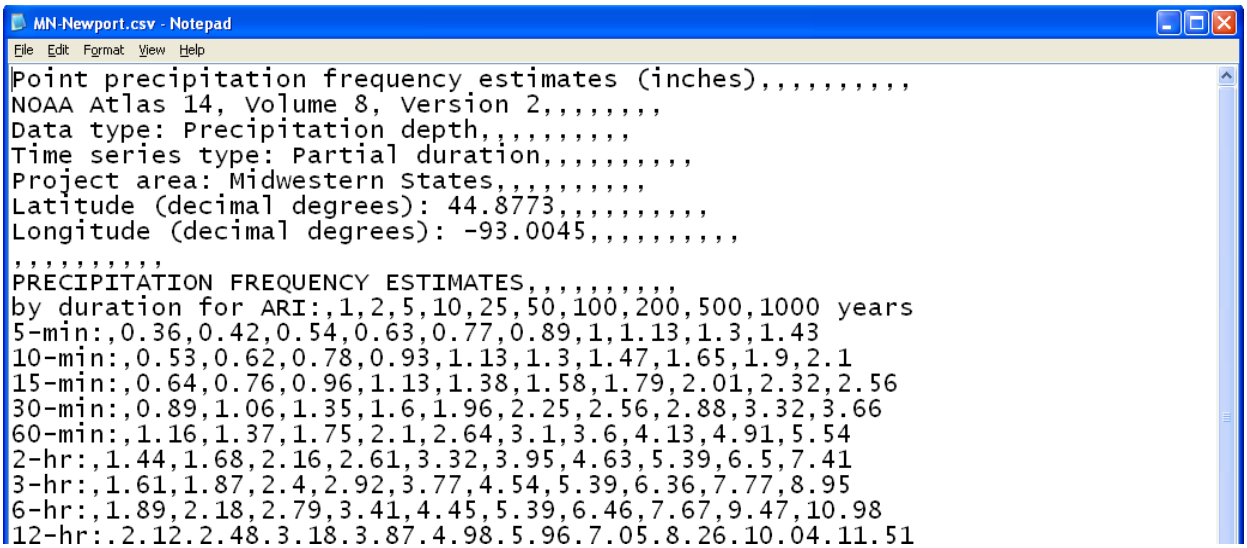
Importing Atlas 14 Data into HydroCAD

Export Data from Atlas 14 Precipitation Data Frequency Server

Data should be exported and edited so that when open in a text editor it looks like file below. See helpsheet **Downloading Data Using Internet Explorer 8** on the Atlas 14 web page.

http://ihub/bridge/hydraulics/atlas14/pdf/Atlas_14_DownloadingDataUsingInternetExplorer8.pdf



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Point precipitation frequency estimates (inches),,,,,,,,,,
NOAA Atlas 14, Volume 8, Version 2,,,,,,,,
Data type: Precipitation depth,,,,,,,,,,
Time series type: Partial duration,,,,,,,,,,
Project area: Midwestern States,,,,,,,,,,
Latitude (decimal degrees): 44.8773,,,,,,,,,,
Longitude (decimal degrees): -93.0045,,,,,,,,,,
,,,,,,,,,,
PRECIPITATION FREQUENCY ESTIMATES,,,,,,,,,,
by duration for ARI:,1,2,5,10,25,50,100,200,500,1000 years
5-min:,0.36,0.42,0.54,0.63,0.77,0.89,1,1.13,1.3,1.43
10-min:,0.53,0.62,0.78,0.93,1.13,1.3,1.47,1.65,1.9,2.1
15-min:,0.64,0.76,0.96,1.13,1.38,1.58,1.79,2.01,2.32,2.56
30-min:,0.89,1.06,1.35,1.6,1.96,2.25,2.56,2.88,3.32,3.66
60-min:,1.16,1.37,1.75,2.1,2.64,3.1,3.6,4.13,4.91,5.54
2-hr:,1.44,1.68,2.16,2.61,3.32,3.95,4.63,5.39,6.5,7.41
3-hr:,1.61,1.87,2.4,2.92,3.77,4.54,5.39,6.36,7.77,8.95
6-hr:,1.89,2.18,2.79,3.41,4.45,5.39,6.46,7.67,9.47,10.98
12-hr:,2.12,2.48,3.18,3.87,4.98,5.96,7.05,8.26,10.04,11.51
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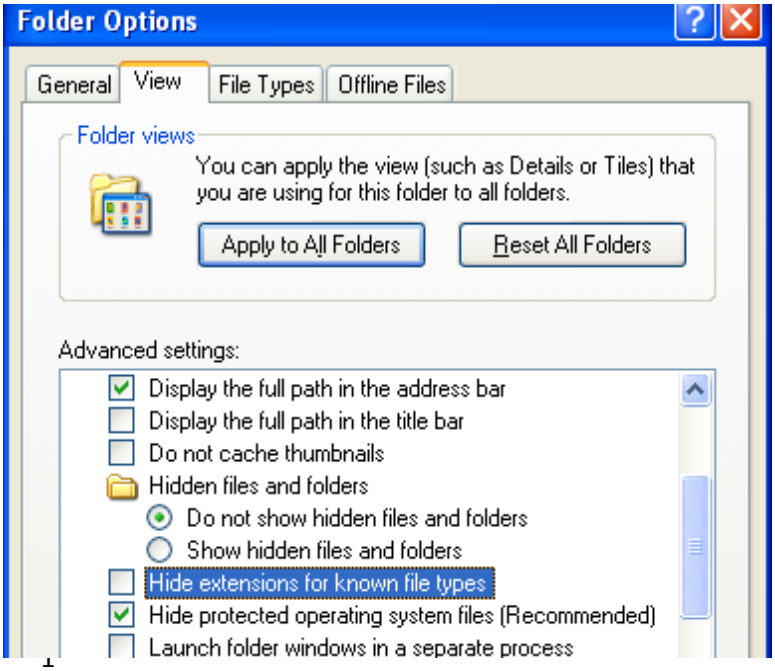
Open Data file in HydroCAD

