

SUPPORTING STATEMENT
FOR OMB CLEARANCE
PART B

NASA Earth to Sky: An Assessment of Global Climate Change in
Visitors to Public Lands

SURVEY DATA COLLECTION

National Aeronautics and Space Administration

October 8, 2010

Part B: Collection of Information Employing Statistical Methods

The purpose of this project is to assess if *visitors* to NPS and FWS sites are benefiting from an interagency partnership, known as Earth to Sky, by (1) measuring the awareness and understanding of global climate change among visitors who have and have not been exposed to onsite interpretive and educational programs and products, and (2) identifying factors that influence program effectiveness. An onsite survey will be administered to park visitors to assess their awareness and understanding of global climate change; interpretive and learning outcomes; and their trust in various sources of climate change information. Data will be collected at 5-8 NPS and FWS sites from June to August, 2011. Results will help NASA and other managers of the Earth to Sky partnership assess the success of the partnership efforts by examining program effects upon the ultimate “end of the pipe” target audience—the public. Results will help project leaders refine project activities and procedures while encouraging continued inter-agency collaboration.

Future data collection is not anticipated at this time.

B.1 Respondent Universe and Sampling Methods

(a) Respondent universe:

This study will administer an onsite survey to approximately 1200 visitors at selected NPS and FWS sites where ETS participants work. Possible survey locations have been identified based on the number and type of programs developed and the potential number of visitors to be reached by programs delivered at the site. In addition, researchers seek to include a diversity of sites and resources.

Potential NPS survey sites include: Kenai Fjords National Park, Yosemite National Park, Everglades National Park, Sequoia & Kings Canyon National Parks, Golden Gate National Recreation Area, Congaree National Park, Mt. Rainier National Park, Bryce Canyon National Park, Indiana Dunes National Lakeshore, Gulf Islands National Seashore, Rocky Mountain National Park, Apostle Islands National Lakeshore, Cuyahoga Valley National Park, Rock Creek Park, Death Valley National Park, and Great Smoky Mountains National Park.

Potential FWS sites include: DeSoto National Wildlife Refuge, Leavenworth Fish Hatchery, Chincoteague National Wildlife Refuge, Patuxent Research Refuge, JN “Ding” Darling National Wildlife Refuge, and several Alaska refuges.

In January 2011, potential research sites will be evaluated based upon the selection criteria and final survey locations will be chosen. Surveys will be administered onsite by evaluation team members at 5-8 of the above locations. Additional surveys may be administered *with the assistance of ETS participants* (and colleagues) at selected sites. Using this method, park and refuge staff will administer surveys to visitors who attend interpretive and educational programs onsite.

Description of the Study Sample

Figure B.1 shows the total number of visitors to be included in the evaluation.

Figure B.1

Description of Study Sample

ETS study sites	Visitors
NPS site 1	200
NPS site 2	200
NPS site 3	200
NPS site 4	200
FWS site 1	200
FWS site 2	200
Total	1200

B.2 Information Collection Procedures

A survey will be administered onsite to visitors who attend interpretive and educational programs and/or who are exposed to interpretive and educational products related to global climate change. A sample of visitors will be drawn from adults and young adults (18 and older) visiting participating parks and refuges during the Summer 2011 study period. Approximately 200 visitors will be surveyed at 5-8 study locations.

At sites with interpretive and educational programs focused on global climate change, researchers will approach all attendees (census sampling) immediately *before* (control group) or *after* (treatment group) selected programs, asking adult visitors to complete the survey onsite. At select locations park or refuge staff will administer the survey to willing participants *before* or *after* exposure to interpretive or educational programs. Additionally, at sites where non-personal interpretive or educational products or services related to global climate change are provided (e.g., site bulletins, brochures, videos, interactive kiosks, waysides, exhibits, etc.), researchers and/or staff members will approach a random sample of visitors *before* and *after* exposure to onsite interpretive and educational products, asking them to complete the survey onsite.

At sites where the effectiveness of non-personal interpretive and educational products related to climate change is assessed, the researcher or staff member will use an “every nth person” sampling approach to approximate the random selection of participants. For example, researchers will approach every 3rd or 5th visitor who reads (or appears to read) a climate change exhibit panel during the sampling time and ask them to fill out the survey. For other products, such as printed materials, randomly selected visitors will be asked to view or listen to a product and then to complete the survey. For films, a random sample of audience members will be asked to complete the survey either before or after viewing the film. Data will be collected throughout the summer months (June-August) of 2011 at the selected parks and/or wildlife refuges/hatcheries.

B.3 Methods to Maximize Response Rates

The expected response rate should be between 80-90% of approached visitors, due in part to anticipated response rates of greater than 90% among those who attend interpreter or educator-led programs. Previous studies at NPS sites using similar onsite survey methods have obtained high response rates (Coble et al., 2007).

As response rates increase, non-response bias becomes less problematic. However, a contact log will be used to track all visitors who are invited to participate in the study. Simple non-response bias checks comparing participation rates by gender, group size and composition, time of day, etc., will be conducted based on contact log information.

B.4 Test of Procedures

The survey instrument has been peer reviewed by at least one academic expert associated with recreation and parks research at both Stephen F. Austin State University and West Virginia University prior to data collection, and will be modified as required by OMB. In addition, education specialists at NASA, FWS, and the NPS helped peer review the survey.

B.5 Individuals Consulted on Statistical Aspects of Design

The plans for statistical analyses for this study were primarily developed by the Earth to Sky Evaluation Team members. The team is led by Dr. Theresa Coble, Principal Investigator. The survey was developed by Dr. Theresa Coble, Dr. David Smaldone, and Catherine McCarthy, M.S. Contact information for these individuals is provided below.

Earth to Sky Evaluation Team

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