Groundwater Data Availability for the Pee Dee Basin

Pee Dee River Basin Council – Meeting #20, January 23rd, 2024

Pee Dee REC

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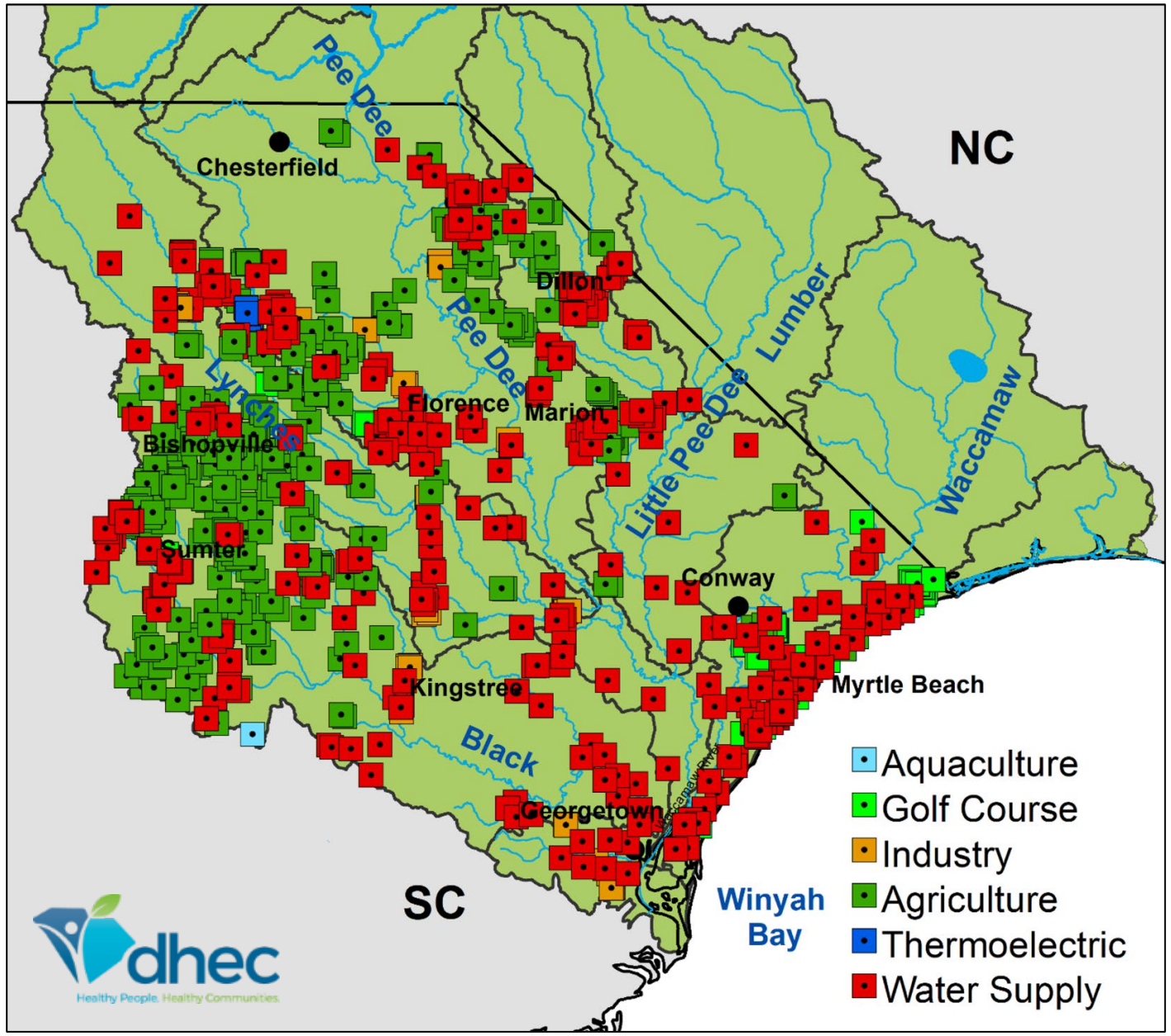
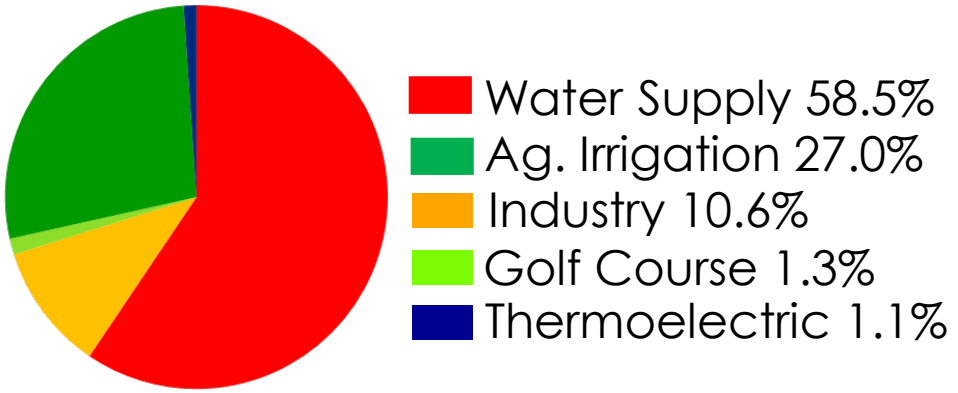
Reported Groundwater Withdrawals in SC (2022)

