Open-File Map Series 113, Plate 1
*See Open-File Report 110 for accompanying text

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program

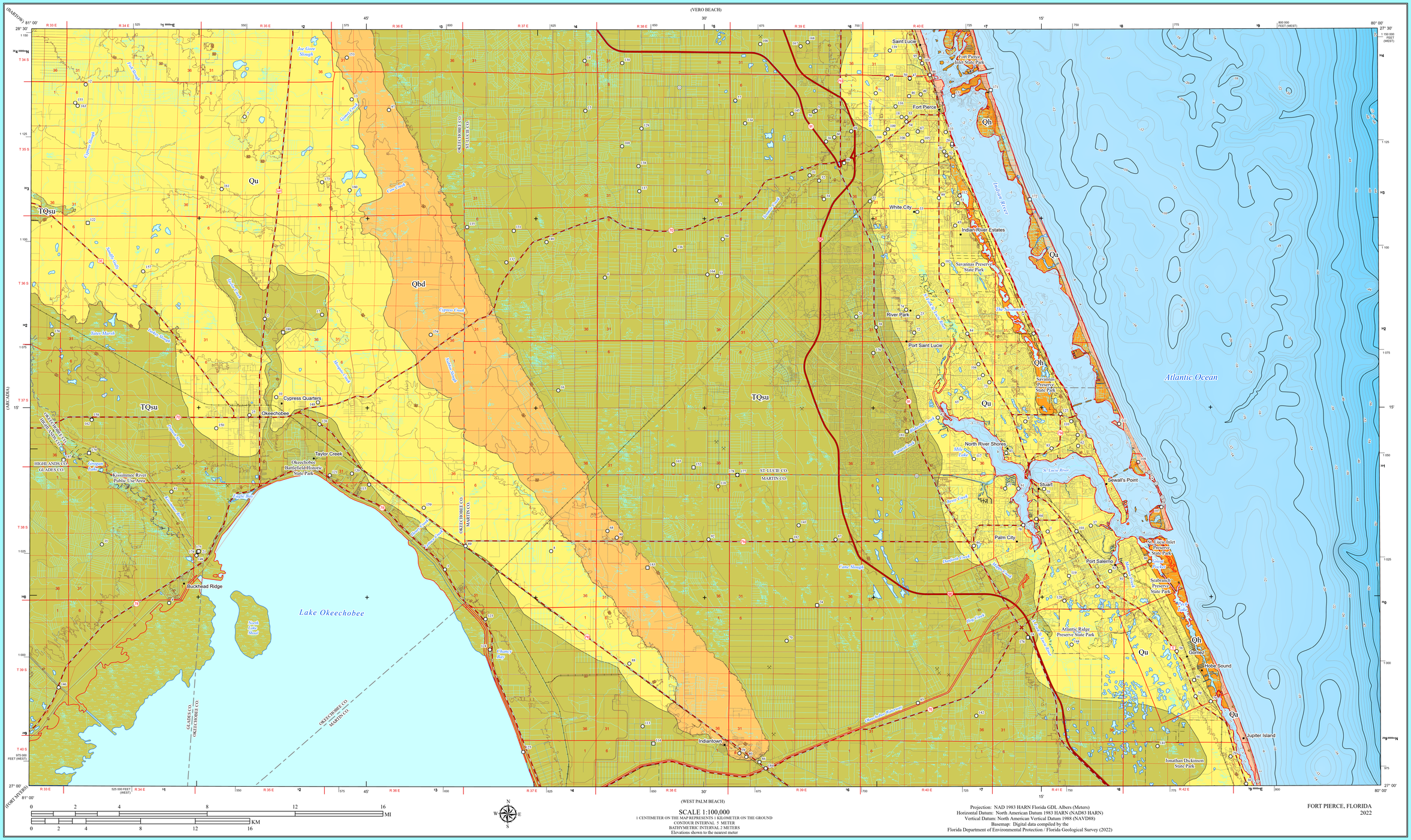
Florida Department of Environmental Protection
Florida Geological Survey

Guy H. Means
State Geologist and Director

OPEN-FILE MAP SERIES 113, Plate 1
GEOLOGIC MAP OF THE USGS FORT PIERCE 30 X 60 MINUTE QUADRANGLE, SOUTH FLORIDA

2022

BY
RICHARD C. GREEN, (P.G. # 1776), CHRISTOPHER P. WILLIAMS, CRYSTAL L. HEBETS, JADE W. GREENE, NICKOLAUS P. HALL, GARRETT S. EVANS, AND BRITTANY M. DUFFEY



SCALE 1:100,000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND
CONTOUR INTERVAL 5 METER
BATHYMETRIC INTERVAL 2 METERS
Elevations shown to the nearest meter

Projection: NAD 1983 HARN Florida GDL Albers (Meters)
Horizontal Datum: North American Datum 1983 HARN (NAD83 HARN)
Vertical Datum: North American Vertical Datum 1988 (NAVD88)
Basemap: Digital data compiled by the
Florida Department of Environmental Protection / Florida Geological Survey (2022)

FORT PIERCE, FLORIDA
2022

Holocene sediments

Qh Sediments mapped as Holocene (Qh) may include quartz sands, marls, organics, and minor carbonate sands and mud. They may also include fresh-water gastropods and modern shells. Within the study area, these occur near and along the present coastline in barrier islands on the Atlantic Coast, the Savannas, and the North Fork St. Lucie River.

