List of Figures

Figure 5-1. Map of annual average precipitation in 2010, and bar charts of 2001, 2009 and 2010 average annual precipitation by groundwater basin................................................................. 2
Figure 5-2. Difference in precipitation rate between 2010 and 2001 (left) and 2010 and 2009 (right). 3
Figure 5-3. Map of annual average MSET in 2010, and bar charts of 2001, 2009 and 2010 average annual MSET by groundwater basin................................................................. 4
Figure 5-4. Difference in MSET rate between 2010 and 2001 (left) and 2010 and 2009 (right). ......... 5
Figure 5-5. Map of annual average recharge rate in 2010, and bar charts of 2001, 2009 and 2010 average annual recharge rate by groundwater basin.................................................. 6
Figure 5-6. Difference in recharge rate between 2010 and 2001 (left) and 2010 and 2009 (right) ...... 7
Figure 5-7. Distribution of Public-Supply, Commercial-Industrial and Institutional Withdrawals (MGD), 2010. ........................................................................................................... 8
Figure 5-8. Distribution of Total Groundwater Withdrawals by County (MGD), 2010. .................... 9
Figure 5-9. Distribution of Multi-Aquifer Wells in 2010 ..................................................................... 10
Figure 5-10. Distribution of Observation Wells, 2010...................................................................... 11
Figure 5-11. Simulated vs. Observed Groundwater Levels (feet NAVD88), Model Layer 1, 2010...... 12
Figure 5-12. Simulated vs. Observed Groundwater Levels (feet NAVD88), Model Layer 3, 2010..... 13
Figure 5-13. Simulated vs. Observed Groundwater Levels (feet NAVD88), Model Layer 5, 2010..... 14
Figure 5-14. Residual Groundwater Level Statistics Comparison for Model Layers 1, 3 and 5. ......... 15
Figure 5-15. Simulated vs. Observed Spring Discharges (cfs), 2010 ............................................... 16
Figure 5-16. Residual Spring Discharge Statistics Comparison......................................................... 17
Figure 5-17. Simulated vs. Estimated Baseflow Pickups (cfs), 2010. .................................................. 18
Figure 5-18. Residual Baseflow Pickup Statistics Comparison ............................................................ 19
Figure 5-19. Simulated vs. Estimated Range of Cumulative Baseflow Estimates in 2010............... 20
Figure 5-20. Residual Cumulative Baseflow Statistics Comparison.................................................. 21
Figure 5-21. 2010 Groundwater Level Residuals, Model Layer 1 ......................................................... 22
Figure 5-22. 2010 Groundwater Level Residuals, Model Layer 3. ....................................................... 23
Figure 5-23. Simulated UFA Potentiometric Surface, 2010. ............................................................... 24
Figure 5-24. Observed UFA Potentiometric Surface, 2010. .............................................................. 25
Figure 5-25. Model Wide Mass Balance Summary, 2010. ................................................................. 26
Figure 5-26. USGS Estimated Predevelopment Potentiometric Surface of the Floridan Aquifer System within the NFSEG Domain (after Johnston et al. 1980) ................................................ 27
Figure 5-27. NFSEG Simulated No-pumping Layer-3 Potentiometric Surface and USGS Estimated Predevelopment Potentiometric Surface of the Floridan Aquifer System (after Johnston et al. 1980) .................................................................................................................. 28
Figure 5-28. Differences between the USGS Estimated Predevelopment Potentiometric Surface of the Floridan Aquifer System (after Johnston et al. 1980) and the NFSEG Simulated No- pumping Layer-3 Potentiometric Surface within the Area of Interest ......................................... 29
Figure 5-29. Increases in Depth of Flooding of NFSEG Layer 1 between the NFSEG 2009 and No- pumping Simulations within the Area of Interest ................................................................. 30
Figure 5-1. Map of annual average precipitation in 2010, and bar charts of 2001, 2009 and 2010 average annual precipitation by groundwater basin.
Figure 5-2. Difference in precipitation rate between 2010 and 2001 (left) and 2010 and 2009 (right).

