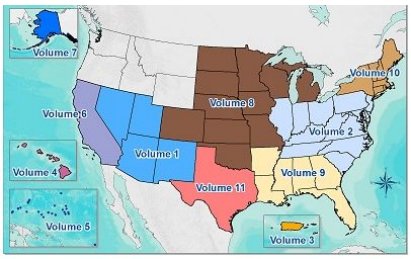
NOAA Atlas-14 Program Summary

March 2, 2020

WHAT IS ATLAS 14: The official peer-reviewed record of precipitation frequency estimates for the United States and affiliated territories is produced by the National Weather Service (NWS) Office of Water Prediction, part of the National Oceanic and Atmospheric Administration (NOAA). Atlas 14 information quantifies the precipitation amount, at a particular location and for a given duration, that qualifies as a "NN-year" precipitation event (i.e. has a 1-in-NN chance of being exceeded in any given year).

WHY IS IT IMPORTANT: Precipitation frequency estimates are needed for infrastructure design, development and planning regulations, environmental management, and hydrometeorologic modeling and analysis. Engineering use includes stormwater management for structures and transportation projects, development considerations include floodplain and watershed management, and hydrologic studies cover reservoir and flood protection projects.



HOW IS INFORMATION PUBLISHED: Atlas 14 information is developed in regional volumes. There are currently (11) Atlas 14 volumes, with Volume 1 released in 2004 and Volume 11 in 2018. Atlas 14 data are available at: https://hdsc.nws.noaa.gov/hdsc/pfds/

HOW IS ATLAS 14 CURRENTLY FUNDED: NOAA Atlas 14 is not funded by Congressional appropriations, but rather by affected states and other users on a cost-reimbursable basis. The volume update cycle is driven by stakeholder requirements and partner engagement. Individual volumes are supported by a pooled fund approach managed by the Department of Transportation, with contributions from partners at the local, county, state, and federal level.

WHAT ARE PROGRAM PLANS: The near-term goal is to complete Atlas 14 national coverage by developing Volume 12 for the Northwest states, continuing to assume a stationary climate (i.e. no climate change). Subsequent options would be driven by stakeholder requirements, which include two new volumes for the entire United States, one assuming a stationary climate, and a second that incorporates methods assuming a non-stationary climate.

Atlas 14 needs are summarized in the October 2018 Extreme Rainfall Product Needs[1] report by the Advisory Committee on Water Information (ACWI), Subcommittee on Hydrology (SOH), Extreme Storm Events Working Group (ESEWG). Specific recommendations include a sustainable funding approach, improvements in methodology (e.g. consideration of non-stationary climate), and product enhancements (e.g. areal reduction factors, design storms, expanded confidence intervals). Updates should be performed more often, at least every 5-10 years, using the most recent precipitation data.

CONTACT: *Mark Glaudemans, NWS Office of Water Prediction, Geo-Intelligence Division Director can be reached at 301-427-9369 or mark.glaudemans@noaa.gov.*

[1] https://acwi.gov/hydrology/extreme-storm/product_needs_proposal_20181010.pdf