

Salinity Network meeting

1:00 – 3:00 PM

February 9, 2012

[Rick Copeland (FDEP)]

**Welcome
and
Introduction**

Abridged Outline

- I. Introduction ([Rick Copeland](#))(RC) FDEP
- II. Review of December, 2011 Meeting ([RC](#))
- III. Monitoring Sites as of February, 2010 ([RC](#))
- IV. Issues of Concern ([Dave DeWitt](#) (DD) SWFWMD
 - WQ Monitoring of the Lower Floridan Aquifer ([DD](#))
 - Injection Disp. Facil. & ASR Locations ([DD](#))
 - Additional Sources of GWQ Data ([DD](#))
- V. Development of a Framework Document ([RC](#))
- VI. Development of Indices ([RC](#))
- VII. SWFWMD Aquifer Resource Indicator ([Granville Kinsman](#))
 - (GK) SWFWMD
- VIII. SJRWMD Upper FAS Water level Report ([Don Boniol](#))
 - ([DB](#)) SJRWMD
- IX. Discussion ([RC](#))
- X. Action Items and Adjournment ([RC](#))



II. Review of 12/14/2011 Meeting (Action Items)

1. From [Gail Sloane](#) (FWRMC). Thanks SalNet participants for assisting in compiling site info. for FL Water Mon. Catalog
2. Begin Development of Framework Doc (Today)
3. SalNet Subgroup to address indices
 - Poll indicated no need for subgroup
4. Work closely with Surface Water Mon. Prog.
5. Update SalNet activities to FWRMC
 - at FWRMC meeting on 2/21 and 2/22

Review of 12/14/2011 Meeting

(Recommendations by the FGS (Paraphrased))

- (1) The FWRMC (Council) should educate the National Monitoring Council about the unique nature of karstic watersheds, and policies that must be implemented in order to manage them.
- (2) The Council should form a ***“Karstic Regions Consortium”*** with appropriate other states in order to have a one voice in affecting changes at the federal level.
- 3) Draft a joint resolution “white paper” in collaboration with these states and present it to federal agencies and the U.S. Congress that have a role in water resource conservation and protection.
- 4) Provide a list of research topics, surveys, maps etc. needed to underpin any suggested changes and seek funding for projects designed to meet these needs.

History – FWRMC charges:

1. Develop water resource metadata standards for adoption by state agencies.
2. Support development of a replacement for STORET for sharing WATER QUALITY data.
3. Coordinate Florida's ongoing fresh water monitoring with new coastal monitoring network.
4. Coordinate Florida's state monitoring efforts with local and federal monitoring programs.

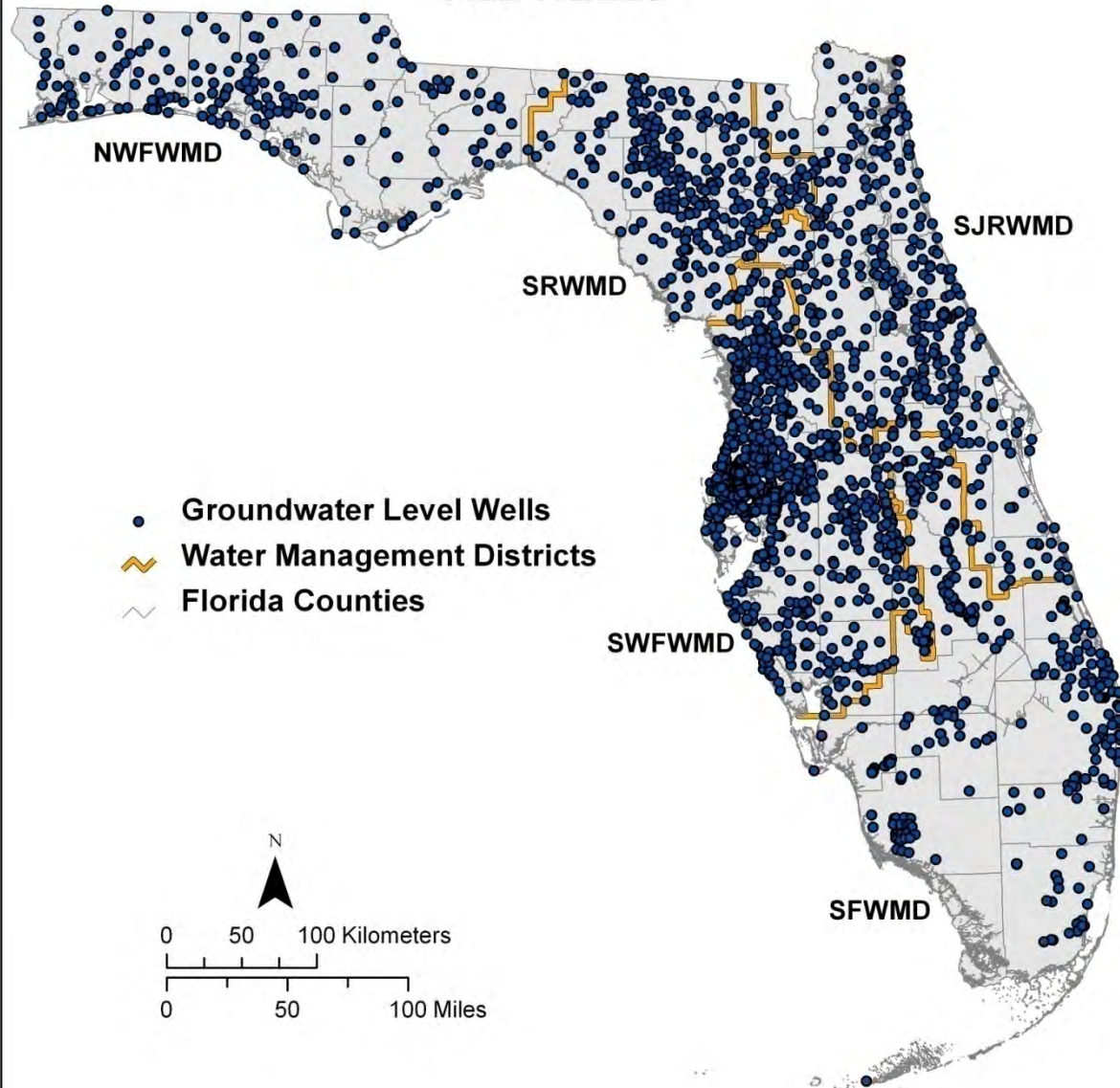
Review of 12/14/2011 Meeting

- FGS recommendations are commendable
- I have suggested to the FGS that they request the Hydrogeology Consortium to explore the feasibility of taking the lead.
- FWPMC and the Salinity Network participants can support and assist as is appropriate.

