

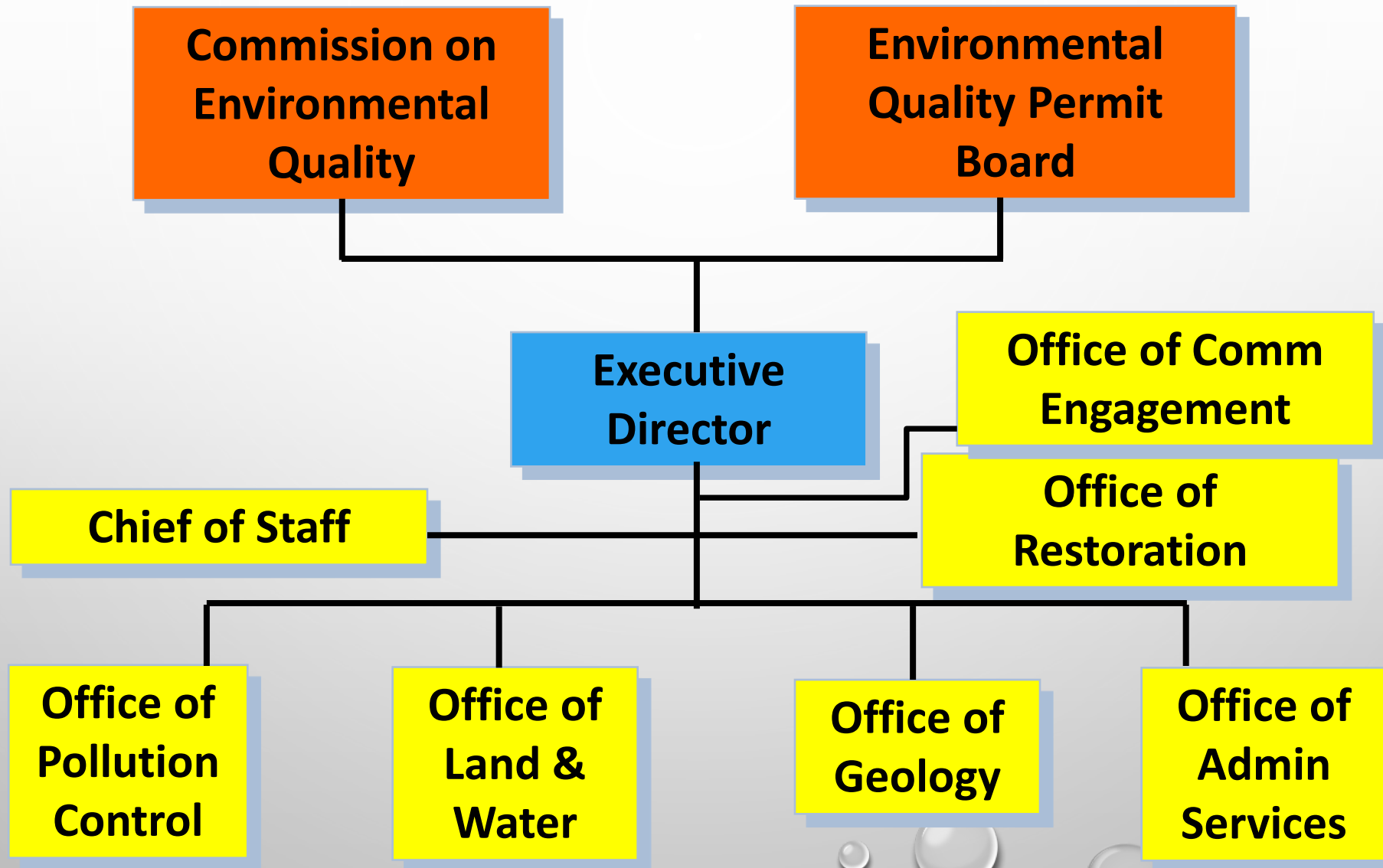
The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered on the slide.

