



ENVIRONMENTAL PROTECTION AGENCY

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Request for Public Engagement in the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States

AGENCY: U.S. Environmental Protection Agency (EPA) on behalf of the United States Global Change Research Program (USGCRP).

ACTION: Request for Public Submissions of Comments on a Draft Report Prospectus, Information, and Contributing Author Nominations, and Notice of a Public Forum.

SUMMARY: As part of the President's Climate Action Plan and ongoing efforts within the US Global Change Research Program (USGCRP), the Interagency Crosscutting Group on Climate Change and Human Health (CCHHG) and a subset of the Interagency National Climate Assessment Working Group (INCA) have initiated an interagency Special Report on the impacts of observed and projected climate change on human health in the United States. This data-driven technical synthesis and assessment will be an interagency product of the USGCRP organized by the CCHHG. This request for public engagement presents opportunities to submit

comments on the Draft Report Prospectus, scientific information to inform the assessment, and nominations for contributing authors, and announces a Public Forum to Inform the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States.

DATES: *Comments:* Comments on the draft prospectus, information to inform the Special Report, and contributing author nominations may be submitted during a 30-day period beginning March 1, 2014. All submissions should be received by USGCRP on or before 11:59 p.m. Eastern Time. March 31, 2014. The Public Forum will be held March 13, 2013 from 10 a.m.-5 p.m. Eastern Time.

Public Forum: The Public Forum, organized by the CCHHG, will be held on March 13, 2014.

ADDRESSES: The March 13, 2014 Public Forum will be held at the EPA William Jefferson Clinton East building, Room 1153, 1301 Constitution Avenue N.W., Washington, D.C. 20460. To register, please follow the detailed instructions as provided below.

Information in response to the Request for Comments on the Draft Prospectus, Call for Information, and Call for Contributing

Author Nominations must be submitted electronically at:
<http://globalchange.gov/component/content/article/990>.

FOR FURTHER INFORMATION CONTACT: For details on the period for submission of scientific information, comments on the Draft Prospectus, and call for contributing author nominations from the public, please contact Allison Crimmins; telephone: 202-343-9170; or email: healthreport@usgcrp.gov.

[Responses to this notice are not offers and cannot be accepted by the Government to form a binding contract or issue a grant. Information obtained as a result of this request may be used by the government. Please do not include any information that might be considered proprietary or confidential.]

SUPPLEMENTARY INFORMATION:

I. Request for Comment on Draft Report Prospectus

A. How to Submit Comments on the Draft Prospectus

The Draft Prospectus presented in Section I.B of this Notice describes proposed plans for scoping, drafting,

reviewing, producing, and disseminating the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States. EPA invites interested parties to review the Draft Prospectus and provide comments within the 30-day public comment period, beginning March 1, 2014 and ending 11:59 p.m. Eastern Time March 31, 2014. The EPA and the CCHHG are seeking comments on the Special Report objectives, proposed topics, and process as outlined in the Draft Prospectus. Public comments received on the Draft Prospectus will be evaluated and used to inform the Special Report Final Prospectus.

Comments on the Draft Prospectus can be made at:

<http://globalchange.gov/component/content/article/990>

B. Draft Prospectus for the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States: An Assessment of Observed and Projected Climate Change Impacts on Human Health in the U.S.

(1) Overview

As part of the President's Climate Action Plan and ongoing efforts within the US Global Change Research Program

(USGCRP), the Interagency Crosscutting Group on Climate Change and Human Health (CCHHG) and a subset of the Interagency National Climate Assessment Working Group (INCA) have initiated an Interagency Special Report on the Impacts of Climate Change on Human Health in the United States. This data-driven technical synthesis and assessment will be an interagency product of the USGCRP, organized by the CCHHG.

The Special Report will be an evidence-based, quantitative assessment of observed and projected climate change impacts on human health in the United States. Development of the report will leverage existing activities of the CCHHG and INCA members, aggregate and assess current quantitative research on human health impacts of climate change, and summarize the current state of the science. As a technical scientific assessment, the Special Report will extend the work begun under the 2008 Synthesis and Assessment Product 4.6 (SAP 4.6) Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems and the forthcoming third National Climate Assessment (NCA) by using modeling and analysis tools to quantify, where possible, projected national-scale impacts of climate change to human health. Such analyses will attempt to

identify and bound impact uncertainties, as well as better define changes in attributable epidemiological risks, particularly for vulnerable populations, with the goal of informing public health authorities and other public planning and resource management entities.