III. Monitoring Sites

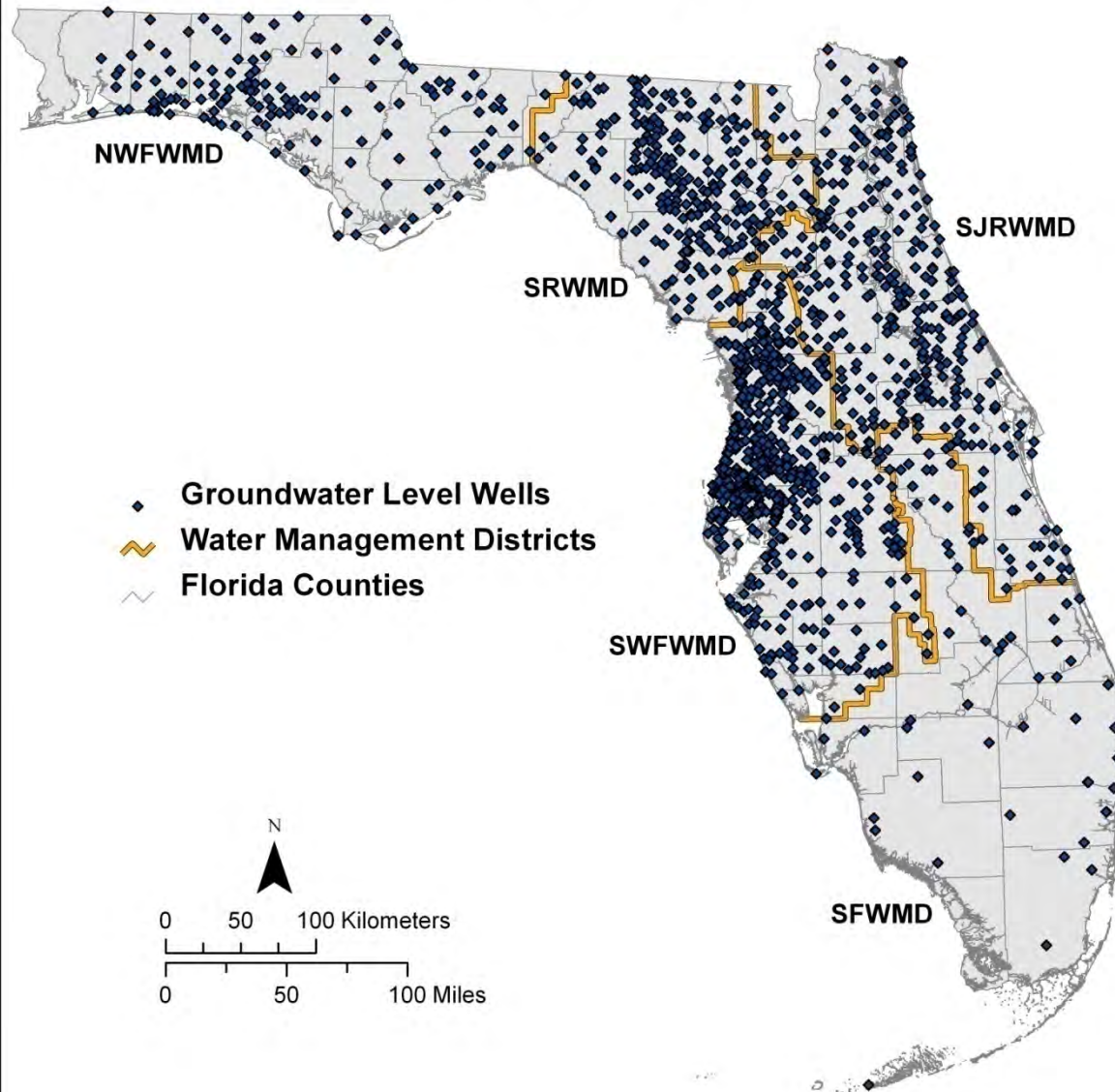
- By WMDs/USGS
 - GWL (All and by Aq. System)
 - GWQ (All and by Aq. System)
- County
- Selected Additional Sources

