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Review of *Floods, Droughts, and Climate Change* By Michael Collier and Robert H. Webb

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Floods, Droughts, and Climate Change. By Michael Collier and Robert H. Webb. Tucson: University of Arizona Press, 2002. x + 153 pp. Illustrations, notes, glossary, suggested readings, index. \$17.95 paper.

For any of us over the age of fifty, the weather has noticeably changed in our lifetime. Meteorologists, hydrologists, and climatologists have concentrated their efforts on assessing climate variations to a much greater degree than during the first half of the twentieth century. Thus the weather we perceive as changing apparently *is* changing, or at least we are becoming more aware of the forcing mechanisms associated with change. This book introduces the layperson to the basic fundamentals associated with the occurrence of two forms of natural disasters, floods and droughts, and to the potential influence of a changing climate on the frequency of these events. The commonality between these complex weather-related disasters, *climate*, is developed as the fundamental link to our understanding of their impact on humankind. To comprehend these extremes of weather, the authors contend, we must study them within the context of climate on a global scale, even if a weather event itself is regionally localized to no greater extent than a small drainage basin. By establishing the premise that floods and drought are not “aberrations,” and do not occur either randomly or in cycles, the authors seek to explain the complexities of a weather machine that produces patterns of precipitation, wind, and temperature as manifestations of meteorological extremes.

The authors know their audience and write in nontechnical, easy to grasp prose. Beginning with examples gleaned from around the world, they offer their readers descriptions of droughts and floods accompanied by impressive photographs. Of course the Dust Bowl’s conditions are described, but, interestingly, centered on the dryland farmers of southeastern Alberta and southwestern Saskatchewan. Woven into modern drought and flooding episodes are descriptions of past events such as late Pleistocene floods from Montana to the Pacific associated with the breakup of ice-dams releasing waters estimated to have been “a thousand Mississippi River floods flowing together.” Similarly, readers are introduced to Martian floods which apparently dwarfed by a hundred and fifty times events leading to the draining of Pleistocene Lake Missoula.

The authors reason that to understand these natural hazards one must have an understanding of “the weather machine,” essentially the fundamentals of the thermodynamics driving the Earth’s climate system. At times the narrative becomes too simplistic, resulting in misinformation. Take, for example, the following description of Pleistocene glaciation: “Rocks throughout the high latitudes of North America were gouged by glaciers that scratched southward from the pole, scooping out the Great Lakes as they advanced.” Of course Lake Superior was not created by glacial erosion, but the most objectionable aspect

of this statement is its reinforcing the myth that continental glaciers came southward from “the pole.”

Although written for non-scientists and weather scholars, the book’s myriad of descriptive weather-climate extremes should appeal to a wide range of weather enthusiasts. **Merlin P. Lawson**, *Department of Geosciences, University of Nebraska-Lincoln*.