

49 **Preface**

50 This report is one of 21 Synthesis and Assessment Products (SAPs) commissioned by the
51 U.S. Climate Change Science Program (CCSP) as part of an interagency effort to integrate
52 federal research on climate change and to facilitate a national understanding of the critical
53 elements of climate change. Most of these reports are focused on specific substantive issues in
54 climate science, impacts and related topics. In contrast, the focus of this report is methodological.
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56 Uncertainty is ubiquitous. Of course, the presence of uncertainty does not mean that people can
57 not act. As this report notes, in our private lives, we decide where to go to college, what job to
58 take, whom to marry, what home to buy, when and whether to have children, and countless other
59 important choices, all in the face of large, and often, irreducible uncertainty. The same is true of
60 decisions made by companies and by governments.

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62 Recent years have seen considerable progress in the development of improved methods to
63 describe and deal with uncertainty. Progress in applying these methods has been uneven,
64 although the field of climate science and impact assessment has done somewhat better than many
65 others.

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67 The primary objective of this report is to provide a tutorial to the climate analysis and decision-
68 making communities on current best practice in describing and analyzing uncertainty in climate-
69 related problems. While the language is largely semi-technical, much of it should also be
70 accessible to non-expert readers who are comfortable with treatment of technical topics at the
71 level of journals such as *Scientific American*. We have also prepared a "Non-Technical

72 Summary." Readers who lack the time or background to read the detailed report, may prefer to
73 start there, and then sample from the main report as they find topics they would like to learn
74 about in greater depth.