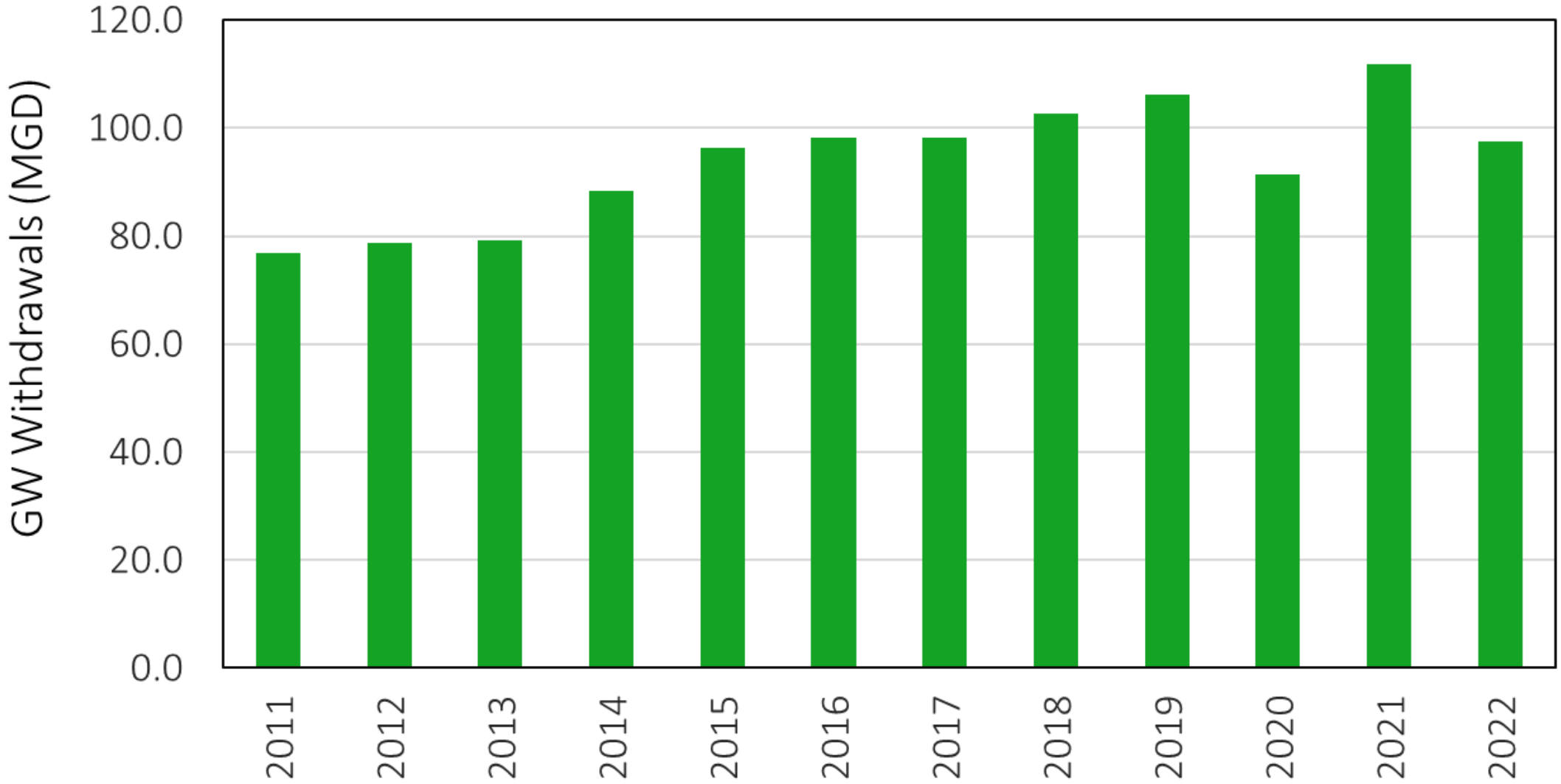


SC Water Withdrawals by sector in 2022



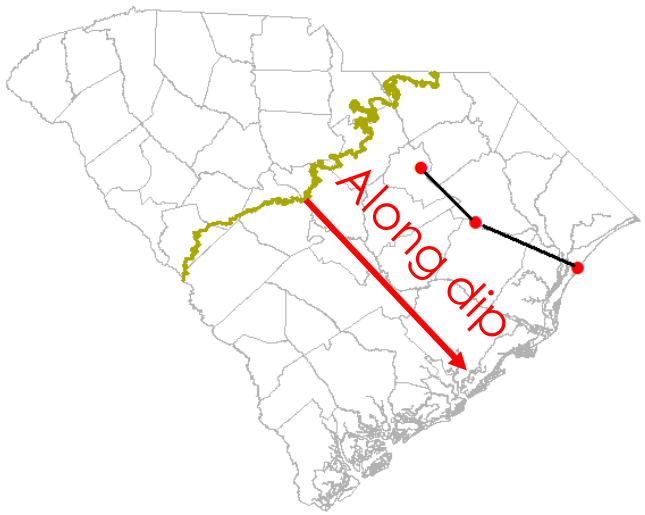
Data source: SCDHEC Water Use Database

Reported Water Withdrawals, excl. power (2011 – 2022)



Data source: SCDHEC Water Use Database

SC Hydrogeologic Framework Along Dip



Kershaw County
470 feet (Fall line)

Lee County
199 feet

Florence County
75 feet

Horry County
5 feet

-337 feet

-1002 feet

-1595 feet

Surficial aquifer

McQueen Branch aquifer

Crouch Branch aquifer

McQueen Branch aquifer

Charleston aquifer

Gramling aquifer

PIEDMONT HYDROGEOLOGIC PROVINCE

SOUTHEASTERN COASTAL PLAIN HYDROGEOLOGIC PROVINCE

Sand — Aquifer

Clay — Confining unit

SC Groundwater Monitoring Network

- 62 Wells in Pee Dee Basin completed primarily in McQueen and Crouch Branch aquifers
- Period of record ranges from 0 to 42 years

Aquifer
- Surficial aquifer system
- Gordon
- Upper Floridan
- Middle Floridan
- Crouch Branch
- McQueen Branch
- Charleston
- Gramling
- Gramling confining unit
- Crystalline rock

Agency
- SCDNR
- USGS
- Cluster site

Pee Dee Basin

(M) Manual water level measurement
(C) Water level and conductivity measurement
(T) Telemetry Site