Quaternary beach ridge and dune

Qbd Quaternary beach ridge and dune sediments (Qbd) are a subdivision of the Quaternary undifferentiated sediments that are noted on the basis of surficial expression of relict beach ridges and dunes. While not a formally recognized lithostratigraphic unit, Qbd is mapped in order to facilitate a better understanding of Florida's geology. Beach ridge and dune sediments are dominantly siliciclastic sands and are unconsolidated to poorly consolidated. Organics typically occur as disseminated organic matrix, roots and plant debris, carbonized remains, or charcoal.

Quaternary sediments

Qu While not a formally recognized lithostratigraphic unit, Quaternary undifferentiated sediments (Qu) are mapped in order to better understand Florida's geology. The undifferentiated Quaternary sediments consist of white to gray to orange, fine- to coarse-grained, clean to clayey unfossiliferous sands, sandy clays and clays with variable admixtures of organics.

Anastasia Formation

Qa The Anastasia Formation (Qa) is present within the Atlantic Coastal Complex Province in a narrow band along the eastern edge of the study area. The formation, named by Sellards (1912), is composed of interbedded coquinoid limestone and quartz sands. It typically occurs as an orangish brown to very pale orange, unconsolidated to moderately indurated coquina consisting of whole and broken mollusc shells in a quartz sand matrix. The coquina is commonly cemented by sparry calcite. The sands occur as light gray to tan and orangish-brown, unconsolidated to moderately indurated, unfossiliferous to very fossiliferous beds. The unit sits unconformably on undifferentiated Tertiary/Quaternary shelly sediments.

Tertiary/Quaternary undifferentiated shelly sediments

TQsu Tertiary/Quaternary undifferentiated shelly sediments (TQsu) typically consist of fine-to-medium quartz sand with variable amounts of calciltuite, silt, marine mollusk shells, and clay. Shells, which may vary from whole to fragments, are normally weathered and abraded and may occasionally become the dominant lithology. Other accessory minerals may include calcite, aragonite, mica, heavy minerals, and phosphate sand and gravel. A basal phosphate lag is often present. Colors range from light gray to light-olive gray. In the study area, TQsu is predominantly in the form of unconsolidated sands with varying percentages of shell fragments.

Refer to Open-File Report 110, Appendix A for well information

Refer to OFMS 113, Plate 2 for Cross-Sections

Refer to OFMS 113, Plate 3 for Geomorphology Map

Primary highway
Secondary highway
Light duty road, principal street
Railroad
County boundary
State lands and parks
Contours (5 meter) Intermediate
Bathymetry (2 meter) Index Intermediate

LEGEND

- Core
- Cuttings
- M-Series sample
- Outcrop/exposure
- Borrow pit
- Quarry / sand mine
- City/town
- USGS 1:24,000 Quadrangle tick mark

Waterbody
Wetland
River or stream or canal
Cross section line
U.S. Public Lands Survey Township/ Range
U.S. Public Lands Survey Section

Note: See OFR 110 for references

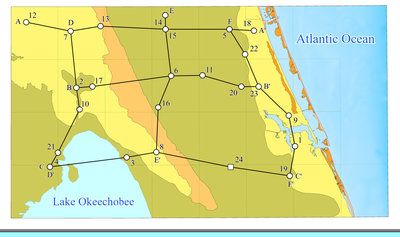
**Wells numbered 1-24 are used in cross-sections on OFMS 113, Plate 2

Note: Refer to Open-File Report 110, Appendix A for well information

Basemap Coordinate Explanation

10,000-meter grid, zone 17: Universal Transverse Mercator
25,000-foot grid ticks based on Florida coordinate system, east and west zones
30 000 FEET (WEST)
1 150 000 FEET (WEST)

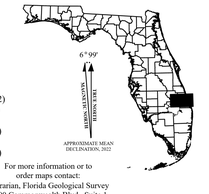
CROSS-SECTION REFERENCE MAP (see Plate 2 and OFR110)



ADJOINING MAPS

1	2
3	
4	5

1 Bartow (OFMS 111)
2 Vero Beach (OFMS 112)
3. Arcadia (OFMS 87/88)
4. Fort Myers (to be mapped in 2024)
5. West Palm Beach (to be mapped in 2023)



For more information or to order maps contact:
Librarian, Florida Geological Survey
3000 Commonwealth Blvd., Suite 1
Tallahassee, FL 32303
850/ 617-0316
https://floridadep.gov/fgs/research/content/statemap

This map was created using Florida Department of Environmental Protection (DEP) databases and data obtained by the Florida Geological Survey (FGS). It was completed August 31, 2022, by the DEP/FGS, Geological Investigations Section. This document is prepared for the presentation of the geologic information shown and is not intended to replace site-specific or use-specific investigations. The FGS does not guarantee this document to be free from errors or inaccuracies and disclaims any responsibility or liability for inappropriate change of scale, interpretations, or decisions based thereon. Cooperatively funded by the DEP/FGS and the U.S. Geological Survey (USGS) National Cooperative Geologic Mapping Program under USGS assistance award number G20AC00368. The views and conclusions in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. government.

ISSN 1934-1830

Created August 2022