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

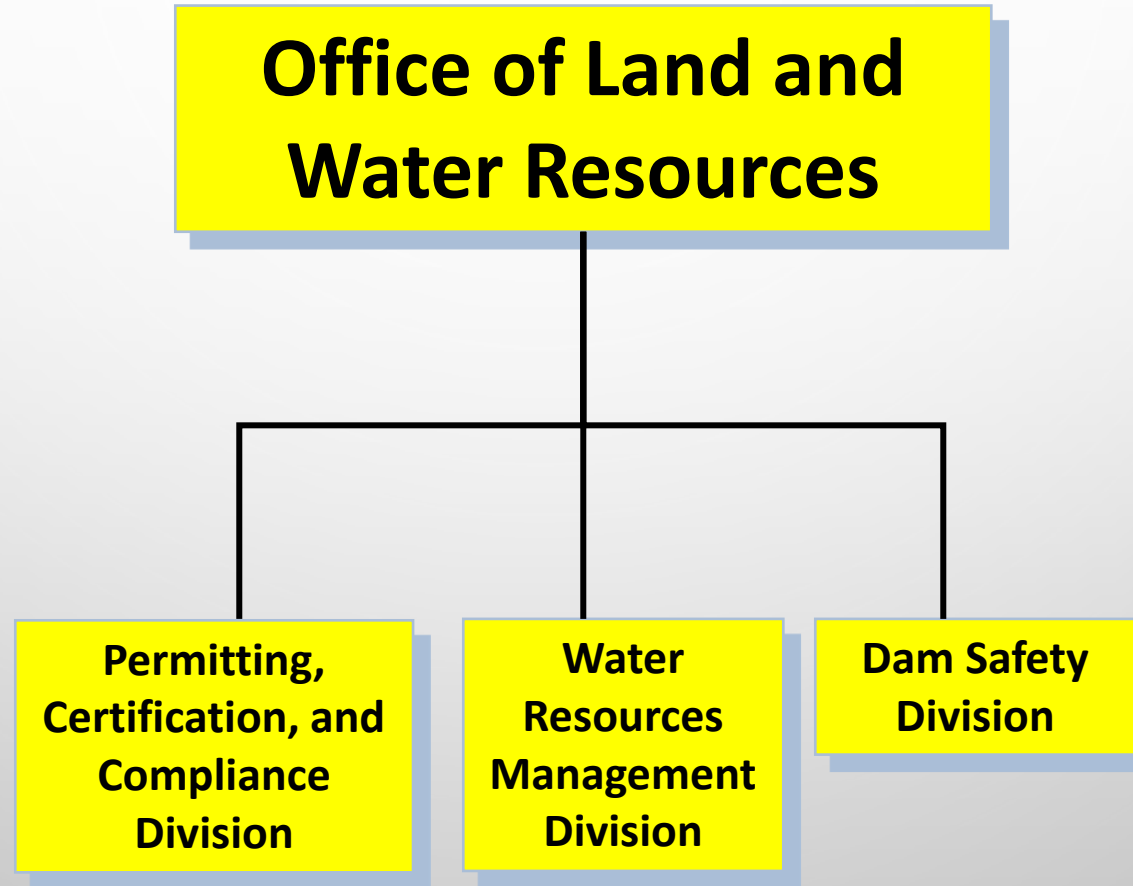
UPDATE ON PARTICIPATION IN THE NGWMN WATER LEVEL DATABASE

KRISTEN SORRELL, GIT

MS DEPARTMENT OF ENVIRONMENTAL QUALITY



MS DEPARTMENT OF ENVIRONMENTAL QUALITY



MISSISSIPPI WATER LAW

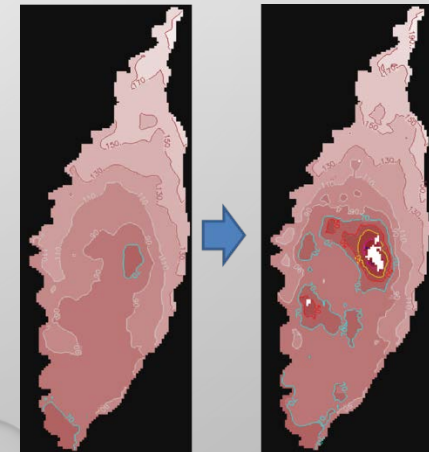
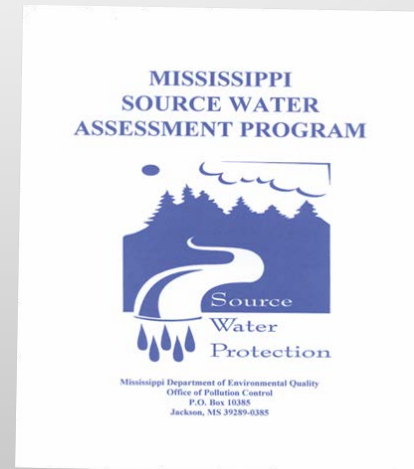
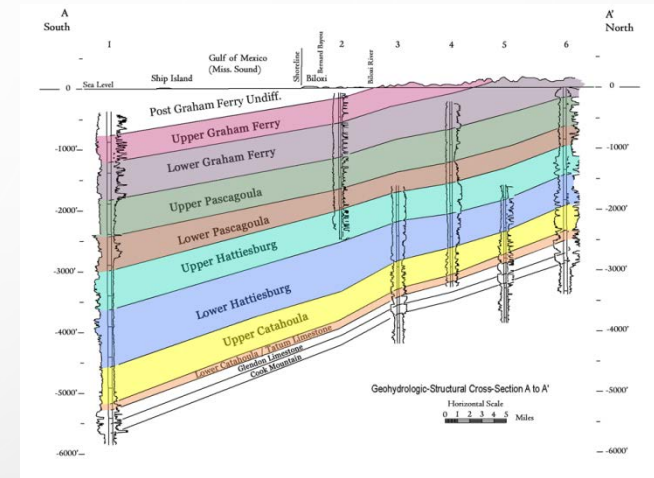
- ALL WATER BELONGS TO THE STATE
- A PERMIT FROM THE ENVIRONMENTAL QUALITY PERMIT BOARD IS REQUIRED BEFORE ANY WATER CAN BE USED
- MDEQ, THE COMMISSION ON ENVIRONMENTAL QUALITY, AND THE PERMIT BOARD HAVE THE RESPONSIBILITY AND AUTHORITY UNDER MISSISSIPPI LAW TO REGULATE THE USE OF THE SURFACE WATER AND GROUNDWATER OF THE STATE

