

STORET(S)



KATHY BYRD, ENVIRONMENTAL MANAGER – DATA SERVICES SUBSECTION

“Legacy STORET”

The original STORET (EPA Legacy) database was developed 30 years ago to allow various agencies to share water quality information.

STORET was a mainframe computer database operated and maintained by the EPA. Government users of the database were assigned user IDs and passwords to store and retrieve data. Public access to the data was only available through the EPA and required a staff member to query the database and send the results to the requestor.

Legacy STORET housed chemical, physical and biological data, but did not provide information on the monitoring *metadata*. (QA/QC)

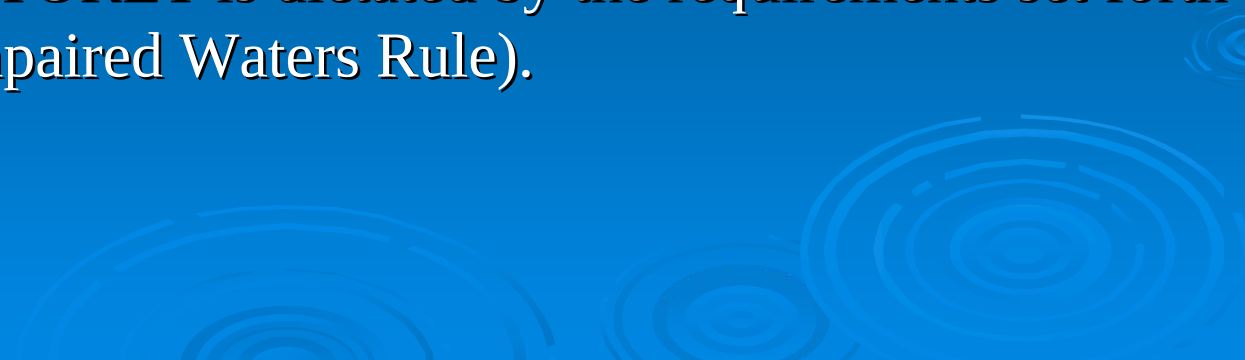
--Text taken from <http://wqm.igsb.uiowa.edu>

Modernized STORET

The modern version of STORET was officially put into use January 1, 1999.

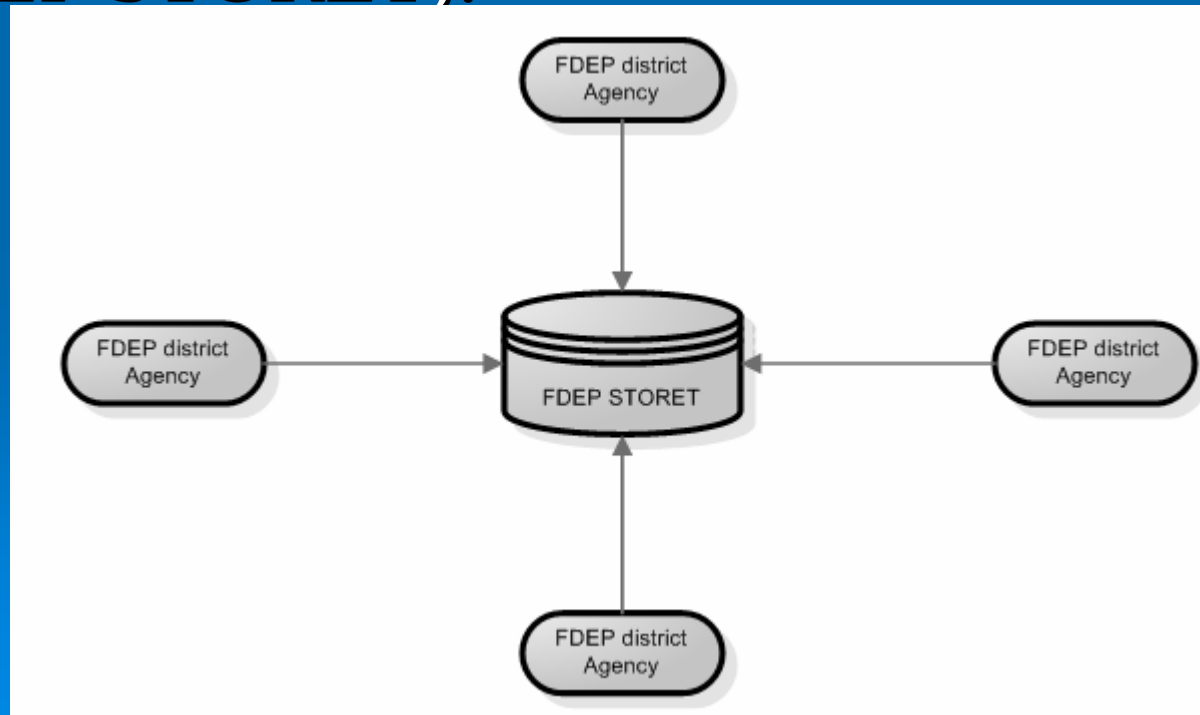
Not all states use STORET, but Florida chose the Oracle-supported database as their “central repository” for the State’s ground and surface waters.