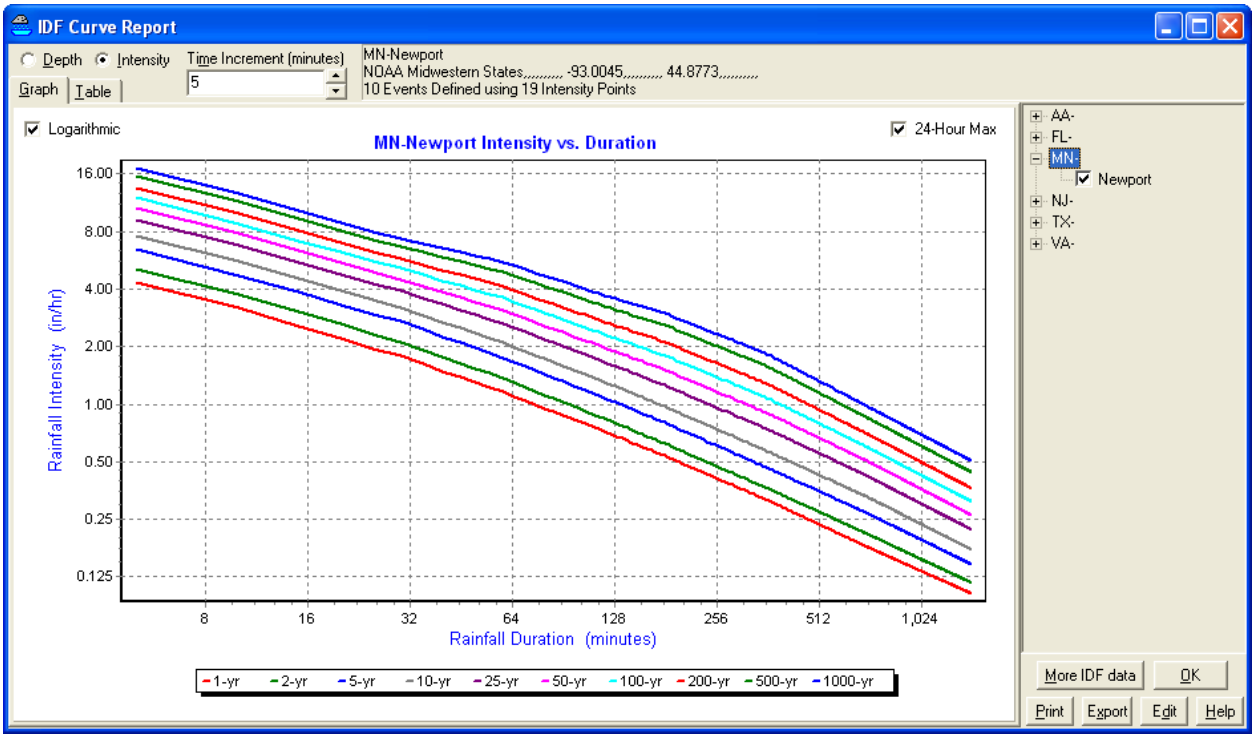
Copy file to directory with HydroCAD project file

Rename file and change extension of atlas 14 data to "hci"

(If extensions not shown, then go to windows explorer and select Tools > Folder Options > View and toggle off Hide Extensions for known file types.



