List of Figures

Figure 3-1. NFSEG Model Grid 3
Figure 3-2. Locations of Hydrogeologic Cross Sections 4
Figure 3-3. Hydrogeologic Cross Section A-A' 5
Figure 3-4. Hydrogeologic Cross Section B-B' 6
Figure 3-5. Hydrogeologic Cross Section C-C' 7
Figure 3-6. Hydrogeologic Cross Section D-D' 8
Figure 3-7. Hydrogeologic Cross Section E-E' 9
Figure 3-8. Top Elevation, Layer 1 (Feet NAVD88; after Boniol and Davis, digital communication, 2013) 10
Figure 3-9. Bottom Elevation, Layer 1 (and Top Elevation, Layer 2; Feet NAVD88; after Boniol and Davis, digital communication, 2013) 11
Figure 3-10. Thickness, Layer 1 (Feet) 12
Figure 3-11. Bottom Elevation, Layer 2 (and Top Elevation, Layer 3; after Boniol and Davis, digital communication, 2013) 13
Figure 3-12. Thickness, Layer 2 (Feet) 14
Figure 3-13. Bottom Elevation, Layer 3 (and Top Elevation, Layer 4; Feet NAVD88; after Boniol and Davis, digital communication, 2013) 15
Figure 3-14. Thickness, Layer 3 (Feet) 16
Figure 3-15. Bottom Elevation, Layer 4 (and Top Elevation, Layer 5; Feet NAVD88; after Boniol and Davis, digital communication, 2013) 17
Figure 3-16. Thickness, Layer 4 18
Figure 3-17. Bottom Elevation, Layer 5 (Feet NAVD88; after Miller, 1986; Miller, written communication, 1991; and Williams, digital communication, 2013) 19
Figure 3-18. Thickness, Layer 5 (Feet) 20
Figure 3-19. Top Elevation, Layer 6 (Feet NAVD88; after Miller, 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015) 21
Figure 3-20. Bottom Elevation, Layer 6 (Feet NAVD88; after Miller, 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015) 22
Figure 3-21. Thickness, Layer 6 (Feet) 23
Figure 3-22. Top Elevation, Layer 7 (Feet NAVD88, after Miller 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015) 24
Figure 3-23. Bottom Elevation, Layer 7 Feet NAVD88, after Miller, 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015) 25
Figure 3-24. Thickness, Layer 7 (Feet) 26
Figure 3-25. Model Lateral Boundaries, Layer 3 27
Figure 3-26. Model Lateral Boundaries, Layer 4 28
Figure 3-27. Model Lateral Boundaries, Layer 5 29
Figure 3-28. Model Lateral Boundaries, Layer 6 30
Figure 3-29. Model Lateral Boundaries, Layer 7 31
Figure 3-30. NHDPlusV2 Flow-Line Sub-Segments Used in River- and Drain-Package Implementations 32
Figure 3-31. Portions of NHD Flowlines for Which River Stages Were Obtained from Existing Surface-Water Models and Lake Sub-Polygons Represented in the NFSEG River Package 33
Figure 3-32. Artesian-Derived Wetlands Represented in the Drain Package 34

Figure 3-33. USGS HUC8 Basins for Which HSPF Models were Developed in Support of NFSEG Development 35
Figure 3-34. Simulated Flow Components--HSPF vs. MODFLOW 36
Figure 3-35. HSPF-Derived Rates of Recharge, 2001 (Inches per Year) 37
Figure 3-36. HSPF-Derived Rates of Recharge, 2009 (Inches per Year) 38
Figure 3-37. HSPF-Derived Rates of Maximum Saturated ET, 2001 (Inches per Year) 39
Figure 3-38. HSPF-Derived Rates of Maximum Saturated ET, 2009 (Inches per Year) 40
Figure 3-39. Estimated Evapotranspiration Extinction Depths (Feet) 41
Figure 3-40. Locations of Concentrated Groundwater Influxes 42
Figure 3-41. Distribution of Public-Supply, Commercial-Industrial, and Institutional Withdrawals (MGD), 2001 43
Figure 3-42. Distribution of Public-Supply, Commercial-Industrial, and Institutional Withdrawals (MGD), 2009 44
Figure 3-43. Distribution of DSS Withdrawals (MGD) 45
Figure 3-44. Distribution of Agricultural Withdrawals 46
Figure 3-45. Distribution of Specified-Head Grid Cells in Layer 1 47

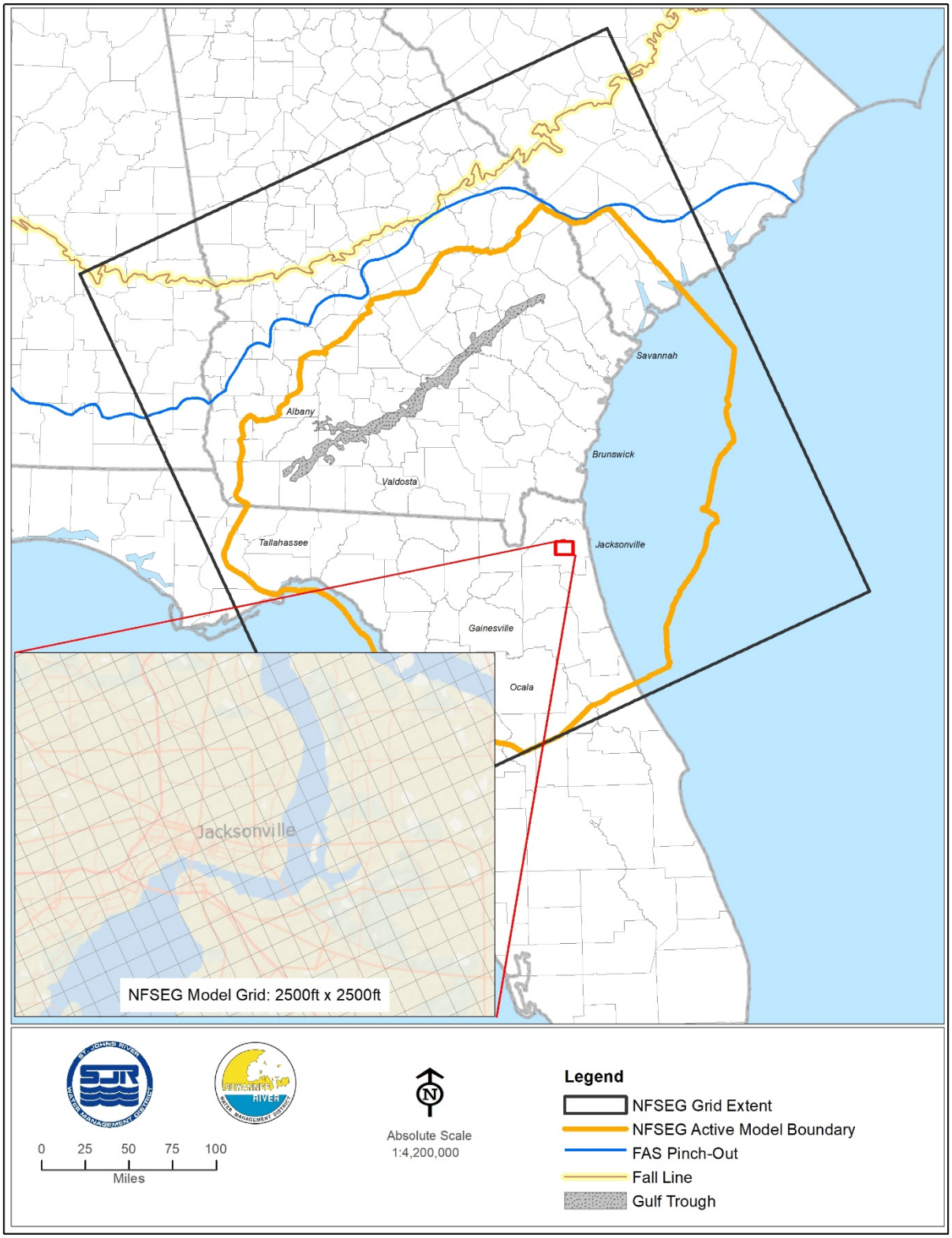


Figure 3-1. NFSEG Model Grid

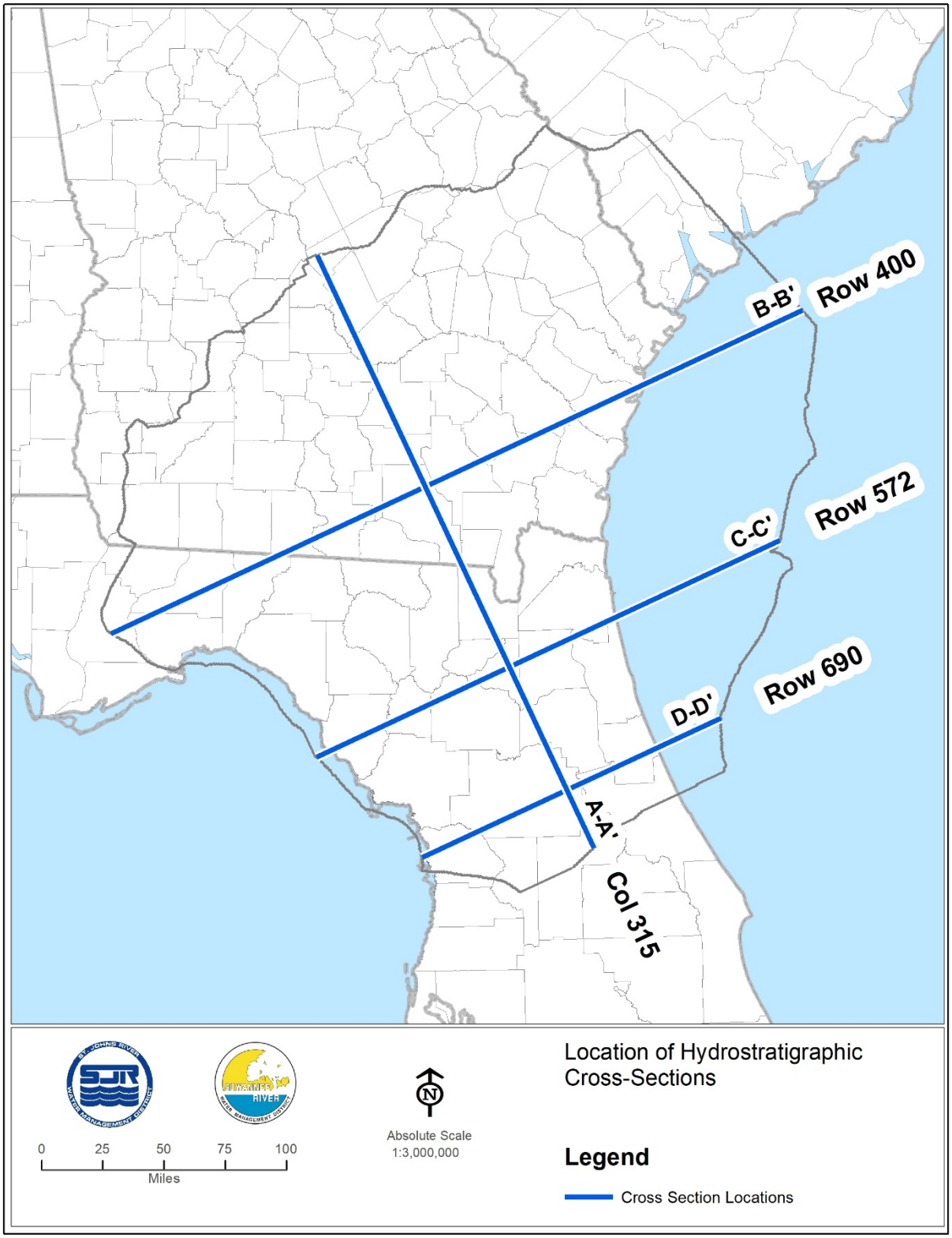


Figure 3-2. Locations of Hydrogeologic Cross Sections

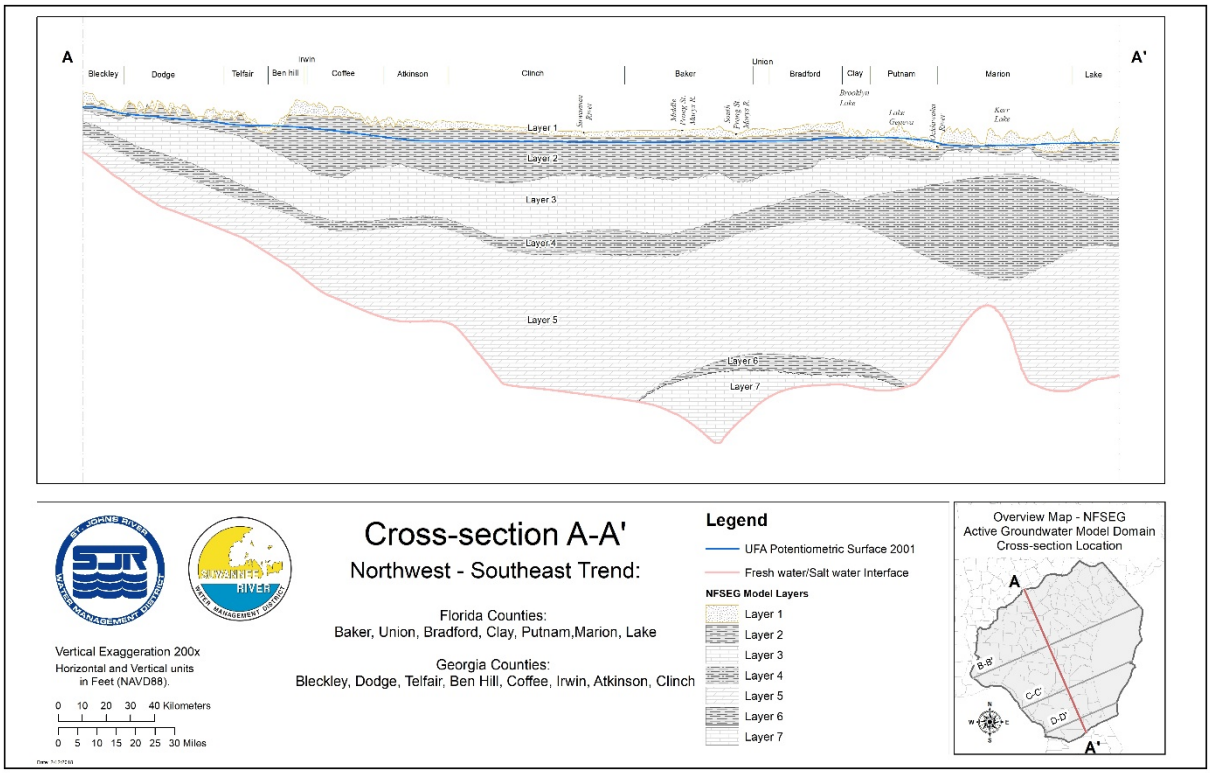


Figure 3-3. Hydrogeologic Cross Section A-A'

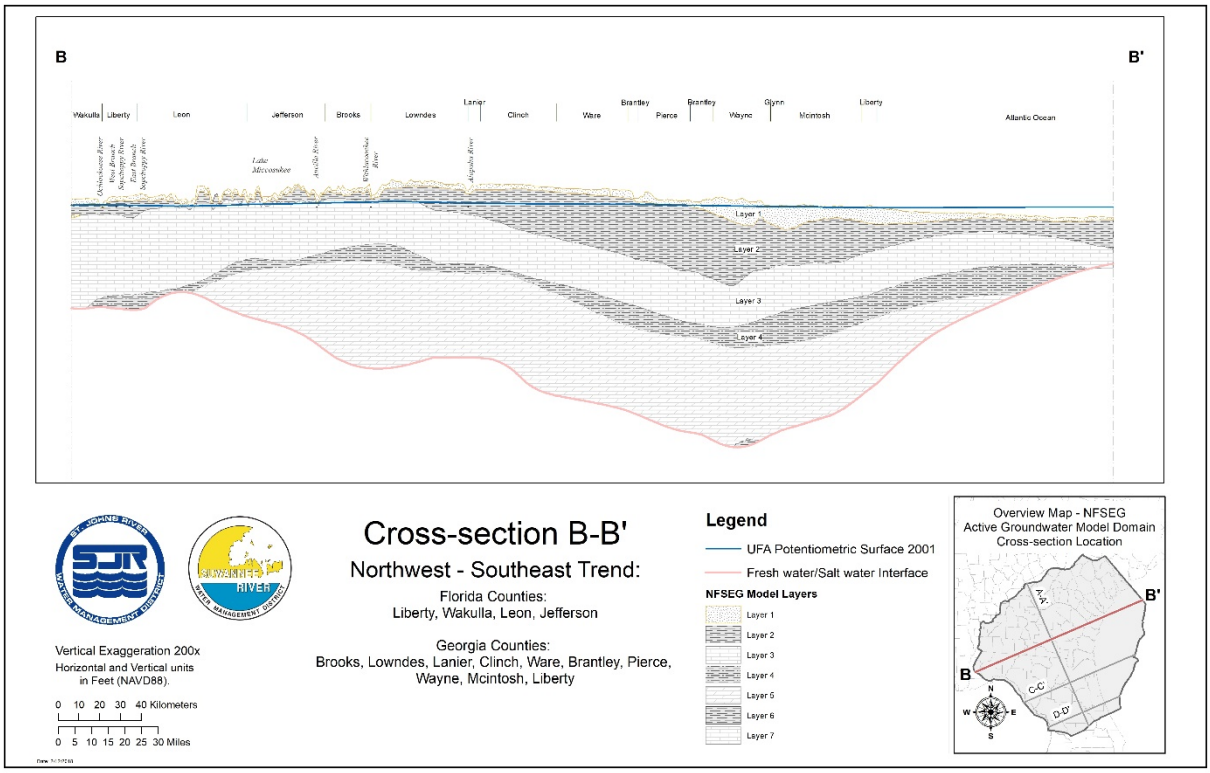
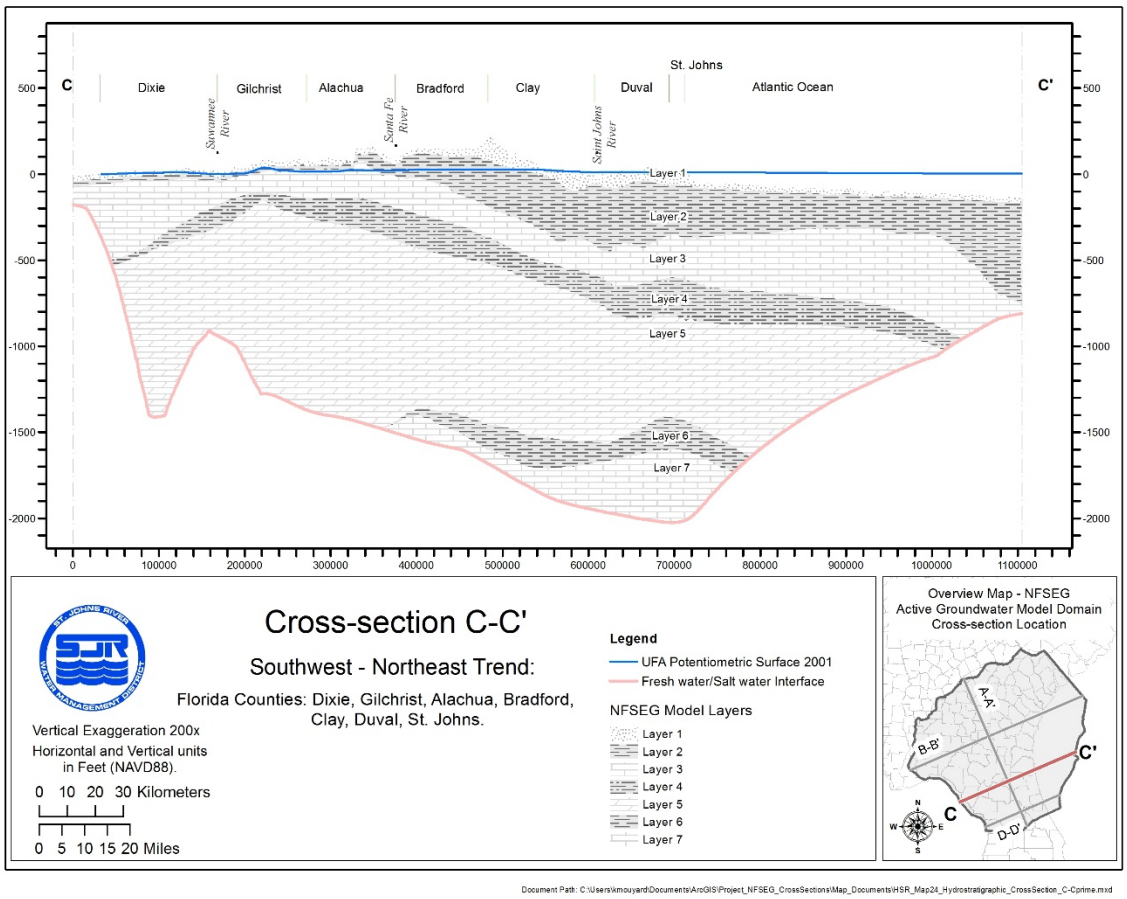


