



Status of Salinity Network Workgroup

October 9, 2012

[Rick Copeland (FDEP): Chair]

[Dave DeWitt (SWFWMD): Co-Chair]

Salinity Monitoring Network (SalNet)

- The SalNet Workgroup (SNW)
- Audience
 - General Public
 - Policy Makers
 - Scientists
- Network of Existing Networks
- “Success is in our ability to cooperate”

SNW

- Predominantly GW
- But committed to Working Closely with Surface Water Monitoring Programs
- Considers GW/SW interactions if applicable

Current Members

- NFWFMD
- SRWMD
- SJRWMD
- SWFWMD
- SFWMD
- USGS
- FDACS
- FDEP
- US Army Corp
- LAKEWATCH
- Miami-Dade
- Broward Co
- Escambia Co
- Lee Co
- Palm Beach Co
- Alachua Co

August 2012 SNW Meeting Action Items

- Invite counties and cities not currently participating in SNW activities
- Finalize Mission, Goal, and Objectives
(Has now been “Ratified”)
 - Begin development of Glossary
- **Proceed with Upper Floridan aquifer (UFA) Pilot Study**

Current Priorities

1. Develop a Framework Document for the SalNet
2. **Complete Pilot Study** (Discussed Shortly)

Priorities - Continued

- Develop and Use a GW Level Index (**High**). Part of Pilot Study
- Develop a GW Quality Index (**High**, Commence at November SNW meeting)
- Use Volunteer data if applicable (**Moderate**; making headway)
- Management/Transfer of Pertinent Data as needed (**Highest**)

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

Mission (Abridged)

- The mission...is to assist in the management, protection, preservation, and restoration of Florida's groundwater and surface water resources, facilitated by the Council and the monitoring entities of the state...
- Emphasis is on the monitoring of groundwater levels, saline analytes, and surface water and spring flow, as they pertain to the encroachment of saline water into Florida's freshwater resources.

Objectives (Abridged)

- Monitor the quantity and quality of Florida's fresh water resources as related to saltwater encroachment.
- Encourage GW & SW monitoring programs to participate in Council activities
- Assist in developing methods for the easy transfer of relevant data as necessary.
- Encourage the timely reporting of the status and trends for saline analytes, GW levels, and surface water and spring flows.
- Develop and use indices and ...to evaluate the status and trends of saline encroachment.

