BEDROCK GEOLOGIC MAP OF NEW JERSEY

DESCRIPTION OF MAP UNITS

Sedimentary Rocks

CENOZOIC

- Holocene: beach and estuarine deposits
- Paleogene and Neogene: sand, silt, clay

MESOZOIC

- Cretaceous: sand, silt, clay
- Jurassic: siltstone, shale, sandstone, conglomerate
- Triassic: siltstone, shale, sandstone, conglomerate

PALEOZOIC

- Devonian: conglomerate, sandstone, shale, limestone
- Silurian: conglomerate, sandstone, shale, limestone
- Ordovician: shale, limestone
- Cambrian: limestone, sandstone

Igneous and Metamorphic Rocks

MESOZOIC

- Jurassic and Triassic: basalt
- Jurassic: diabase

PALEOZOIC

- Ordovician and Cambrian: schist, gneiss

MESOPROTEROZOIC

- marble
- gneiss, granite

DESCRIPTION OF MAP SYMBOLS

- limit of late Wisconsinan glaciation
- limit of Illinoian glaciation
- limit of pre-Illinoian glaciation

Department of Environmental Protection

NEW JERSEY GEOLOGICAL AND WATER SURVEY

2017

SUSSEX
Franklin
Newton
Andover
Delaware Water Gap
PASSAIC
Mahwah
WARREN
Belvidere
Boonton
BERGEN
Paterson
Hackensack
MORRIS
Morristown
ESSEX
Newark
HUDSON
Jersey City
Phillipsburg
Gladstone
UNION
Elizabeth
Somerville
Carteret
Milford
HUNTERDON
Flemington
SOMERSET
New Brunswick
MIDDLESEX
MERCER
Trenton
Freehold
MONMOUTH
Asbury Park
Mount Holly
Toms River
Camden
OCEAN
BURLINGTON
Woodbury
CAMDEN
GLOUCESTER
SALEM
Salem
ATLANTIC
Bridgeton
Mays Landing
CUMBERLAND
Atlantic City
CAPE MAY
Cape May Court House

75°00′ 74°30′ 74°00′ 41°00′ 40°30′ 40°00′ 39°30′ 39°00′ 76°00′ 75°30′

0 5 10 15 20 mi
0 10 20 30 km

scale 1:1,000,000

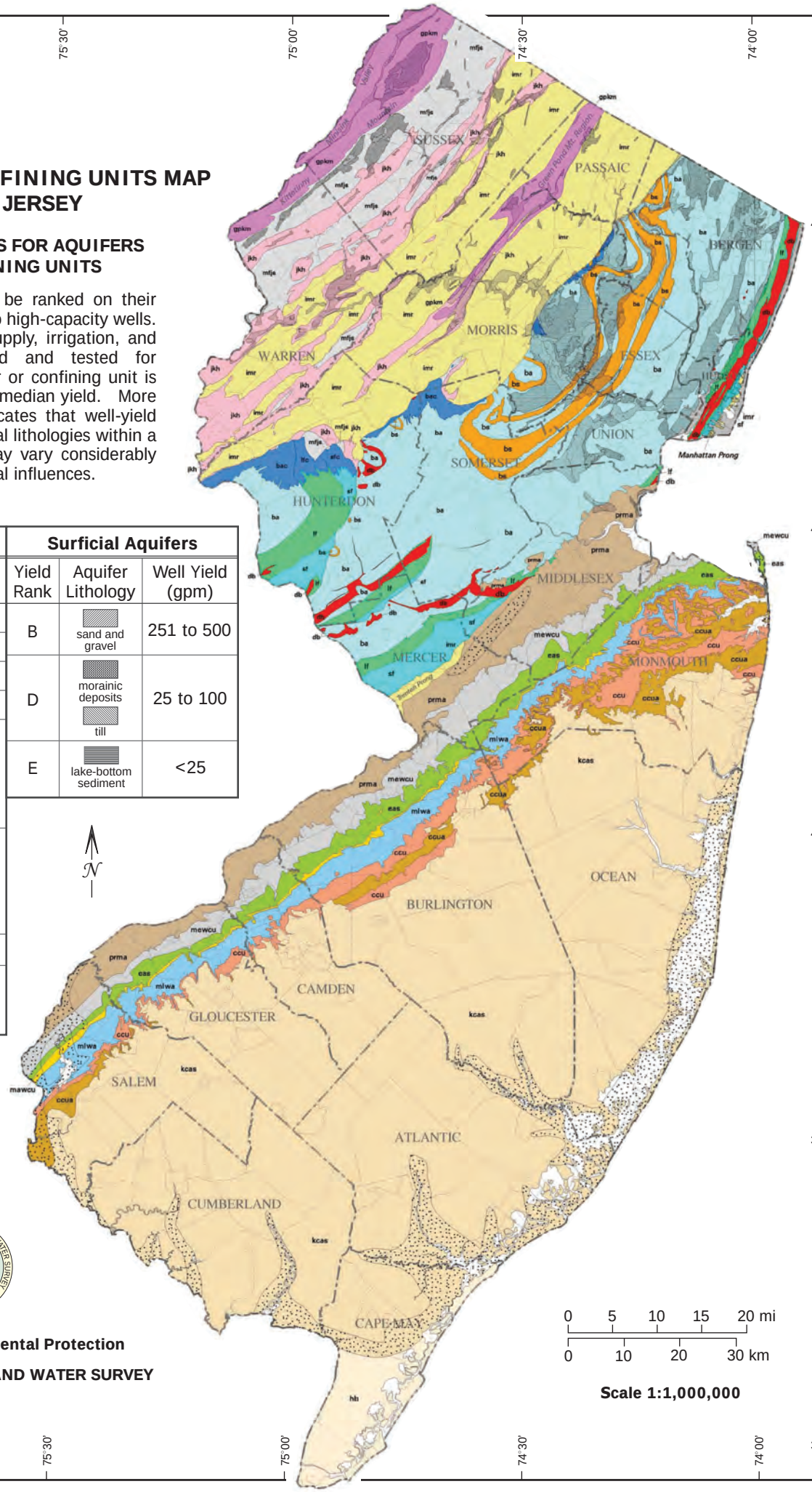
AQUIFERS AND CONFINING UNITS MAP OF NEW JERSEY