Blue Ridge | Piedmont | Coastal Plain

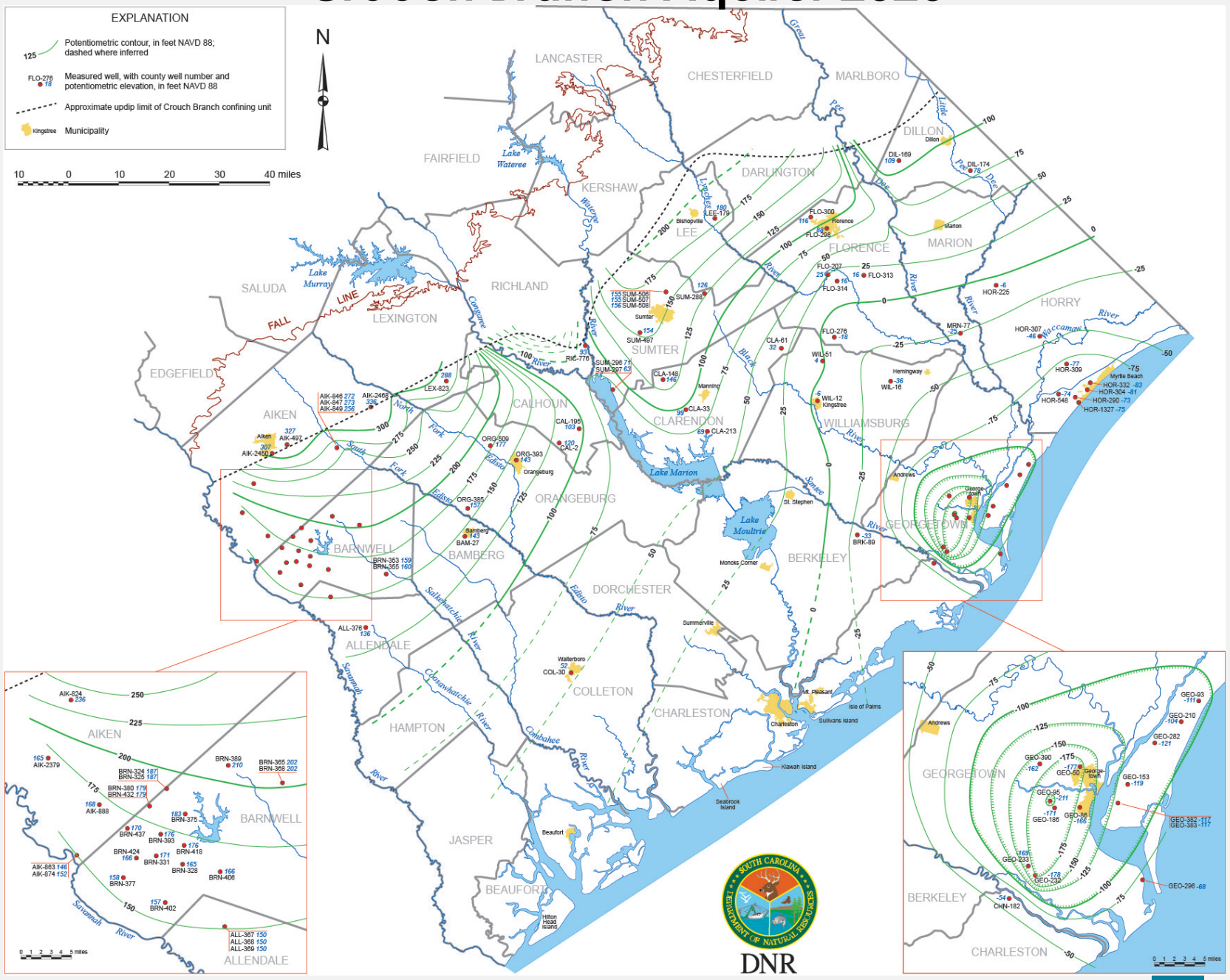
USGS science for a changing world

Potentiometric Surface Maps

Crouch Branch aquifer surfaces available:

Pre-development (1880's), 1995, 2001, 2004, 2009, 2012, 2015, 2016, 2020,

2023 (in progress)