Figure 3-4. Hydrogeologic Cross Section B-B’



Document Path: C:\Users\kmouyard\Documents\ArcGIS\Project_NFSEG_CrossSections\Map_Documents\HSR_Map24_HydrostratigraphicCrossSection_C-Cprime.mxd

Figure 3-5. Hydrogeologic Cross Section C-C'

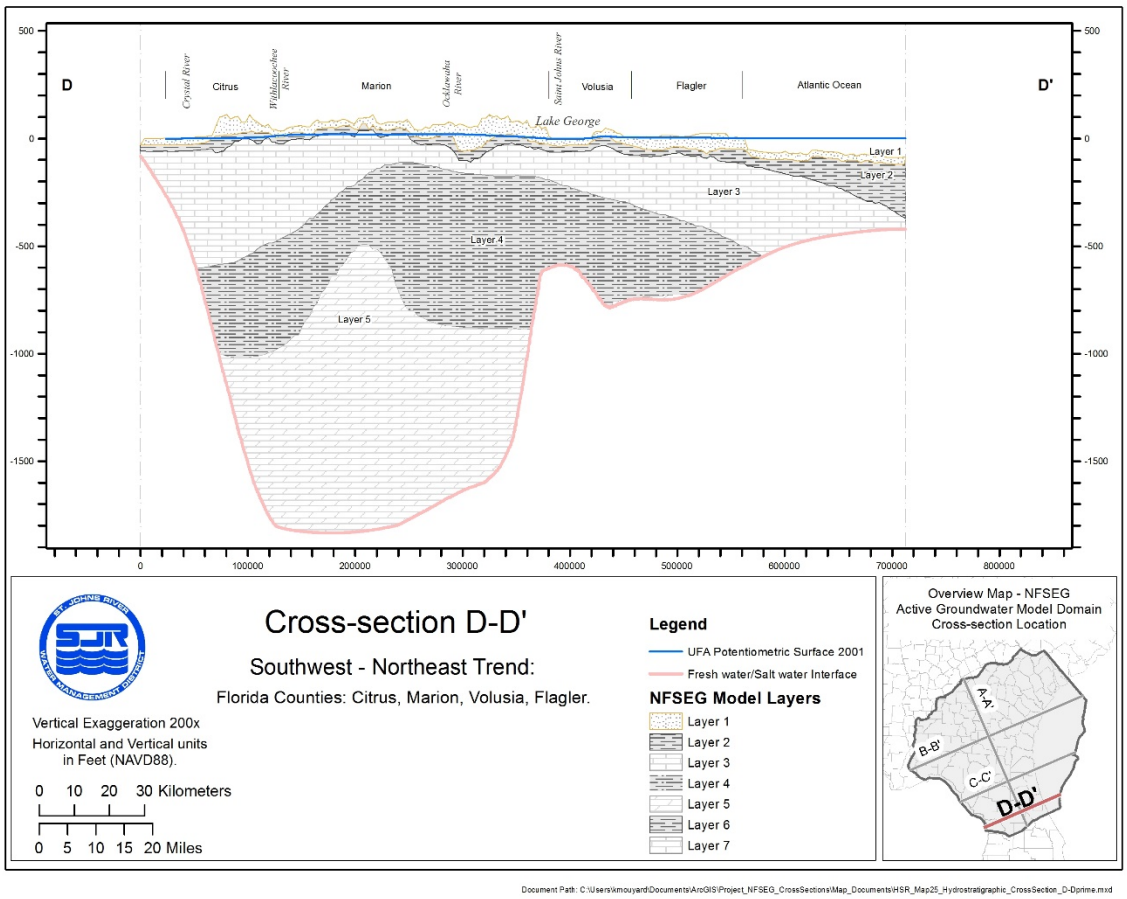


Figure 3-6. Hydrogeologic Cross Section D-D'

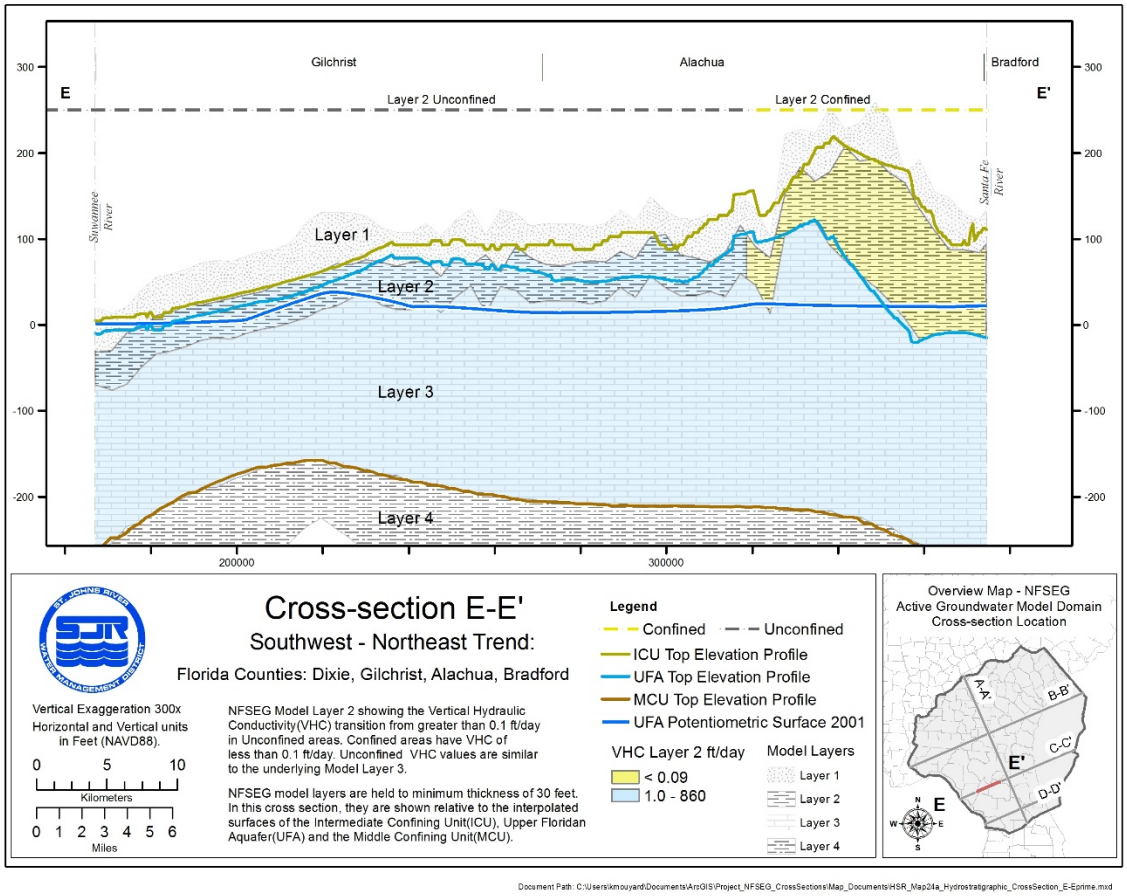


Figure 3-7. Hydrogeologic Cross Section E-E'

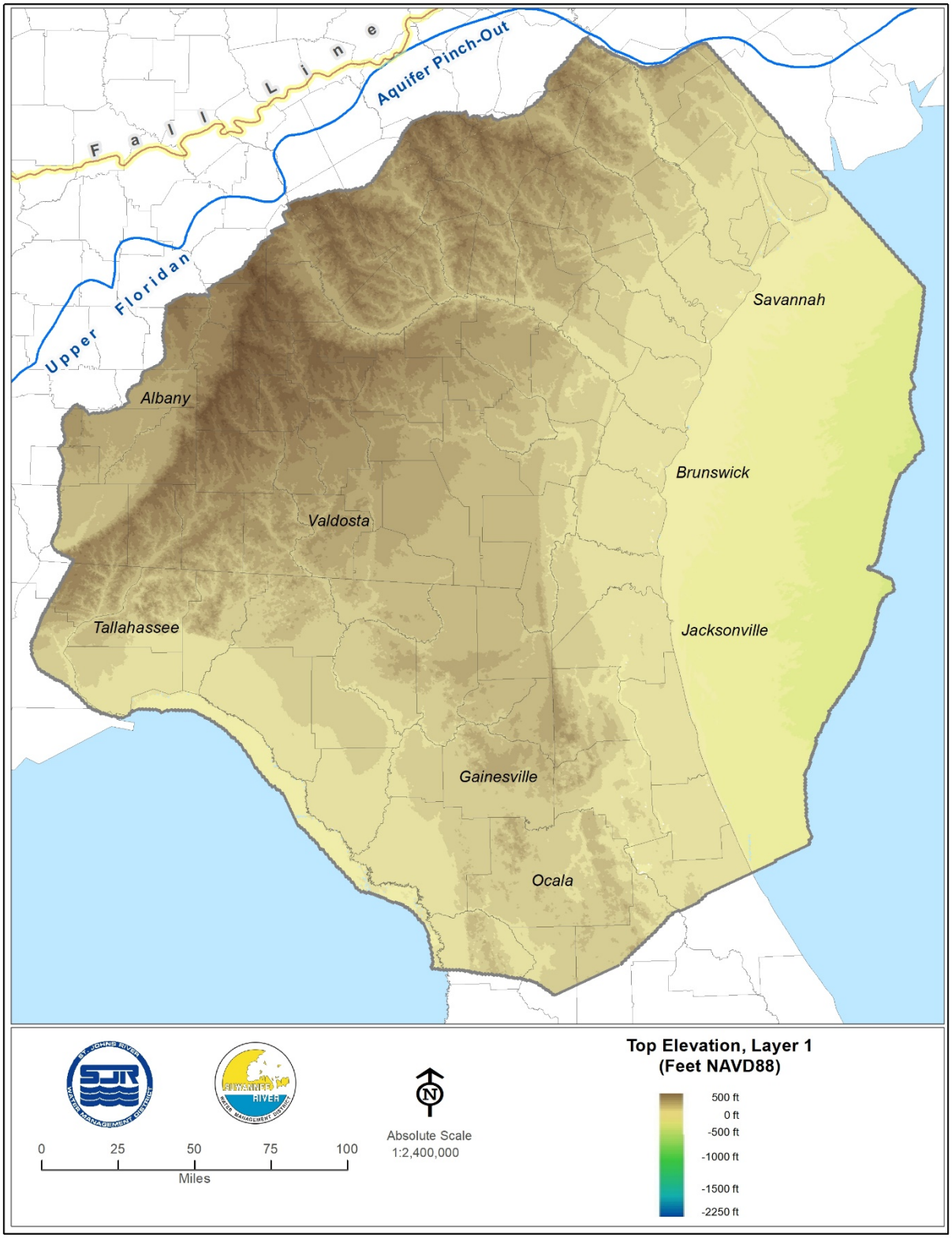


Figure 3-8. Top Elevation, Layer 1 (Feet NAVD88; after Boniol and Davis, digital communication, 2013)

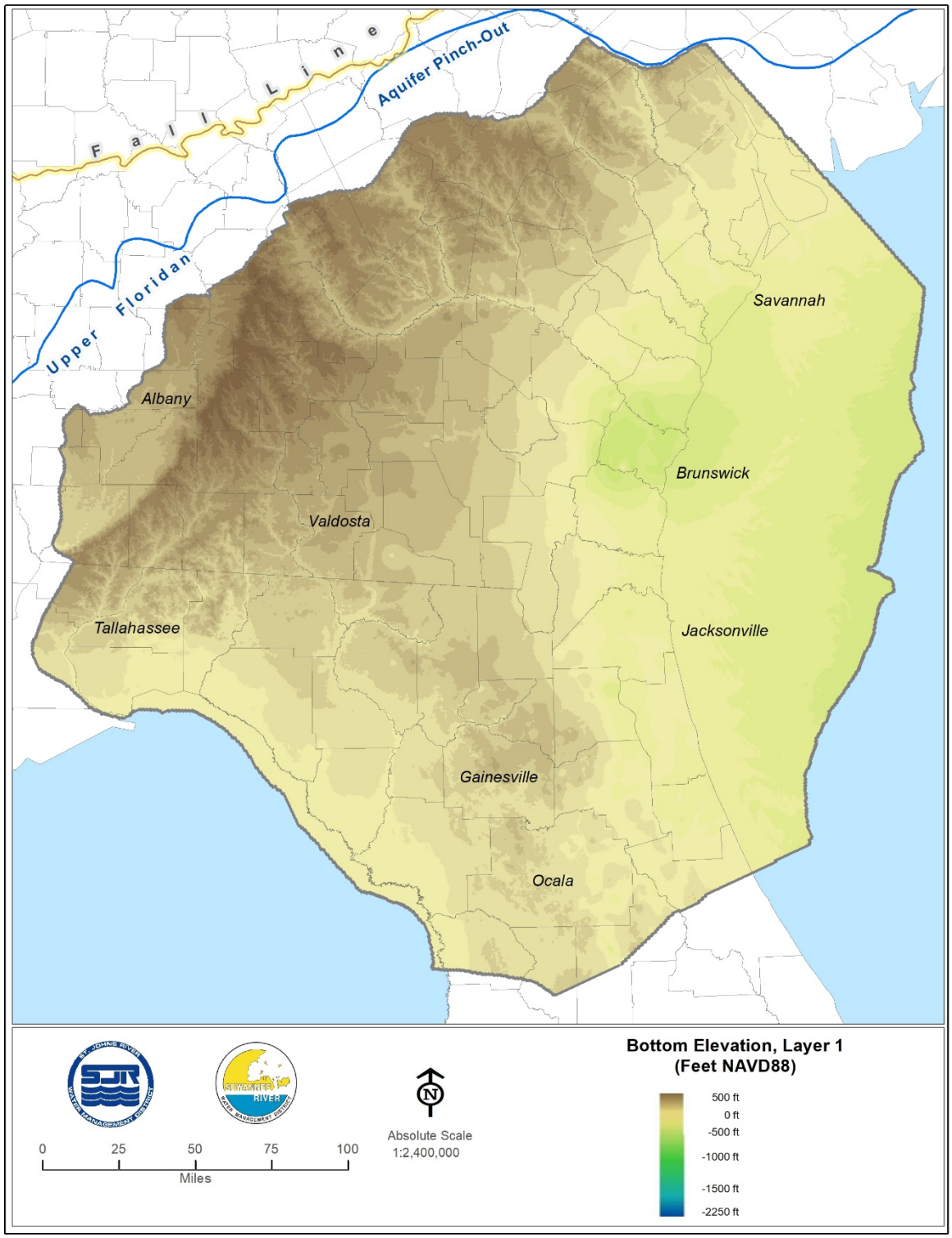


Figure 3-9. Bottom Elevation, Layer 1 (and Top Elevation, Layer 2; Feet NAVD88; after Boniol and Davis, digital communication, 2013)

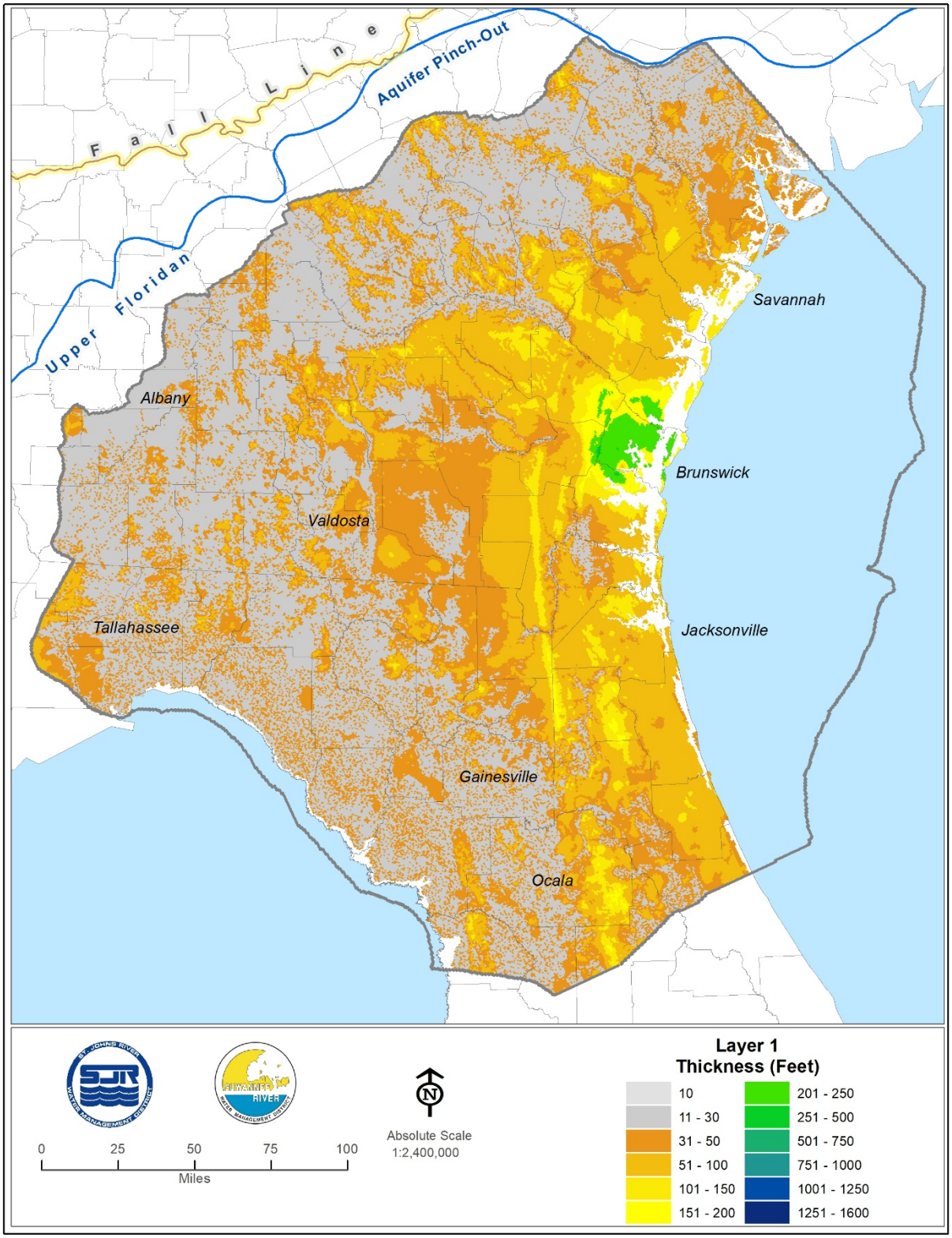


Figure 3-10. Thickness, Layer 1 (Feet)

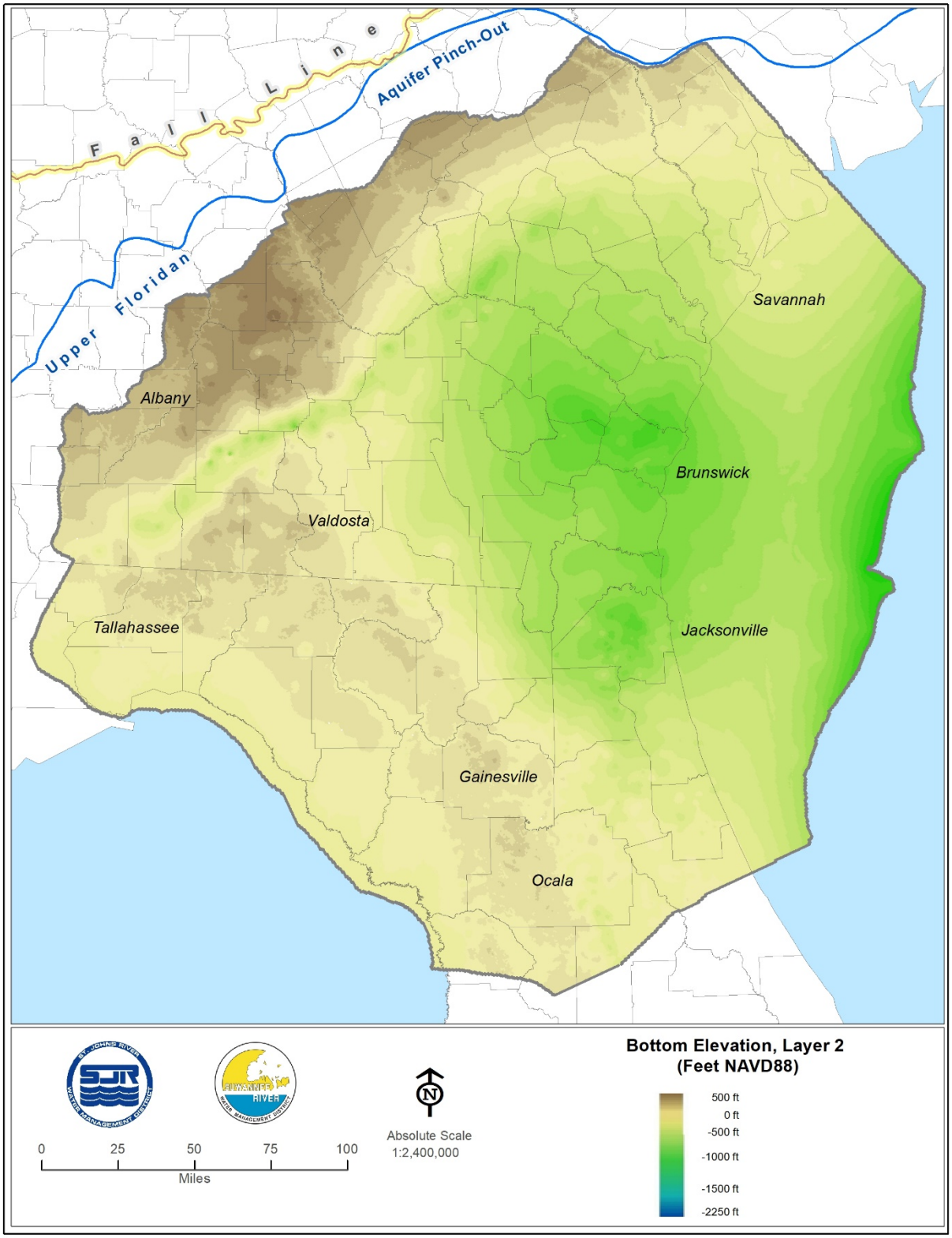


Figure 3-11. Bottom Elevation, Layer 2 (and Top Elevation, Layer 3; after Boniol and Davis, digital communication, 2013)