GROUNDWATER LEVEL ALL WELLS



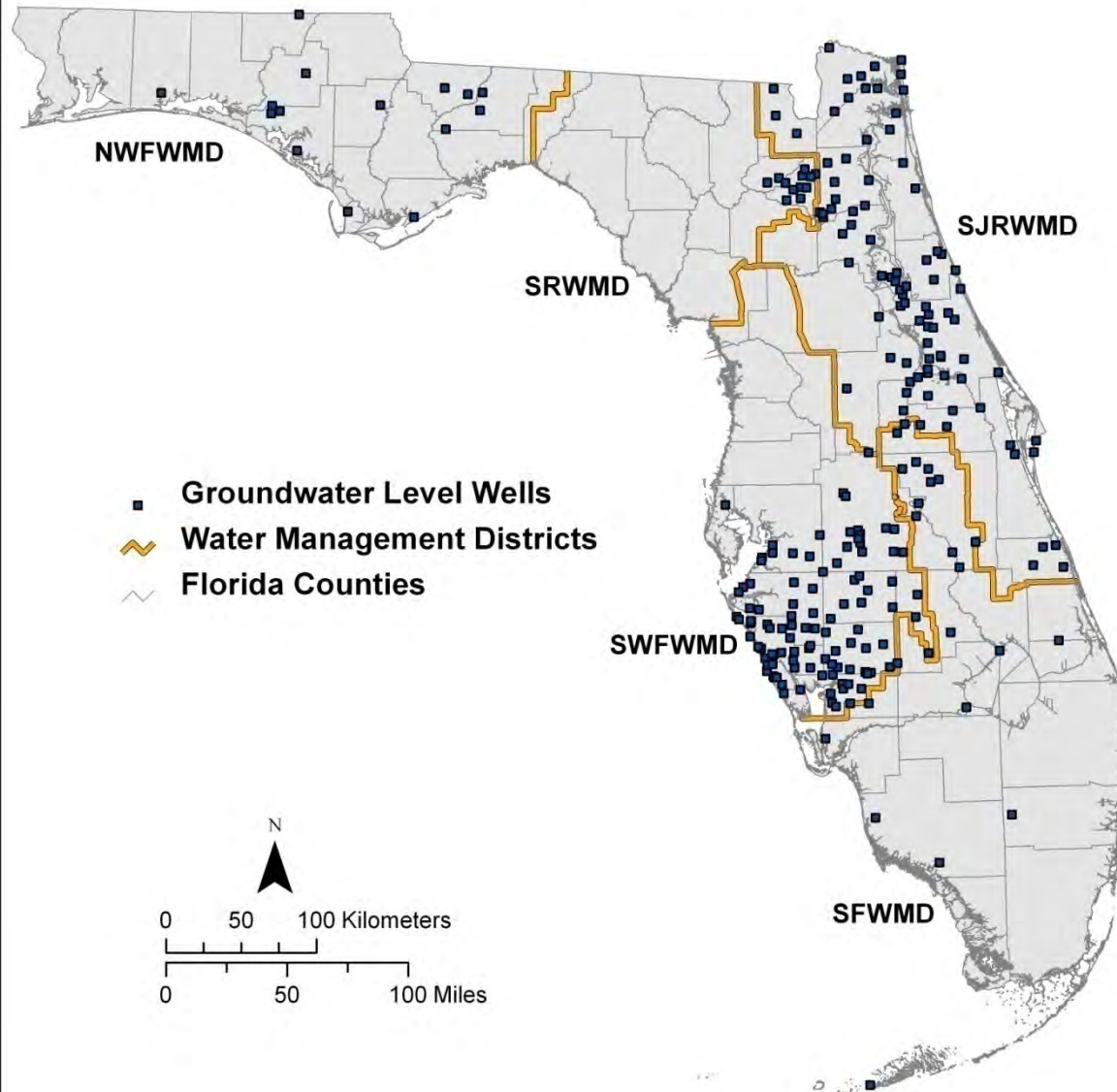
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GROUNDWATER LEVEL FLORIDAN AQUIFER SYSTEM



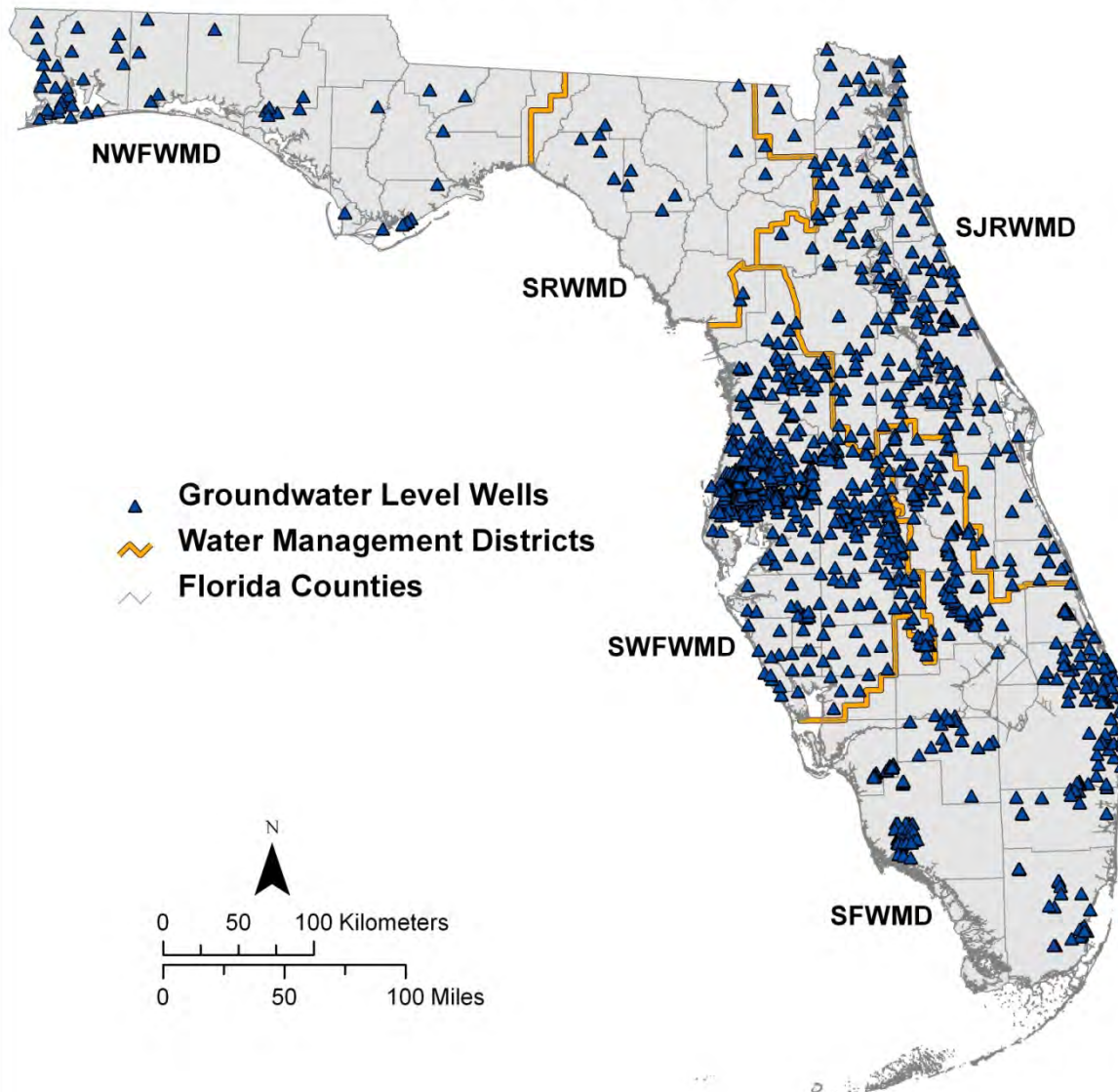
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GROUNDWATER LEVEL INTERMEDIATE AQUIFER SYSTEM