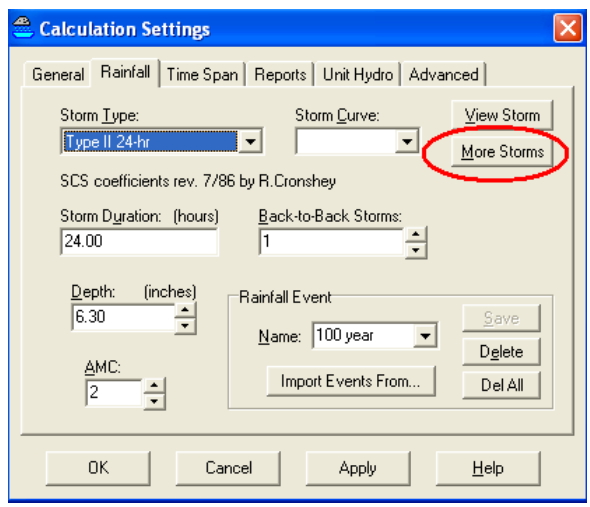
Double click on the hci file in Windows Explorer to verify that it opens in HydroCAD



Import Atlas 14 Rainfall Data into HydroCAD Project

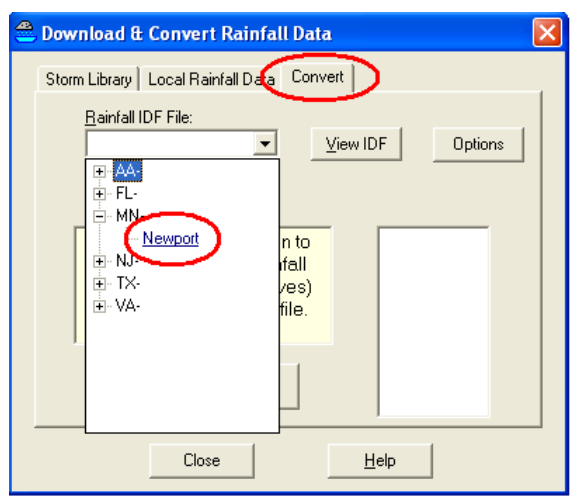
Open project and go to Settings > Calculation > Rainfall

Select More Storms

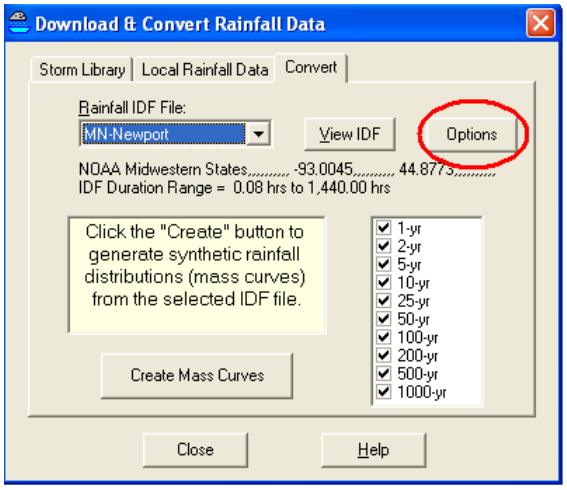


Select the Convert Tab

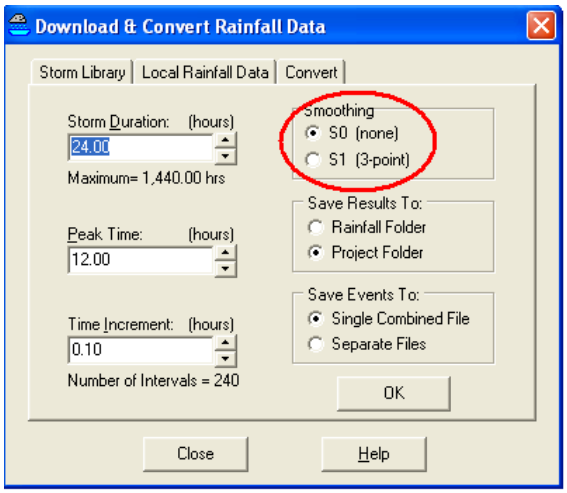
Click on the dropdown arrow by Rainfall IDF File and select the rainfall distribution.