The lead and coordinating Federal agencies for the Special Report are the Centers for Disease Control and Prevention (CDC), National Institute of Health (NIH), National Oceanic and Atmospheric Administration (NOAA), and Environmental Protection Agency (EPA).

(2) Proposed Focus Areas

The proposed scope of the Special Report will cover the following eight focus areas, which will each comprise a section of the Special Report:

- (a) Thermal Extremes: Heat and Cold Waves
- (b) Air Quality Impacts
- (c) Vectorborne and Zoonotic Disease
- (d) Waterborne and Foodborne Diseases
- (e) Food Safety
- (f) Extreme Weather and Climate Events
- (g) Mental Health and Stress-Related Disorders

(h) Vulnerable Regions and Subpopulations to Health
Impacts of Climate Change

The authors will review and assess the literature in each focus area in order to summarize the state of the science regarding observed and projected health-related climate change impacts and associated changes in risk. Four sections of the Special Report propose to go beyond the assessment of literature to present additional modeling and/or quantitative analyses of the projected health impacts from climate change. Additional quantitative analyses conducted for the Special Report are proposed in the areas of:

- (1) Extreme Heat Mortality
- (2) Air Quality Impacts (Ozone or PM 2.5)
- (3) Lyme Disease
- (4) Vibrio-related Illness.

The sections below provide more detail on the scope of observations and projections that will be included in each section.

(a) Observed Climate Change Impacts on Human Health

Where possible, the Special Report will identify relationships between global, national, and regional climate changes and associated impacts on human health in the United States over the last century. Each section will include a "state of the science" overview aimed at understanding observed impacts and developing/maintaining climate-health indicators. Because the impacts of climate change on health are complex and often dependent on multiple confounding socioeconomic and environmental factors, the methodology for developing appropriate climate and health indicators is challenging and still emerging. The authors of each section will leverage current efforts across multiple agencies to begin to address methodological challenges and further develop climate and health indicators, including the NCA indicator work and ongoing efforts at the EPA, CDC (through the Environmental Public Health Tracking Network), NIH (in collaboration with World Health Organization), and others.

Though it is often difficult to attribute the exact impact of climate on many health indicators due to confounding factors (e.g., the ability of communities to prepare for and respond to the risks posed by climate change; the vulnerability of different populations and communities),

such indicators will be instrumental not only in tracking and measuring health impacts of climate change, but also in identifying areas where public health intervention is most needed or likely to be most effective. A more comprehensive set of indicators will collectively demonstrate and communicate observed changes in climate change risk to Americans.

Where quantitative national indicators are not available, or where health impacts are too secondary or indirect in nature to attribute to climate change, a qualitative examination of the state of the science will provide context for these additional health threats and may serve to identify areas for future research. Further investigation of the impacts of climate change on Americans' overall well-being and welfare, though important, is beyond the scope of this report.

(b) Projected Changes in Health Risks

While certain advances in the state of the science over the last five years are evident, research on projected changes in future health risk under different climate scenarios is in varying stages of development. As such, each section of

the Special Report will seek to summarize the literature on modeling and quantification efforts regarding climate impacts on human health. The authors will pay special attention to research that frames risks in terms of probability-based changes in exposure, vulnerability, and adaptive capacity.

As stated previously, four sections will include additional quantitative analyses to evaluate a range of possible changes in future health-related climate impacts and risks: (1) Extreme Heat Mortality; (2) Air Quality Impacts (Ozone or PM_{2.5}); (3) Lyme Disease; and (4) Vibrio-related Illness. The authors will leverage existing or ongoing research or analytical efforts to derive additional quantitative analyses developed specifically for this report. This work will identify areas where probabilistic changes in attributable risks can be characterized, and where scientific uncertainty has been better defined since the publication of SAP 4.6. Each section will utilize established processes for determining and reporting confidence levels and likelihood of specific impacts across a range of scenarios and possible outcomes, and will articulate all standards or modeling assumptions. Existing products from other agency workgroups, such as the USGCRP's

Metadata Access Tool for Climate and Health (MATCH) online database, will be incorporated as appropriate.