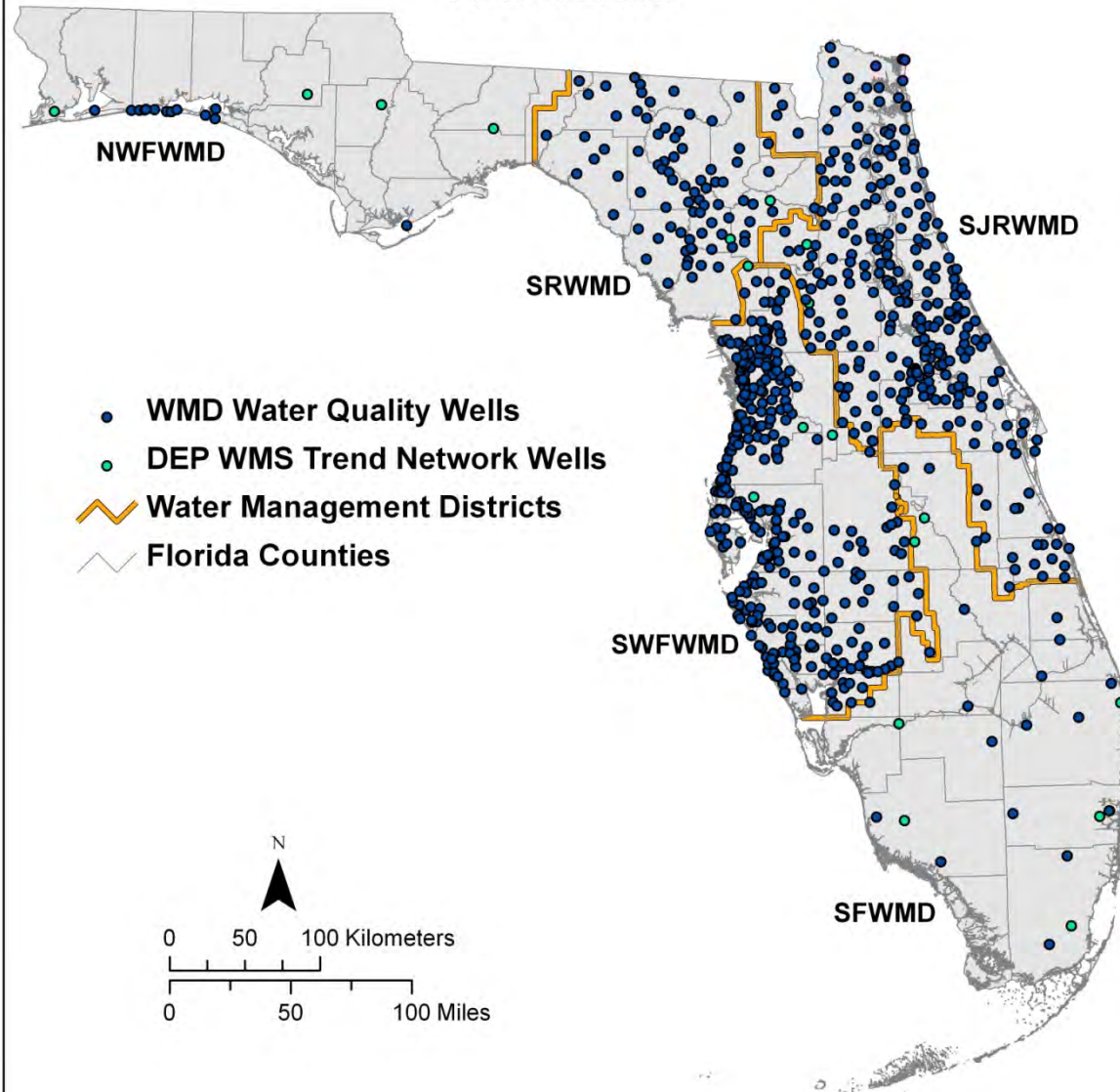
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GROUNDWATER LEVEL SURFICIAL AQUIFER SYSTEM



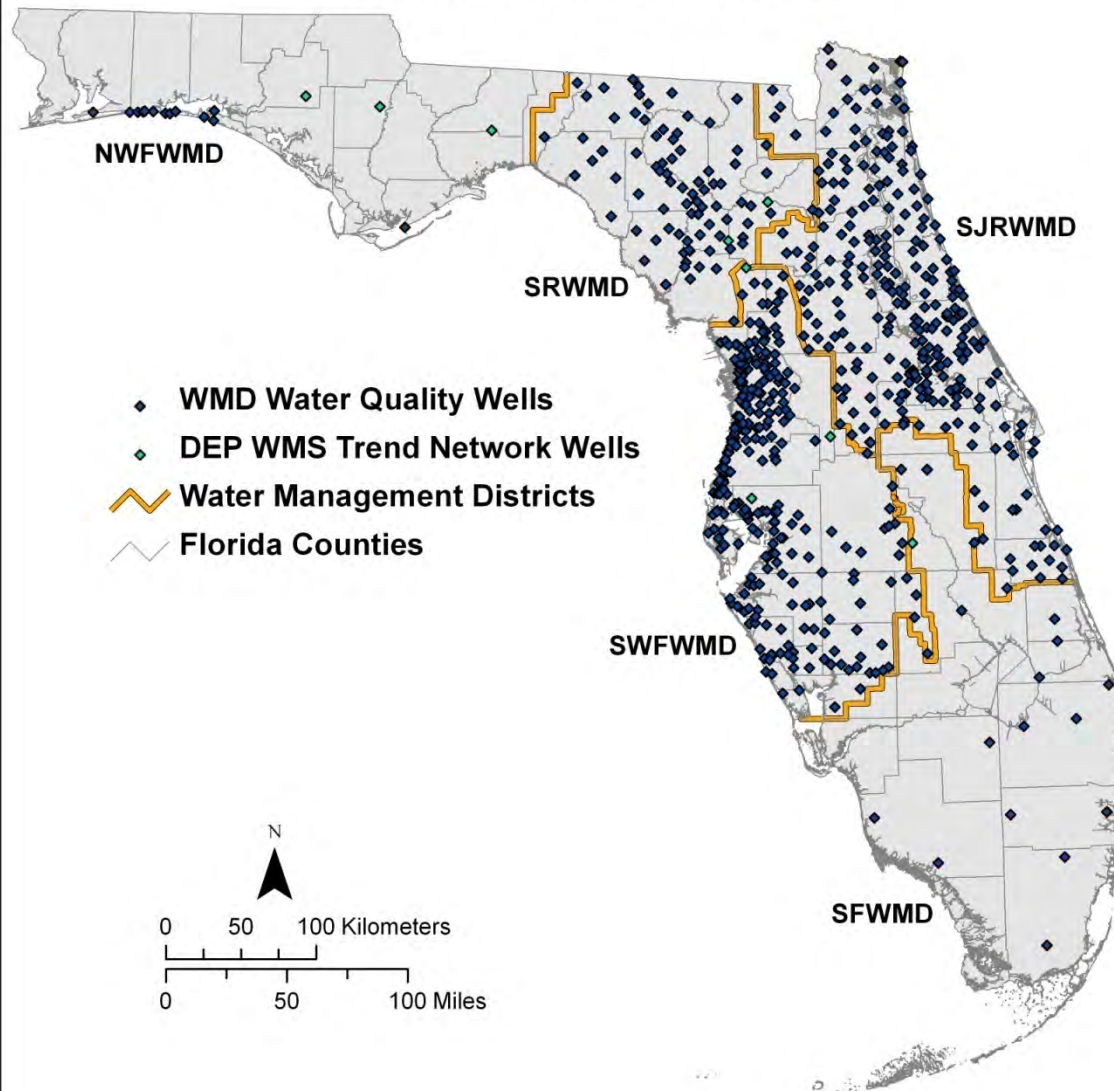
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WATER QUALITY ALL WELLS