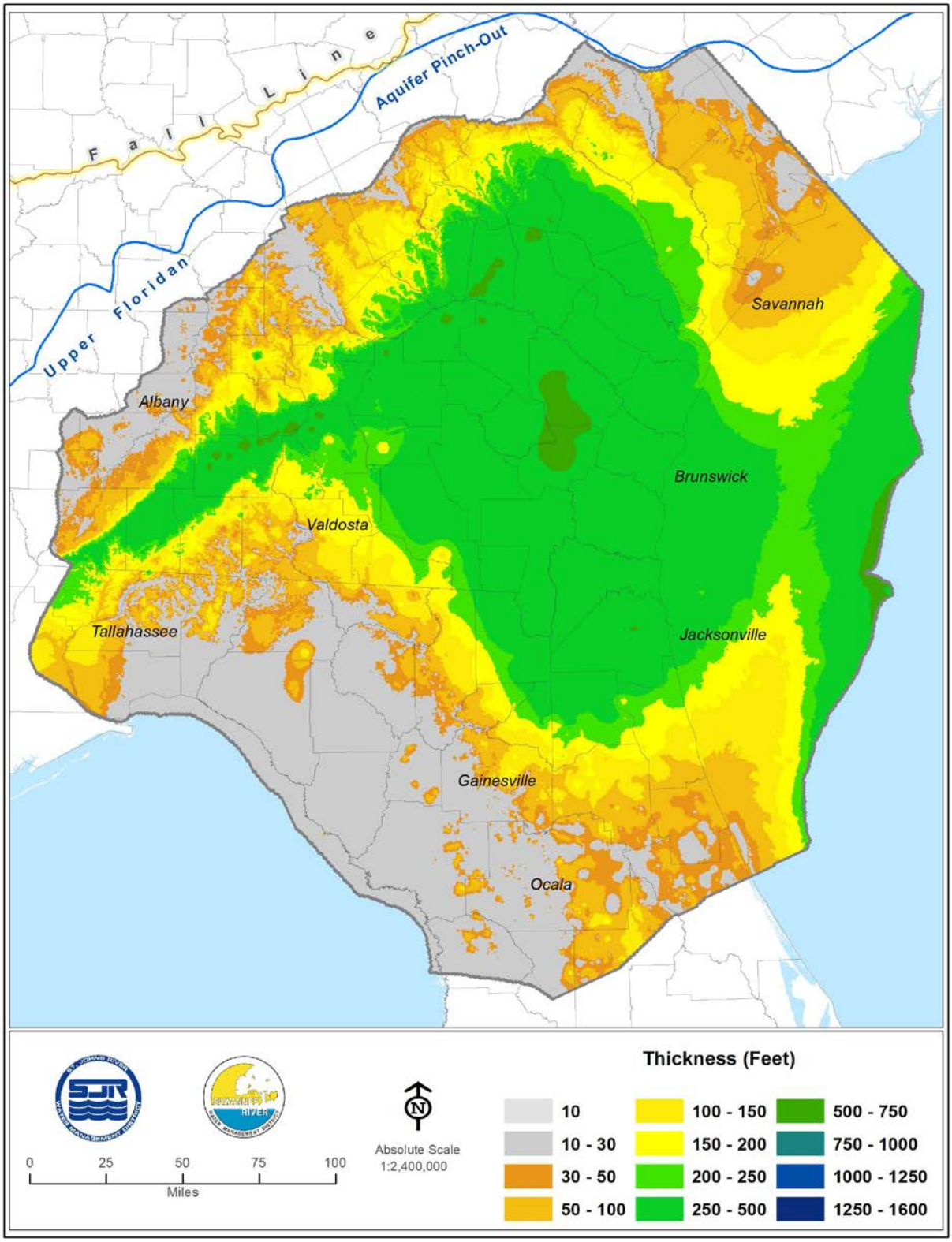


Figure 3-12. Thickness, Layer 2 (Feet)

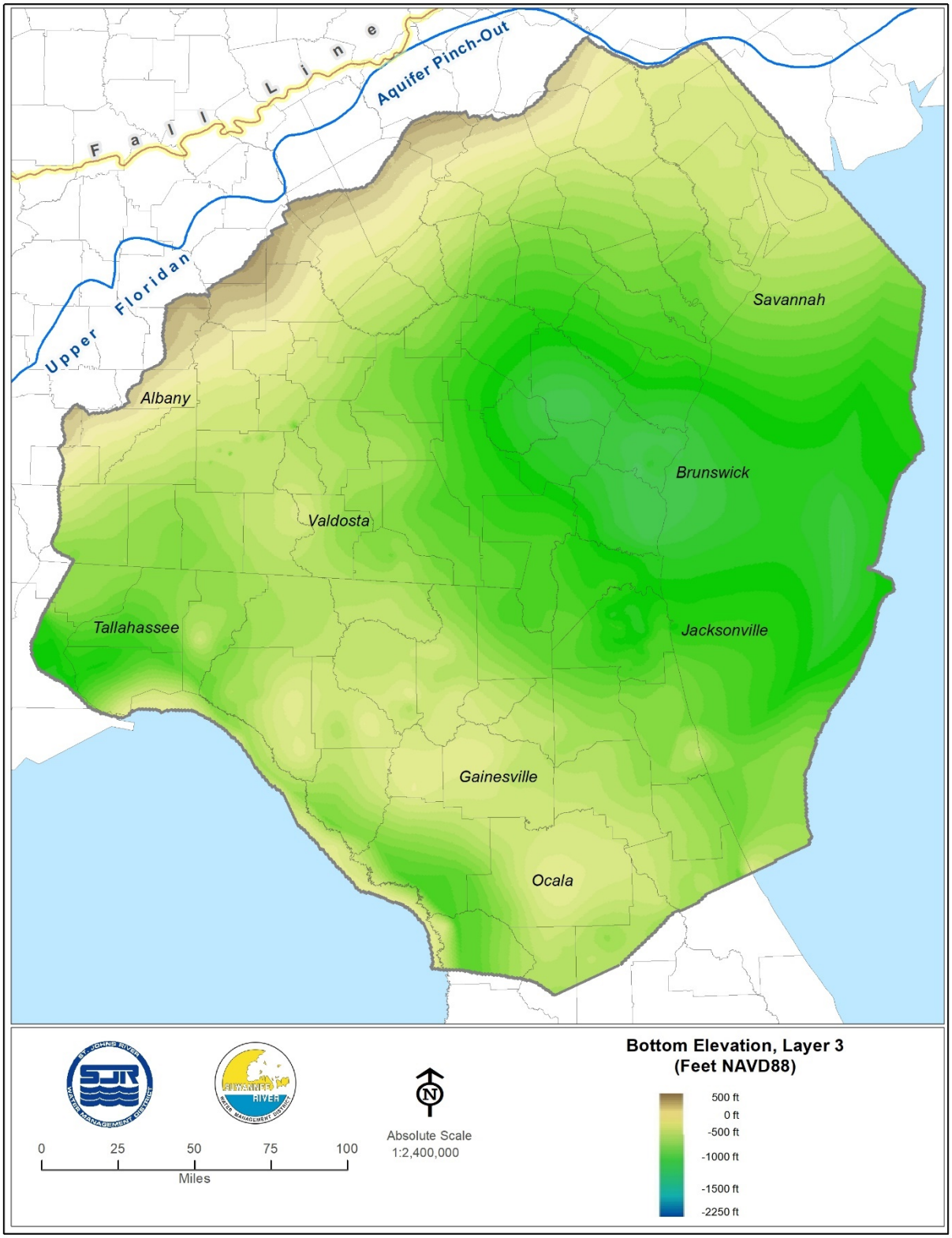


Figure 3-13. Bottom Elevation, Layer 3 (and Top Elevation, Layer 4; Feet NAVD88; after Boniol and Davis, digital communication, 2013)

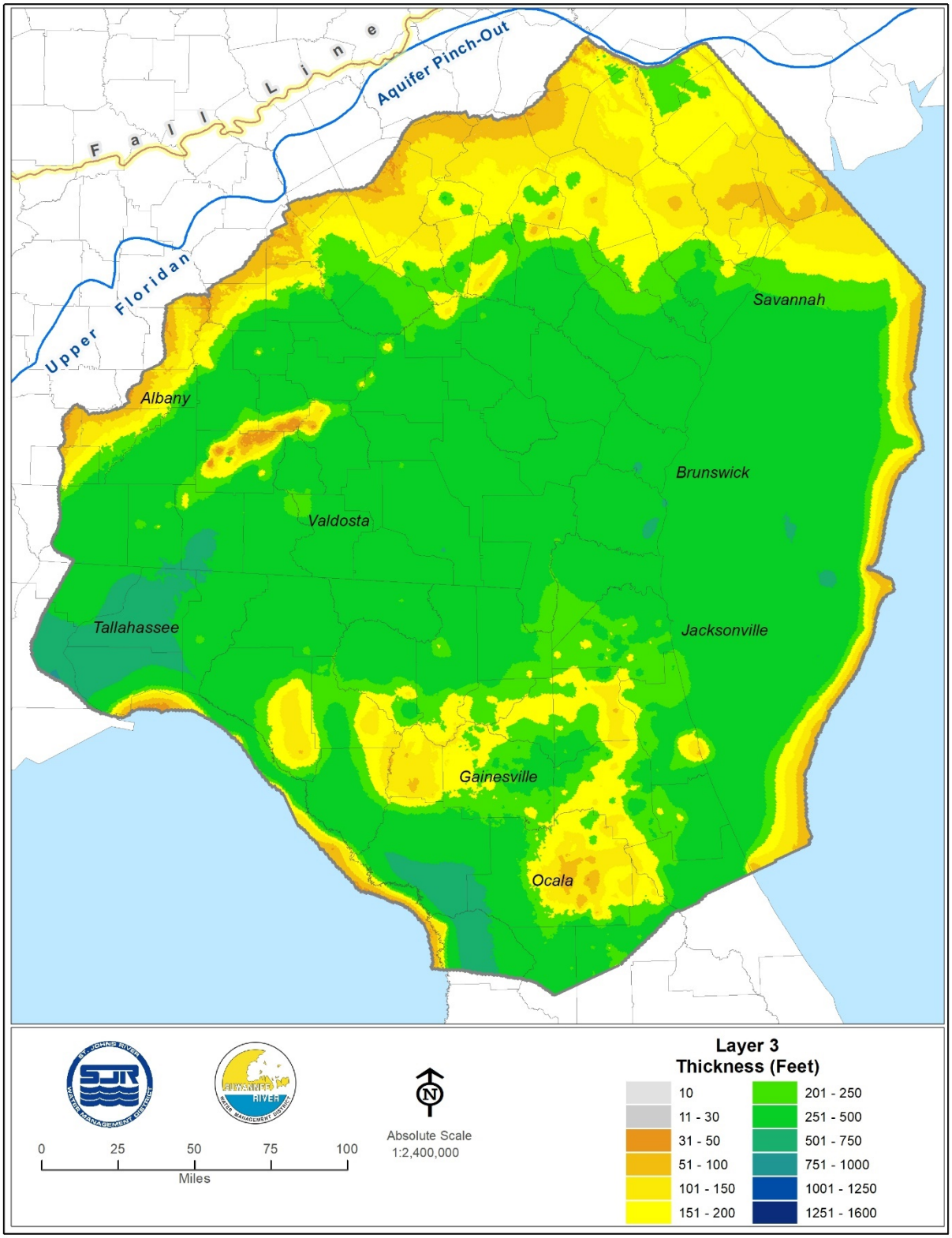


Figure 3-14. Thickness, Layer 3 (Feet)

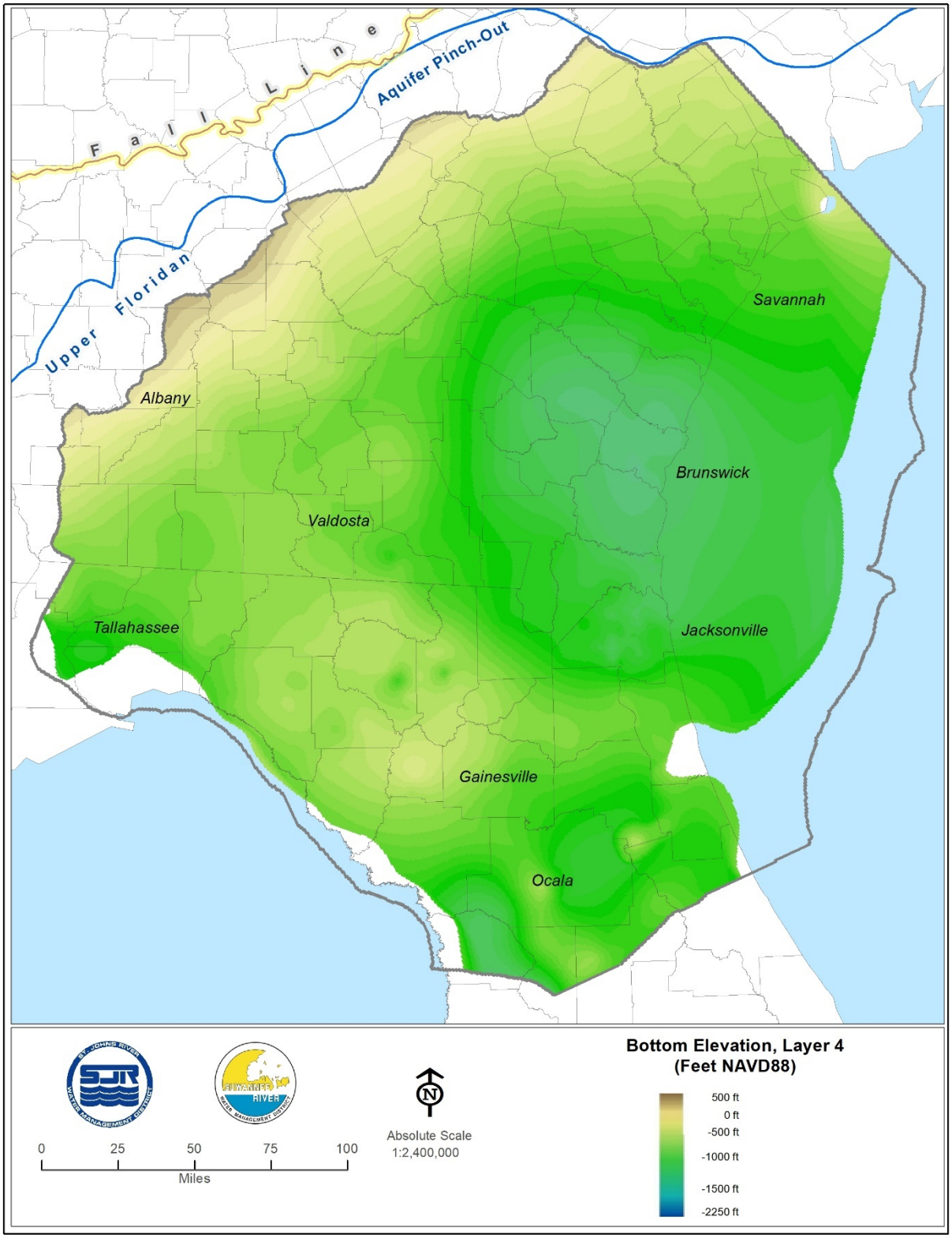


Figure 3-15. Bottom Elevation, Layer 4 (and Top Elevation, Layer 5; Feet NAVD88; after Boniol and Davis, digital communication, 2013)

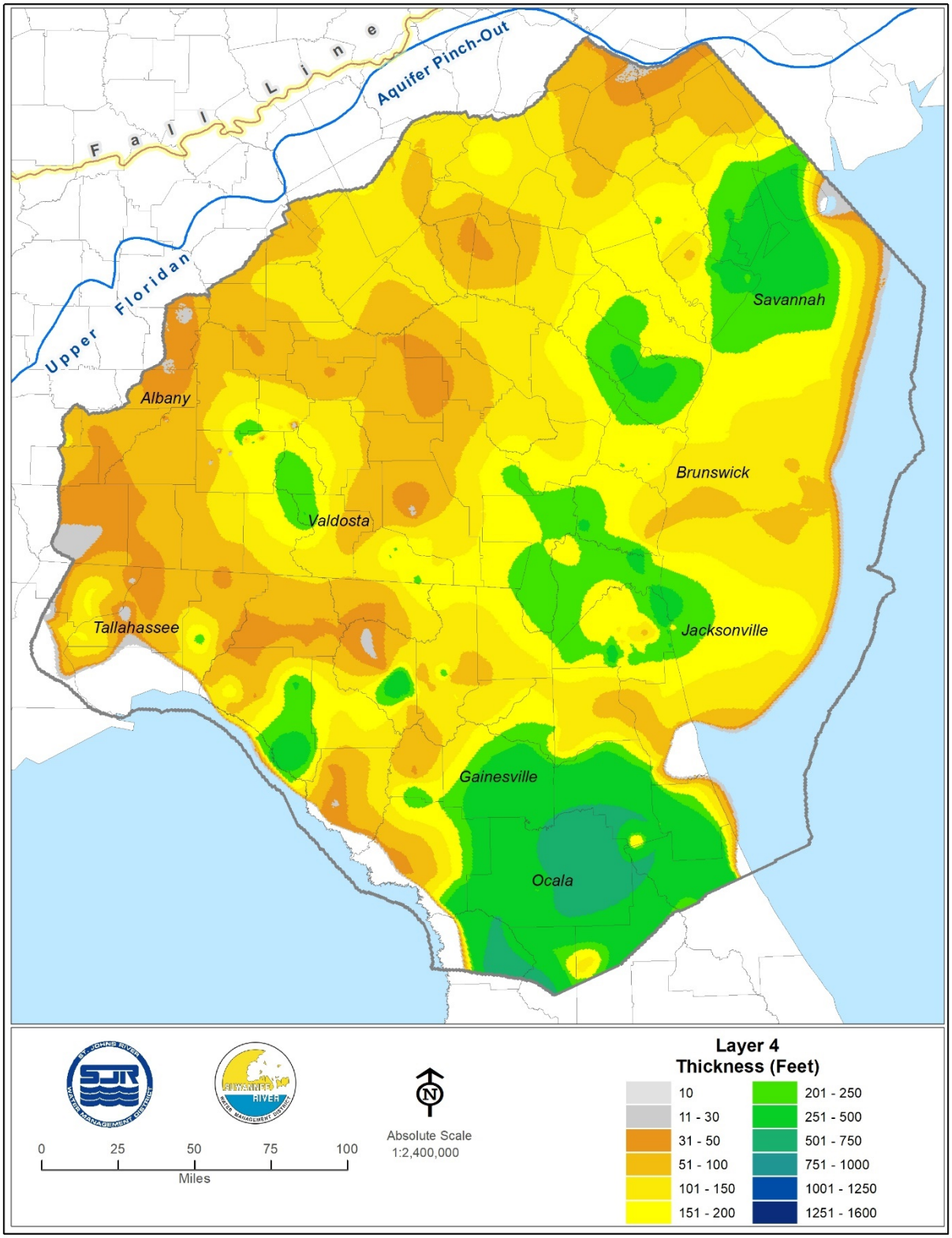


Figure 3-16. Thickness, Layer 4

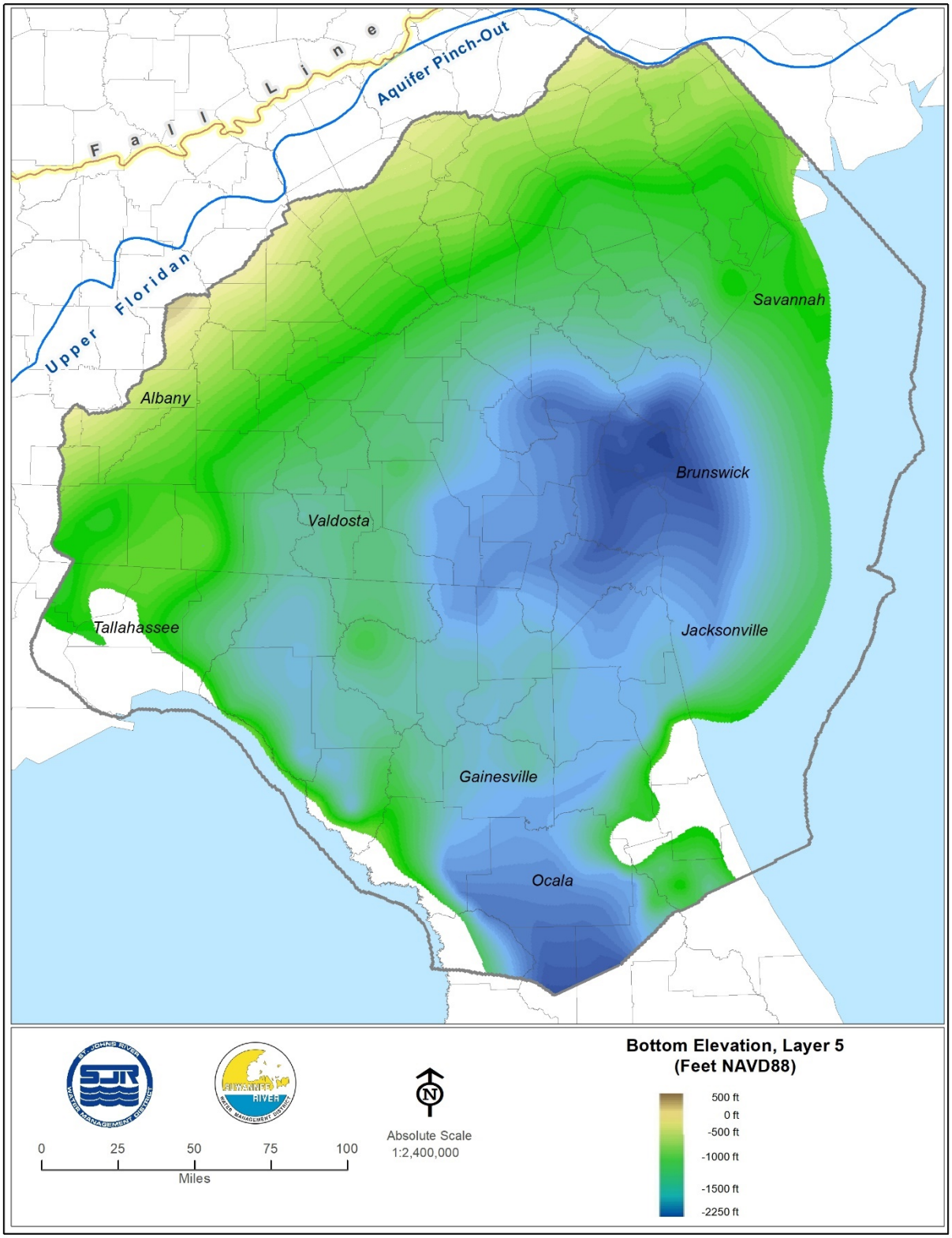


Figure 3-17. Bottom Elevation, Layer 5 (Feet NAVD88; after Miller, 1986; Miller, written communication, 1991; and Williams, digital communication, 2013)

