Request for Approval under the "Generic Clearance for Citizen Science and Crowdsourcing Projects" (OMB Control Number: 2080-0083)

TITLE OF INFORMATION COLLECTION: Citizen Science Motivations and Experiences

PURPOSE:

The goal of this project is to understand factors that influence engagement in citizen science and crowdsourcing projects – in particular, Smoke Sense, a citizen science crowdsourcing study facilitated via a mobile application. This project is embedded within the Smoke Sense study, which aims to understand the relationship between exposure to wildland fire smoke and related health outcomes, as well as, to inform the development of health risk communication strategies that are effective at prompting protective health behaviors. The purpose of the *Citizen Science Motivations and Experiences* study is to explore factors that influenced individuals to engage with Smoke Sense during its pilot year, and to explore ways those individuals conceptualize the use of citizen science in broader community-level environmental health improvement and protection initiatives.

NEED AND AUTHORITY FOR COLLECTION:

The information is needed to better understand the needs and perspectives of local, state, and tribal governments related to smoke management and health. The findings will inform our understanding of how citizen science research initiatives at the federal level can be translated and applied in support of environmental health initiatives in the states and communities that experience poor air quality as a result of wildland fires. This study also informs the development of communication strategies related to public engagement in EPA research that aims to quantify health impacts of exposure to wildland fire smoke and preventative health behaviors individuals can take to protect their health.

Data collected through the Smoke Sense mobile application is being used to understand the subclinical health burden of exposure to smoke and the kinds of behaviors individuals take to reduce that burden. This project complements that initiative by collecting qualitative data from community leaders in communities that experienced a significant smoke event in 2017 about the impacts of smoke on communities as well as how those individuals foresee a research and educational initiative, like Smoke Sense, could be used to protect the health of individuals in their communities.

From Smoke Sense Generic ICR Justification (IC: 2521.05):
The National Environmental Education Act, § 4, 20 U.S.C. § 5503 authorizes EPA to develop and support programs to increase environmental literacy. The EPA provides information on air quality and wildfire smoke, but how individuals respond to that information is generally not well known. This study has the potential to improve EPA's communication on wildfire smoke through better understanding of the context in which communities receive this information, and the interpretation and responses to air quality messaging. OMB Memo M-15-16 encourages agencies to use approaches such as citizen science, which is a cornerstone of this study.

USES OF RESULTING DATA:

The findings will be used in multiple ways. A summary of the findings will be written and shared with interviewees and the broader research team. This summary document will serve as a feedback loop with participants and be a mechanism to inform the development of the broader Smoke Sense research project. Additionally, findings will be used in journal publications on citizen science.

DATA COLLECTION METHODS:

The study design includes data collection via semi-structured interviews with participants in the Smoke Sense project. This study is open to any individual who participated in Smoke Sense during its pilot year and is interesting in participating in this follow-up, qualitative project.

PARTICIPANT UNIVERSE:

Category of Respondent	No. of Respondents	Number of responses per respondent	Participation Time per response	Burden Hours
	100	1	2 hours	200
Totals	100	1	2 hours	200

Each semi-structured phone interview will take no more than one hour from start to finish, including the informed consent process. Additional time is built in for initial outreach and communication as well as scheduling and follow-up.

AGENCY COST: The estimated annual cost to the Federal government is 8614. The cost estimate accounts for 50% GS12 at 35.89/hour for 12 weeks.

STATISTICAL ANALYSIS:

These data will be analyzed using qualitative thematic analysis techniques. A two-step thematic process will be employed in which interview transcripts are inductively coded into themes, then during the second stage, the initial themes are cluster-coded. The secondary codes are used to draw meaning related to the research questions from across the multiple interviews. This process allows the research team to identify themes as well as nuances of participant perspectives about why they have engaged in this crowdsourcing citizen science project and what it means for their communities.

DATA QUALITY ASSESSMENT PROCEDURES:

Each interview will be fully transcribed, with audio quality checks and cleaning conducted upon completion. The reliability and validity of qualitative data will be accounted for using established, multi-prong qualitative techniques. These include multiple coders analyzing the data following a 3-stage coding process, and triangulating team interpretation of the data using a member-check procedure through which preliminary results are confirmed by members of the target population who participated in the project. As part of that multi-stage process, reliability and validity of the coding approach and findings will be assessed using triangulation and member-checking, as well as team consensus and assessment by way of calculating Cohen's Kappa on code applicability across team members.

ADMINISTRATION OF THE INSTRUMENT: (Check all that apply)

[ ] Web-based or Social Media
[ ] Mail
[X] Telephone
[ ] Other, Explain
[ ] In-person

INSTRUMENT: Append a copy of the questionnaire or a screen shot of the website or app that includes the information collection.