Select Options button

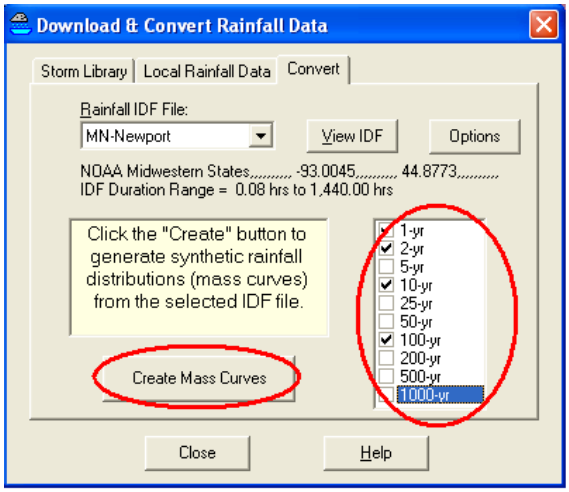


Select the S0 (none) smoothing option and OK



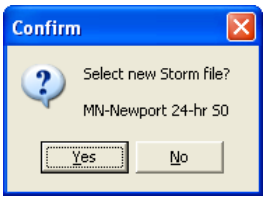
Toggle off Return Periods not used

Select Create Mass Curves



Confirm Store curves in project file

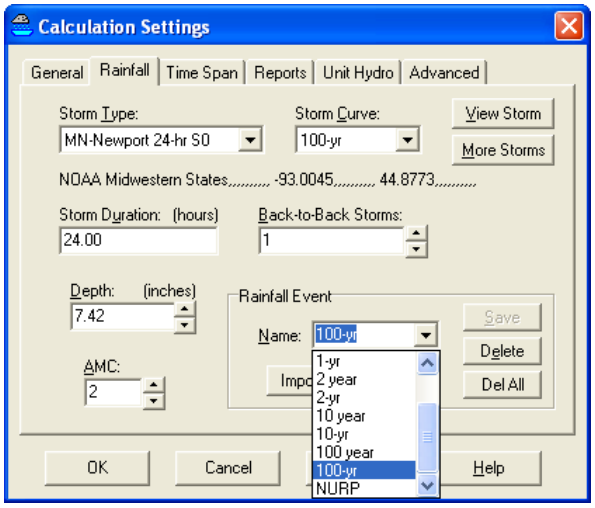
Confirm Select new Storm file

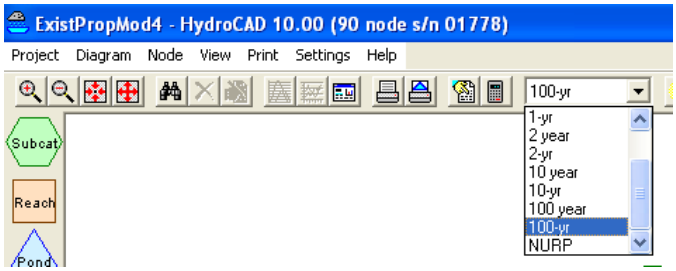


For message box asking to replace all current rainfall events:

- If new project and just using Atlas 14 rainfall, then click on Yes.
- If existing project and you want to keep previous rainfall information the project, then click on No.

Rainfall events can then be selected from the Calculations Settings dialog or from the drop down Events on the main view.





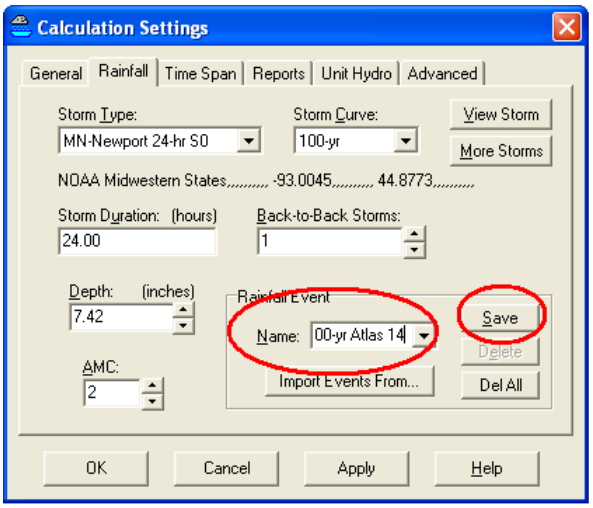
Optional: Rainfall events can be renamed on the Calculation Settings Rainfall dialog.