For certain health outcomes, research that characterizes human health risks in terms of probability-based changes in exposure or vulnerability may provide a way to contextualize health risks in terms relevant for public health officials and planners. For example, the relationship between projected temperature increases and certain waterborne pathogens (e.g., *Vibrio* bacteria) is well known, but the link between projected changes in exposure to these pathogens and the projected increase in disease incidence remain uncertain. Thus, a probability-based metric of changes in vulnerability may be used to simply and clearly communicate changes in risk into the future and under alternative climate scenarios where a robust national projection in the annual number of cases of such diseases is not possible to derive at this time. Where appropriate, such risk-based framing will be highly valuable to informing efforts aimed at preventing or responding to climate impacts. In addition, this section may provide a framework for conveying complex changes in risk under uncertainty by mapping especially vulnerable

populations or sites specifically related to environmental justice concerns.

(c) Other Report Scope Considerations

Geographical Scope: The focus of the Special Report is on impacts within the United States. The report may consider global linkages and implications where appropriate. For instance, global studies may be considered for certain impact areas where there is a lack of long-term, consistent historical monitoring, such as the health impacts of extreme weather events. In some instances, regional studies may be more appropriate in geographic areas where risk is not homogenous across the nation, such as the spread of Lyme Disease.

Timescales: While climate change is observed and measured on long-term (30+ years) time scales, decision frameworks for public health officials and regional planners are often based on much shorter time scales, determined by epidemiological, political, and/or budgeting factors. This Special Report will quantify the implications of overlaying impact trends that occur on typical climatological time frames (e.g., from changes in extreme weather events to

end-of-century projections of impacts such as sea level rise) on data from epidemiological time frames (e.g., from immediate or episodic health threats to cumulative exposure or the appearance of developmental effects).

Uncertainty: Uncertainty will be characterized as qualitative confidence levels and, where possible, quantitative probabilistic likelihoods of specific impacts across a range of scenarios and possible outcomes. Measures of uncertainty expressed in the Special Report will be based on scientific evidence, statistical analysis of observations or model results, and expert judgment. The Special Report will follow NCA guidelines for transparent reporting of likelihood, confidence, and uncertainty findings.

Complex Linkages and Potentially Confounding Factors: Many factors will affect the impact of climate change on human health; not all of these factors will be addressed in the Special Report. For example, a population's vulnerability (1) may be affected by direct climate changes or by non-climate factors (e.g., changes in population dynamics, economic development, education, infrastructure, behavior, technology, and ecosystems); (2) may differ across regions

and in urban, rural, and coastal communities; and (3) may be influenced by individual vulnerability factors such as age, socioeconomic status, and existing physical and/or mental illness or disability. In addition, climate change or other non-climate factors will cause changes in adaptive capacity, ranging from an individual's ability to acclimatize to different meteorological conditions to a community's ability to prepare for and recover from damage, injuries, and lives lost due to extreme weather events. Attribution and detection considerations will be discussed in the introductory section(s) of the Special Report. However, projections of many of the factors listed above, and many other compounding, secondary, or indirect climate effects, though important to consider as part of a comprehensive assessment of changes in risks, may be beyond the scope of this report.

Research Needs: While the goal of the Special Report is to highlight the current state of the science regarding climate impacts on health, research needs identified through the development of this assessment will be briefly summarized in the concluding section(s), as they may serve to inform ongoing gap analyses being conducted outside the scope of this Special Report.

(3) Process

(a) Audience, and Communicating Health Risks Associated with Climate Change

The Special Report will be designed to inform public health officials, urban planners, decision makers, and other stakeholders at multiple levels of government who are interested in better understanding the risks climate change presents to human health. The goal of this Special Report is to provide these groups with updated information on the observed and projected impacts of climate change on human health and changes in risk to health. Though the report will not include policy recommendations, this information may help inform adaptation decisions and other strategies in the public health arena. Better definitions of health risk and uncertainty will improve hazard identification and allow for better-coordinated responses to the impacts of climate change on human health. To that end, the Special Report will also highlight ongoing research focused on quantifying the risks to health associated with climate change.