Florida’s use of STORET is dictated by the requirements set forth in the **IWR** (Impaired Waters Rule).



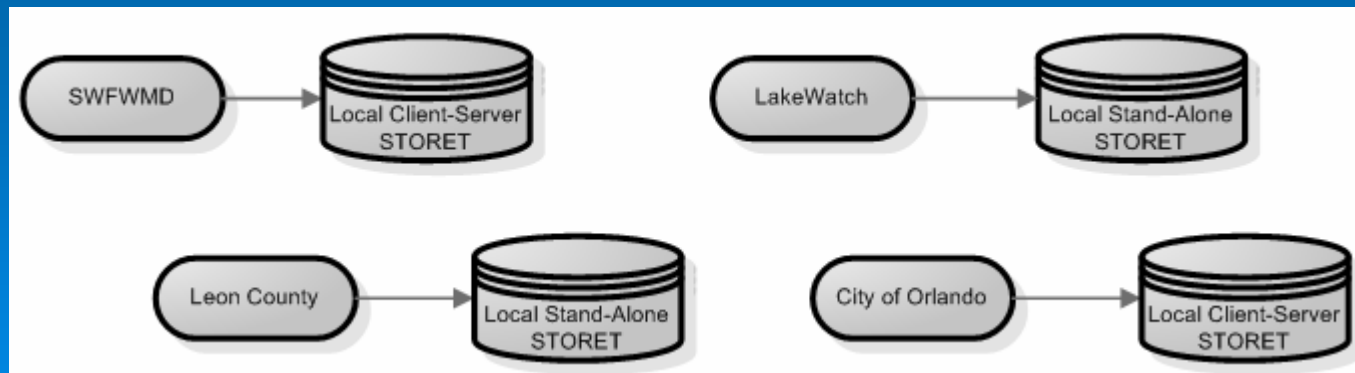
The State of Florida actually maintains *two separate STORET* databases.

FDEP agencies around the state load their data directly into a network STORET database (FDEP STORET).

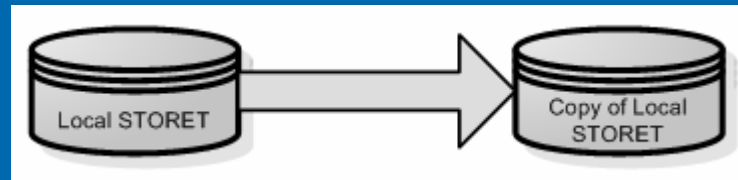


City and County Governments, Water Management Districts, Universities and Volunteer Organizations enter data in one of two types of local databases:

- A “stand-alone” database is a single-copy database that is maintained on only one computer.
- A “client-server” database is operated on a network and multiple computers/users. Most often larger agencies with IT departments will use client-servers.

