Google Earth Engine

https://earthengine.google.org/, currently in beta testing. Looks like a promising project that can combine multiple (free) raster data sets and provide a set of processing tools (mainly classifiers).

There is also JavaScript and Python API: https://code.google.com/p/earthengine-api/ (available only for a limited group of testers).

Water data in EE:

- HydroSHEDS, Drainage Directions, 15-arc second
- HydroSHEDS, flow accumulation, 15-arc second
- HydroSHEDS, hydrologically conditioned DEM, 15-arc second
- ... ?