The Charlotte/Mecklenburg Hydrologic Network

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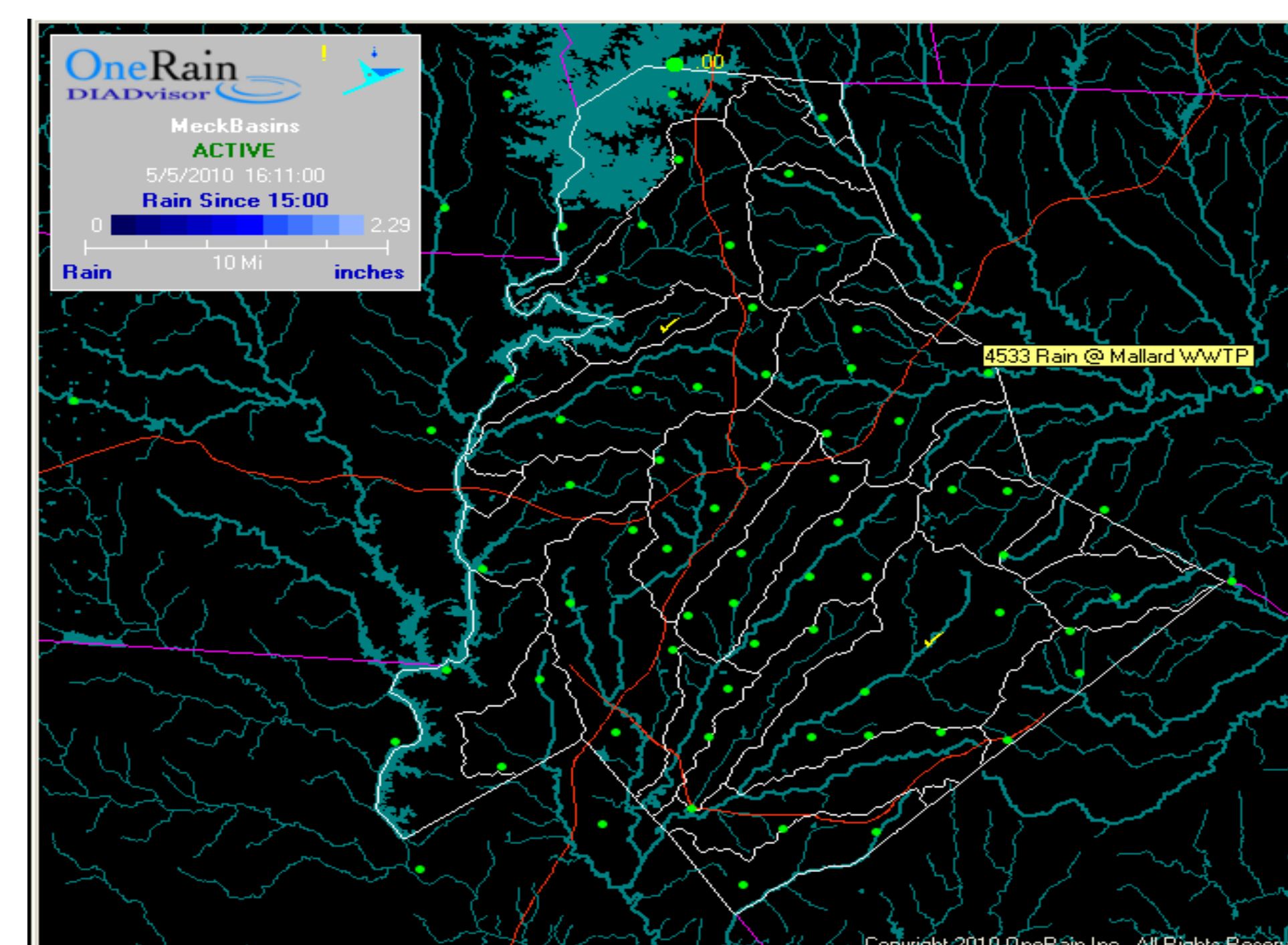
IFLOWS Concept

• Integrated Flood Observing and Warning Systems (IFLOWS) concept has been extensively developed since 1978 with the creation of the National Flash Flood Program Development Plan.

• Initial joint effort between the NWS and 12 county region of the Appalachians across Virginia, West Virginia and Kentucky.

• 1981-1985 expanded into 120 counties across the original 3 IFLOWS states and into Pennsylvania and Tennessee.

• 1985-1990 continued expansion across the 5 state region and into North Carolina and New York.

• Throughout the 1990s and 2000s IFLOWS technology expands across 12 states in the Eastern U.S.

• Linked via wide area communications network (Automated Flood Warning System) and incorporates numerous local flood warning systems.