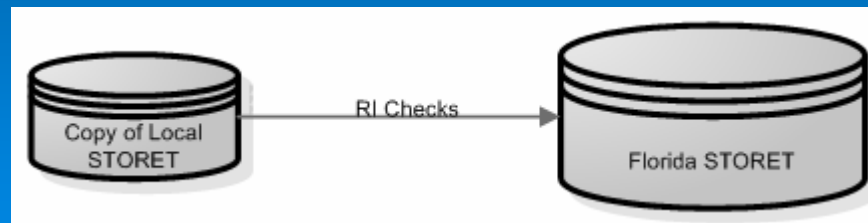


Periodically, these agencies will make an exact copy, or ‘export’ of their database:

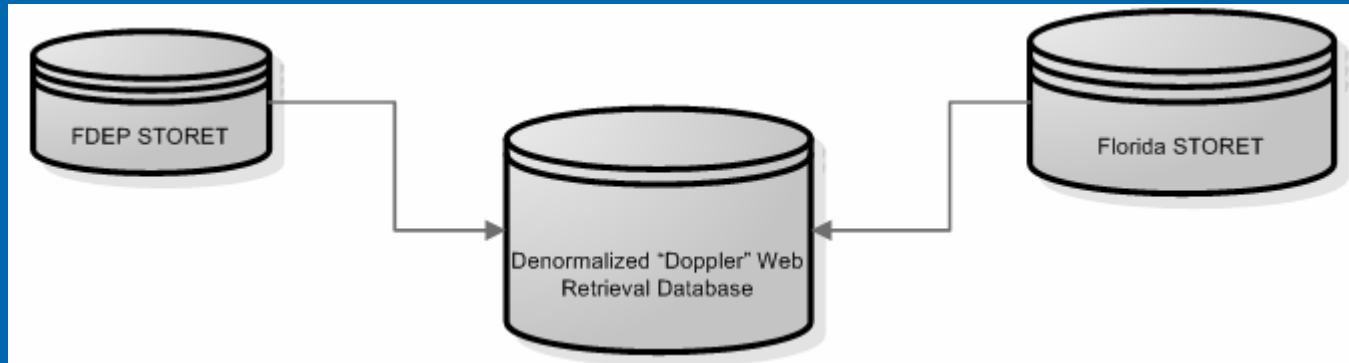


This export, which we refer to as a ‘dump file’(.dmp), is then zipped up and placed on FDEP’s ftp site for pick-up.

At that time, our group will run a series of Referential Integrity (RI) checks on the data set, and load it into **Florida STORET**.



Nightly, these two databases are
“denormalized” and combined.



Denormalization changes the format of data from multiple tables into a large *flat file* table with a specified subset of core data elements (i.e. Date, time, characteristic, result, units)

The resulting tables are used by the
Florida STORET Web Retrieval
website for public access.



Annually, FDEP creates an export of FDEP STORET and Florida STORET to send to EPA's National STORET database.



This data is also available to the public on the EPA web retrieval site.

The Pro's...

- Established protocols
- Newer functionality (Node, WQX)
- Nationwide recognition
- Wide range of bugs worked out before you have to dive in
- Automatic upgrades
- Backups
- SIM (STORET Import Module)
- Maintenance is performed by outside party
- Accessibility by the masses
- Free application/software from EPA
- STORET can handle chemical data, biological community and sediment toxicity information, fish tissue analyses, and aquatic habitat evaluations.
- STORET requires quality assurance information such as when, how, why, and by whom samples were collected. This information will allow analysts and decision makers to share water quality data with more confidence than in the past.

The “Not-So-Pro’s”...

- Rigid data structure
- Querying data based on current structure is not intuitive (cryptic naming, over-normalized)
- Little to no control
- While service is there, you are at the mercy of long-distance assistance
- Harder for the ‘mom-and-pop’ shops to use based on existing protocols in-house
- Can mean significant re-vamping of larger organizations’ protocols
- Software upgrades must be maintained
- External software must be used to combine multiple formats to load data
- Inability to store SCI/LCI information
- The modules that are in existence to retrieve data are not fully functional or user friendly
- The learning curve can be significant based on user knowledge

To Summarize:

- **FDEP STORET** is a mainframe database that is used by all DEP district agencies. It is housed and maintained here, in our offices, but these agencies are remotely loading directly into it. Each user at these agencies has their own user_id.
- **Florida STORET** is a compilation of exported data sets (.dmp files) from non-FDEP agencies throughout the State. It is not directly accessed by anyone except our group.
- Each non-FDEP agency has a local version of STORET installed on one (stand-alone) or multiple (client-server) computers that is maintained and manipulated solely by them. We provide most of these installations in person.
- **EPA STORET** is a separate database that is housed and maintained on a National level. We provide them a copy of Florida's data annually.

ANY QUESTIONS?



Kathy Byrd 850-245-8516