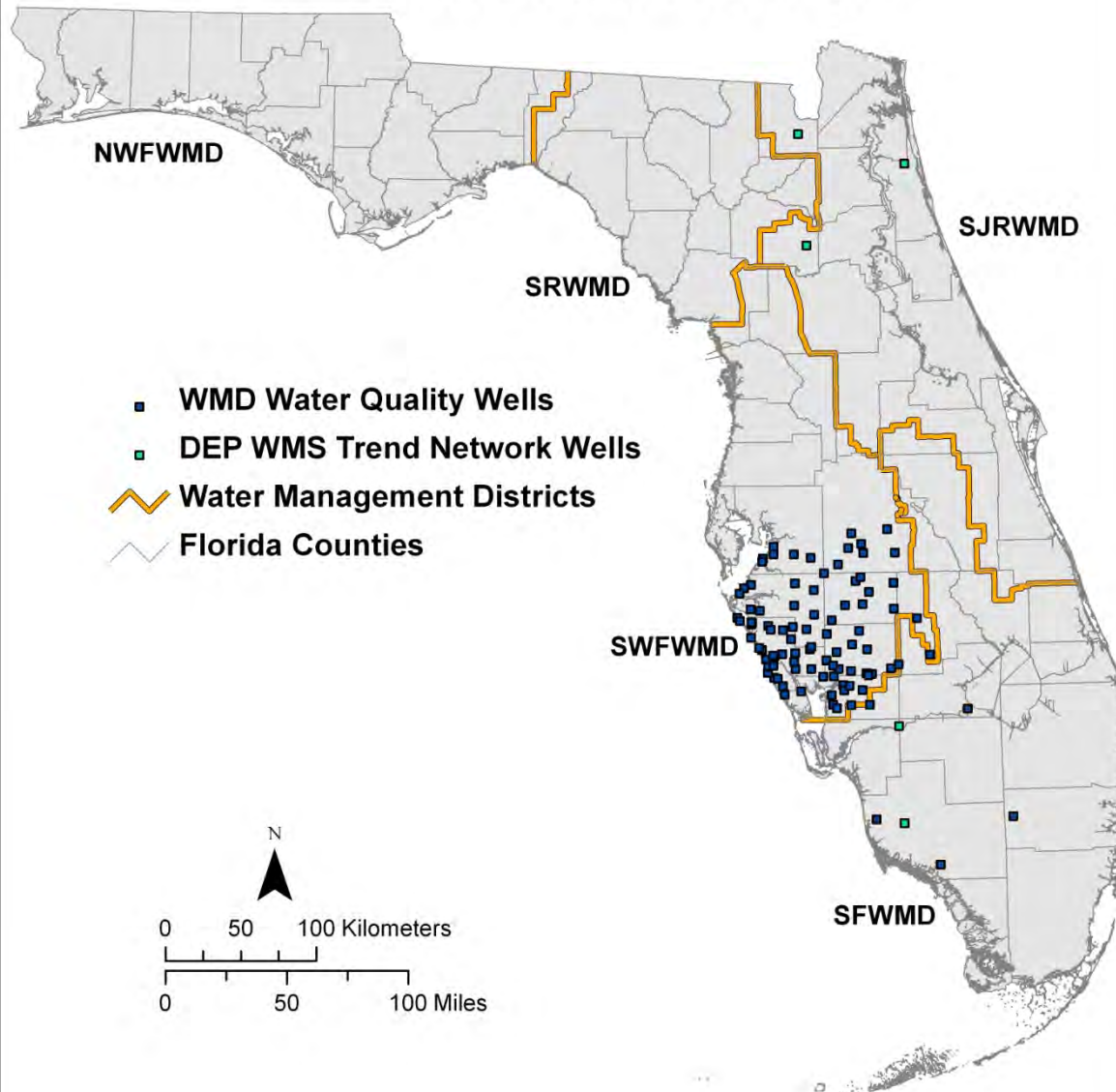
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WATER QUALITY FLORIDAN AQUIFER SYSTEM