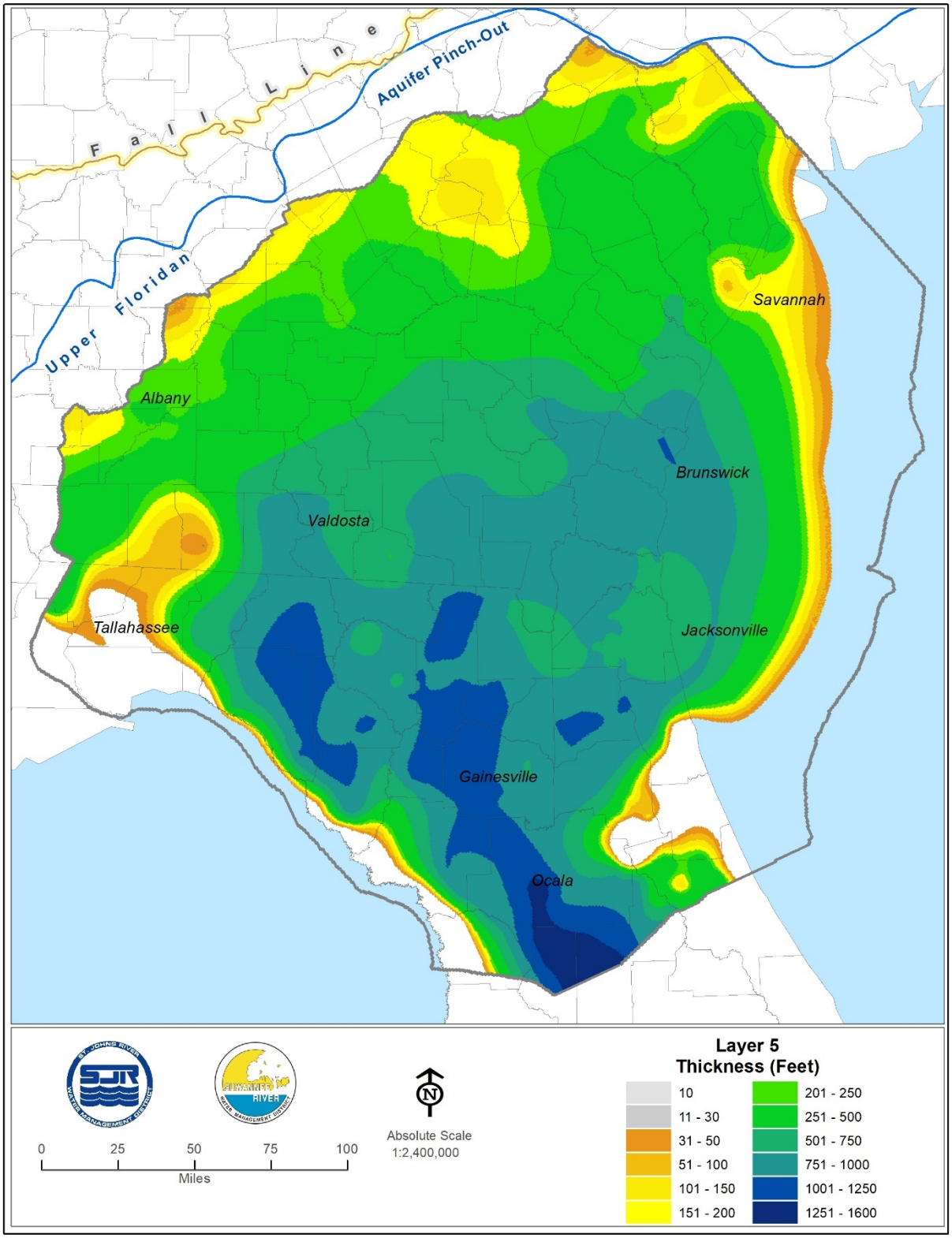


Figure 3-18. Thickness, Layer 5 (Feet)

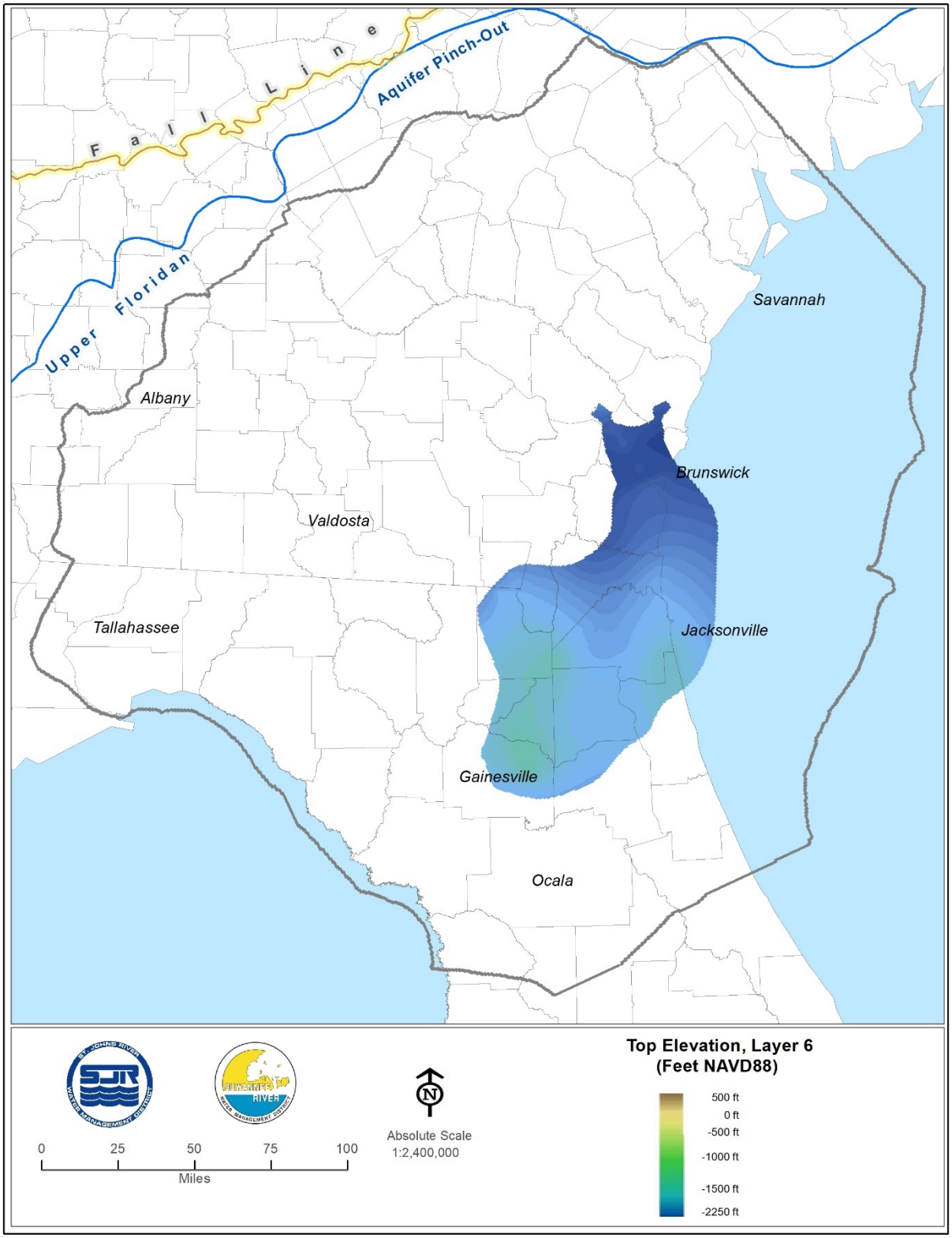


Figure 3-19. Top Elevation, Layer 6 (Feet NAVD88; after Miller, 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015)

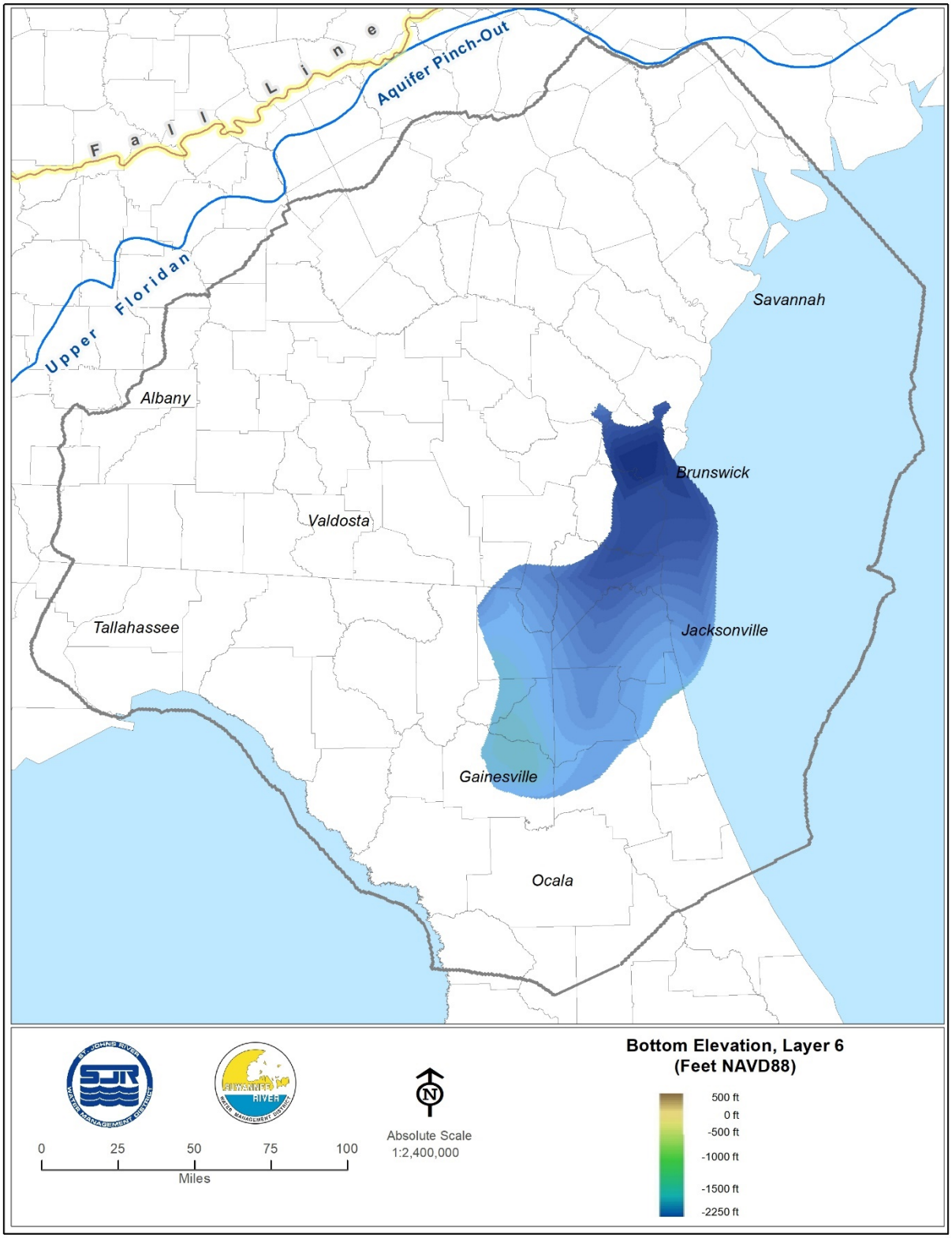


Figure 3-20. Bottom Elevation, Layer 6 (Feet NAVD88; after Miller, 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015)

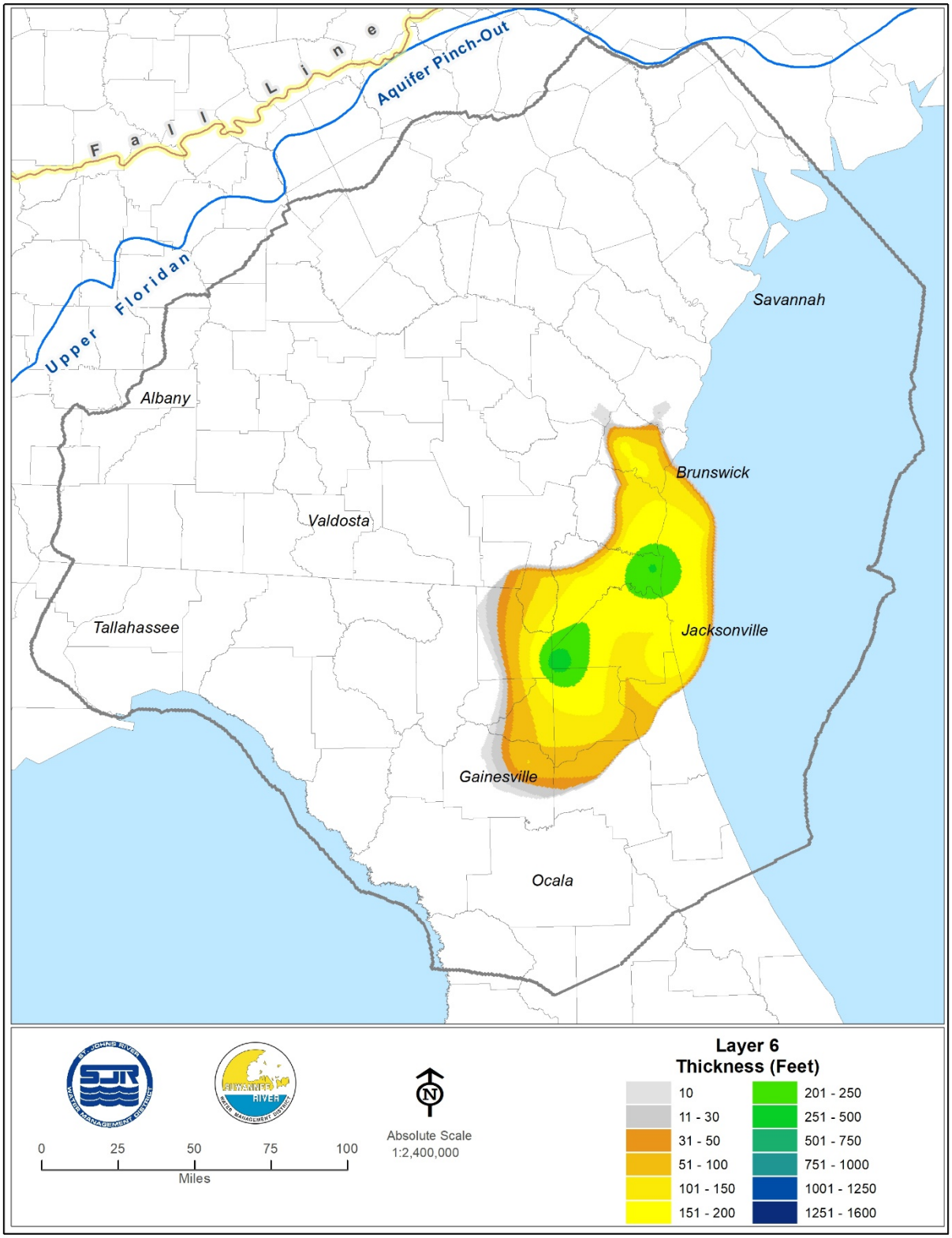


Figure 3-21. Thickness, Layer 6 (Feet)

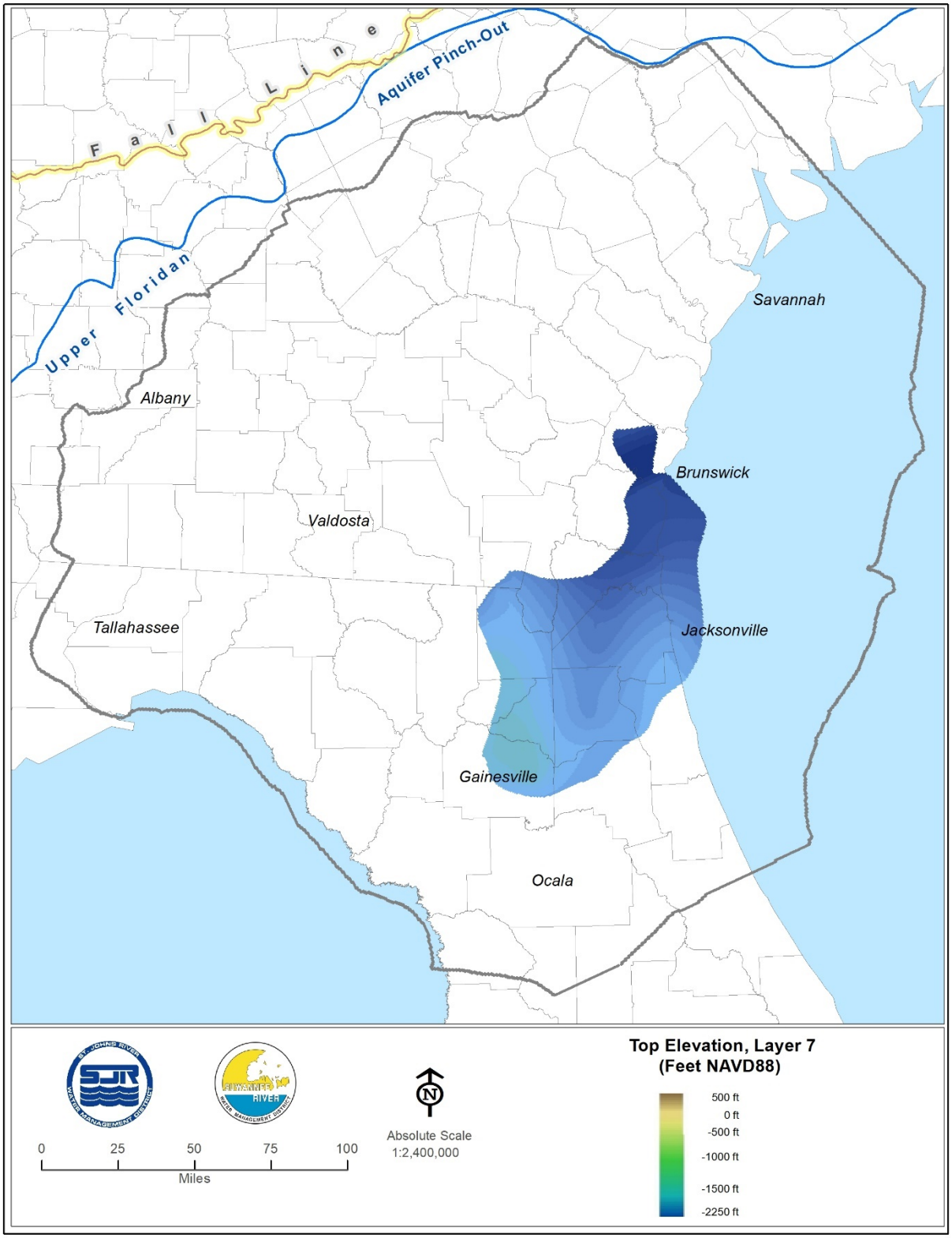


Figure 3-22. Top Elevation, Layer 7 (Feet NAVD88, after Miller 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015)