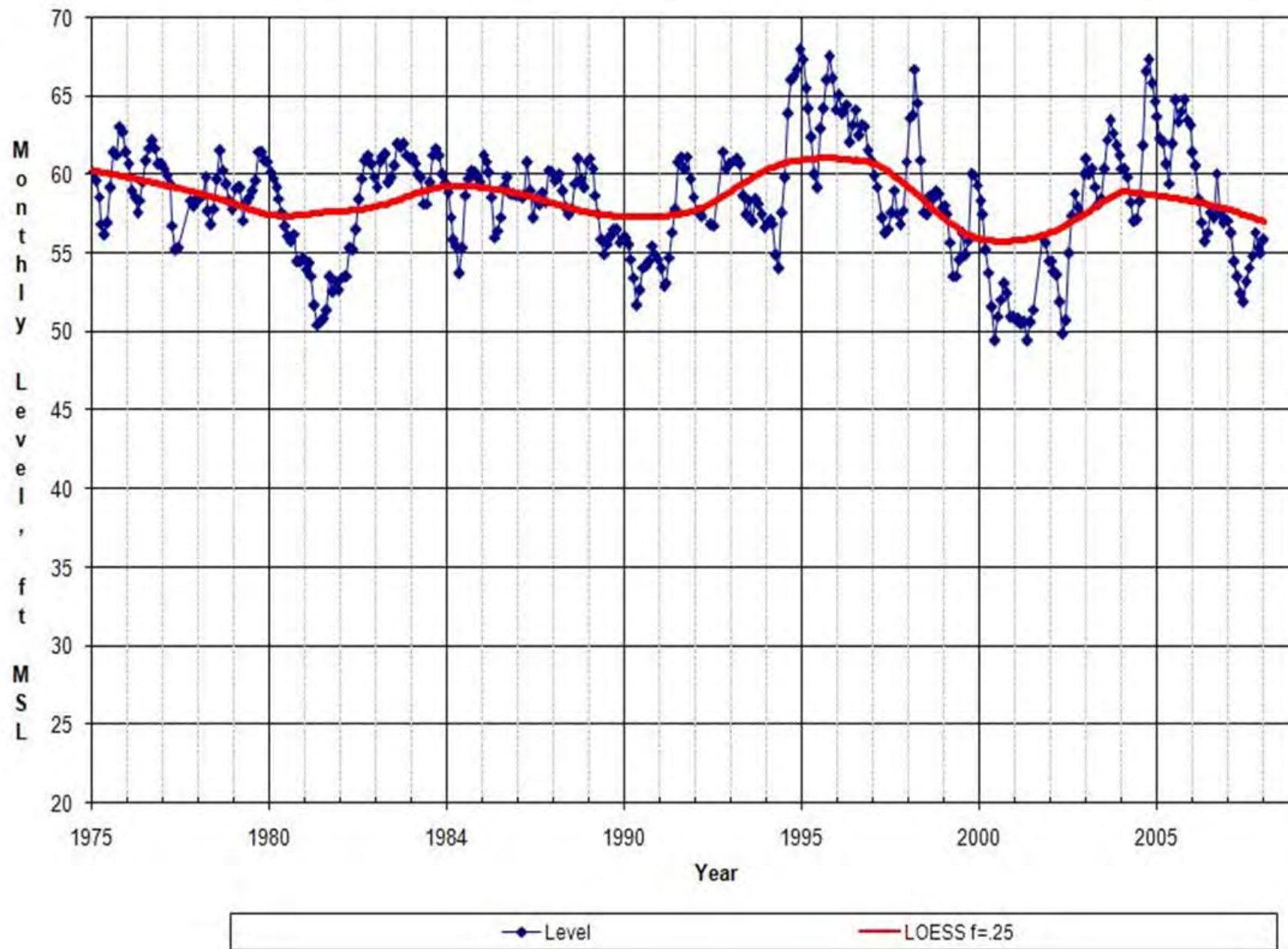
Pilot Study

- Generate a draft statewide PRI map for the Upper FL aquifer (UFA) for May/June 2010
- **Work out the many issues**
- For now, only deal with statewide PRI map
- **In future**
 - Side-by-side pot map and PR maps?
 - PR Maps for Localized aquifers?