Select the rainfall event

Edit the name

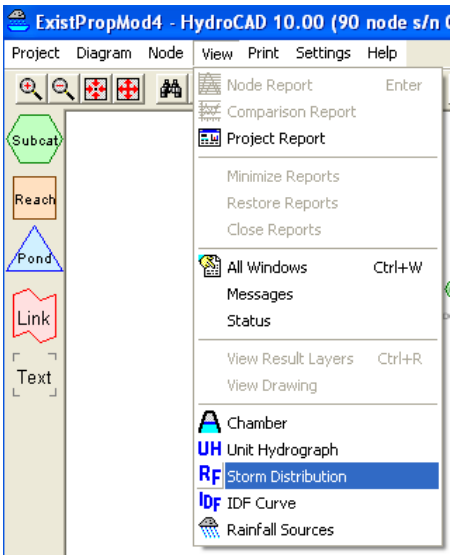
Select Save – this creates a new rainfall event

Delete rainfall event with non-edited name

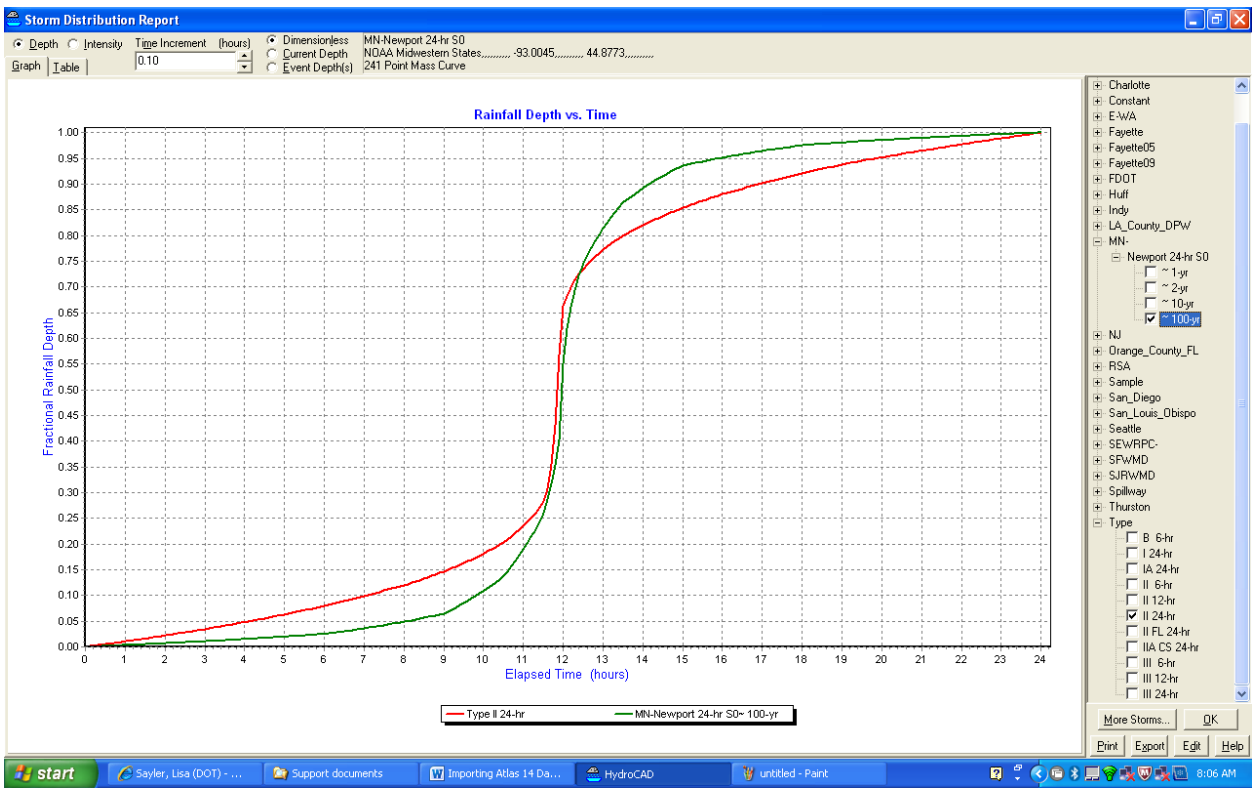


Compare Rainfall Distributions

To compare the storm distribution, select View > Storm Distribution



Toggle on/off storms to compare. For this location, the Atlas 14 rainfall distribution is more intense than the NRCS Type II distribution.