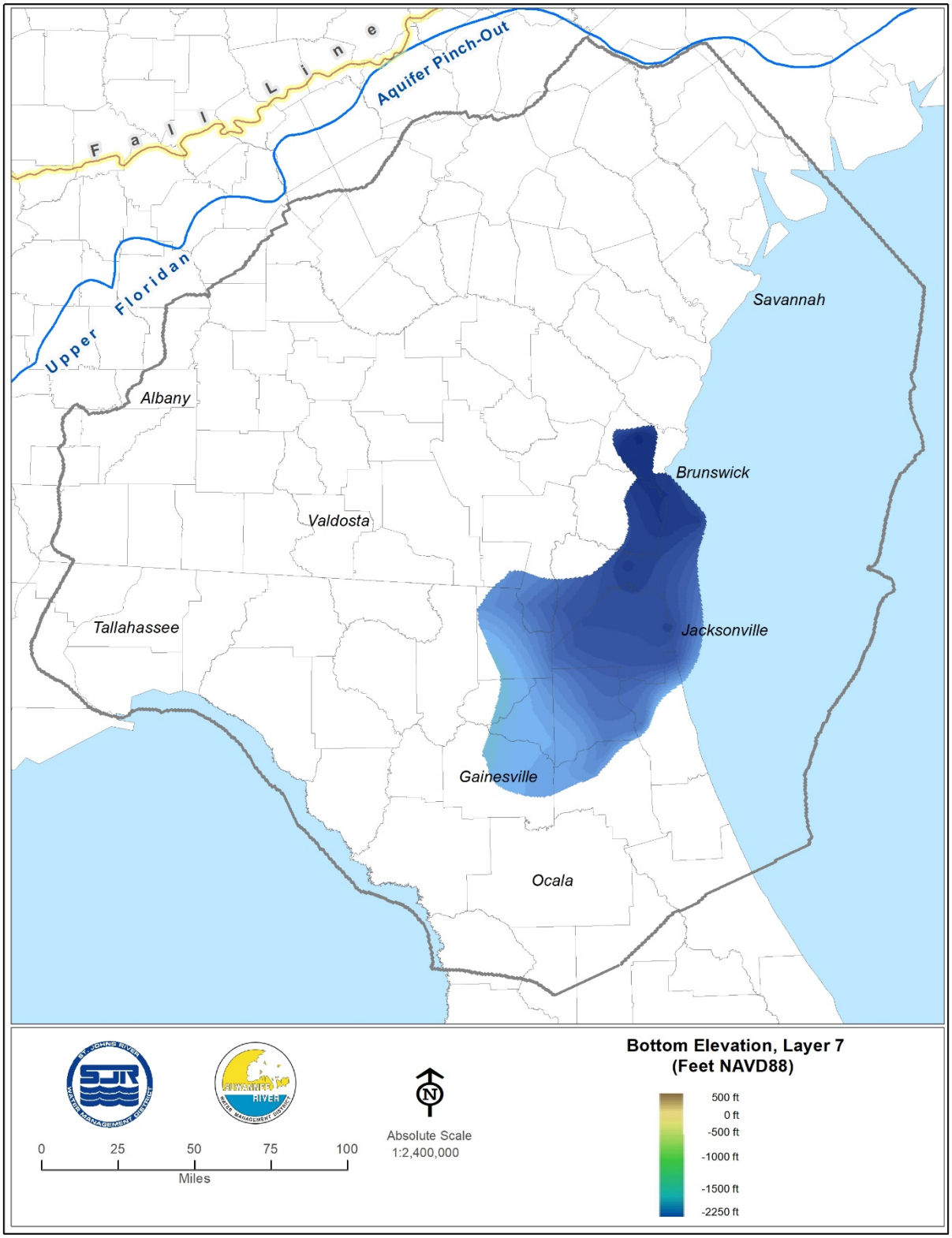


Figure 3-23. Bottom Elevation, Layer 7 Feet NAVD88, after Miller, 1986; Miller, written communication, 1991; and Williams and Kuniansky, 2015)

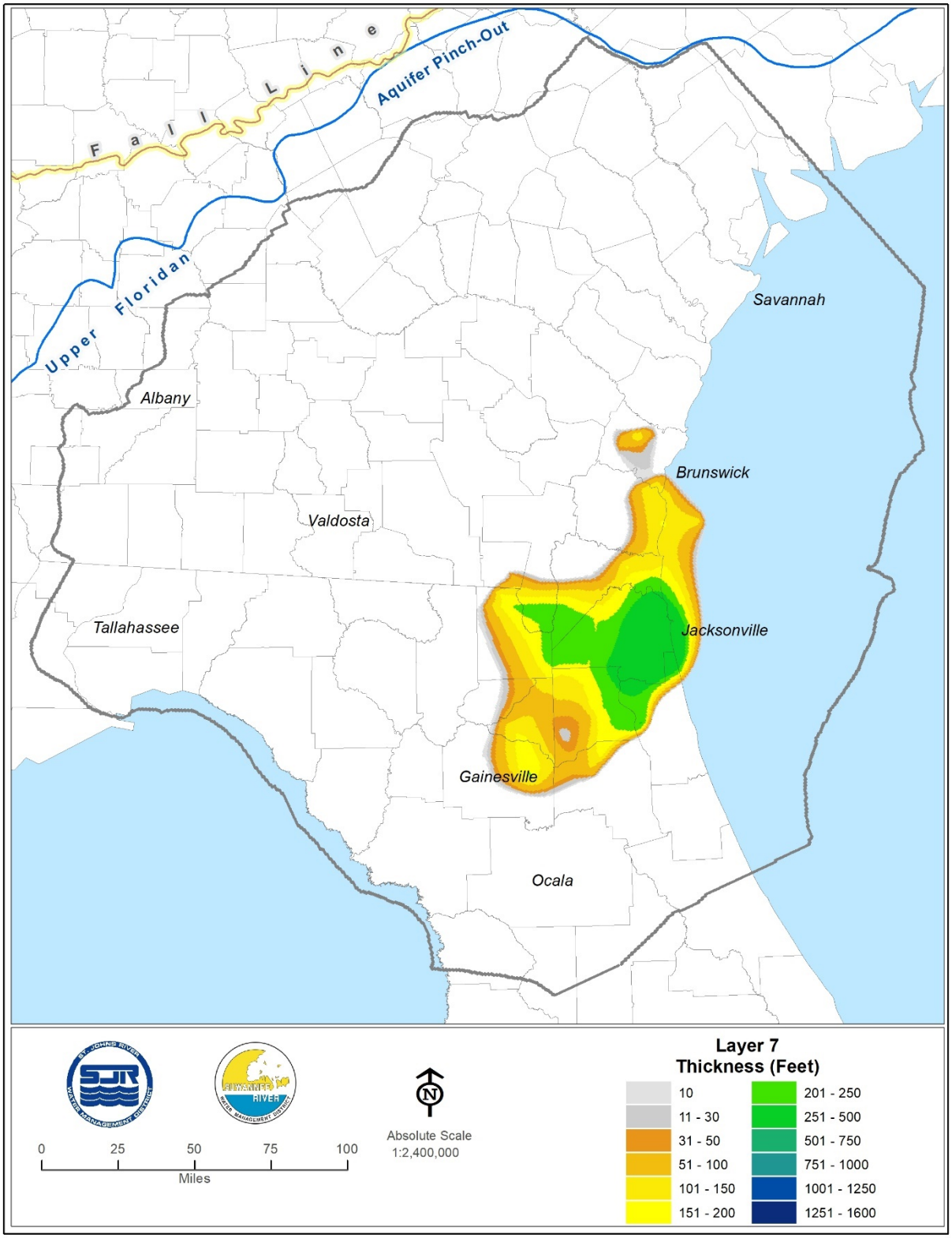


Figure 3-24. Thickness, Layer 7 (Feet)