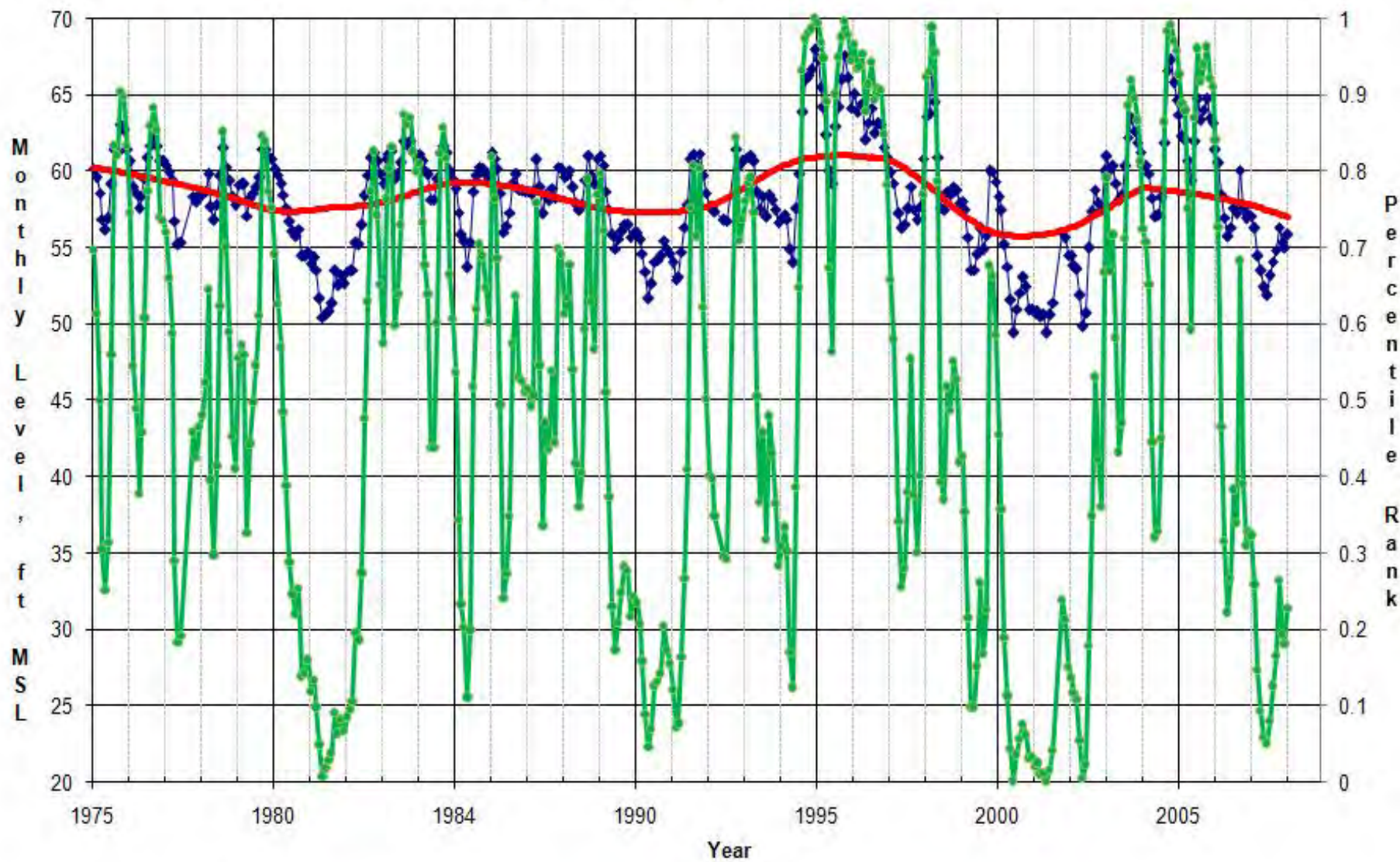
UFA Pilot Study

- GW Level (GWL) Index is useful for conveying information to the public
- The chosen GWL index is a Percentile Rank Index (PRI)
- 3 WMDs and USGS already use variations of it

OR0047 - Orlo Vista - FA



OR0047 - Orlo Vista - FA



Many Issues Must be Worked Out

- Because of regional variations, the value of any one station on a statewide map may be questionable
- Some entities use their own PRI methods.
If a statewide PRI map is generated, it may be slightly different from the analogous PRI map produced by a WMD
- Regional and statewide maps will need to be hydrostratigraphically consistent among WMDs or other boundaries

Selected PRI Issues

- How will the GW level index (the PRI) be related back to salinity?
- GW chemistry (saline indicators) are scheduled to addressed at SNW meeting in November.
- **All caveats must be adequately described**