MISSISSIPPI WATER LAW

- MDEQ, THE COMMISSION ON ENVIRONMENTAL QUALITY, AND THE PERMIT BOARD ARE MANDATED TO ENSURE THE MAXIMUM SUSTAINABLE BENEFICIAL USE OF THE WATERS OF THE STATE
- MDEQ, THE COMMISSION ON ENVIRONMENTAL QUALITY, AND THE PERMIT BOARD ARE MANDATED UNDER STATE LAW TO CONSERVE AND PREVENT THE WASTE OR UNREASONABLE USE OF THE WATERS OF THE STATE

WATER RESOURCES MANAGEMENT

- MONITOR WATER LEVELS IN AQUIFERS STATEWIDE
- MONITOR STREAM FLOWS STATEWIDE
- MONITOR AGRICULTURAL CHEMICALS IN GROUNDWATER
- DEVELOP CROSS SECTIONS OF MISSISSIPPI'S GEOLOGY
- DEVELOP AND UTILIZE GROUNDWATER MODELS
- PROTECT SOURCE WATER



PERMITTING, CERTIFICATION AND COMPLIANCE DIVISION

PERMITTING BRANCH

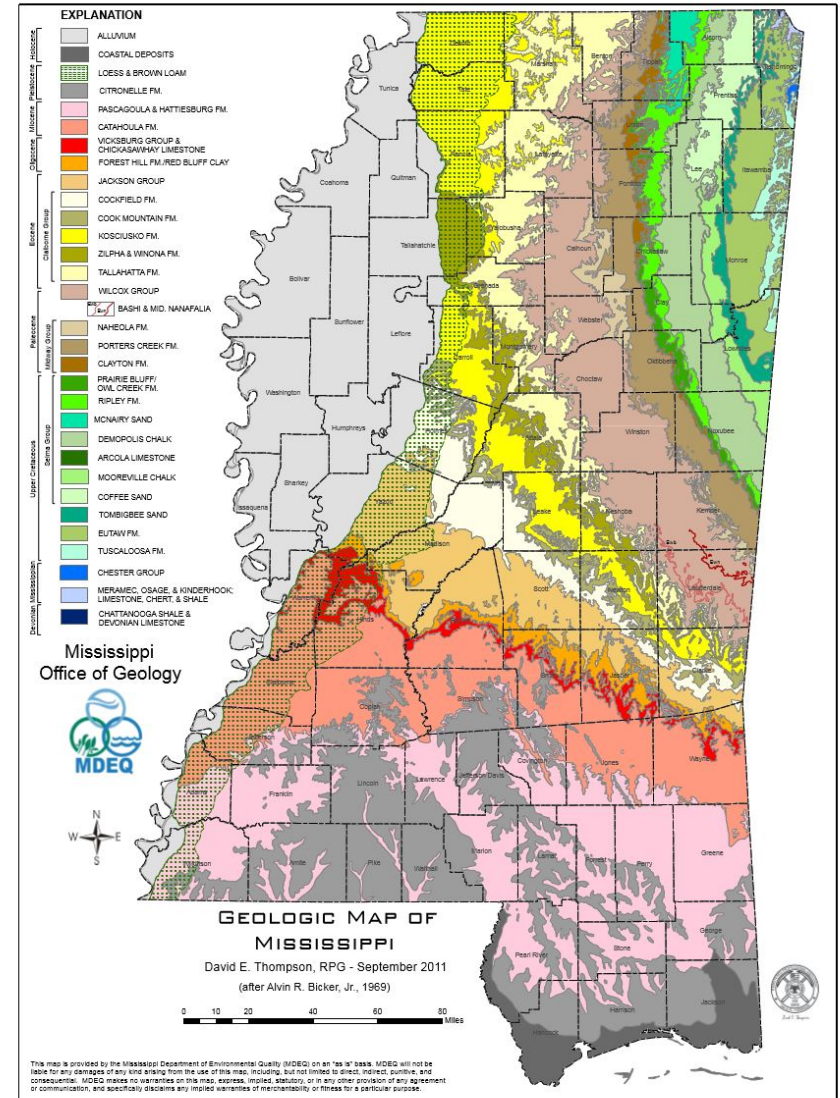
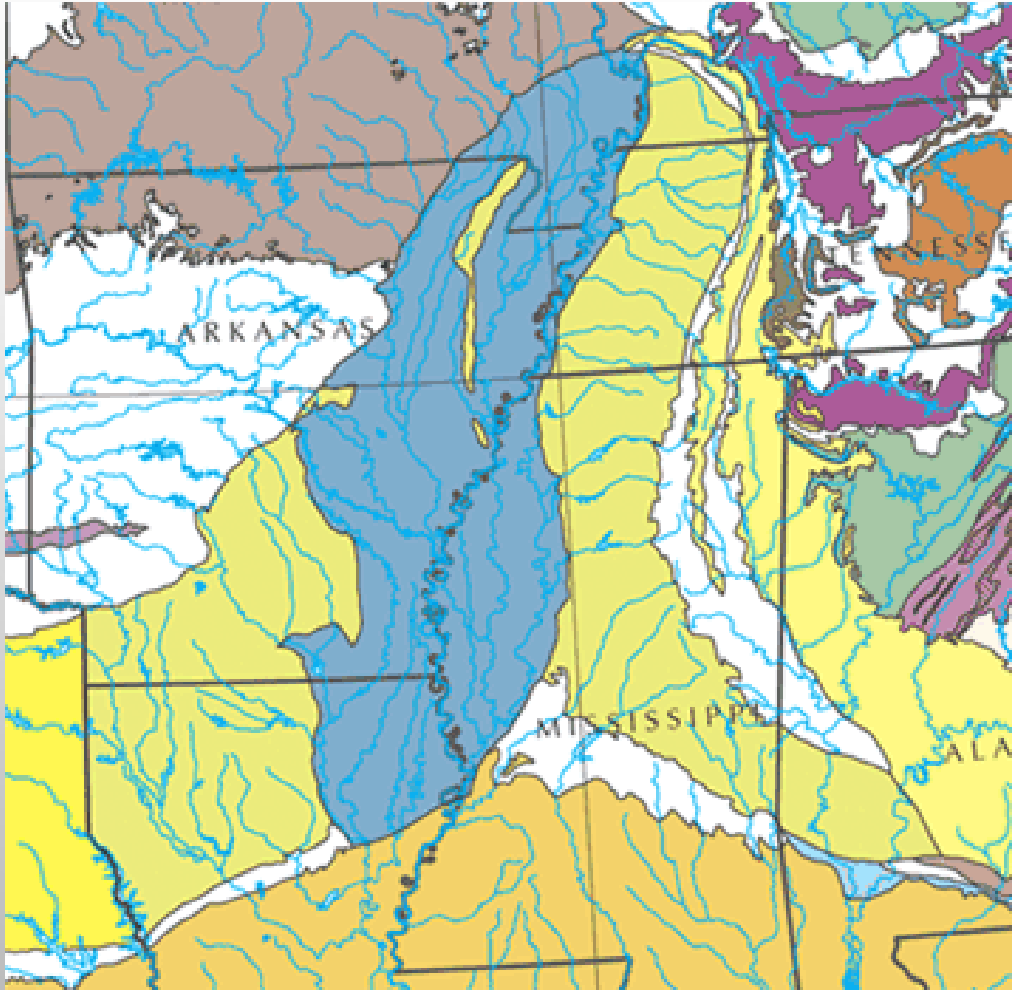
- PERMIT ALL WATER WITHDRAWALS STATEWIDE
- WATER LEVEL MEASUREMENTS

CERTIFICATION AND COMPLIANCE BRANCH

- COMPLIANCE AND ENFORCEMENT
- LICENSE AND REGULATE WELL DRILLERS



GEOLOGY OF MISSISSIPPI



MISSISSIPPI'S OBSERVATION WELL NETWORK

- BEGAN IN 1993
- CURRENT NETWORK IS MADE UP OF 174 OBSERVATION WELLS IN 4 AQUIFER SYSTEMS
- GOAL: 2 WELLS PER AQUIFER IN EACH COUNTY
- PURPOSE: OBSERVE WATER LEVEL TRENDS OVER TIME TO AID IN FUTURE WATER MANAGEMENT DECISIONS