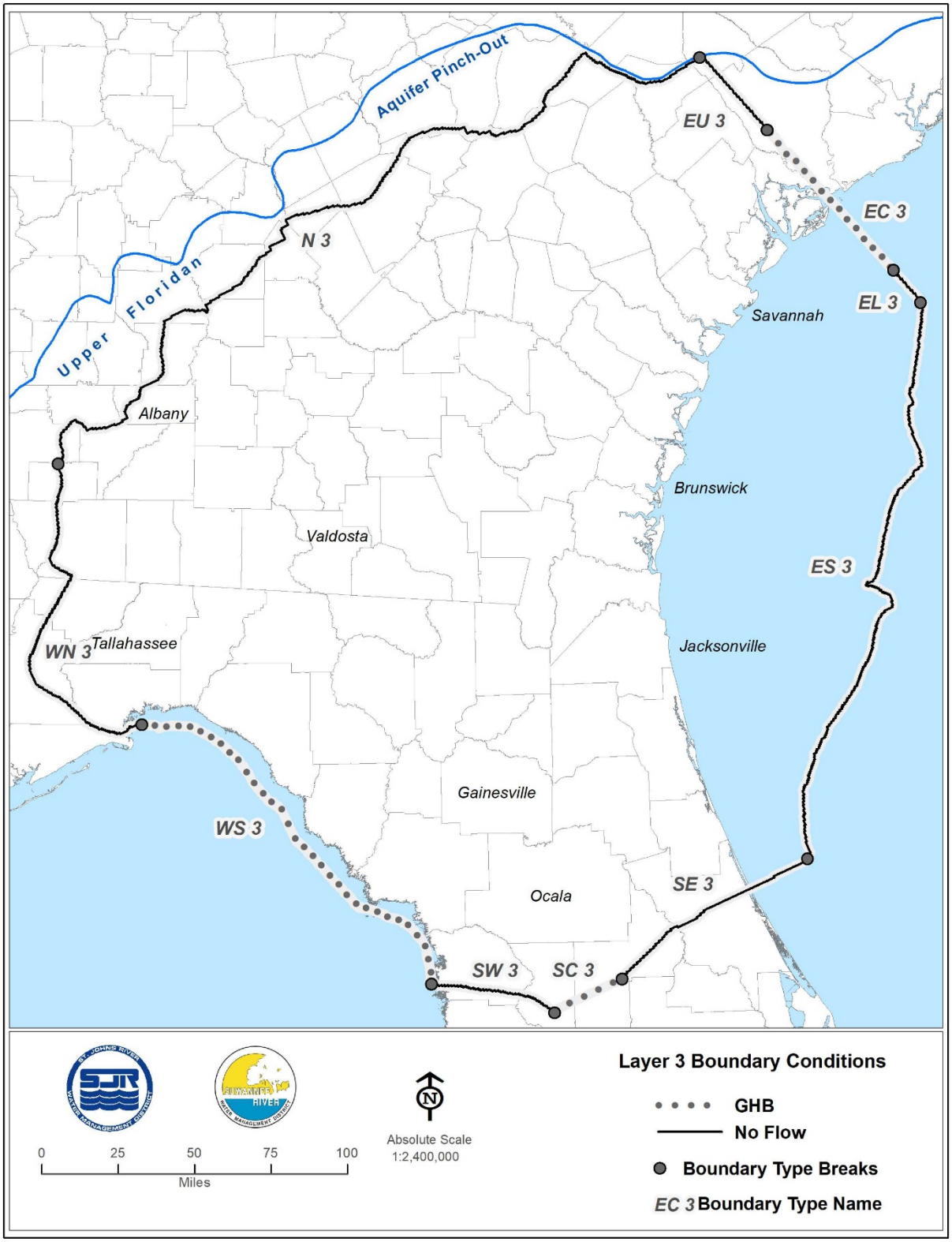


Figure 3-25. Model Lateral Boundaries, Layer 3

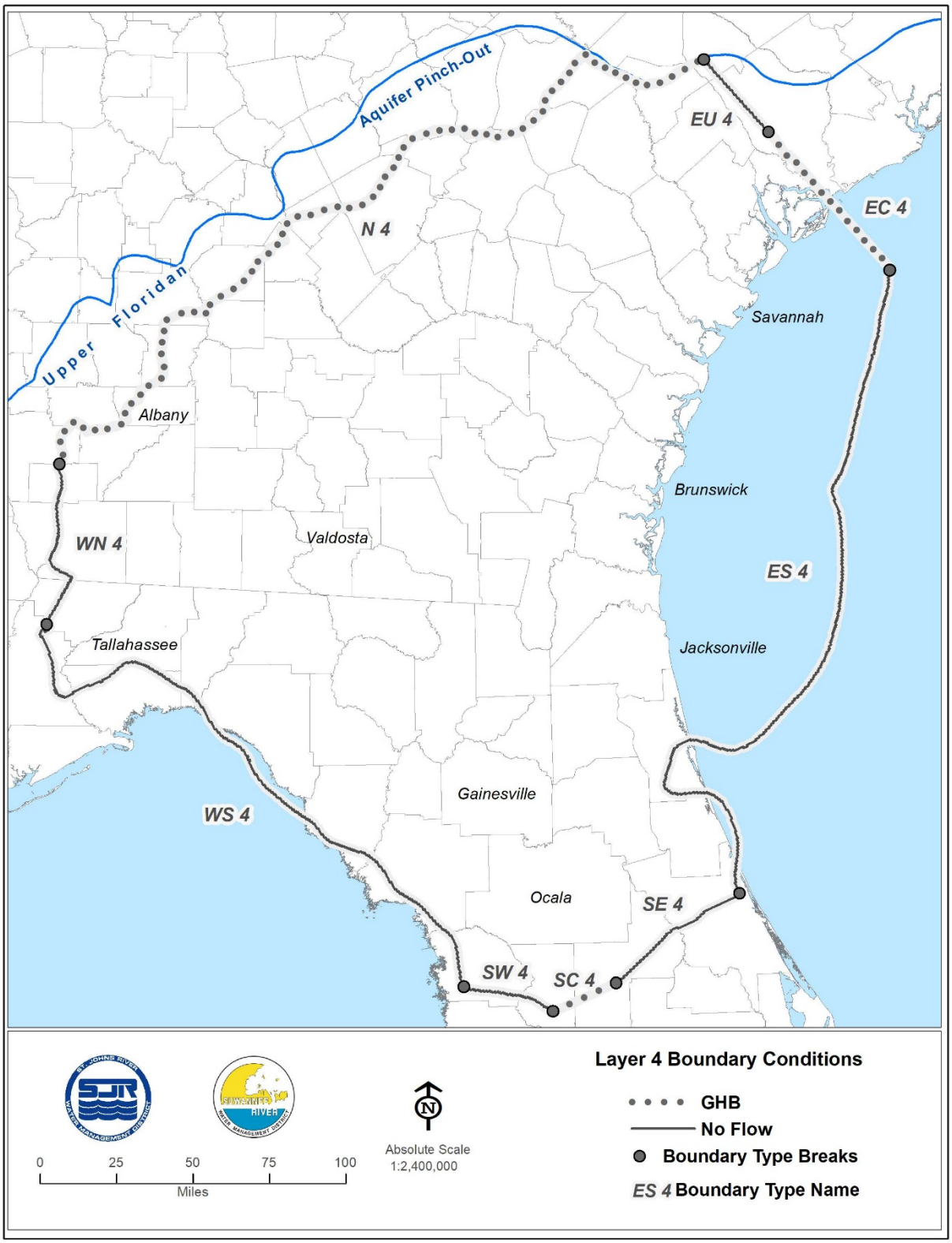


Figure 3-26. Model Lateral Boundaries, Layer 4

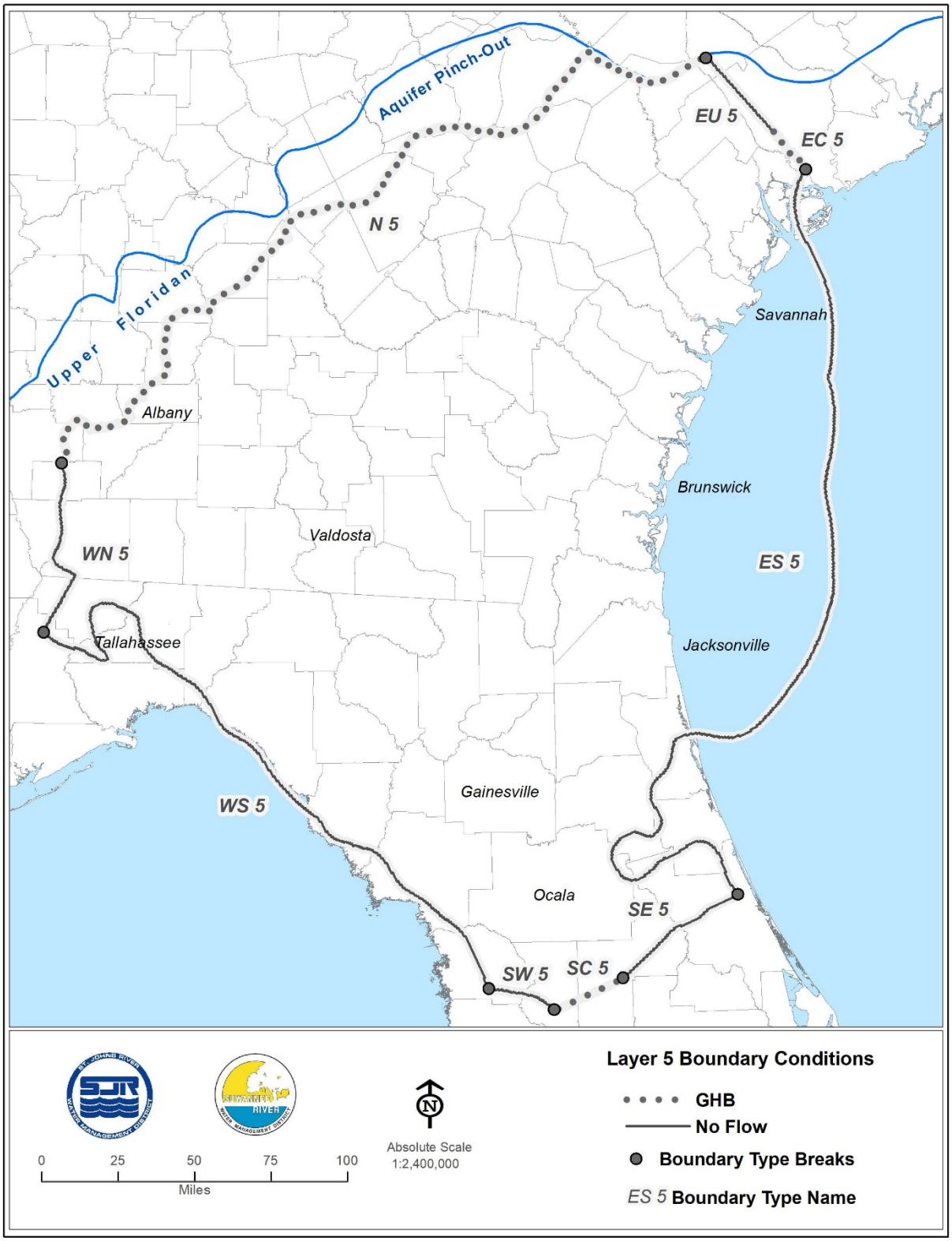


Figure 3-27. Model Lateral Boundaries, Layer 5

Figure 3-28. Model Lateral Boundaries, Layer 6

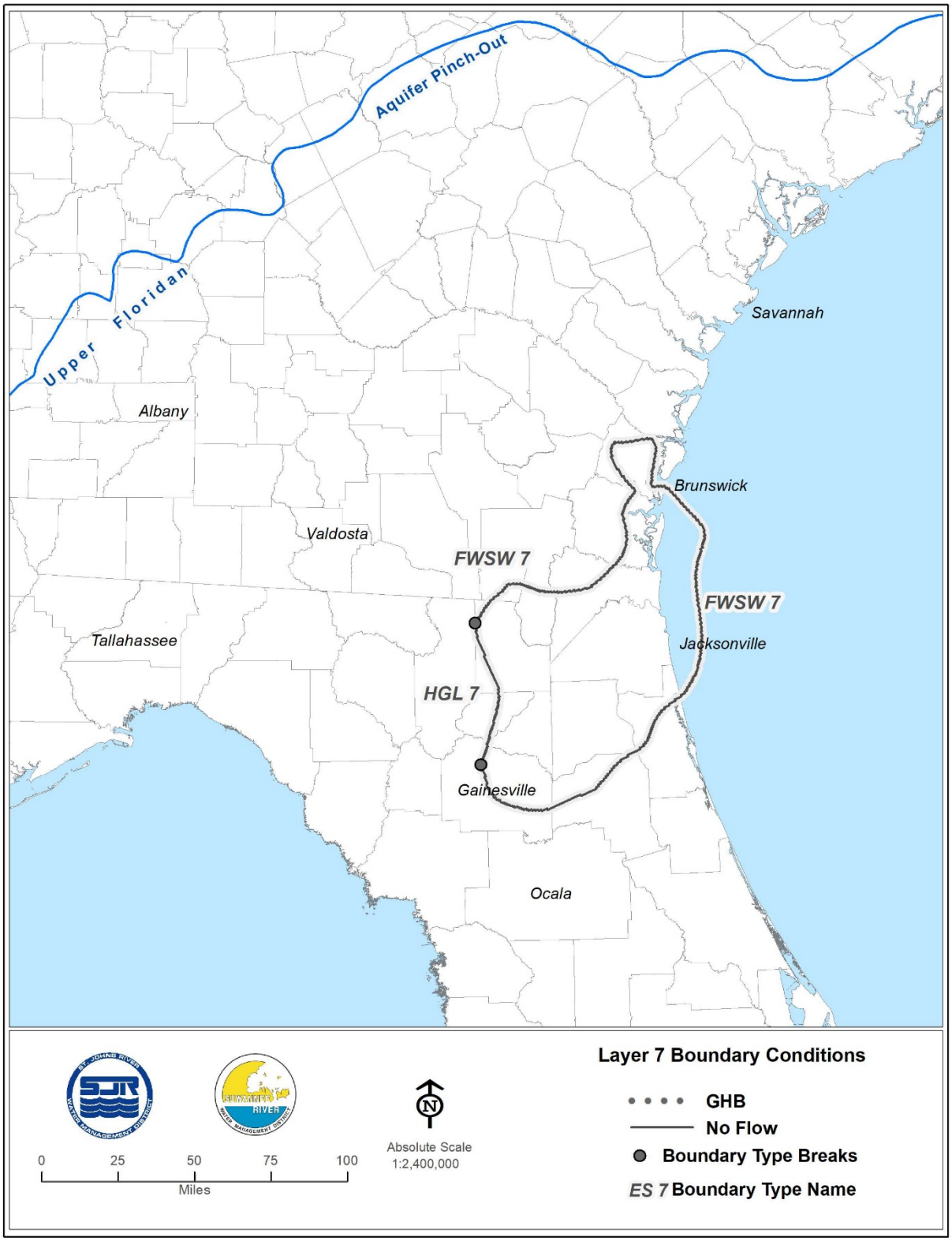


Figure 3-29. Model Lateral Boundaries, Layer 7

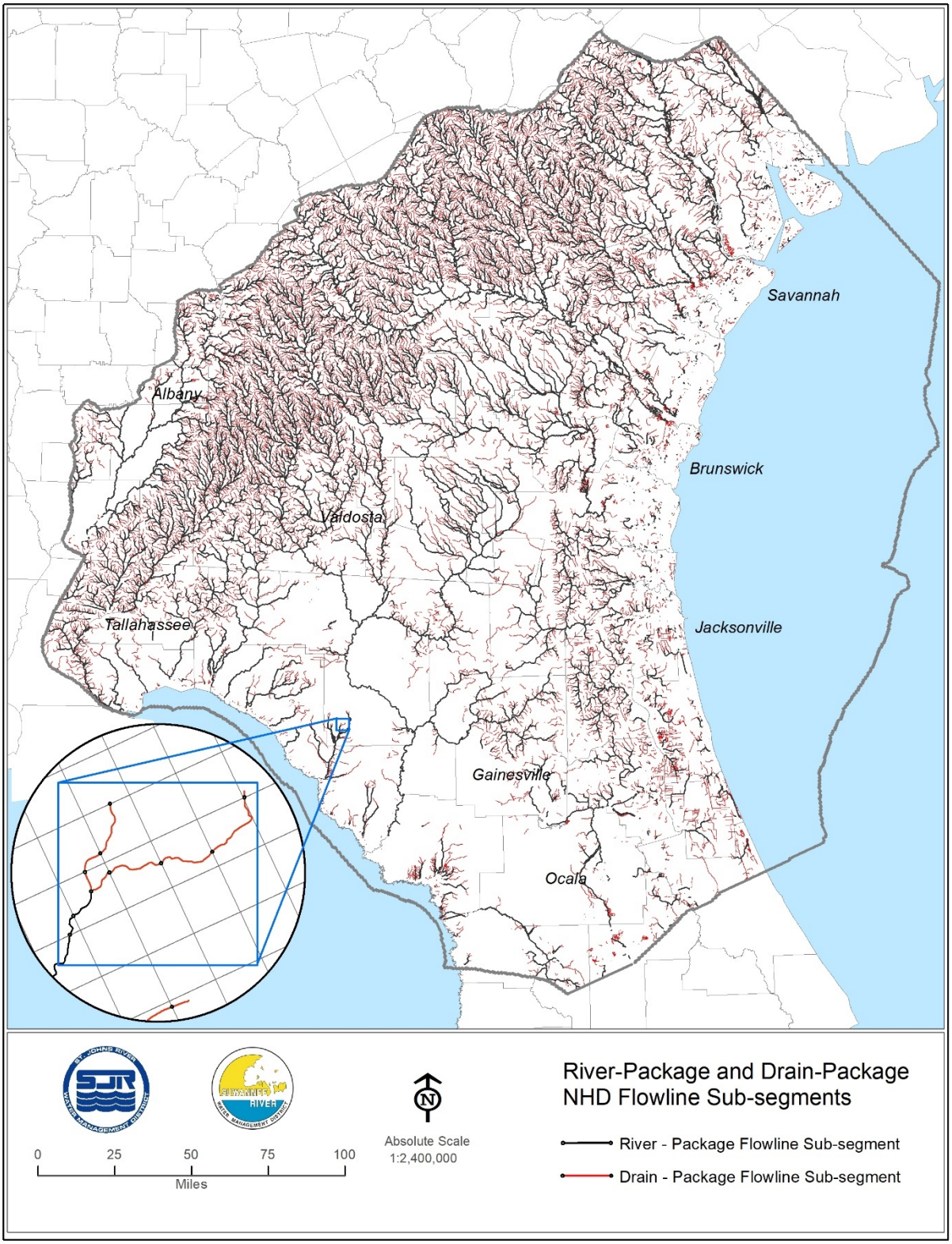


Figure 3-30. NHDPlusV2 Flow-Line Sub-Segments Used in River- and Drain-Package Implementations

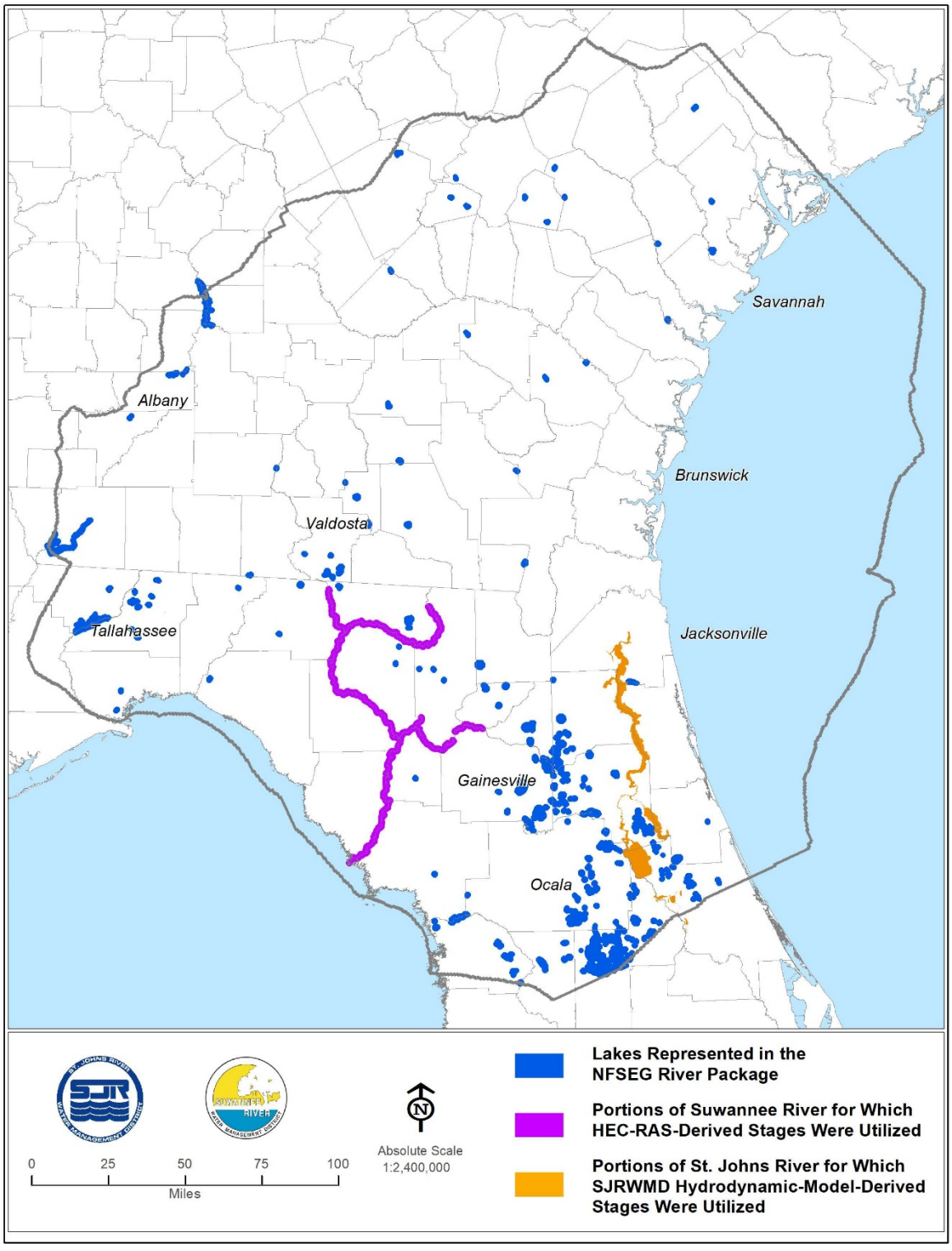


Figure 3-31. Portions of NHD Flowlines for Which River Stages Were Obtained from Existing Surface-Water Models and Lake Sub-Polygons Represented in the NFSEG River Package

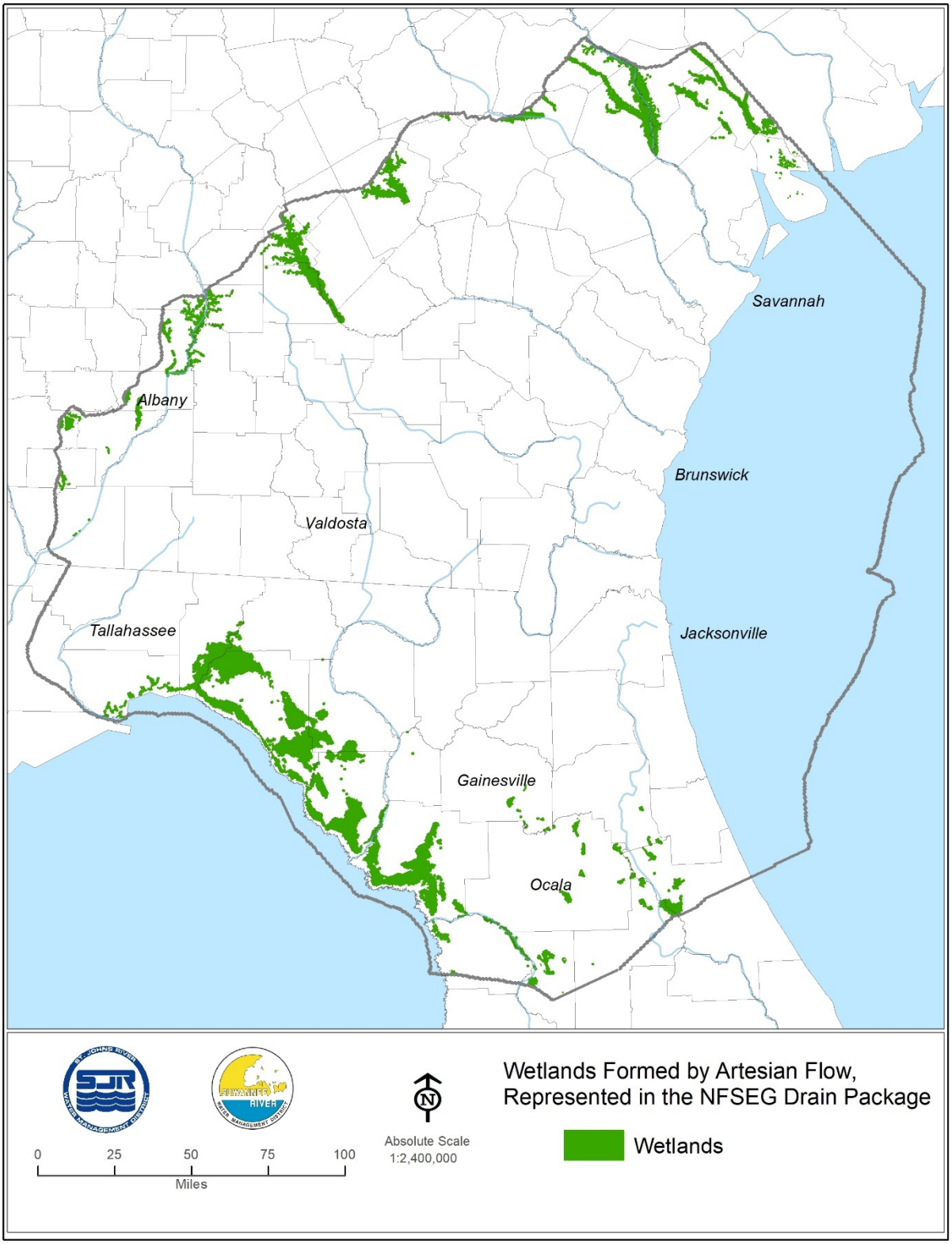


Figure 3-32. Artesian-Derived Wetlands Represented in the Drain Package

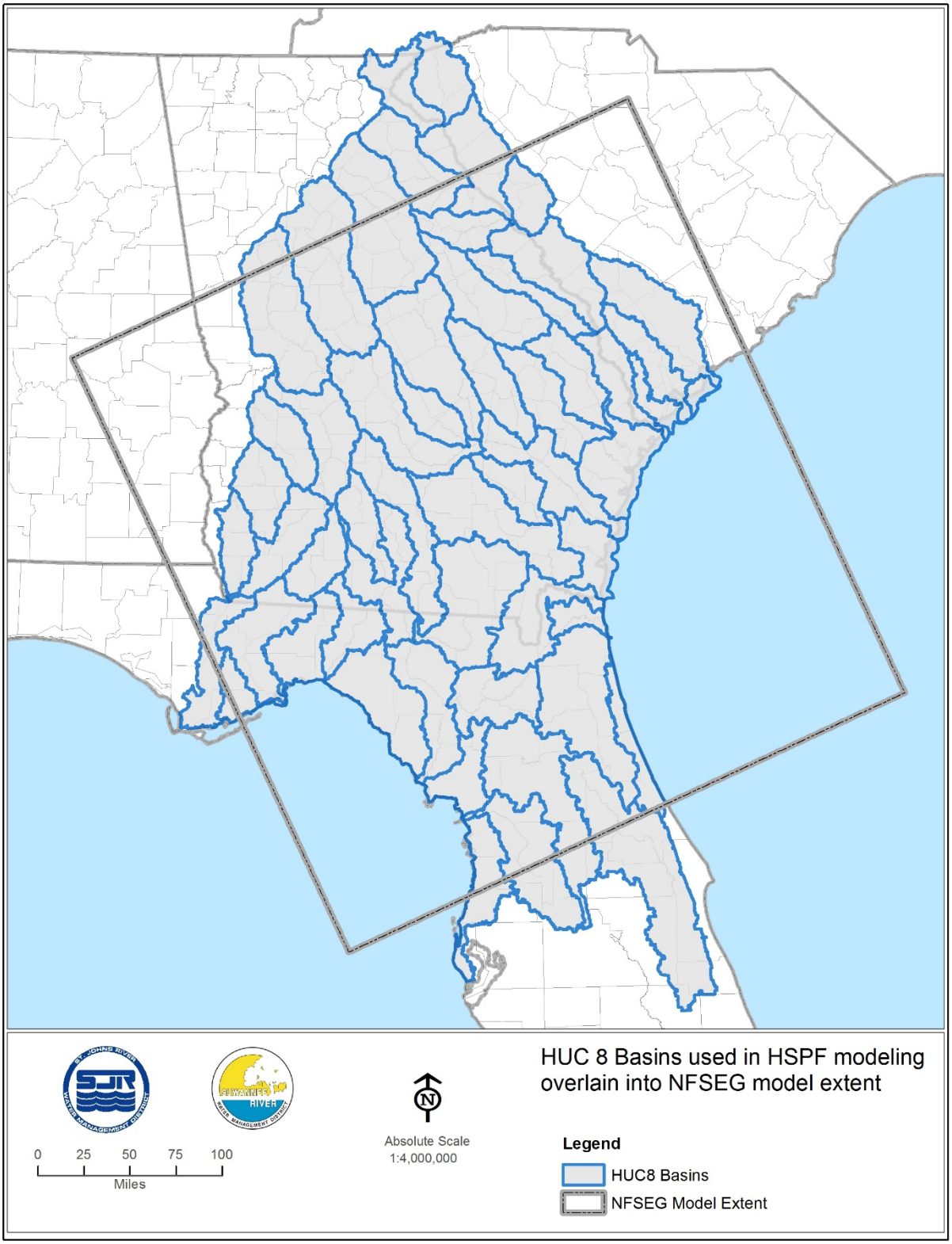


Figure 3-33. USGS HUC8 Basins for Which HSPF Models were Developed in Support of NFSEG Development