RANKING VALUES FOR AQUIFERS AND CONFINING UNITS

Aquifers in New Jersey can be ranked on their ability to yield groundwater to high-capacity wells. These wells include water-supply, irrigation, and industrial-supply wells sited and tested for maximum yield. Each aquifer or confining unit is assigned a rank based on its median yield. More than one ranking value indicates that well-yield data were analyzed for several lithologies within a map unit and well yields may vary considerably due to lithologic and structural influences.

Bedrock Aquifers		
Yield Rank	Aquifer Lithology	Well Yield (gpm)
A	prma	>500
B-A	kcas	>250
B	eas	251 to 500
C-B	jkh	101 to 500
C	ba, bac, sf, sfc, hb, mlwa	101 to 251
D	bs, lf, lfc, gpkm, mfjs, imr	25 to 100
E-B	ccu, ccua	<250
E	mawcu, mewcu, db	<25

Surficial Aquifers		
Yield Rank	Aquifer Lithology	Well Yield (gpm)
B	sand and gravel	251 to 500
D	morainic deposits, till	25 to 100
E	lake-bottom sediment	<25



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NEW JERSEY GEOLOGICAL AND WATER SURVEY

2016

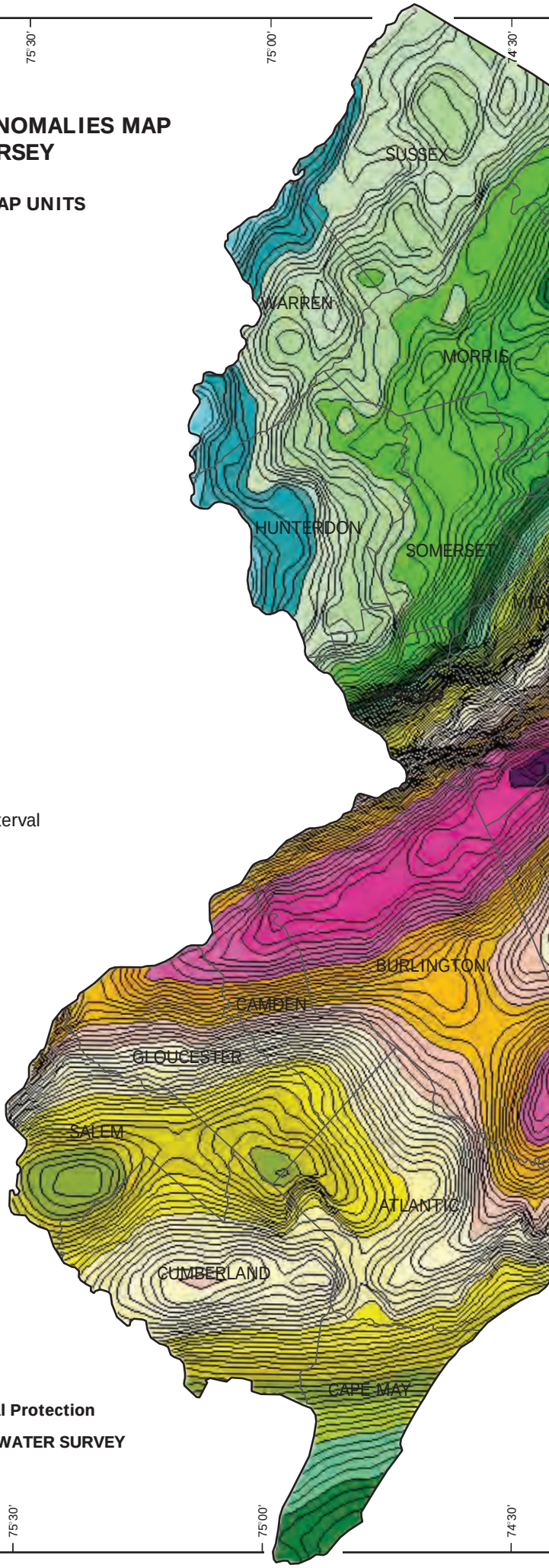
BOUGUER GRAVITY ANOMALIES MAP OF NEW JERSEY