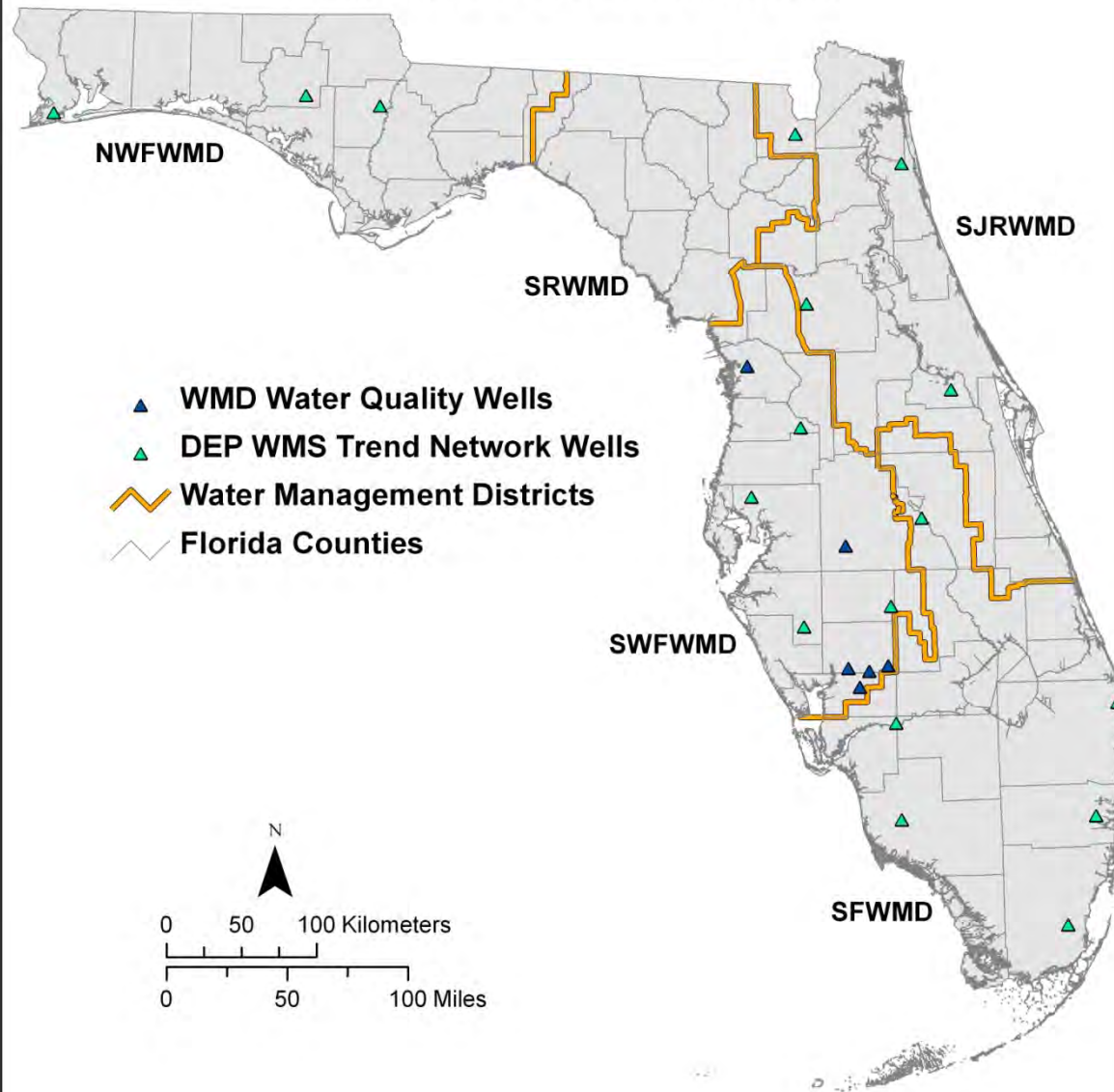
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WATER QUALITY INTERMEDIATE AQUIFER SYSTEM



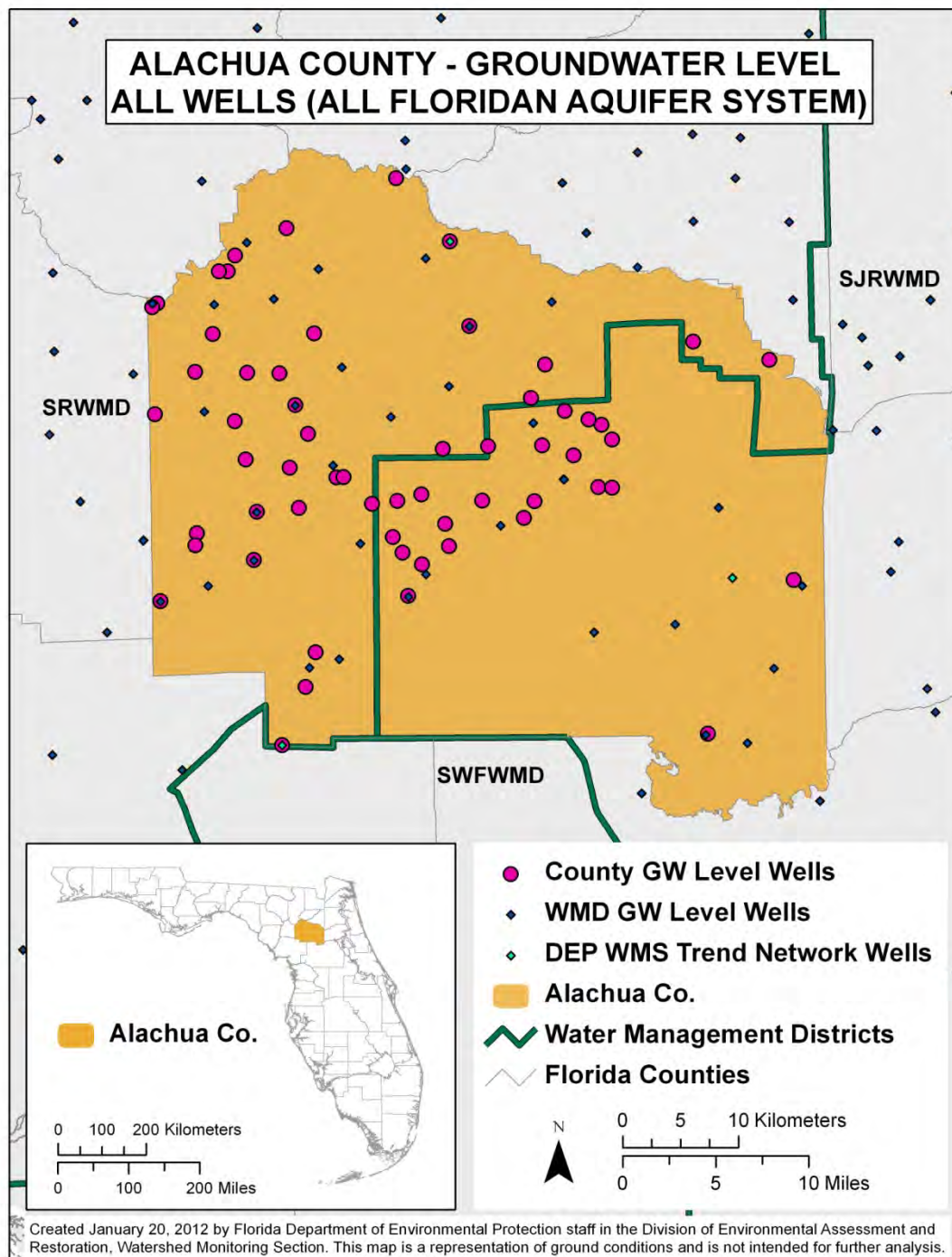
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WATER QUALITY SURFICIAL AQUIFER SYSTEM