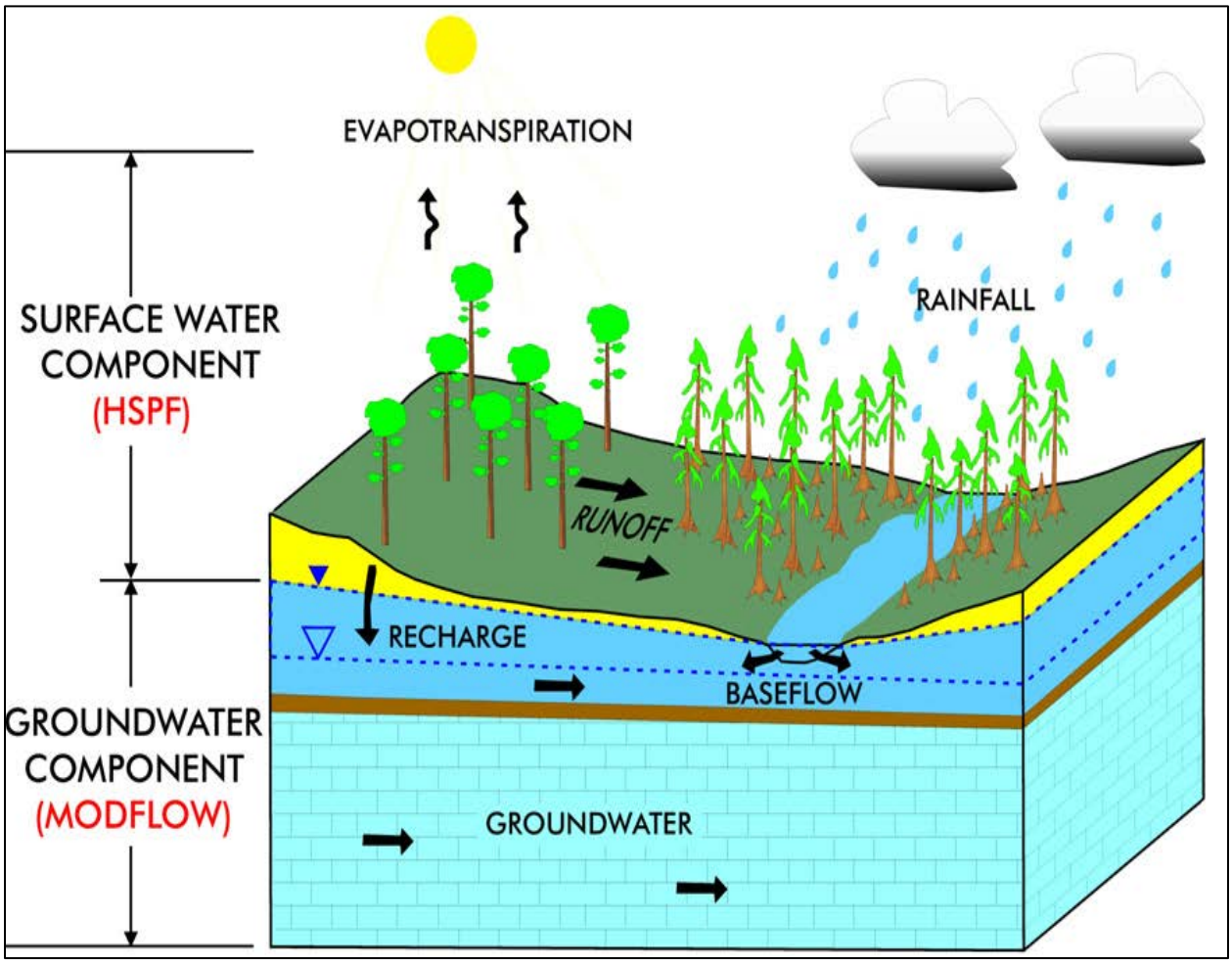


Figure 3-34. Simulated Flow Components--HSPF vs. MODFLOW

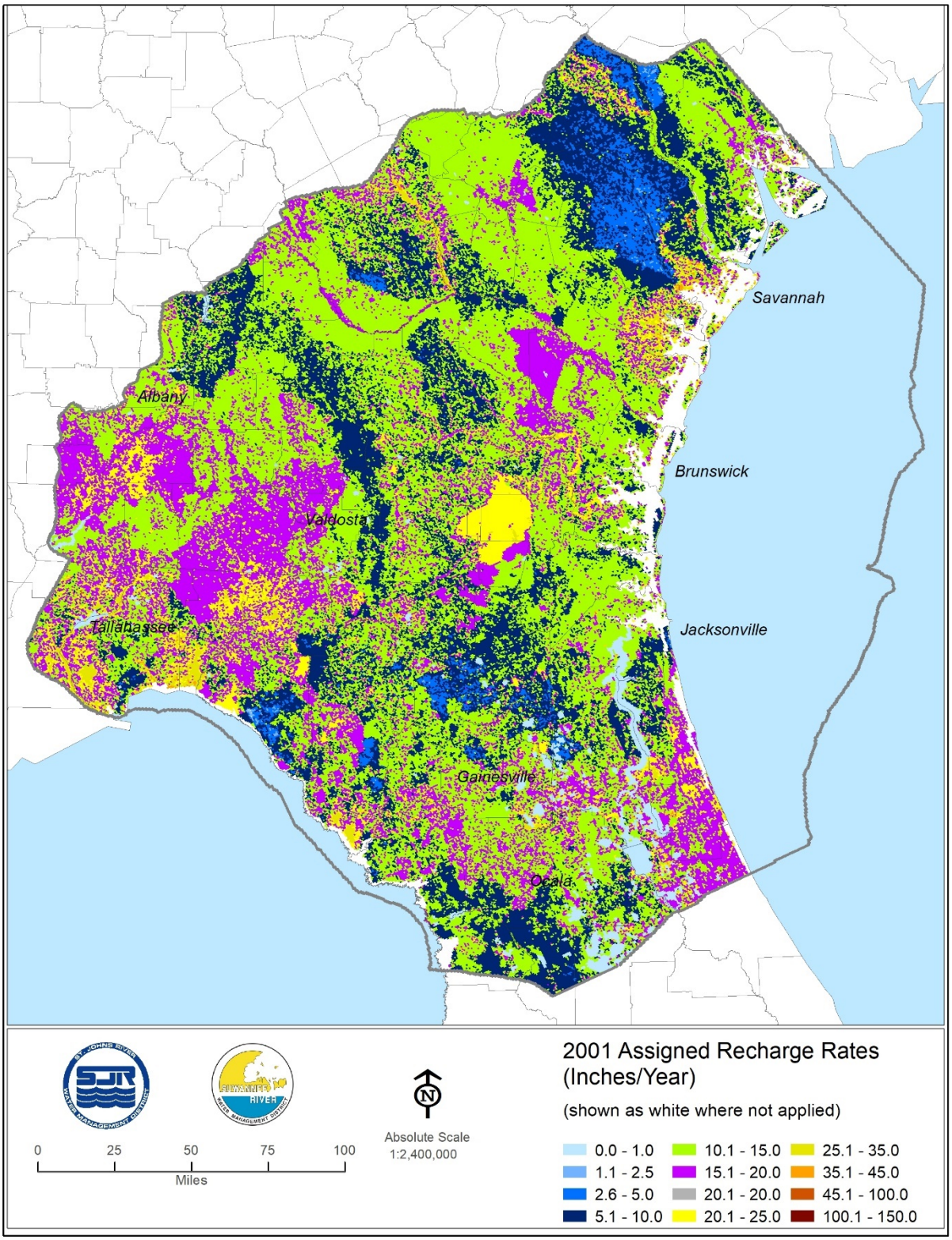


Figure 3-35. HSPF-Derived Rates of Recharge, 2001 (Inches per Year)

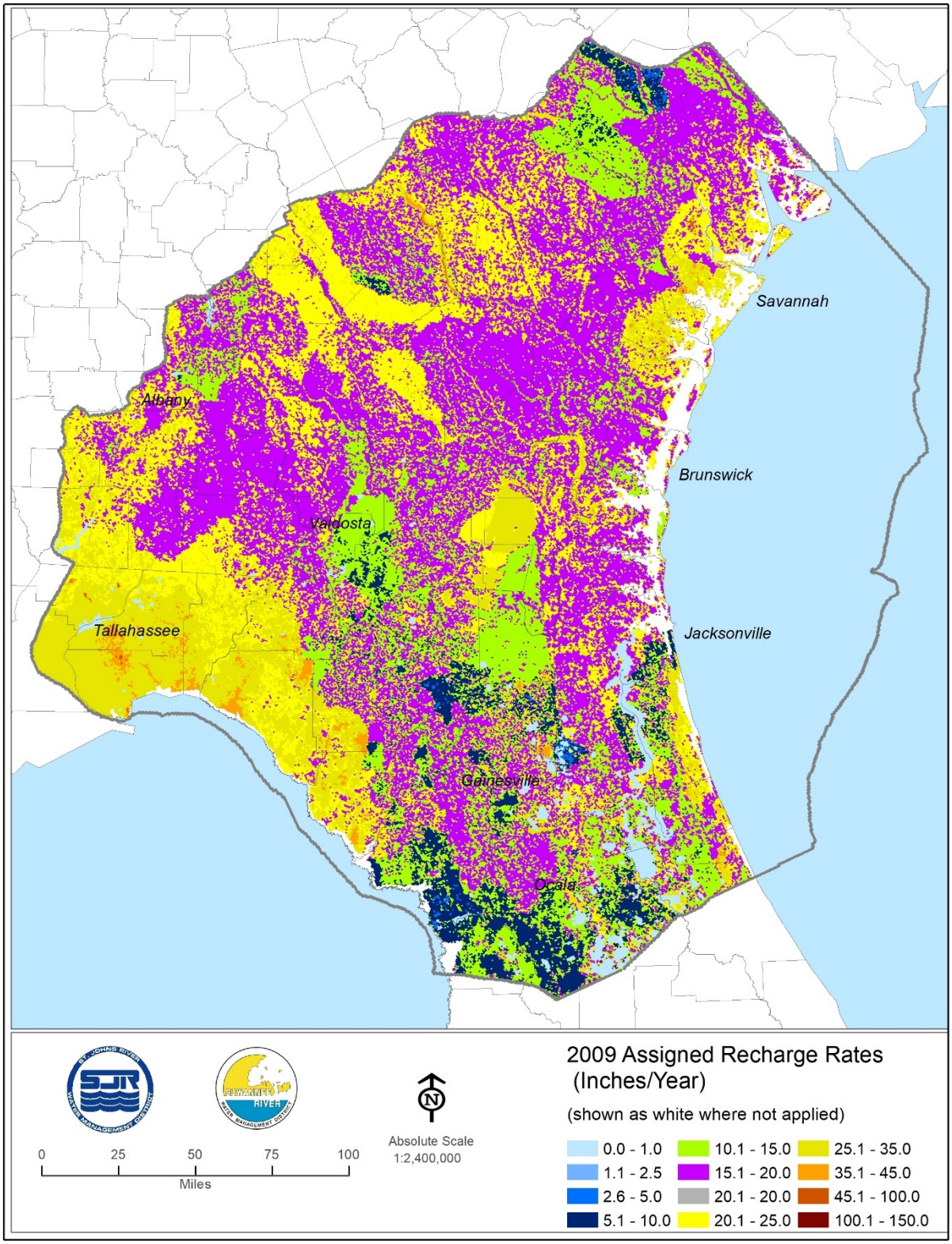


Figure 3-36. HSPF-Derived Rates of Recharge, 2009 (Inches per Year)

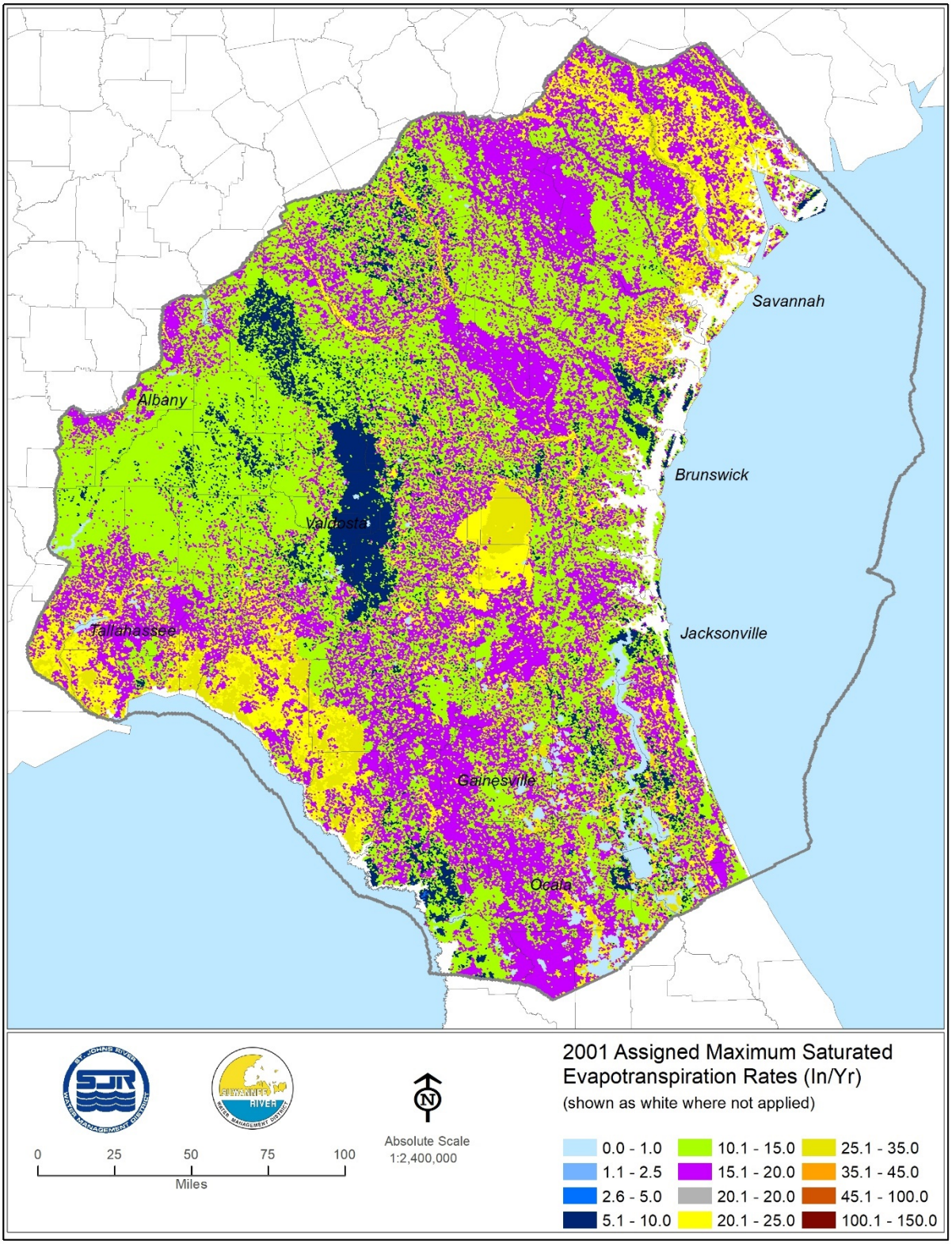


Figure 3-37. HSPF-Derived Rates of Maximum Saturated ET, 2001 (Inches per Year)

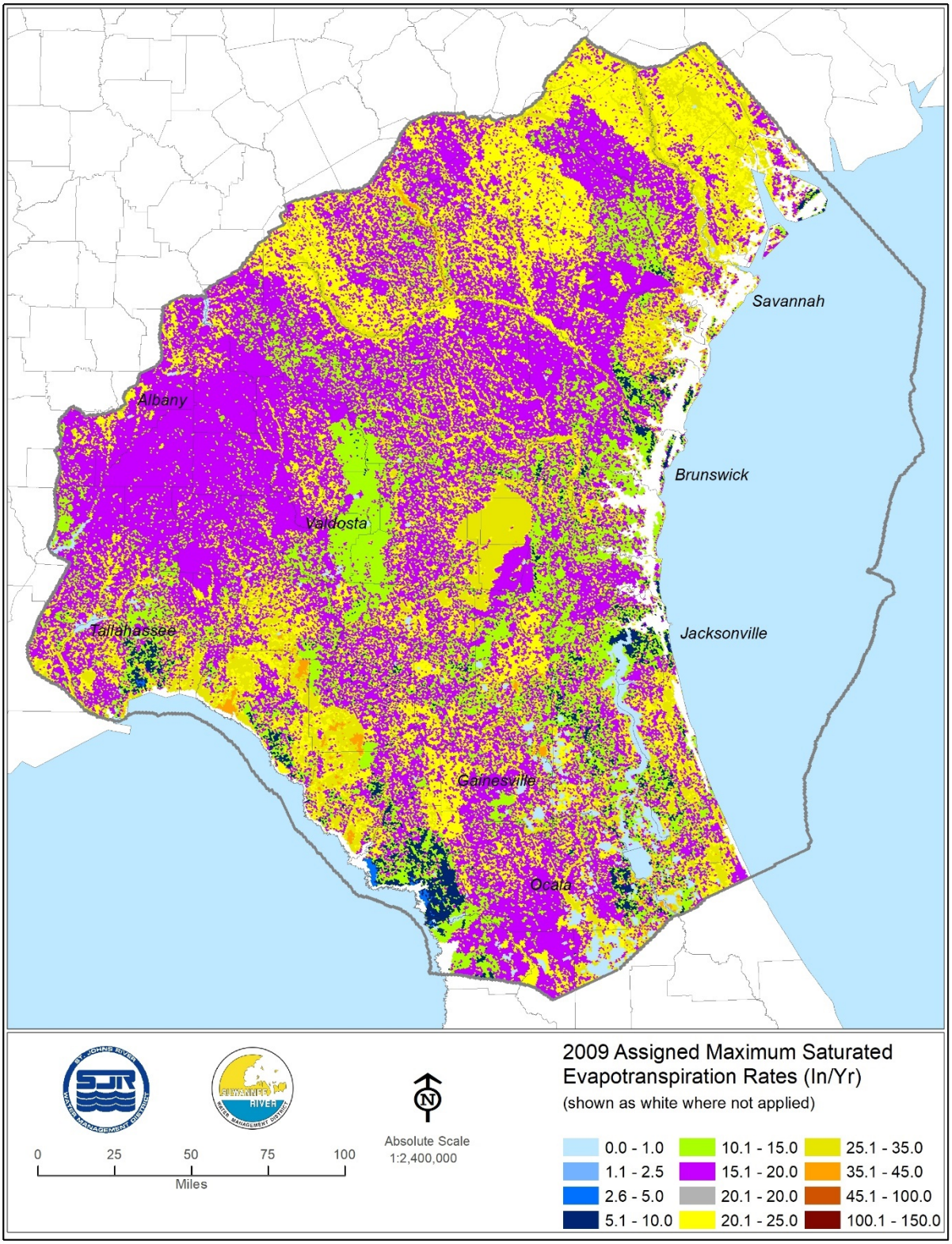


Figure 3-38. HSPF-Derived Rates of Maximum Saturated ET, 2009 (Inches per Year)

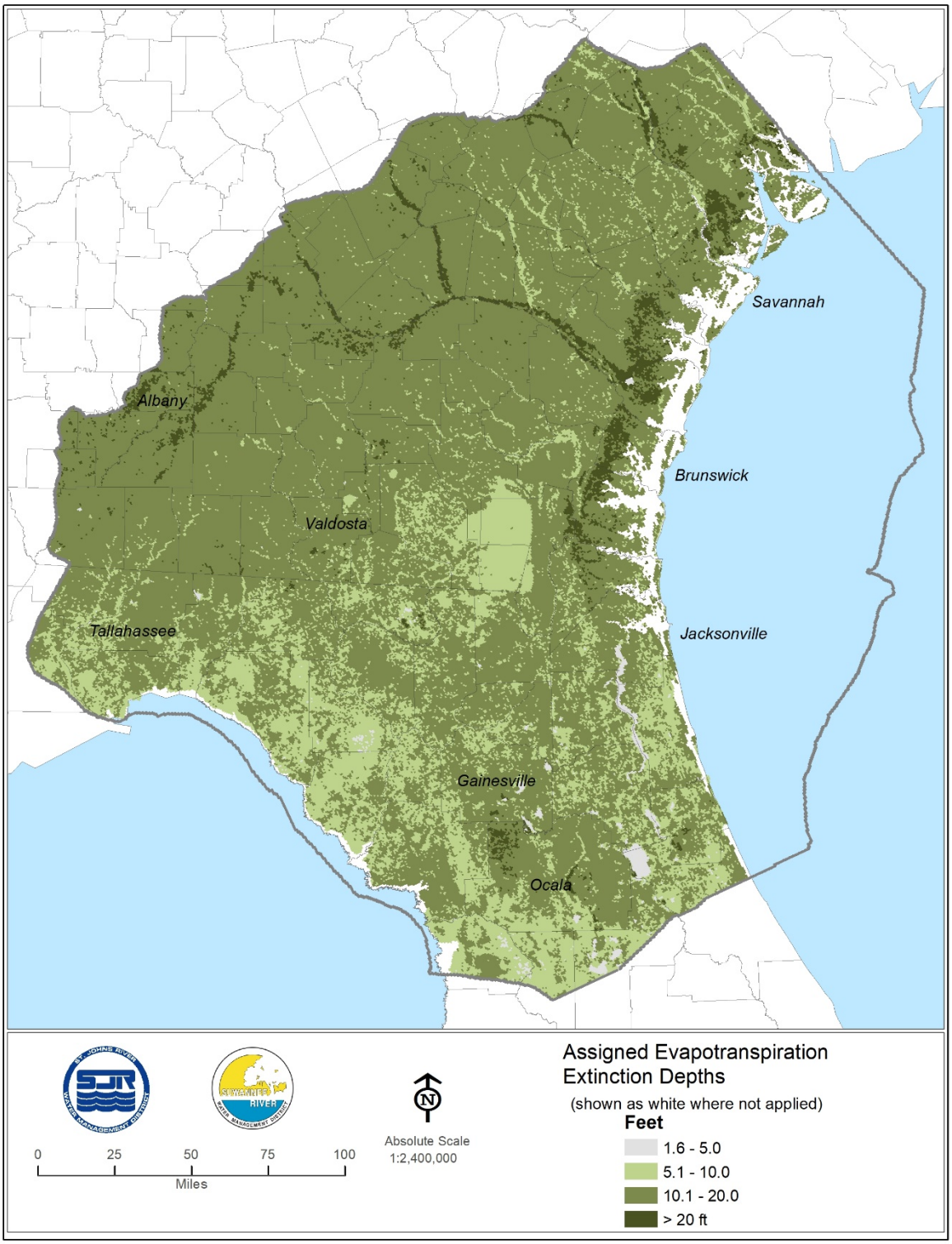


Figure 3-39. Estimated Evapotranspiration Extinction Depths (Feet)