U.S. Drought Monitor

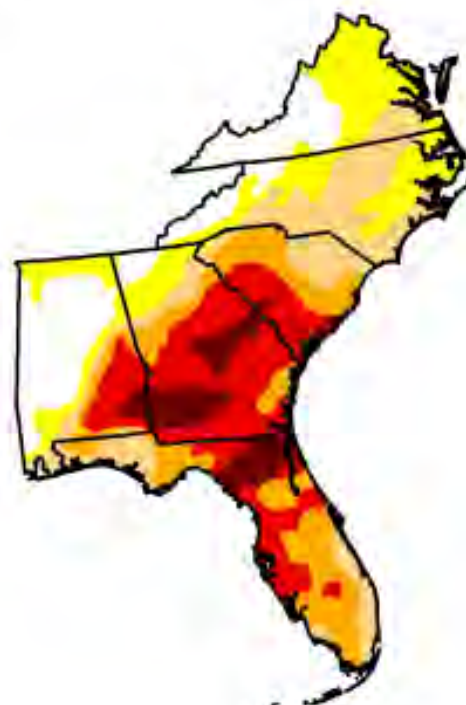
Southeast

April 17, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	17.04	82.96	63.56	43.54	27.65	7.14
Last Week (04/10/2012 map)	17.84	82.16	63.41	39.97	25.35	5.29
3 Months Ago (01/17/2012 map)	28.63	71.37	52.85	33.73	23.65	1.50
Start of Calendar Year (12/27/2011 map)	40.38	59.62	43.05	28.62	18.71	0.00
Start of Water Year (09/27/2011 map)	42.24	57.76	41.82	31.77	23.48	0.00
One Year Ago (04/12/2011 map)	30.65	69.35	48.75	15.15	4.60	0.00

Intensity:



The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements.