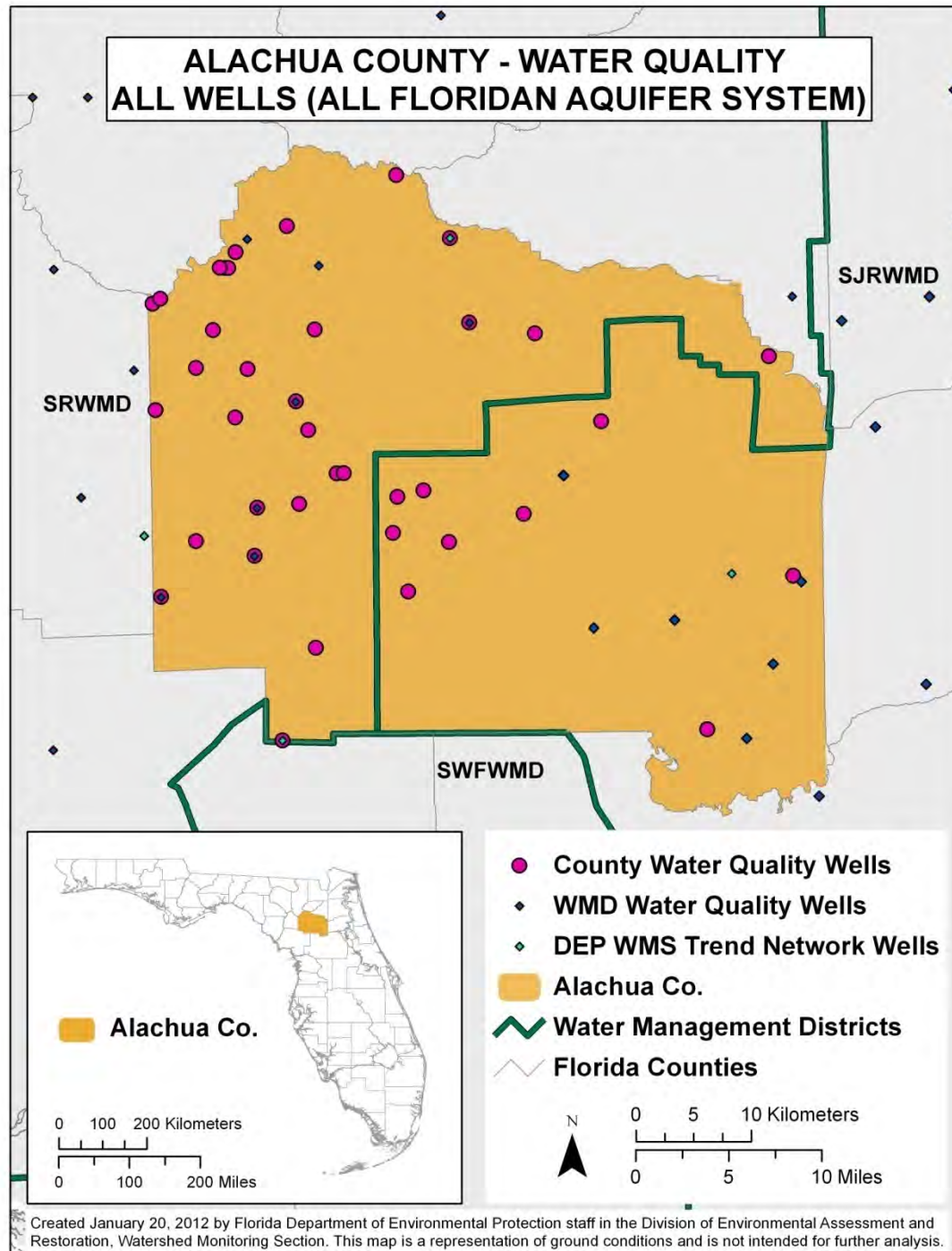


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ALACHUA COUNTY - GROUNDWATER LEVEL ALL WELLS (ALL FLORIDAN AQUIFER SYSTEM)



ALACHUA COUNTY - WATER QUALITY ALL WELLS (ALL FLORIDAN AQUIFER SYSTEM)



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SFWMD - CONSUMPTIVE USE PERMITS - ALL WELLS

◆ CUP Wells

■ SFWMD

■ All Other WMDs

∟ Florida Counties



0 20 40 Kilometers

0 20 40 Miles





IV. Issues of Concern (Selected Miscellaneous Issues)

Dave DeWitt (SWFWMD)

WQ Monitoring of the Lower Floridan aquifer

Permitted Wastewater Injection-disposal Facilities
& Aquifer Storage and Recovery Locations

Additions Sources of WQ Data Reported from
Supply Wells / Compliance Monitoring



V. Development of a Framework Document

- Framework Document for the Salinity Network
- Rick Copeland

V. Framework Document for SalNet (Justification)

- Legal – FS 373.026 (paraphrased)
 - (1) Conduct...research, and investigations into all aspects of water use and water quality.
 - (2) Be the central repository and cooperate in making available scientific and factual data.
 - (3) Cooperate in exchanging ideas and to conserve water in the State.

V. Framework Document for SalNet (Justification)

- (4) Disseminate to the public, current and useful information relating to the water resources of the State.
- (5) Identify areas of the State where saltwater intrusion is a threat to freshwater. Report...to the WMDs, counties and the public.

Framework Document for SalNet (Justification)

- As part of FWRMC –
 - Improve coordination among monitoring entities.
 - Increase integration of freshwater and coastal monitoring.
 - Create/Sustain collaboration among monitoring entities.

Framework Document (EPA – 10 Steps)

- **Program Strategy**
- **Monitoring Objectives**
- Monitoring Design
- Indicators
- Quality Assurance
- Data management
- Data Analysis and Assessment
- Reporting
- Programmatic Evaluation
- General Support and Infrastructure Planning

Draft Mission Statement

Preamble

Encroachment of saline water into FL's freshwater regimes can potentially and adversely affect drinking water supplies, agriculture production, surface water habitats, and thus the overall economy of FL.