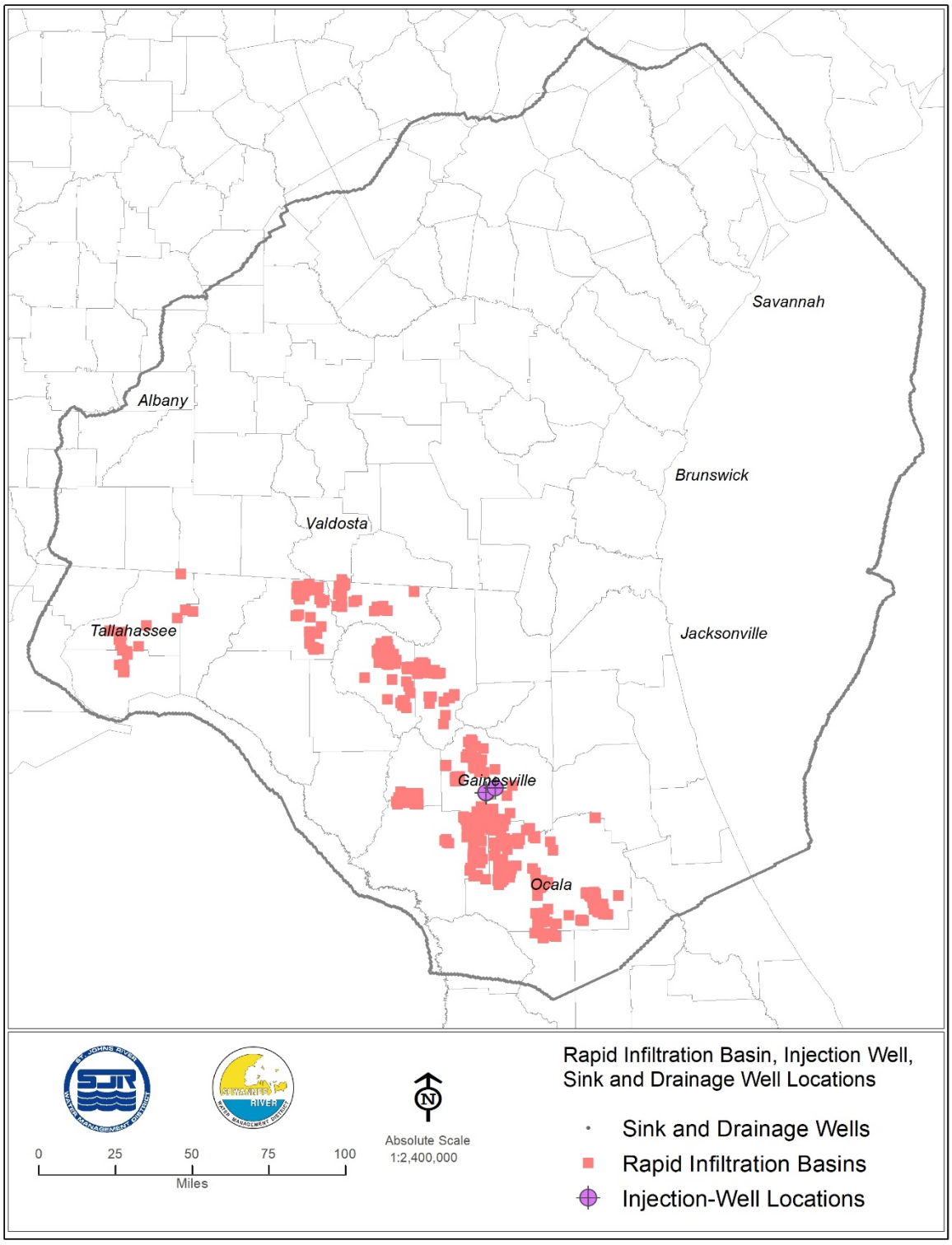


Figure 3-40. Locations of Concentrated Groundwater Influxes

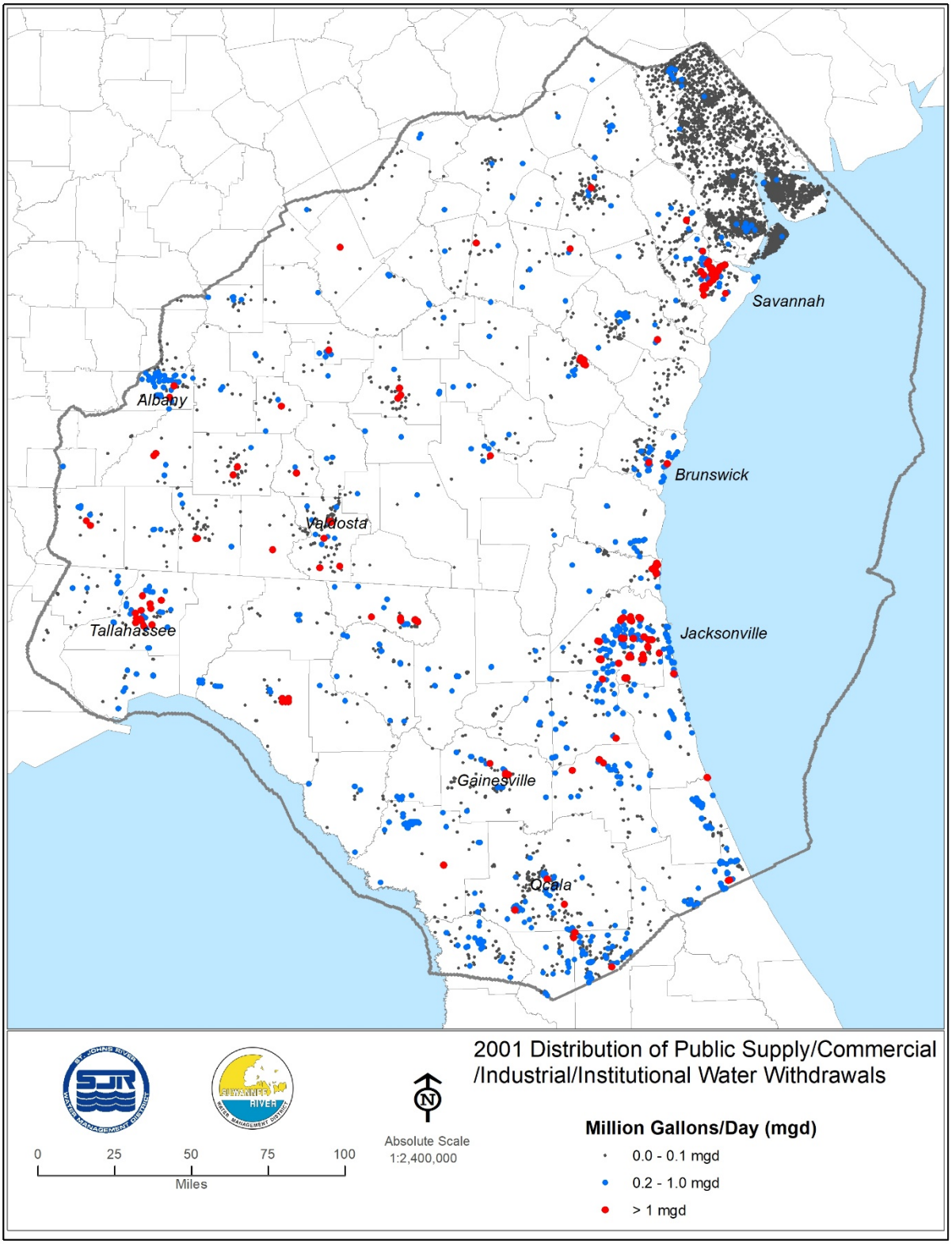


Figure 3-41. Distribution of Public-Supply, Commercial-Industrial, and Institutional Withdrawals (MGD), 2001

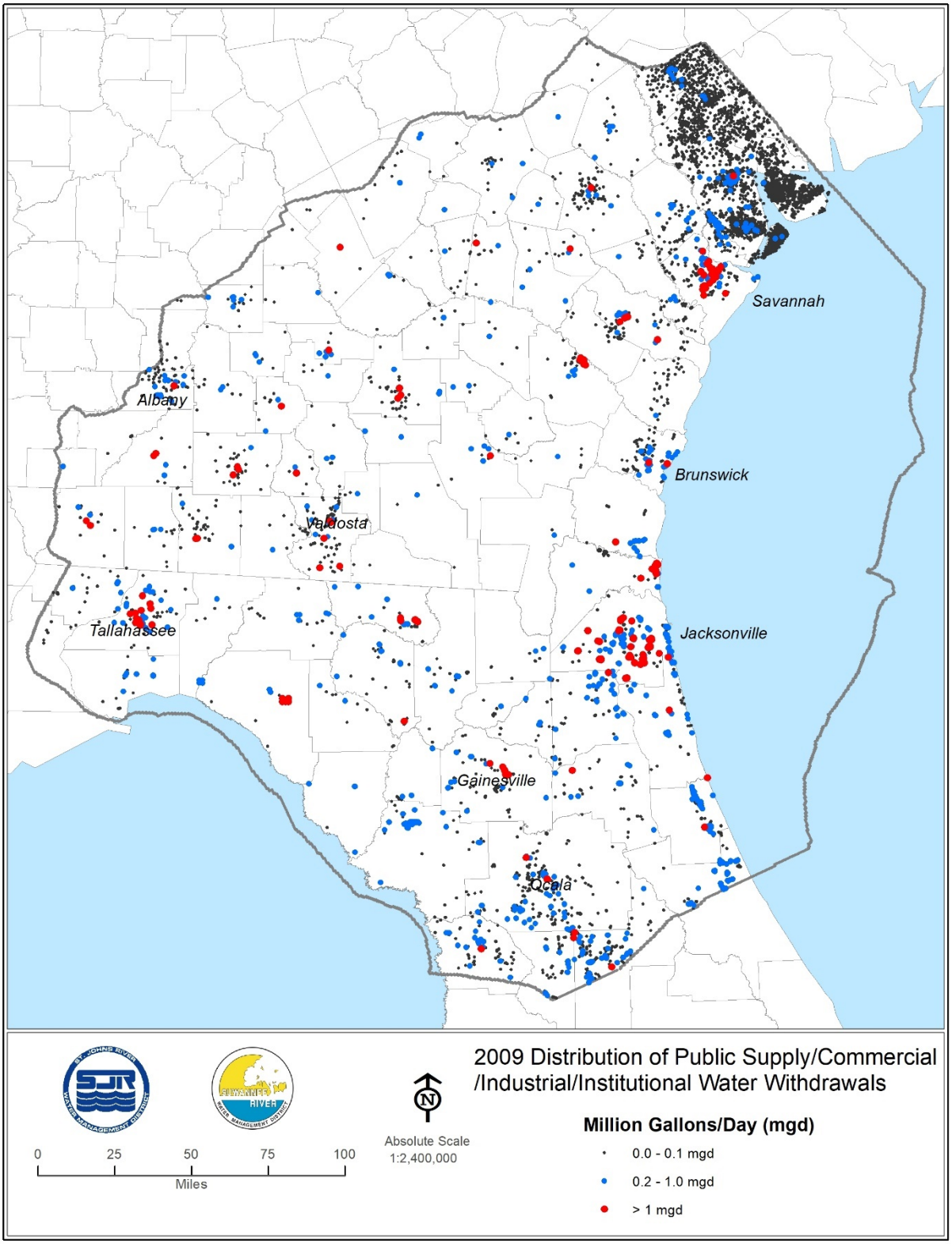


Figure 3-42. Distribution of Public-Supply, Commercial-Industrial, and Institutional Withdrawals (MGD), 2009

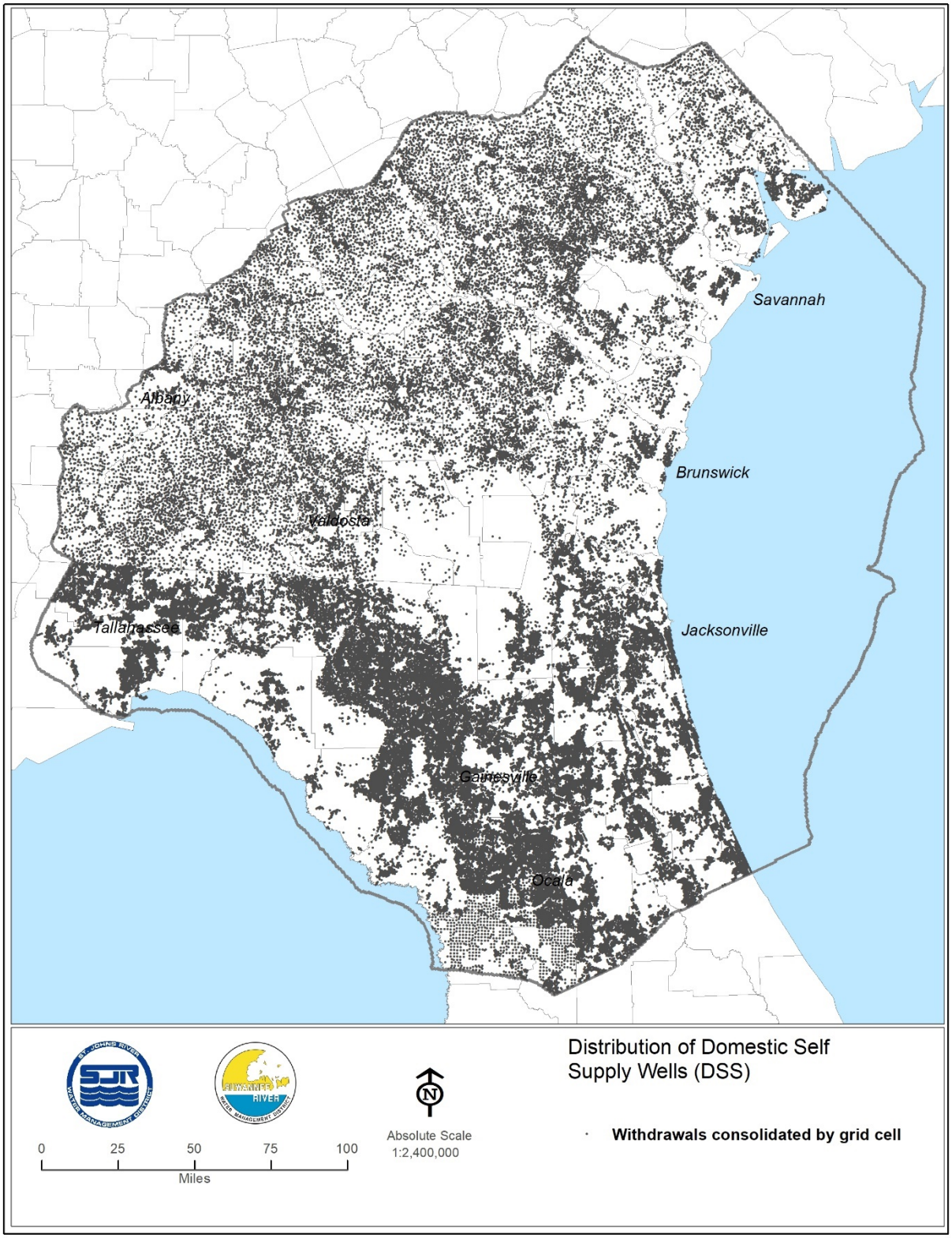


Figure 3-43. Distribution of DSS Withdrawals (MGD)

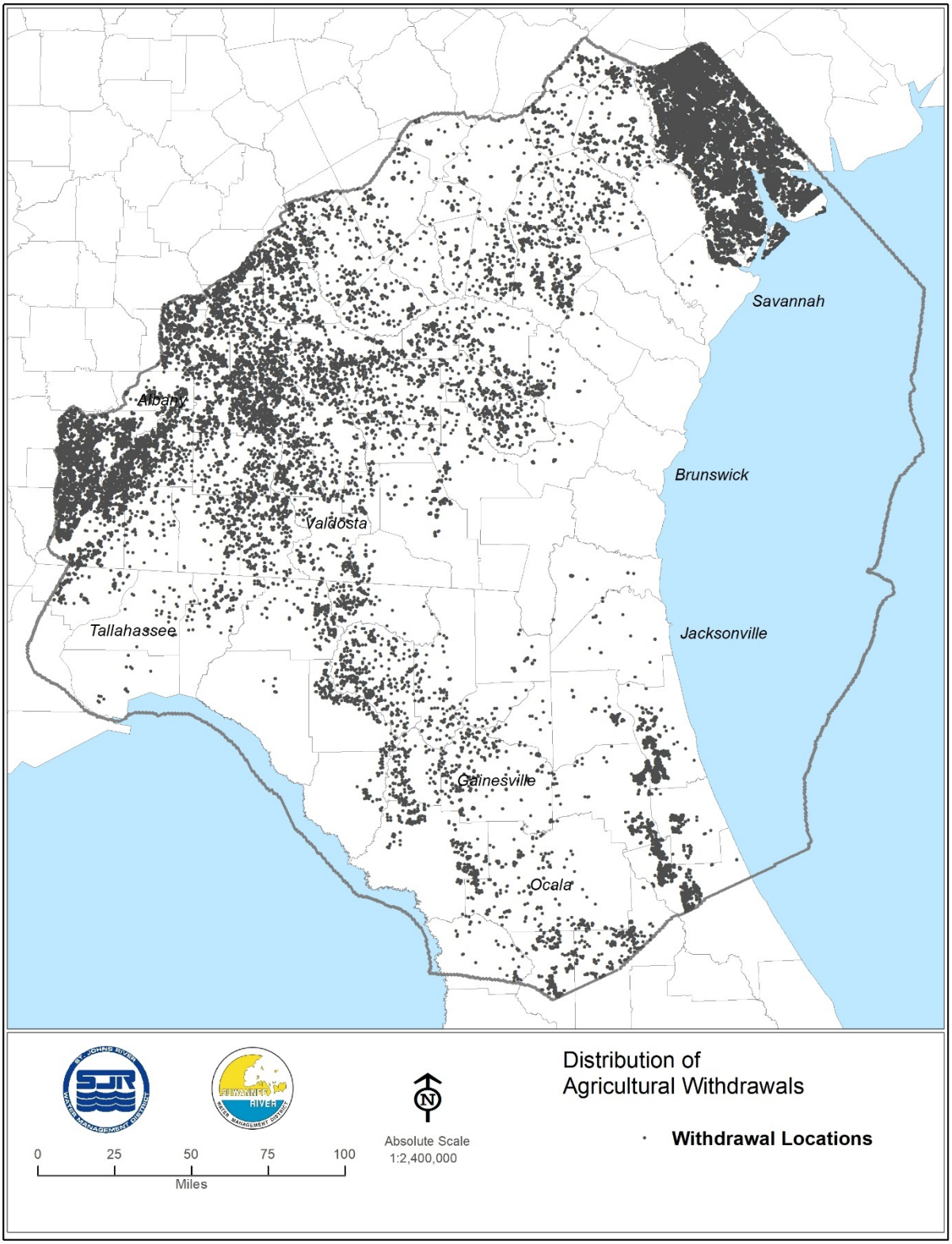


Figure 3-44. Distribution of Agricultural Withdrawals

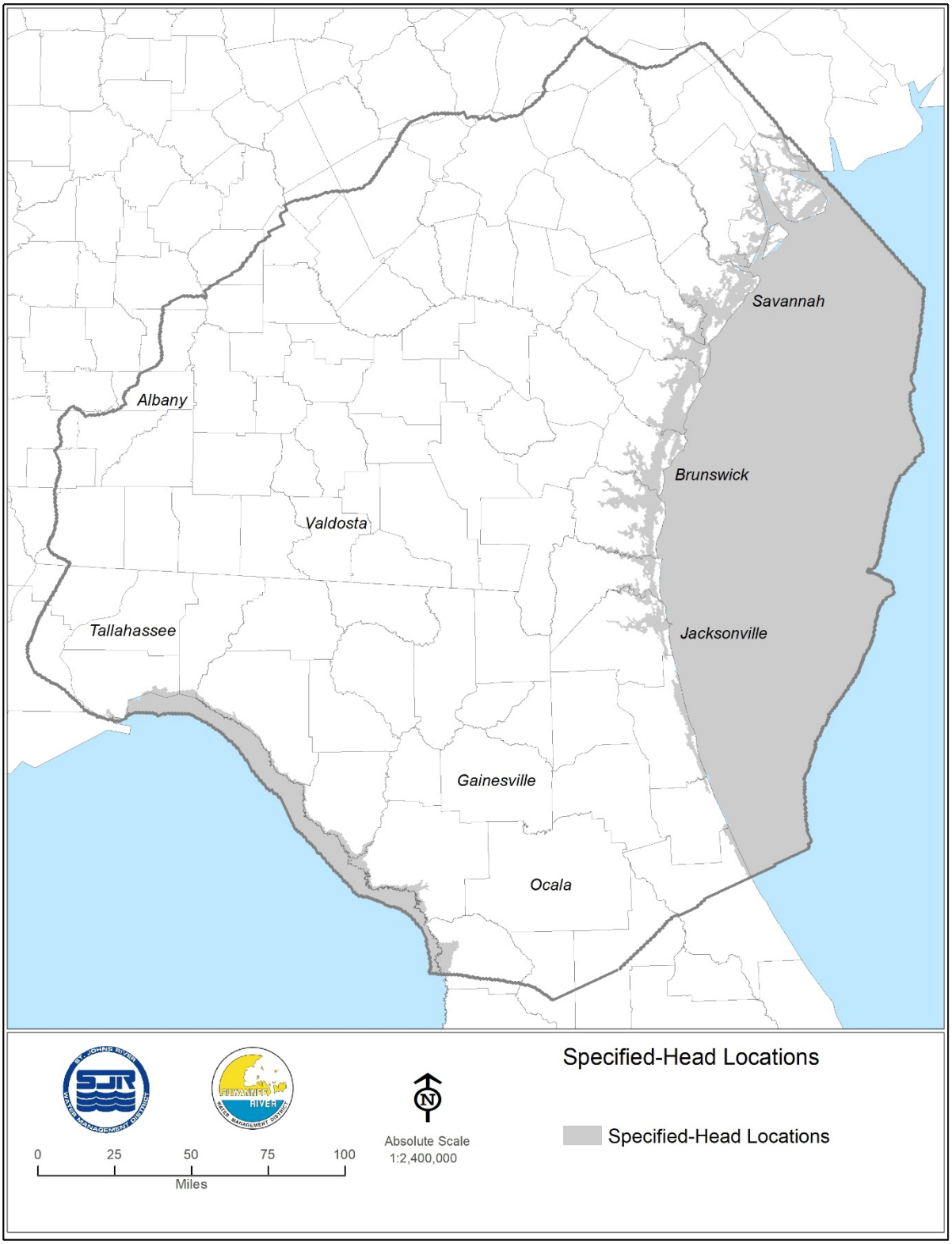


Figure 3-45. Distribution of Specified-Head Grid Cells in Layer 1