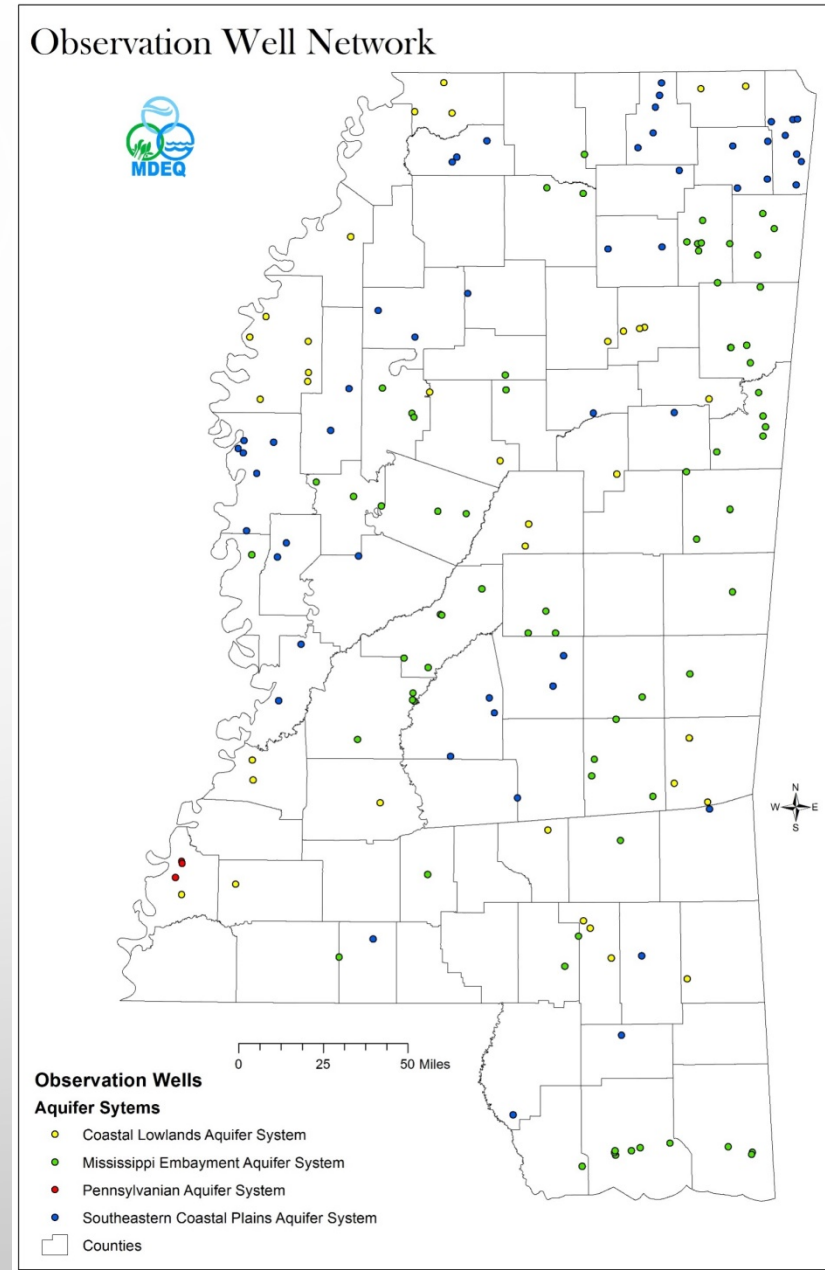
OBSERVATION WELL NETWORK

174 WELLS

- PENNSYLVANIAN AS (3)
- COASTAL LOWLANDS AS (37)
- MS EMBAYMENT AS (75)
- SE COASTAL PLAINS AS (59)

