alternatives
- 4 Evaluate Effects

PROMPT (COAT Applied)



OUTPUT

Context

Draft project description for an environmental assessment.

Objective

Review the draft and **suggest improvements** for clarity and alignment with NEPA.

Audience

Planner preparing EA.

Tone/Format

Provide feedback as a bulleted critique.

Draft Text (input):

"The project will reduce flooding by building levees. The levees will stop water from reaching homes and businesses. The project is needed because flooding causes problems."

Output (snippet):

- Clarify **scope**: What size levee, length, location?
- Use **neutral NEPA tone**: "would" instead of "will."
- Expand **need for action**: reference historic flood events and damages.
- Add **environmental considerations**: potential impacts, mitigation needs.
- Improve **professional tone**: avoid vague phrases like "causes problems."



Critique & Improve → QA/QC draft text quickly.



LEVELING UP



U.S. ARMY



US Army Corps
of Engineers®



Prompting Gems

My Favorites.

Meta-Prompting (Ask About Prompting)

AI will coach you on how to get better results for specific use cases.

“What’s the best way to ask you for help with Excel formulas?”

Ask for Alternatives

Don’t settle for one draft.

“Give me 3 different versions: one formal, one casual, and one humorous.”

Show AI what good looks like

Train AI on your preferences.

“Here’s an example of the tone I want: [paste text]. Rewrite this new draft in the same style.”

Precision Editing Prompts

Instead of “make this better”:

“Cut 20% without losing any technical detail.”

“Convert passive voice to active voice.”



**US Army Corps
of Engineers®**



Prompting Gems (cont.)

My Favorites.

Deliberate Contradiction

Ask me to argue against myself.

- “Here’s my recommendation memo. Now write a rebuttal that would come from an auditor.”
 - “List reasons this approach could fail, even if unlikely.”
- You uncover blind spots before your boss or stakeholders do.

Leverage Role-Play

Turn AI into a rehearsal partner.

“You are the contracting officer — push back on my cost estimate so I can practice negotiating.”

Multi-Agent Thinking

You can run simulated panels of ChatGPT roles:

- “Give me 3 perspectives: an optimistic planner, a cautious engineer, and a skeptical economist. Debate the alternatives.”
- Then you synthesize the panel’s consensus.
- This creates intellectual diversity without needing 10 people in the room.

Meta-Workflows

Ask AI to help design the way you’ll use it.

“What’s a systematic way to use ChatGPT for contract negotiations?”



**US Army Corps
of Engineers®**



ChatGPT Tasks

For those of us who thrive on reminders.

Send scheduled updates, reminders, or notifications automatically

- Simply type a request and ChatGPT will handle the rest.
- Notifications via email, push notifications on your phone or desktop, or both
- Acts as your virtual task manager



Examples

- Every day at 8 a.m., ask me what new tasks I need to complete. Keep a running list of all my ongoing tasks and suggest helpful tips to get them done. Remove tasks as I confirm completion.
- Every day at 1pm, send me a motivational quote, an inspiring thought, or a short piece of advice to help me keep positive throughout the day.



US Army Corps
of Engineers®



LIVE DEMO



U.S. ARMY



US Army Corps
of Engineers®



Prompt Jam (Live)

Let's try it together.

1. I'll demo several prompts and review the output together.
2. What would you like to see? Drop ideas in the chat.
3. Need more time? Fill out prompt form at link below.



[https://usace.dps.mil/sites/KMP-PLAN/Lists/Planning AI Prompts Examples/Board View.aspx](https://usace.dps.mil/sites/KMP-PLAN/Lists/Planning_AI_Prompts_Examples/Board View.aspx)

**COAT
REMINDER**



- Context
- Objective
- Audience
- Tone



US Army Corps
of Engineers®



Q & A



U.S. ARMY



US Army Corps
of Engineers®



Resources

Resource	URL	Description
PCoP	https://usace.dps.mil/sites/KMP-PLAN	Planning Community of Practice
AI CoP	https://usace.dps.mil/sites/KMP-AI	AI Community of Practice; Access to AI tools
AI in Planning	https://usace.dps.mil/sites/KMP-PLAN/SitePages/Exploring-AI-in-Planning.aspx	Exploring AI in Planning; Access to AI tools
PROMPT LIBRARY FORM	https://usace.dps.mil/sites/KMP-PLAN/Lists/Planning AI Prompts Examples/Board View.aspx	PLEASE SUBMIT YOUR PROMPT EXAMPLES HERE!
MS Copilot Beginner’s Guide	https://usace-my.dps.mil/:w:/g/personal/matthew_parks_usace_army_mil/ESMVqH5-7-9PneIz8Drvx_cBRpZ85qII4Cz97iheSu6xcg?e=Oz4EeA	Getting started with Copilot after rollout
Udemy	https://armyciv.udemy.com/?next=%2Fcourses%2Ffb-personal-development%2F%3Fcourse_label%3D7166%26sort%3Dpopularity	180 pages of FREE AI courses



AI PATH FORWARD & CLOSE

- Planning & Policy Data Management
- Develop Planning & Policy AI Use and Ethics Guide
- Chatbot Development for Planning Studies
- Support the Development of AI Use Training Course for Civil Works missions



US Army Corps
of Engineers®

Thank you for listening!