AFWS Data Flow

Decoded gage data sent to National ALERT Data Processing Servers at WFO LMK. Data is then SHEF encoded and formatted with WMO header at Gateway. SHEF data received at appropriate WFOs as RRSxxx and ingested into HydroBase.

http://afws.erh.noaa.gov/afws/county.php?wfo=gsp&state=37&county=119

Screenshot of DIADvisor 2.8 client software at WFO GSP.

Collaborative Efforts

Between the NWS, USGS, and CharMeck Storm Water Services. Stream gage flood levels and rain rate thresholds collaboratively set. Flood impacts identified with aid of local constituents. Rain and stream gage threshold levels alerted via local WFO hydro database and near real time via DIADvisor client software.

http://nc.water.usgs.gov/char/

http://www.charmeck.org/Departments/stormwater/home.htm

Charlotte/Mecklenburg Network

• Cooperatively operated between the city of Charlotte, Mecklenburg County and the USGS.

• First gage installed in 1989, by 2002 contained over 70 rain gages and 50 stream gages.

• Telemetry via UHF to receiver at USGS office, data provided to Flood Information and Notification System (FINS) website, DIADvisor clients (which includes NWS GSP), AFWS website, and National ALERT Processing Servers.

Typical rain gage installation with UHF telemetry atop Odell Elementary School.
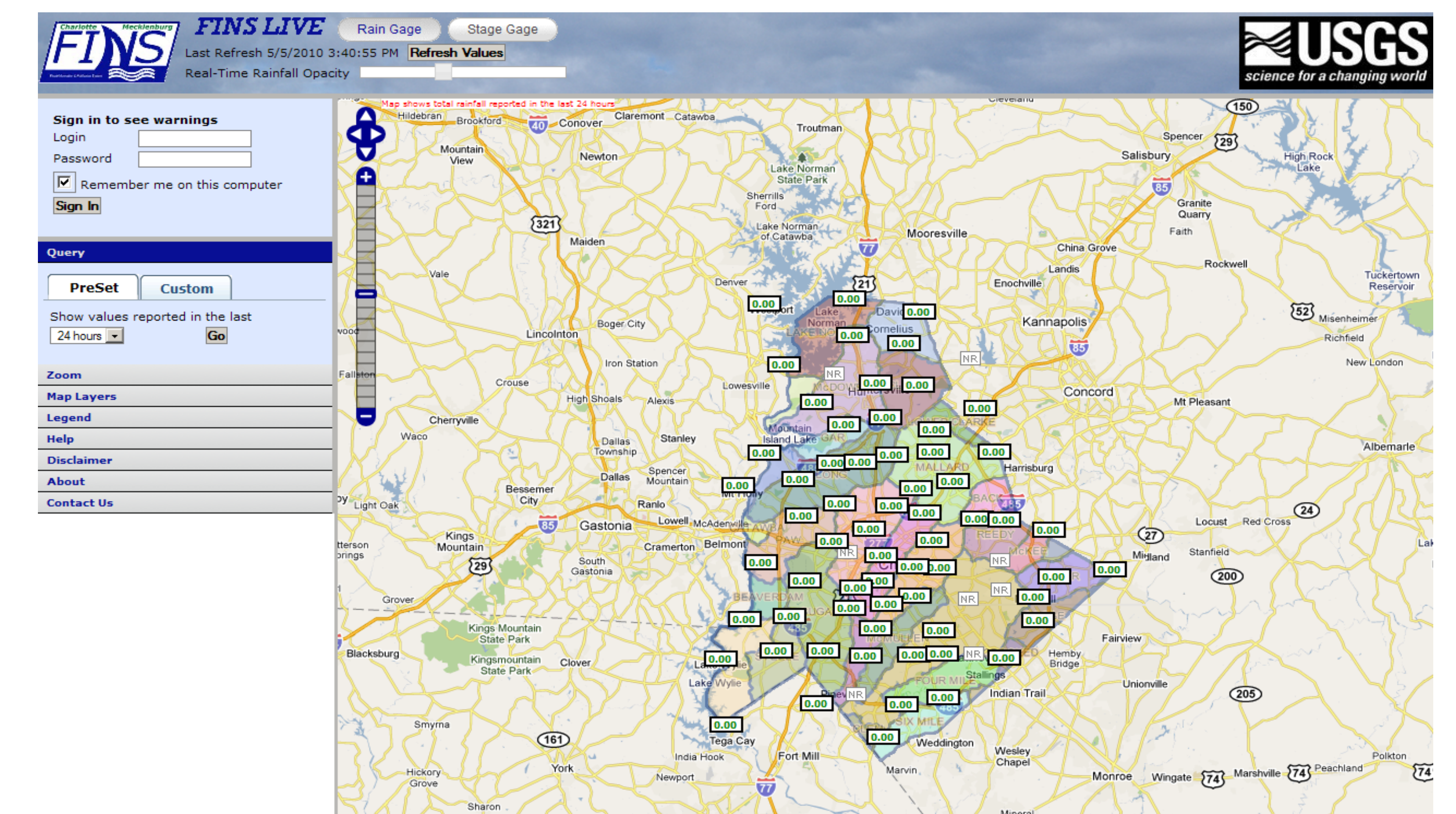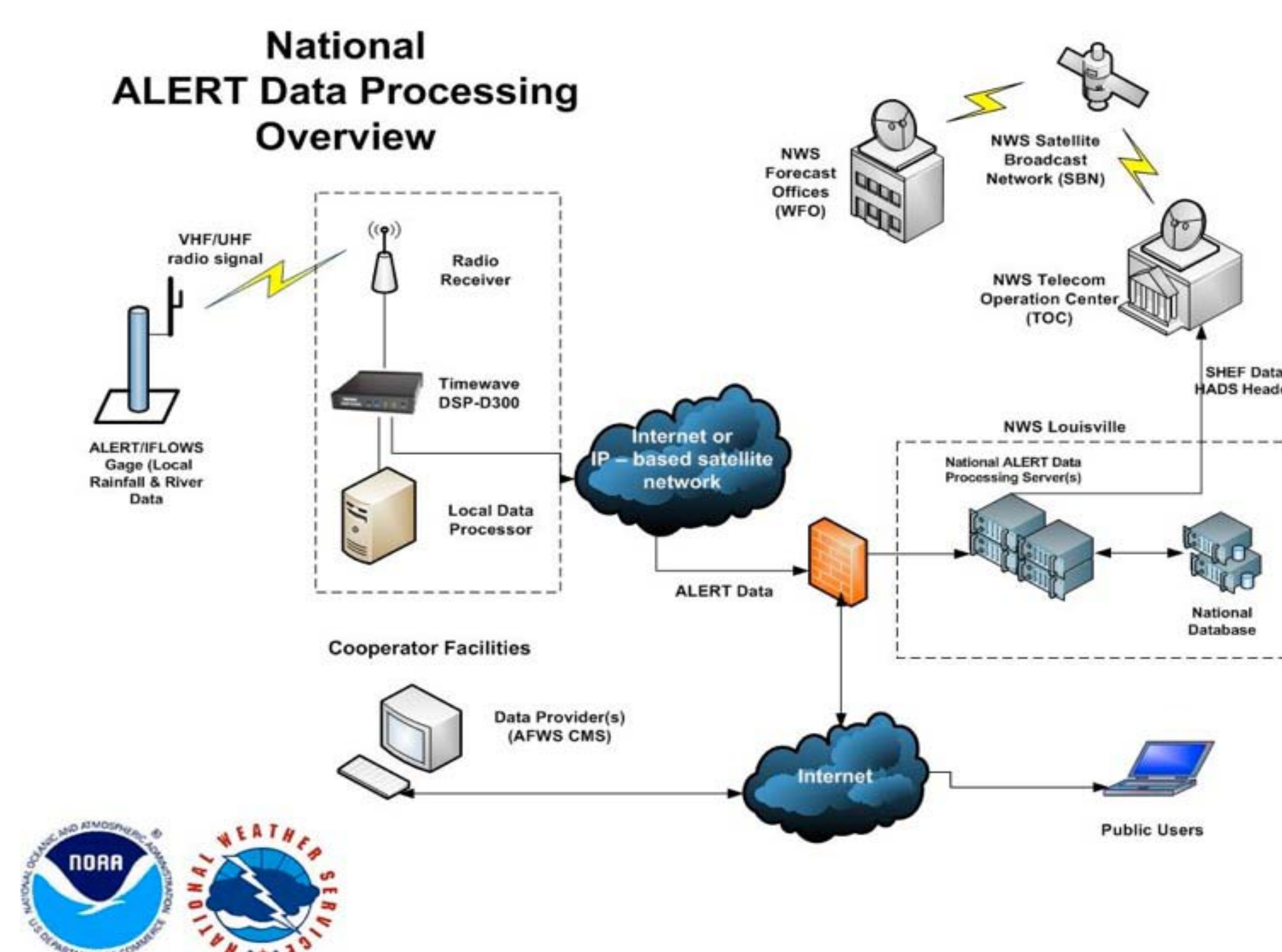

Screenshot of FINS webpage with latest rainfall accumulation displayed.

http://finslive.mecklenburgcountync.gov/finslive

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