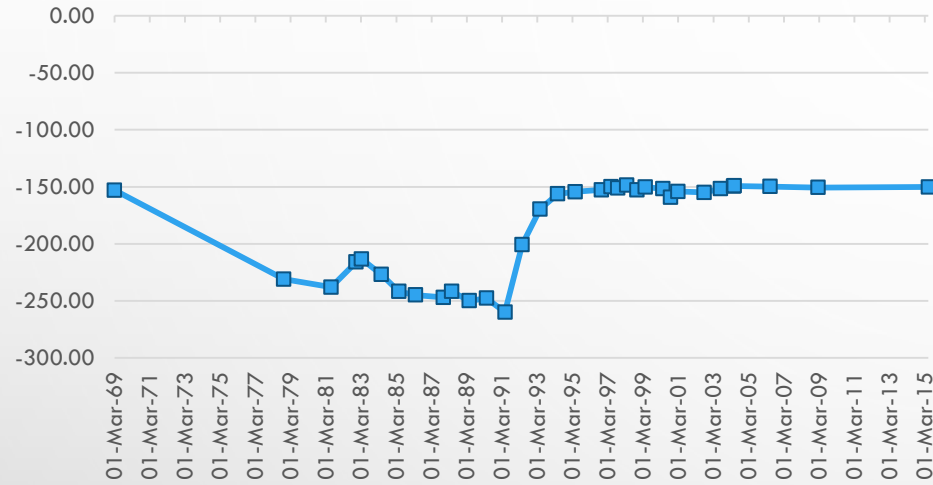
MEASUREMENT METHODS

- STEEL TAPE
- ELECTRIC TAPE
- WATER PRESSURE GAUGE
- TRANSDUCER

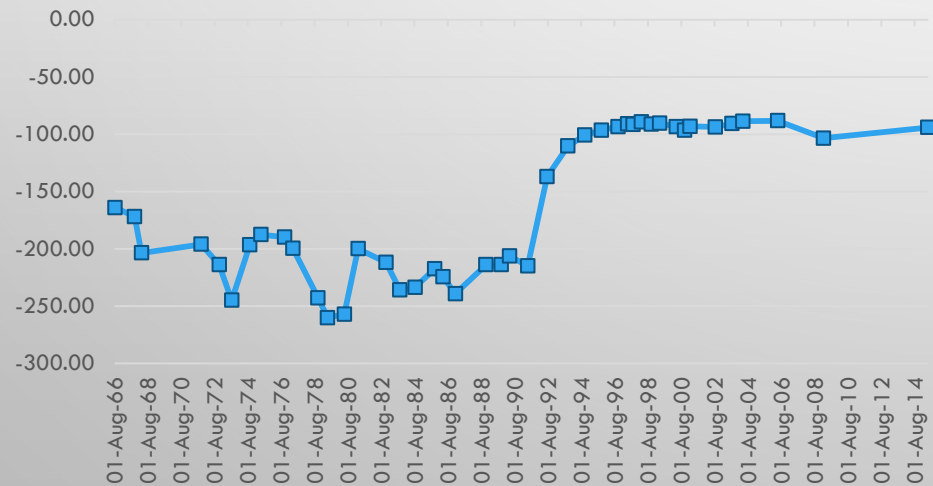


CITY OF TUPELO

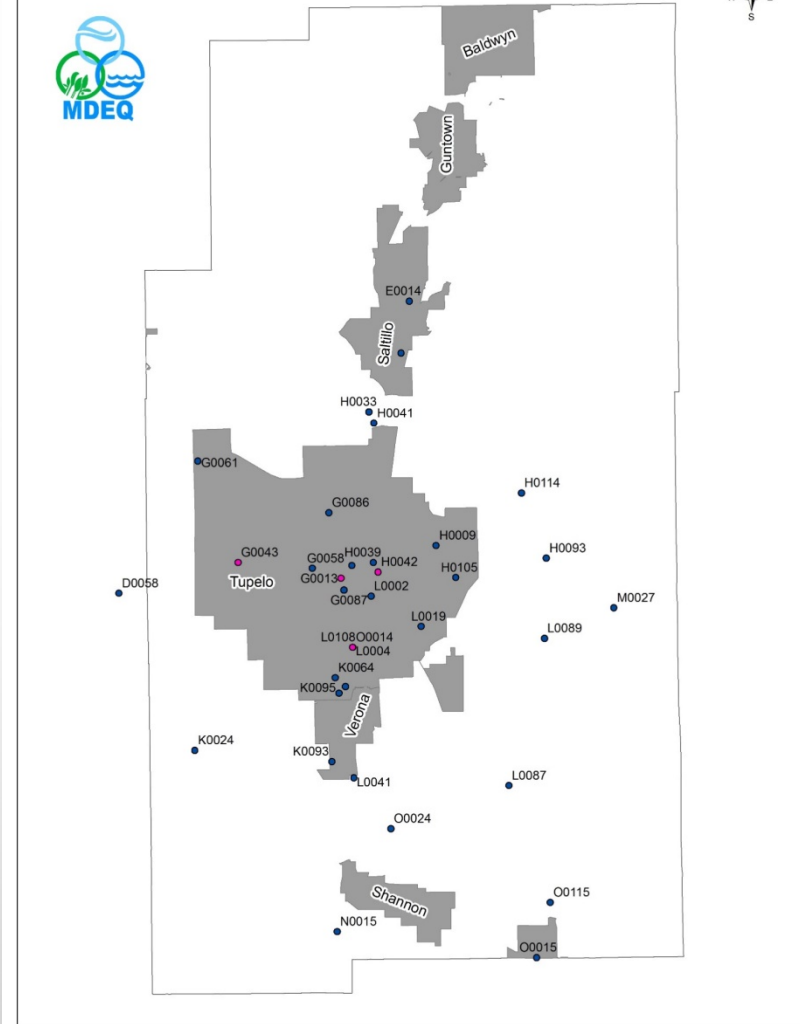
081G0043



081H0042

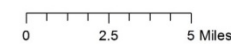


Tupelo Water Level Study



Lee County Wells

- NGWMN Observation Wells
- Northeast Survey Wells
- Cities
- County Boundary



This map produced by the Department of Environmental Quality (DEQ), Office of Land & Water Resources, Water Resources Management Division on November 30, 2016.

All map data is from the Mississippi Automated Resource Information System (MARIS), and MDEQ.

Map Projection: Mississippi Transverse Mercator

The Mississippi Department of Environmental Quality makes no warranties, expressed or implied, as to the accuracy, completeness, currentness, reliability, or suitability for any particular purpose, of the data contained on this map.

