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### **Reporting Summary**

Nature Research wishes to improve the reproducibility of the work that we publish. This form provides structure for consistency and transparency in reporting. For further information on Nature Research policies, see <u>Authors & Referees</u> and the <u>Editorial Policy Checklist</u>.

Stati	stics
For all	statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section,
n/a C	onfirmed
	The exact sample size (n) for each experimental group/condition, given as a discrete number and unit of measurement
	A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
	The statistical test(s) used AND whether they are one- or two-sided Only common tests should be described solely by name; describe more complex techniques in the Methods section.
	A description of all covariates tested
$\boxtimes$	A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons
	A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
	For null hypothesis testing, the test statistic (e.g. <i>F</i> , <i>t</i> , <i>r</i> ) with confidence intervals, effect sizes, degrees of freedom and <i>P</i> value noted Give <i>P</i> values as exact values whenever suitable.
	For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
	For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
	$\Box$ Estimates of effect sizes (e.g. Cohen's $d$ , Pearson's $r$ ), indicating how they were calculated
	Our web collection on statistics for biologists contains articles on many of the points above.
Soft	ware and code

Policy information about availability of computer code

Data collection

Expert elicitation: Each expert-elicitation interview was administered over 6-8 hours by KJM, assisted by CMK, at the home institution of the expert. Based on audio recordings, transcripts were prepared by CMK for each interview (constituting 787 pages in total) and then summarized anonymously by KJM with each expert randomly assigned an identifying number (Project Data 2).

Group deliberation: The assessment facilitators drafted the group-deliberation agenda in advance of the meeting, with revision following the expert group's individual review of it (for the final agenda and associated individual workbook, see Methods Files 4 and 5). Based on audio recordings of the group deliberation, transcripts were again prepared (constituting 163 pages in total), with points raised then combined anonymously with the analysis of the individual expert-elicitation interviews (Project Data 2). After the group deliberation, each expert revisited his or her judgments from the individual expert elicitation, updating them in some cases (Extended Data Figures 3 and 4).

Data analysis

The summarized transcripts from the individual expert-elicitation interviews and group deliberation were analyzed by KJM through qualitative content analysis. Unique points raised were coded across the assessment themes. Commonalities and differences in expert perspectives were identified iteratively and inductively through multiple rounds of synthesis. Throughout the resulting summary, each expert is consistently identified with his or her randomly assigned number, and group deliberation inputs are referenced as GD.

The nature of the corresponding traceable accounts—the linkages from expert judgments to their basis in the underlying evidence—was evaluated. Degree-of-certainty descriptors were applied accordingly to characterize existing evidence (limited to robust) and agreement about the evidence (low to high). This approach draws from guidance developed for and applied by lead authors in assessments by the Intergovernmental Panel on Climate Change, as well as from analysis of it.

In plots of subjective probabilistic judgments elicited, each expert's randomly assigned identifying number is used. For questions about historical and future conflict risk, as well as most influential causal factors, measures of sensitivity and increase—decrease ratio, related to climate, are defined in the analysis of judgments made. Sensitivity is (I + D) / T. Here, I is the sum of probabilities assigned to the moderate and substantial increase categories for relevant elicitation questions. D is the sum of probabilities assigned to the moderate

and substantial decrease categories. T is the total probability assigned across the substantial, moderate, and negligible change categories. The increase–decrease ratio is I / (D + I). An increase–decrease value of 1 indicates weighting of the moderate and substantial increase categories, but not the decrease categories. An increase–decrease value of 0.5 indicates equal weighting of the increase and decrease categories.

This analysis synthesized the 950 pages of interview and group-deliberation transcript, along with the subjective probabilistic judgments documented, into a first draft of this manuscript. The full expert group then commented heavily on the draft through multiple rounds of revision.

For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors/reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Research guidelines for submitting code & software for further information.

### Data

Policy information about availability of data

All manuscripts must include a data availability statement. This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A list of figures that have associated raw data
- A description of any restrictions on data availability

Data and materials availability: All data are available in the main text or the supplementary materials. These include weblinks to the five methods files and two supplementary data files.

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Please select the one below	v that is the best fit for your research.	If you are not sure, read the appropriate sections before making your selection.	
Life sciences	Behavioural & social sciences	Ecological, evolutionary & environmental sciences	
For a reference copy of the document with all sections, see <u>nature.com/documents/nr-reporting-summary-flat.pdf</u>			

## Behavioural & social sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description

The expert assessment combined three primary phases: (A) in-depth, full-day expert-elicitation interviews, conducted individually with each member of an 11-person climate and conflict expert group; (B) an in-person, two-day deliberation of the expert group on the interview results and associated extensions; and (C) development of a synthesis manuscript co-authored by everyone in the expert group. The author team of this manuscript consists of the climate and conflict expert group (WNA, HB, MB, JDF, CSH, JFM, JO, PR, JS, KAS, NU) and the assessment facilitators (KJM, CMK, CBF).

Each of these expert-assessment phases has substantial precedence in the applied-decision-sciences and assessment literature. For decades, combination of the three phases has been recommended, but not yet attempted, to reduce biases that arise in expert-panel assessment (phases B and C) without sufficient attention to the range of individual perspectives on the literature and its uncertainties (phase A).

Research sample

12 experts were identified based on a goal of spanning a wide range of relevant perspectives, in line with expert-elicitation best practices. In particular, the experts were selected to encompass a wide range of relevant disciplines (e.g., political science, economics, geography, environmental science), career stages and institutions, beliefs about the strengths of connections between climate and conflict, and relative focus on climate versus conflict.

Sampling strategy

The assessment facilitators identified the expert group through extensive literature searches for publications on climate and conflict and additional suggestions from HB, MB, JDF, and KAS for general conflict scholars. For each potential expert (~65 in total), the facilitators determined disciplinary background, affiliation, published work and associated metrics, collaborators, relative emphasis on comparative and crosscutting analyses including replicable quantitative empirical research, previous conclusions about climate and conflict, and relative focus on climate versus conflict.

Data collection

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Timing

Individual expert interviews September-October 2017, group deliberation December 3 and 4, 2017.

Data exclusions	No data exclusions.
Non-participation	Out of 12 invited experts, one (general conflict) scholar declined participation due to existing workload. The informed consent process allowed experts to terminate participation at any time; all experts who began the study remained in it through to the end.
Randomization	Not relevant,

Reporting for	specific materials, systems and methods
•	ors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each materi t to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response
Materials & experiment	al systems Methods
n/a Involved in the study	n/a Involved in the study
Antibodies	ChIP-seq
Eukaryotic cell lines	☐ Flow cytometry
Palaeontology	MRI-based neuroimaging
Animals and other orga	nisms
Human research partici	pants
Clinical data	
()	
Human research pa	rticipants
Policy information about studi	es involving human research participants
Population characteristics	See above.
Recruitment	See above.
Ethics oversight	Stanford University IRB reviewed and approved the research protocol for this study (protocol number 41909) and research continues to be under the oversight of this panel.

Note that full information on the approval of the study protocol must also be provided in the manuscript.