(b) Lead Authors, Contributing Authors, and Required Expertise

Authors will be selected based on their demonstrated subject matter expertise, their relevant publications and knowledge of specific topics designated in the draft outline, their demonstrated writing abilities and accomplishments, and their availability, such that they can aid in the development of a robust scientific, technical assessment. As a federal interagency report, the selection of lead authors will be limited to Federal employees and their contractors. Lead Authors may include a selection of CCHHG members, attendees of an initial scoping workshop, and other federal colleagues and contractors with relevant expertise. There is potential for additional cooperation with existing efforts, including the NCA indicators team, NIH literature review workgroup, and other agency collaborations.

Contributing Authors with relevant subject matter expertise may be nominated by lead authors, CCHHG or other interagency members, and the general public (through this public federal register notice calling for contributing author nominations). Contributing Authors may be federal

employees or non-federal subject experts. If needed to fill gaps in expertise, Contributing Authors will be selected through an independent process led by an EPA contractor based on expertise (e.g., scholarly publications, etc.) and other criteria.

Collectively, the Lead and Contributing Authors will be responsible for preparing the initial draft of the report, including the text and any analysis required to synthesize the underlying studies on which the Special Report is based. Authors will rely on existing peer-reviewed literature as a basis for the report. Lead Authors will decide how best to organize their respective teams, including division of responsibility and time requirements among the Contributing and Lead Authors. In addition, Lead Authors and Contributing Authors will be responsible for reviewing relevant literature submissions made through this Federal Register Notice call for information to inform the Special Report, and for responding to public comments on the Draft Special Report. All authors should be accomplished writers and have demonstrated technical backgrounds in at least one field relevant to the implications of climate change on human health in the United States.

(c) Agency Roles

The CCHHG will be responsible for compiling and synthesizing contributions from all authors. From within the CCHHG, a steering committee for the Special Report has been established to provide guidance and coordination to staff/authors. Lead agencies (EPA, NOAA, CDC, NIH) will provide staff support including, where appropriate, contractor support. EPA will serve a coordinating function to include providing support and facilitation of two planning workshops to bring together CCHHG members, federal agency experts, and supporting contractors, as appropriate. The workshops will serve to facilitate the scoping and development of report outlines and drafts, and to identify any model analyses or data retrieval needed for the assessment. EPA will work closely with the CCHHG Steering Committee to provide others (e.g., USGCRP) with regular progress updates.

(d) Information Quality and Peer Review

The Special Report will be a federal interagency USGCRP product. As such, the process for preparation will be

consistent with the guidelines for preparing USGCRP products, with referenced materials derived primarily from the existing peer-reviewed scientific literature and consistent with USGCRP guidance regarding use of grey literature. The report will follow federal information quality, transparency, and accessibility guidelines, and will undergo peer review, public review, and final interagency review.

(e) Process for Public Engagement and Publication

The CCHHG Steering Committee plans to provide a number of opportunities for public engagement in scoping, informing, and reviewing the Special Report. During the initial scoping phase, the following opportunities will be available as described in this Federal Register Notice:

- (i) Notice of Request for Comments on Draft Report Prospectus: A 30-day call for comments on the Special Report objectives, proposed topics, and process as outlined in the Draft Prospectus.
- (ii) Call for Information: A 30-day call for submissions of recent, relevant, scientific and/or technical research studies on observed and/or projected climate change impacts on human

health in the United States that have been peer-reviewed and published or accepted for publication.

- (iii) Nominations for Contributing Authors: A 30-day call for nominations of Contributing Authors to assist chapter author teams in the development of the Special Report chapters or sections. Interested parties are invited to submit nominations of subject matter experts, with descriptions of relevant expertise and publications
- (iv) Notice of Public Forum to Inform the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States: A free and open public forum to be convened March 13, 2014 at a federal facility in Washington, D.C. to facilitate engagement with stakeholders, non-federal subject matter experts, and interested public.