<http://droughtmonitor.unl.edu>

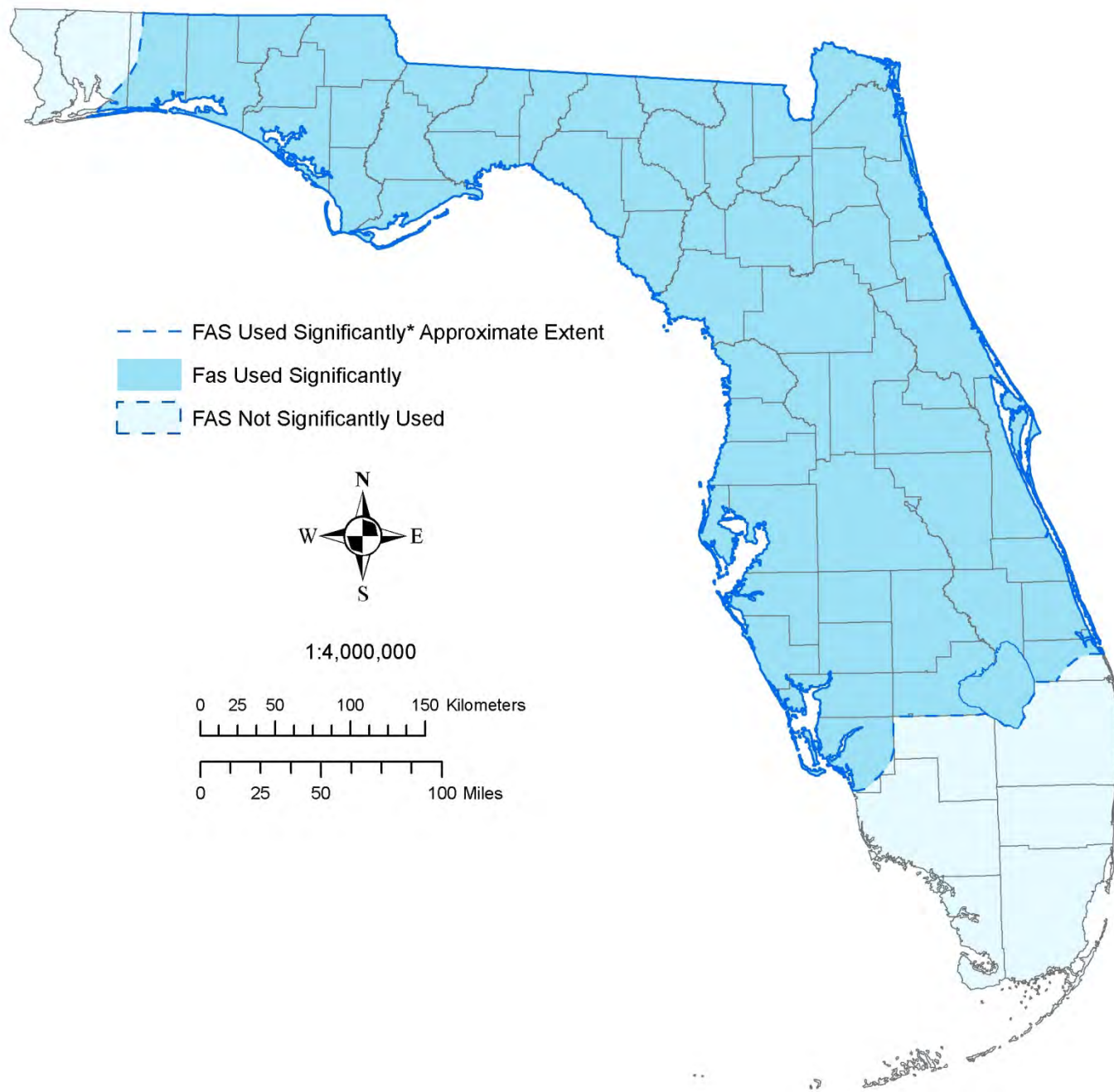


Released Thursday, April 19, 2012

Anthony Artusa, Climate Prediction Center/NCEP/NWS/NOAA

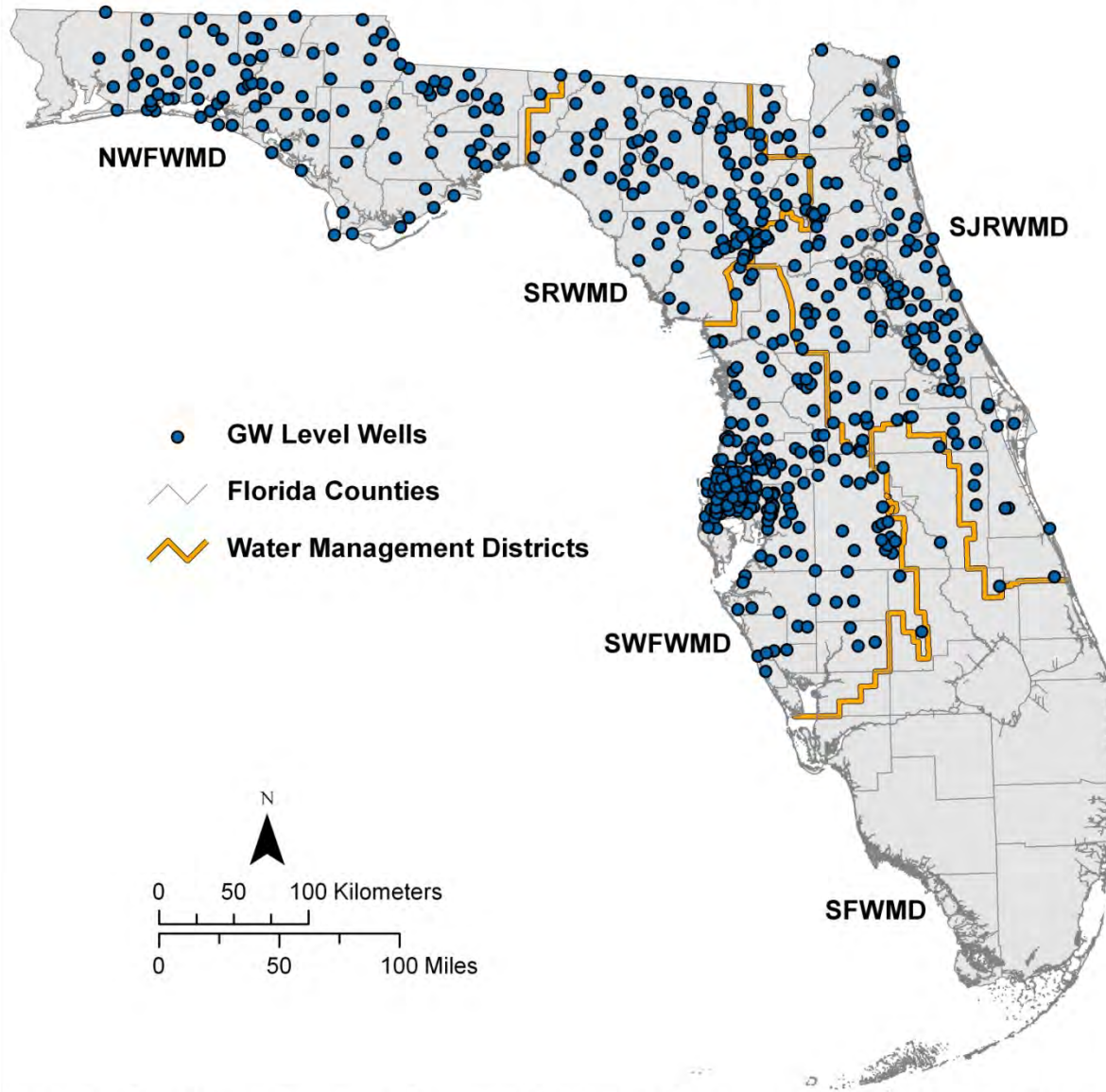
UFA Pilot Study

- We need a consistent POR that all included wells (e.g. 1998-2011, or 1992-2011)
