

Frequently Asked Questions – Atlas 14 precipitation data

Will a technical memorandum be issued to address any necessary modifications to the drainage manual due to the use of the Atlas 14 data?

Yes we will issue a Technical Memorandum.

Is MnDOT going to use the Atlas 14 data immediately to determine design flow rates for culverts? I have some projects that were started prior to publishing date and would prefer to not have to redesign these items.

While we are encouraging immediate use of Atlas 14 for future projects, there will be a phase in period for projects already underway where it is not feasible to use Atlas 14. You should discuss projects already underway directly with whoever hired you; they will make the decision on if it is feasible to change to Atlas 14 or not.

Will the Atlas 14 PFDS data be replacing the Geopak Intensity Duration Frequency (IDF) curves for storm sewer design?

Atlas 14 replaces the IDF curves in the MnDOT Drainage Manual. Initially each design will require a project specific Geopak Drainage library with the project IDF data, however we will be reviewing the data to determine if we can provide regionalized data for use in Geopak in the future. There will be a helpsheet on the web page in the near future showing how to import the IDF data into the Geopak Drainage library.

Will the minimum overtopping frequency for culverts in Chapter 5 of the drainage manual remain the same?

There are no plans at this time to change design frequencies for culverts.

How does Atlas 14 impact bridge and large culvert design?

Bridges and large culverts are not typically designed with rainfall-runoff models, generally gage station data or regression equations (StreamStats) are used to determine the design flow for structures with large drainage areas and therefore Atlas 14 will not impact the hydrology. The regression equations are regularly updated by USGS approximately every ten years and the last ones included data thru 2005 so they are not out of date.

How does Atlas 14 data impact Flood Insurance Studies

For many Flood Insurance Studies, especially larger rivers, the hydrology is based on stream gauge analysis. The updated Atlas 14 precipitation data will not impact that.

For Flood Insurance Studies that are based on precipitation data, when studies are updated, they will use the Atlas 14 data. Updating of studies will be dependent on funding.

I've sent a request to the DNR with this question – hopefully we can get a more official response to post.