2010 Precipitation - 2001 Precipitation (in/yr)

2010 Precipitation - 2009 Precipitation (in/yr)

Difference in Precipitation (in/yr)

- < 10.0
- -9.9 - -5.0
- -4.9 - 0.0
- 0.1 - 6.0
- 5.1 - 10.0
- > 10.0

*Negative values indicate a lower precipitation rate in 2010 relative to 2001 or 2009.
Figure 5-3. Map of annual average MSET in 2010, and bar charts of 2001, 2009 and 2010 average annual MSET by groundwater basin.
Figure 5-4. Difference in MSET rate between 2010 and 2001 (left) and 2010 and 2009 (right).
Figure 5-5. Map of annual average recharge rate in 2010, and bar charts of 2001, 2009 and 2010 average annual recharge rate by groundwater basin.
Figure 5-6. Difference in recharge rate between 2010 and 2001 (left) and 2010 and 2009 (right).
Figure 5-7. Distribution of Public-Supply, Commercial-Industrial and Institutional Withdrawals (MGD), 2010.
Figure 5-8. Distribution of Total Groundwater Withdrawals by County (MGD), 2010.
Figure 5-9. Distribution of Multi-Aquifer Wells in 2010.
Figure 5-10. Distribution of Observation Wells, 2010.
Figure 5-11. Simulated vs. Observed Groundwater Levels (feet NAVD88), Model Layer 1, 2010.
Figure 5-12. Simulated vs. Observed Groundwater Levels (feet NAVD88), Model Layer 3, 2010.
Figure 5-13. Simulated vs. Observed Groundwater Levels (feet NAVD88), Model Layer 5, 2010.
Figure 5-14. Residual Groundwater Level Statistics Comparison for Model Layers 1, 3 and 5.
Figure 5-15. Simulated vs. Observed Spring Discharges (cfs), 2010
Figure 5-16. Residual Spring Discharge Statistics Comparison.
Figure 5-17. Simulated vs. Estimated Baseflow Pickups (cfs), 2010.
Figure 5-18. Residual Baseflow Pickup Statistics Comparison.
Figure 5-19. Simulated vs. Estimated Range of Cumulative Baseflow Estimates in 2010.
Figure 5-20. Residual Cumulative Baseflow Statistics Comparison.
Figure 5-21. 2010 Groundwater Level Residuals, Model Layer 1
Figure 5-22. 2010 Groundwater Level Residuals, Model Layer 3.
Figure 5-23. Simulated UFA Potentiometric Surface, 2010.
Figure 5-24. Observed UFA Potentiometric Surface, 2010.
Figure 5-25. Model Wide Mass Balance Summary, 2010.

**SIMULATED MASS BALANCE REPORT**

**MassBal Polygon: Modelwide Active L1**

ZB_NAME: Modelwide Active L1  Number of Cells: 206895  Area Per Cell: 6,250,500 SF
All units expressed as Inches Per Year over the selected cells (except where noted)
Values reflect the net water balance for all cells in zone corresponding to the direction indicated.
Figure 5-26. USGS Estimated Predevelopment Potentiometric Surface of the Floridan Aquifer System within the NFSEG Domain (after Johnston et al. 1980)
Figure 5-27. NFSEG Simulated No-pumping Layer-3 Potentiometric Surface and USGS Estimated Predevelopment Potentiometric Surface of the Floridan Aquifer System (after Johnston et al. 1980)
Figure 5-28. Differences between the USGS Estimated Predevelopment Potentiometric Surface of the Floridan Aquifer System (after Johnston et al. 1980) and the NFSEG Simulated No-pumping Layer-3 Potentiometric Surface within the Area of Interest
Figure 5-29. Increases in Depth of Flooding of NFSEG Layer 1 between the NFSEG 2009 and No-pumping Simulations within the Area of Interest