 - Min # of WL measurements needed for POR
 - We need to determine a subset of wells to use (same POR)



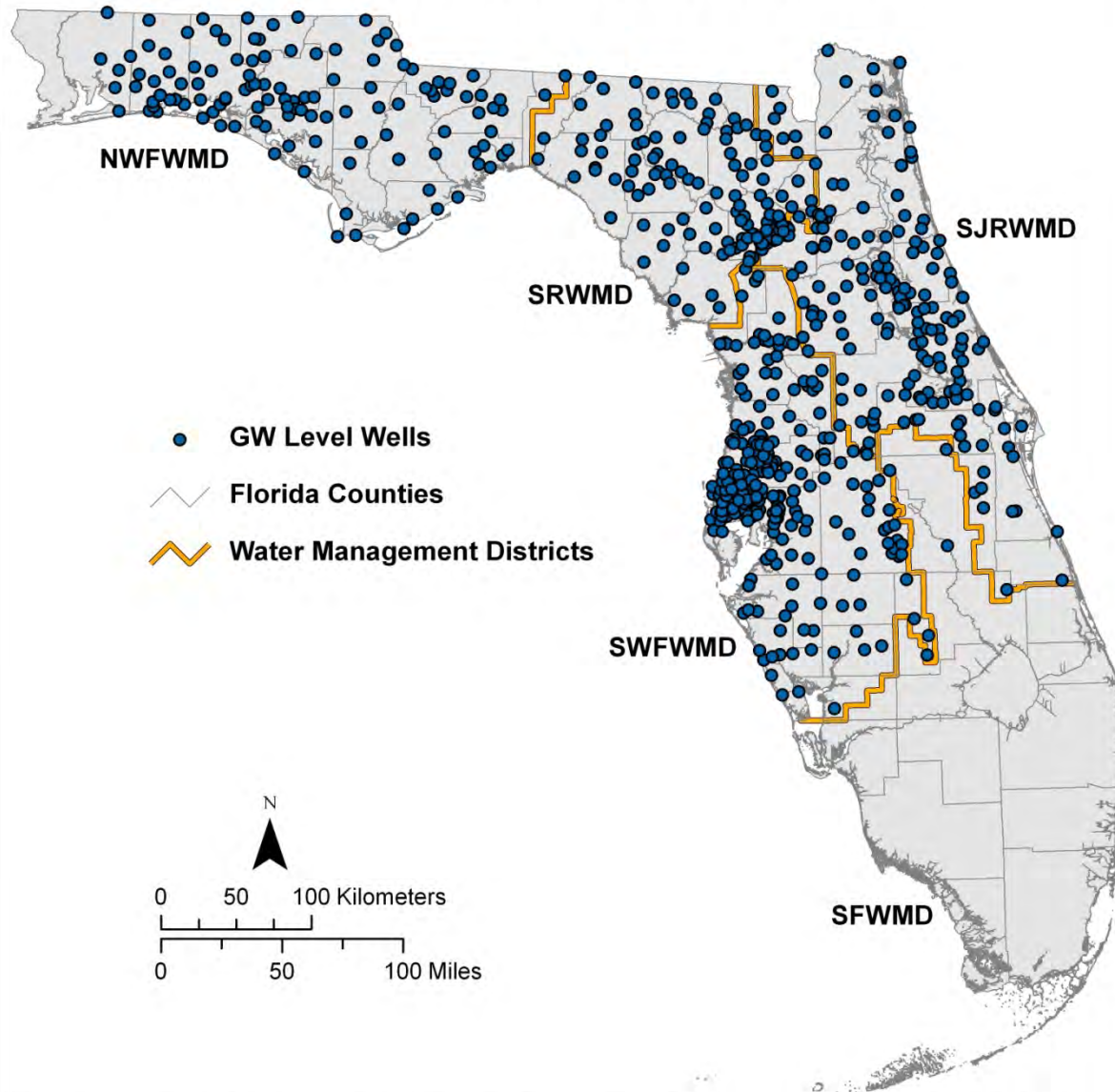
* Significant is greater than 5% of county groundwater use based on 2000 data from Marella and Bendt (2005).