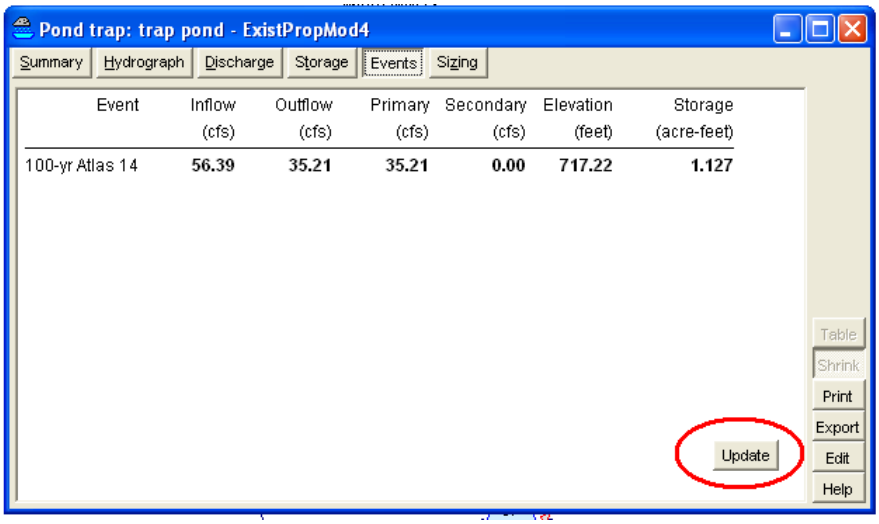


Compare results from multiple events

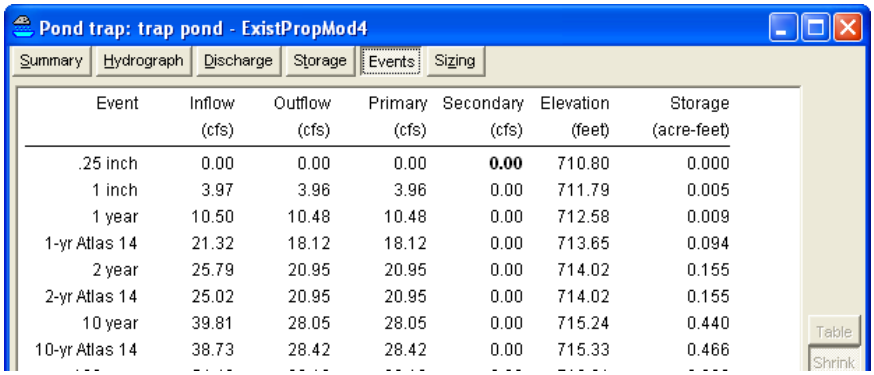
The results from multiple rainfall events can be displayed in tabular form. Go to a node and double click to bring up the results dialog.

Select the Events tab

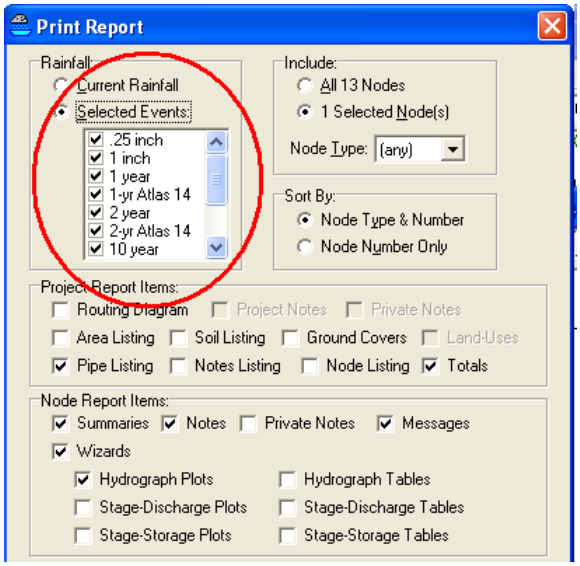
Click on the Update button



The computed results from all of the storm events in the project will be computed and displayed in the table.



Multiple events can be included in the report as desired by selecting appropriate events from the Print > Report dialog.



5/1/2013 - LKS