After completion of a Public Review Draft of the Special Report, EPA on behalf of the USGCRP will issue a second Federal Register Notice to announce a 45-day public comment period for the draft report. The public will be able to

view the Draft Special Report and submit comments to an online docket available on the USGCRP's website. The CCHHG Steering Committee will also work to schedule side events, presentations at relevant conferences, and webinars to further engage the community of experts and the general public. Public comments received on the Draft Special Report will be evaluated and used to inform the final report.

The CCHHG and USGCRP will publish the final Special Report electronically and consider options for hard copy publication. They will also explore options for online integration with future phases of the USGCRP's Global Change Information System. A full communications plan will be developed by the lead and supporting agencies along with designated authors, with input and assistance from the USGCRP communications team.

(f) Proposed Timing

The Special Report is an interim report, designed to be released after the third and before the fourth National Climate Assessments. A draft of the Special Report is

expected to be made available for public comment early in 2015, with final publication expected in late 2015.

II. Call for Relevant Scientific Information to Inform the Special Report

Interested parties are invited to assist the EPA and USGCRP in collecting and refining the scientific information base for the assessment. To do so, parties are asked to submit recent, relevant, scientific and/or technical research studies on observed and/or projected climate change impacts on human health in the United States that have been peer-reviewed and/or published or accepted for publication in the peer reviewed literature.

All scientific literature submitted in response to this call for information must be received within the 30-day call for information period, beginning March 1, 2014 and ending 11:59 p.m. Eastern Time on March 31, 2014. Submissions must be uploaded electronically at:

<http://globalchange.gov/component/content/article/990>

III. Call for Contributing Authors Nominations

EPA and the CCHHG are also calling for nominations for Contributing Authors to assist specific chapter author teams in the development of the Special Report chapters or sections. Interested parties are invited to submit nominations of subject matter experts, with descriptions of relevant expertise and publications. Contributing authors will assist in the preparation of specific sections of the report, working closely with chapter author leads and teams. Submissions must demonstrate that nominees are accomplished English-speaking writers with demonstrated technical backgrounds, such that they can aid in the development of a robust scientific, technical assessment as subject matter experts in one or more of the following areas of climate-related health impacts:

- (a) Thermal Extremes: Heat and Cold Waves
- (b) Air Quality Impacts
- (c) Vectorborne and Zoonotic Disease
- (d) Waterborne and Foodborne Diseases
- (e) Food Safety
- (f) Extreme Weather and Climate Events
- (g) Mental Health and Stress-Related Disorders
related to Climate Change

(h) Vulnerable Regions and Subpopulations to Health
Impacts of Climate Change

Responses to this request must be made within the 30-day call for Contributing Author nominations period, beginning March 1, 2014 and ending 11:59 p.m. Eastern Time on March 31, 2014. A completed nomination form, including a curriculum vitae or resume for each nominee that demonstrates the nominee's relevant area of expertise, must be submitted electronically at:

<http://globalchange.gov/component/content/article/990>. The curriculum vitae or resume must be in English and preferably no more than 5 pages, identifying topical expertise and relevant publications. The nomination form will also ask for a brief statement of primary expertise (e.g., projected climate impacts on air quality, climate-related vectorborne diseases, waterborne diseases in the U.S.). Please also ensure that curriculum vitae or resume include address, phone number, e-mail address, education, and the following information, if applicable: professional association membership, committee involvement, involvement in the development of other scientific assessments, scientific publications in this field, and relevant leadership activities.

IV. How to Register for the Public Forum to Inform the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States

The Public Forum will be held on March 13, 2014, at the EPA William Jefferson Clinton East building, Room 1153, 1301 Constitution Avenue N.W., Washington, D.C. 20460. It is open and free to the public, but with limited space available. The first 120 people to register may attend.

Registration will be available beginning February 13, 2014.

Please register by going to

<http://globalchange.gov/component/content/article/990>.

Because this Public Forum is being held at a U.S. government facility, individuals planning to attend the hearing should be prepared to show valid picture identification to the security staff in order to gain access to the meeting room. The forum is an opportunity for public engagement, but since the event will not be formally recorded, it does not replace the Call for Information request in Section II or the Call for Contributing Author Nominations in Section III of this Notice; all submissions of relevant scientific information and Contributing Author

nominees must be made to the USGCRP website as described above.

Dated: January 28, 2014.

Sarah Dunham,

Director, Office of Atmospheric Programs.

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