

## 2-Year, 24-Hour Storm Frequencies

Part 2.2.12 of the 2022 CGP indicates that if you install a sediment basin, the basin must provide storage for either (1) the calculated volume of runoff from a 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.

This page provides information to help determine the volume of precipitation associated with the local 2-year, 24-hour storm event.

You should begin by determining the local 2-year, 24-hour storm volume from resources developed by the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS). The following are part of NOAA's Atlases 2 and 14: the rainfall frequency atlases and the Precipitation Frequency Data Server (PFDS). The volumes of NOAA Atlases 2 and 14 serve as national standards for rainfall intensity at specified frequencies and durations in the United States.

- NOAA Atlas 14 data are available for 11 U.S. regions (Figure H-1).
- Atlas 14, Vol. 3 (covering WA, OR, ID, MT, and WY) has not been published (as of October 2021), and the PFD for these states can be obtained from NOAA Atlas 2 (see table below).

The table below identifies documentation that provides methods to determine precipitation frequency for a given permit area. EPA notes that permittees may also use alternative peer-reviewed data sources not listed in Table H-1 to determine the 2-year, 24-hour storm for their site.

### Method to Determine Precipitation Frequency Based on Permit Area

PERMIT AREA	METHOD TO DETERMINE PRECIPITATION FREQUENCY (AND MOST RECENT REVISION DATE*)
District of Columbia	PDFS; <a href="#">NOAA Atlas 14, Vol. 2 (2006)</a>
Idaho	<a href="#">NOAA Atlas 2, Vol. 5 (1973)</a>
Massachusetts	PDFS; <a href="#">NOAA Atlas 14, Vol. 10 (2015)</a>
New Hampshire	PFDS; <a href="#">NOAA Atlas 14, Vol. 10 (2015)</a>
New Mexico	PFDS; <a href="#">NOAA Atlas 14, Vol. 1 (2011)</a>
Selected Pacific Islands	PFDS; <a href="#">NOAA Atlas 14, Vol. 5 (2011)</a>
Puerto Rico and the U.S. Virgin Islands	PFDS; <a href="#">NOAA Atlas 14, Vol. 3 (2008)</a>
Other	PFDS; <a href="#">NOAA Atlas 2 or 14 (2015)</a>

*\*As of October 13, 2021*

### How to Determine Your Local 2-year, 24-hour Storm Size

Projects located in the District of Columbia, Massachusetts, New Hampshire, New Mexico, Puerto Rico, U.S. Virgin Islands, or Pacific Islands can use the PFDS at <https://hdsc.nws.noaa.gov/hdsc/pfds/> (see attached map), or the appropriate NOAA Atlas 14 Volume at [https://www.weather.gov/owp/hdsc\\_currentpf](https://www.weather.gov/owp/hdsc_currentpf) to determine their precipitation frequency.

The PFDS is an easy to use, point-and-click interface to U.S. precipitation frequency estimates and intensities. The opening PFDS screen is a clickable map of the United States archived by NOAA. Upon clicking on a state, a state-specific interface appears. From this page the user selects the following:

- A location: Either via clicking on the map or manually entering a longitude/latitude coordinate;
- Data type: precipitation depth or precipitation intensity;
- Units: English or Metric; and
- Time series type: partial duration or annual maximum.

Additionally, the PFDS also serves as a tool for providing references and other information for other current precipitation frequency standards that are not yet updated.

Projects located in **Idaho** can use the NOAA Atlas 2, Vol. 5 to determine their precipitation frequency. NOTE: Precipitation Frequencies on the NOAA Atlas 2, Vol. 5 are in tenths of an inch and will have to be converted to inches to determine precipitation frequency. NOAA Atlas 2, Vol. 5 can be accessed at [https://hdsc.nws.noaa.gov/hdsc/files25/Atlas2\\_Volume5.pdf](https://hdsc.nws.noaa.gov/hdsc/files25/Atlas2_Volume5.pdf) (See also attached map of NOAA Atlas 2, Vol. 5)

NOAA's National Weather Service  
**Hydrometeorological Design Studies Center**  
Precipitation Frequency Data Server (PFDS)

Home Site Map Organization

**Precipitation Frequency Data Server (PFDS)**

State:

Legend: Updated data available

USA.gov

The map displays the following states with updated data available (shaded blue): WA, OR, ID, MT, ND, MN, WI, MI, NY, VT, NH, ME, CT, MA, RI, PA, NJ, DE, MD, VA, WV, OH, IN, IL, IA, NE, KS, MO, TN, KY, NC, SC, GA, AL, MS, AR, OK, NM, CO, UT, NV, CA, AZ, TX, LA, FL. States without updated data (white): WA, OR, ID, MT, ND, MN, WI, MI, NY, VT, NH, ME, CT, MA, RI, PA, NJ, DE, MD, VA, WV, OH, IN, IL, IA, NE, KS, MO, TN, KY, NC, SC, GA, AL, MS, AR, OK, NM, CO, UT, NV, CA, AZ, TX, LA, FL.

[NOAA National Weather Service Hydrometeorological Design Studies Center Precipitation Frequency Data Server Map](#)