The mission of the Salinity Network is to assist in the protection, preservation, management, and restoration of Florida's GW and SW resources, by teaming with the FRWMC and monitoring entities of the state in order to coordinate and improve monitoring activities. Emphasis is on the monitoring of GW levels, saline indicators, and both surface water and spring flows, as they pertain to potential and real encroachment of **saline** water into FL's freshwater resources.



Draft Goal

The goal is to provide scientifically defensible data and information on the important chemical, physical, and biological characteristics of water that can be used by public and governmental agencies in order to better understand the status and trends regarding the encroachment of saline water into FL's fresh water regimes.

Draft Objectives

- Encourage GW and SW monitoring programs in FL to participate in FWRMC (Council) activities and work toward common goals.
- Develop methods for the easy transfer of relevant data as necessary.
- Through the Council, encourage relatively frequent reporting of the status and trends for saline indicators, GW levels, and both surface water and spring flows.

Draft Objectives (Continued)

- Develop and use indices and other tools to evaluate the status and trends of saline encroachment that, to the extent practical, are uniform among monitoring entities in calculation methodologies, and are relatively easy to understand by the general public and policy makers.
- Use indices and other tools to assist in evaluating the threat of encroachment to water supplies and determining the cause of saline encroachment.



Framework – Impt. Unresolved Issues to be decided

- Decision making process
- Who, or what organization is to chair
- Non-Salinity related issues
 - This group? Another group?
- Other issues?
- If ideas – Please send me an email

VI. Development of an Index or Indices

- Use of Percentile Ranks for GW Levels
 - December meeting - Had Support
- Index for Salinity? (Next Meeting)
 - Specific Conductance (SC) or Chloride(?)
- Other analytes?



Development of an Index

- Envision an index or indices that:
 - Uses uniform methodology (to calculate)
 - Can be used at a variety of scales
 - Statewide, WMD, County, Site Specific

Development of an Index

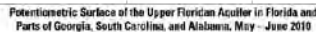
- Can be used for an aquifer or Aq. System
- Recognized by **Public**, Policy Makers, and Scientists
- A tool to be used by Policy Makers
- Tools should consider GW/SW interactions if applicable

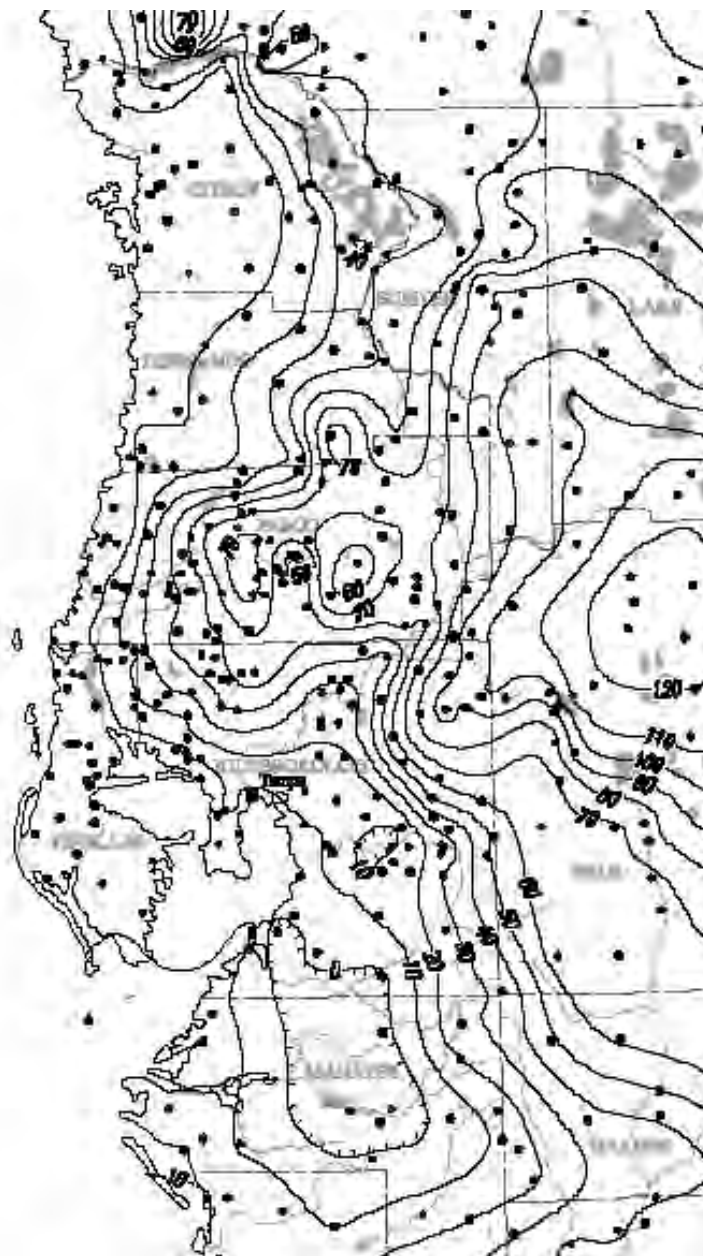
Terms

- **Analyte** (Chem.) – A component...a substance or...constituent that is of interest in an analytical procedure
- **Parameter** (Chem.) – Used to describe a discrete chem. or microbiological entity which can be assigned a value which is commonly a concentration
- **Indicator** (Environ. Health) – Pressure, conditions, response
- **Index** (Economics) – A single number calculated from an array of ...quantities

Terms (Continued)

- **Saltwater Encroachment** – The displacement of fresh ground water by the advance of saltwater due to its greater density (Neuendorf et al., 2005). (Natural or man-induced process.)
- **Saltwater Intrusion** – The migration of saltwater into freshwater aquifers under the influence of GW development (Freeze and Cherry, 1979). (Man-induced process.)





Uses of Percentile Ranks for GW Levels

- VII.
 - SWFWMD Aquifer Resource Indicator
 - (Granville Kinsman – SWFWMD)
- VIII.
 - SJRWMD Upper Floridan aquifer Water Level Report
 - (Don Boniol, SJRWMD)

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- X. Discussion
 - XI. Action Items
 - Next Meeting
 - Adjourn