STATEWIDE - UPPER FLORIDAN AQUIFER GROUNDWATER LEVEL REAL PERIOD OF RECORD: 1992 - 2011



Created July 30, 2012 by Florida Department of Environmental Protection staff in the Division of Environmental Assessment and Restoration, Watershed Monitoring Section. This map is a representation of ground conditions and is not intended for further analysis.

STATEWIDE - UPPER FLORIDAN AQUIFER GROUNDWATER LEVEL REAL PERIOD OF RECORD: 1998 - 2011



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UFA Pilot Study

- Periods of Record (POR)
 - 1992-2011 (605 wells)
 - 1998-2011 (753 wells)
- Number of Observations and Data?
- PR Algorithm

One Percentile Rank Definition (There are others)

- (Triola, 1998) The number of observations in a distribution less than x , divided by the total number of obs (n), and then multiplied by 100
- For Example, what is the PR of 51?
 - 1, 5, 9, 11, 13, 24, 32, 32, 33, 34, 46, 48, 48, 48, **51**, 52, 135, 137, 141, 287
 - $PR_{(51)} = [(no\ obs < x) / (n)] \cdot 100$
 - $= [14/20] \cdot 100 = 70$
 - **$PR_{(51)} = 70$**

Most Significant Obstacle - Data Transfer

- Currently - No Central GW Database
- Can SNW members use a single format to transfer the following data fields?
 - Well ID, Station Name, Org. Maintaining Well,
 - Lat, Long, Aquifer tapped, Measuring Point Elevation,
 - Water Level Value, Specific Conductance Value, Collection Date, and Agency Collecting Data
- For Pilot, 5 WMDs, FDEP and Ala Co

Data Transfer

- LAKEWATCH agreed to store data if data can be transferred
 - Transfer process is labor intensive
- Possible Solutions:
 - Entities transfer data into **STD** format
 - FDEP transfer each entity's data into **STD** format
 - Modify our transfer method
 - Wait for FDEP's WIN database

Closing Remarks

- SNW Wants to be Product Driven
- Network of Existing Networks
- “Success is in our ability to cooperate”
- I want to thank all SNW participants as for giving their time to SNW activities,
- Rick.Copeland@dep.state.fl.us