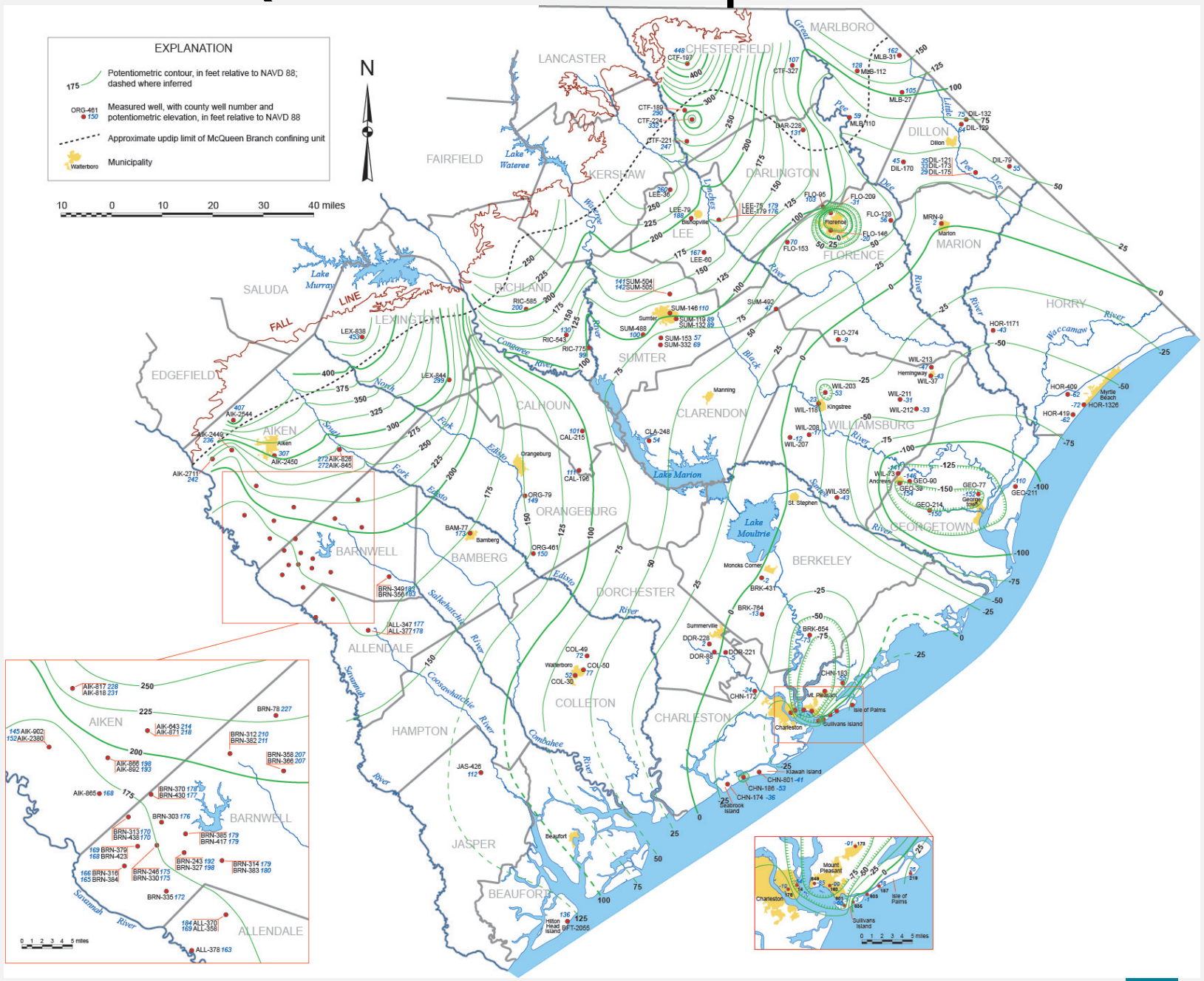


Potentiometric Surface Maps

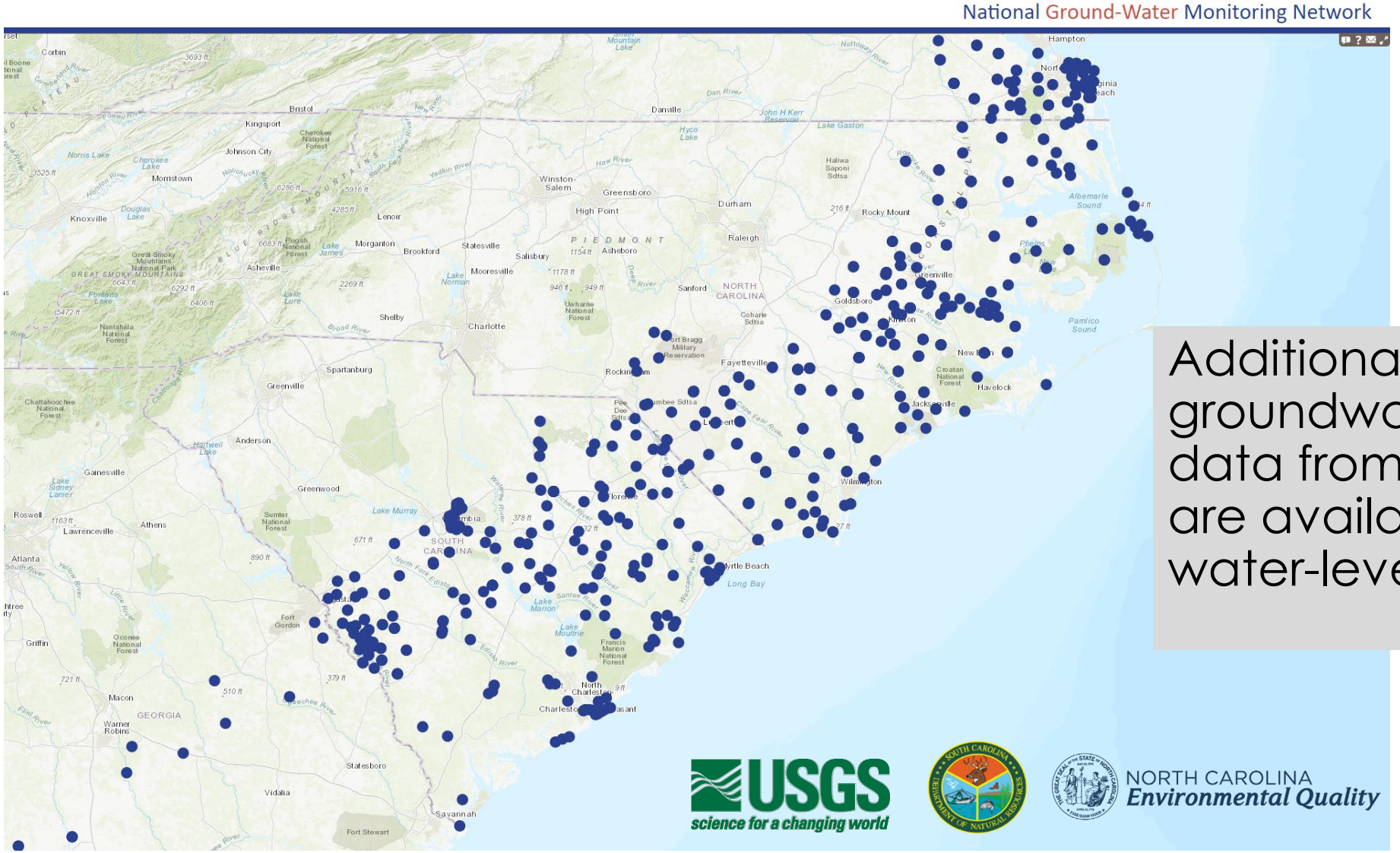
McQueen Branch/ Charleston aquifer surfaces available:

Pre-development (1880's), 1996, 2001, 2004, 2009, 2011, 2014, 2016, 2019, 2022

McQueen-Charleston Aquifer 2022



National Groundwater Monitoring Network



Additional South Carolina groundwater-levels and data from North Carolina are available to evaluate water-level trends

Considerations for Water Planning

- Observed historical water-level data can be used to identify trends and areas of known groundwater decline
- Potentiometric maps can illustrate areas of regional water-level change over time in each aquifer
- Historical water-use data can inform where groundwater pumping has occurred and likely to continue
- The RBC can use these information sources to make broad, yet informed decisions regarding groundwater management strategies and planning recommendations for the Pee Dee Basin

Summary

- Groundwater data and water use information for the Pee Dee Basin is available from multiple sources including
  - SCDHEC Water Use Database
  - SC Groundwater Monitoring Network
  - Potentiometric Surface Maps
  - National Groundwater Monitoring Network
- Combined information from these sources can assist the RBC in the development of broad management strategies and planning recommendations

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