

AAG 2019 Abstract

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Title: How Views of “Dubious” Science Affect Public Perception of Floodplain Management along the Yellowstone River, Montana, USA

Abstract (250 words):

As part of the U.S. National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) creates Flood Insurance Rate Maps (FIRMS) which determine floodplain boundaries and flood zones. In two communities along the Yellowstone River, updated FIRMS resulted in an expansion of the designated 100-year floodplain. Property owners within the newly designated floodplain are now subject to flood insurance and building restrictions. Interviews with 31 residents in Miles City and Glendive reveal skepticism about the scientific integrity and political nature of the FIRMS. The reasons for residents’ skepticism are four-fold. First, interviewees noted that FEMA came “knocking on small town doors” after Hurricane Katrina. They saw this as a way for FEMA to “fill the coffers.” Second, interviewees pointed to “exemptions” in the FIRMS around oil refineries along the river and certain downtown buildings as further evidence of the political nature of FIRMS. Third, interviewees saw inconsistent enforcement of floodplain regulations and changes in levee standards as examples of subjectivity and ineptitude in floodplain management. Fourth, interviewees observed epistemological differences in the definition and measurement of a “flood” by different entities (e.g., FEMA, insurance companies, scientists, and residents). Other comments cast doubt on a range of scientific aspects related to floodplain management (e.g., can water gages be trusted? Why don’t FIRMS account for elevation? Why would a FEMA report mention “ice jams” in July?). We argue that these views of “dubious” science are barriers to getting residents to think about – and adopt – flood preparedness measures.