PARTICIPATION WITH THE NGWMN

FUNDING YEAR 2015 GOALS

1. EVALUATE SITES/SITE SELECTION (COMPLETED)
2. CLASSIFY SITES INTO SUBNETWORKS AND MONITORING CATEGORIES (COMPLETED)
3. POPULATE THE WELL REGISTRY (COMPLETED)
4. SET UP WEB SERVICES (IN PROGRESS)
5. MAP FIELDS IN WEB SERVICES (DECEMBER)
6. DOCUMENT DATA COLLECTION AND MANAGEMENT PROCEDURES (COMPLETED)
7. SUBMIT FINAL REPORT (IN PROGRESS)

FUNDING YEAR 2016 GOALS: MAINTAIN CURRENT NETWORK

NGWMN NETWORKS

Water level: ?

Subnetwork:

- All
- Background
- Suspected Changes
- Documented Changes

Monitoring Category:

- All
- Surveillance
- Trend
- Special

Water quality: ?

Subnetwork:

- All
- Background
- Suspected Changes
- Documented Changes

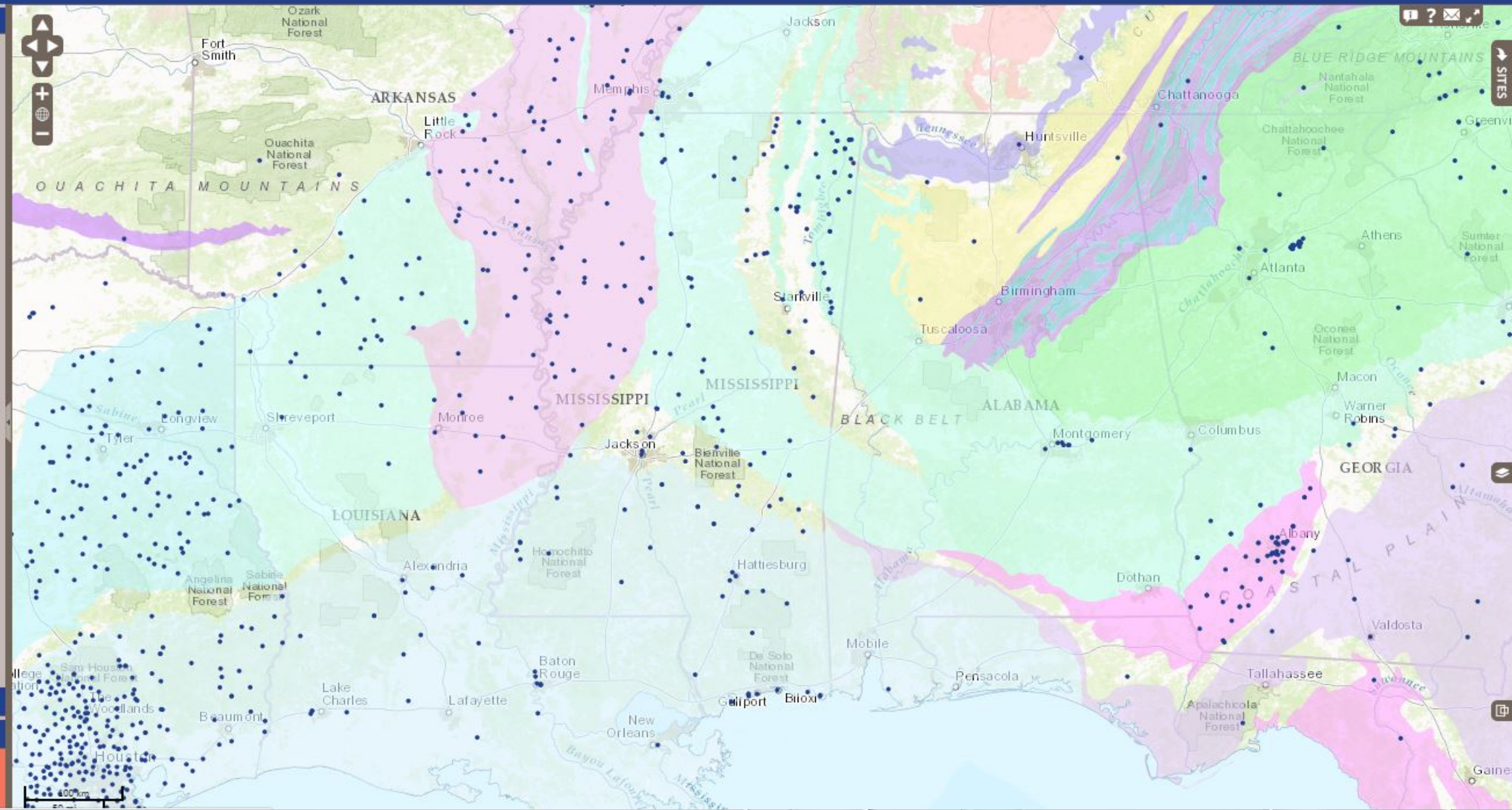
Monitoring Category:

