Crowdsourcing and Citizen Science Toolkit Development

National Geospatial Advisory Committee Meeting Presentation
Stephen Costello Lowe, PhD
September 1, 2015
Open Innovation Toolkit Initiative

- **Open Government National Action Plan to Develop Toolkit**: best practices, training, policies, and guidance on authorities in open innovation
- Include approaches such as incentive prizes, **crowdsourcing and citizen science**
- Whitehouse OSTP + OPM + FCPCCS convened a human-centered design development workshop to accelerate **Toolkit ideation** in Nov 2014

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Scope Definitions

• **Citizen Science** is a form of open collaboration where members of the public participate in the scientific process, including identifying research questions, collecting and analyzing the data, interpreting the results, and problem solving.

• **Crowdsourcing** is a process where individuals or organizations submit an open call for Voluntary contributions from a large group of unknown individuals (“the crowd”) or, in some cases, a bounded group of trusted individuals or experts.
Federal Community of Practice for Crowdsourcing and Citizen Science (FCPCCS)

185 Federal Employee Members

Monthly Member Meetings

42 Departments, Agencies and Bureaus, led by EPA Office of Innovation

35 Innovative Speakers in FY2015

Office of Science and Technology Policy (OSTP) Endorsement

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Toolkit Project Team

• **All volunteer** team of 25+
• Many self-identified through GSA’s “Open Opportunities”
• **20%** employee contributions
• Presidential Innovation Fellows
• USDA and EPA Project Managers
• **Highly diverse** agency missions, roles, and location
Toolkit Website Frame Design-Deployment

Wordpress Frame:
• Home
• About Toolkit
• Five Process Steps/Tips
• Case Studies
• Resources
• Legal and Policy
• Map Viewer (?)

(Plus links to other innovation communities and the Wilson Center project inventory database)
# American Innovation Opportunities Landscape

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<td>Leverage Private Collateral</td>
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<td>De-Risk Innovations</td>
<td>Position Government Role</td>
<td>Accelerate Time to Market</td>
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Enabling Participatory Governance

Create Stable Container...
Establish rational and bounded problem set, which uses “common geography” to express the scope and scale of the context. Answer... Where?

Ensure Transparent Data...
Use map frame as an information organizing tool to “simplify” complex data, define roles, demonstrate relevancy, and distinguish relationships between beliefs-values-action. Answer... What?

Engage Conversation...
Measure the volume and magnitude of activating a cultural meaningful “visual narrative” that elicits direct local participation in the system. Answer... Who? Why?

Foster Collaboration...
Place visual elements on neutral map to create equitable access to knowledge resources, and show collective impacts as “place-based evidence” of social value and change. Answer... How?

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Participatory Mapping Value Proposition

**Business Drivers:**
- Maps exclude “community”
- Limited and complex access to data
- Extensive equity issues
- Striving for 100% precision
- Ambiguous adoption behavior
- Seeing innovation on edge
- Legacy technology models
- Popular versus remote location data
- Program partitioning/segmentation
- Different social conventions/ideas
- Silos limit diffusion of value

**Solutions:**
- Enable two-way communication
- Synthesize knowledge where it lives
- Remove technology barriers to participation
- Build “crowd” maturity
- Compromise speed over accuracy
- Update versus creation
- Respond to dynamic world
- Identify emergent issues/patterns
- Ground conversation in context
- Depict local knowledge/values

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NGAC Engagement and Support Ideas

Engagement:
• NGAC CSC Subcommittee FY2016 agenda setting
• Website review and constructive comments
• Recommend bridges and channels to other sector resources
• Ask questions through research associations

Support:
• Contribute case studies
• Volunteered Geographic Information innovation
• Complimentary branding and messaging
• Personalize social media statements
• Define feasibility of scope for next, and next-next

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Questions for Dialog

• What public, market, and research trends drive crowdsourcing and citizen science opportunities?
• How may geospatial thinking and technologies enable innovation, adoption, diffusion, etc.?
• Where is NGAC contribution most needed? Why?
• Who are the thought leaders from whom to learn?
• What has not been addressed, which could revolutionize participatory government?
Questions, Comments and Ideas: stephen.lowe@ocio.usda.gov