- All
- Surveillance
- Trend
- Special

>> FILTER MAP DATA

CURRENT STATUS

907 Sites mapped
6589 Sites matching filter
798 Water-level network wells



SITE SELECTION AND CLASSIFICATION

1. FIELD VERIFY THAT ALL WELLS ARE STILL VIABLE
 - ARE THE WELLS ACCESSIBLE?
 - CAN THE WELLS STILL BE MEASURED?
2. DETERMINE RELIABILITY OF MEASUREMENTS
 - CONSULT STAFF ABOUT PREVIOUS EXPERIENCE
 - CHECK CONSISTENCY OF HISTORICAL MEASUREMENTS
3. DETERMINE CRITERIA FOR EACH SUBNETWORK
 - GEOGRAPHIC LOCATION
 - PERMITTED WATER WITHDRAWAL VOLUMES BY COUNTY
 - SIGNIFICANT CHANGES IN WATER LEVELS OVER TIME



SITE SELECTION AND CLASSIFICATION

SUBNETWORKS		
BACKGROUND	SUSPECTED CHANGES	DOCUMENTED CHANGES
<ul style="list-style-type: none">•Rural•Little to no change in water levels•Low volume of water permitted <p>•E.g. Home well in rural area</p>	<ul style="list-style-type: none">• Areas with economic or population growth• May or may not demonstrate water level changes• Increasing volume of water permitted• E.g. City experiencing new growth or industry	<ul style="list-style-type: none">•Heavily populated area with high water demands from industry•Consistent, documented water level changes•High permitted volume <p>•E.g. Large city with heavy industrial presence</p>

SITE SELECTION AND CLASSIFICATION

TREND WELLS

- EASILY ACCESSIBLE
- LONGER MEASUREMENT HISTORY
- MOST REPRESENTATIVE SAMPLE
- NOT INFLUENCED BY NEARBY WELLS



SITE SELECTION AND CLASSIFICATION

SURVEILANCE WELLS

- MORE DIFFICULT TO ACCESS OR MEASURE
- SHORTER MEASUREMENT HISTORY
- ASSOCIATED WITH NEARBY TREND WELL
- NOT INFLUENCED BY NEARBY WELLS



FUTURE GOALS

- SHORT-TERM GOALS:
 - INCORPORATE EXISTING WELLS INTO THE NETWORK
 - INCORPORATE ALL NGWMN PROTOCOLS FOR DATA COLLECTION METHODS
- LONG-TERM GOALS:
 - IDENTIFY DATA GAPS IN THE NETWORK
 - 2 OBSERVATION WELLS IN EACH LOCAL AQUIFER PER COUNTY

AVAILABLE ON OUR WEBSITE

CURRENTLY AVAILABLE

- POTENTIOMETRIC AND HYDROGEOLOGIC MAPS
- SWAP REPORTS AND ASSOCIATED MAPS
- AGCHEM REPORT
- GROUNDWATER QUALITY ASSESSMENT (305B REPORT)

FUTURE PLANS

- SCANNED DRILLER'S LOGS

WWW.DEQ.STATE.MS.US

QUESTIONS?

KRISTEN SORRELL

KSORRELL@MDEQ.MS.GOV

700 NORTH STATE STREET
JACKSON, MISSISSIPPI 39202
601-961-5301