DESCRIPTION OF MAP UNITS

Milligals

- 35 to 40
- 30 to 35
- 25 to 30
- 20 to 25
- 15 to 20
- 10 to 15
- 5 to 10
- 0 to 5
- -5 to 0
- -10 to -5
- -15 to -10
- -20 to -15
- -25 to -20
- -30 to -25
- -35 to -30
- -40 to -35
- -45 to -40
- -50 to -45
- -55 to -50
- -60 to -55

Contour interval
1 milligal



0 5 10 15 20 mi
0 10 20 30 km

Scale 1:1,000,000

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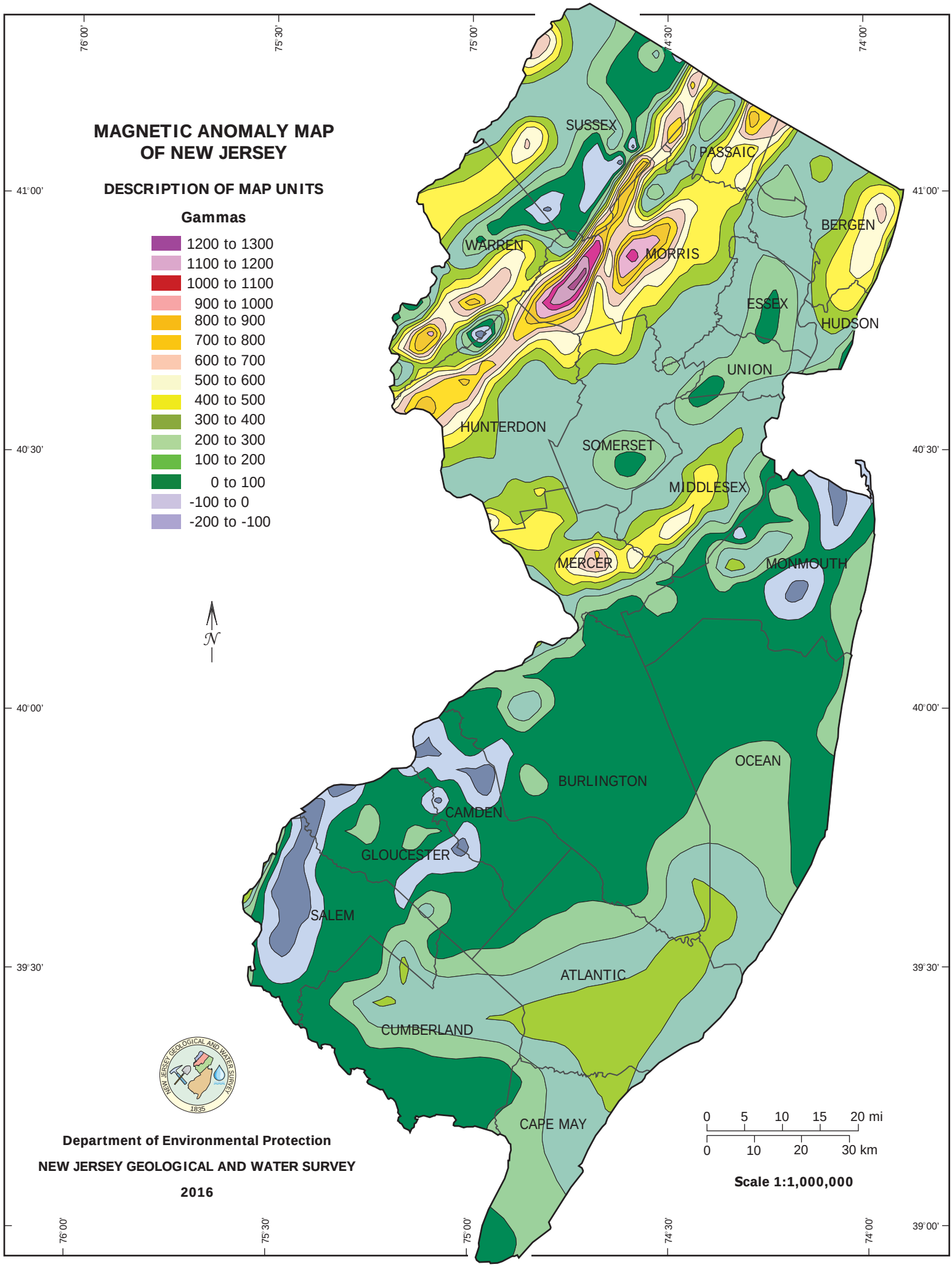
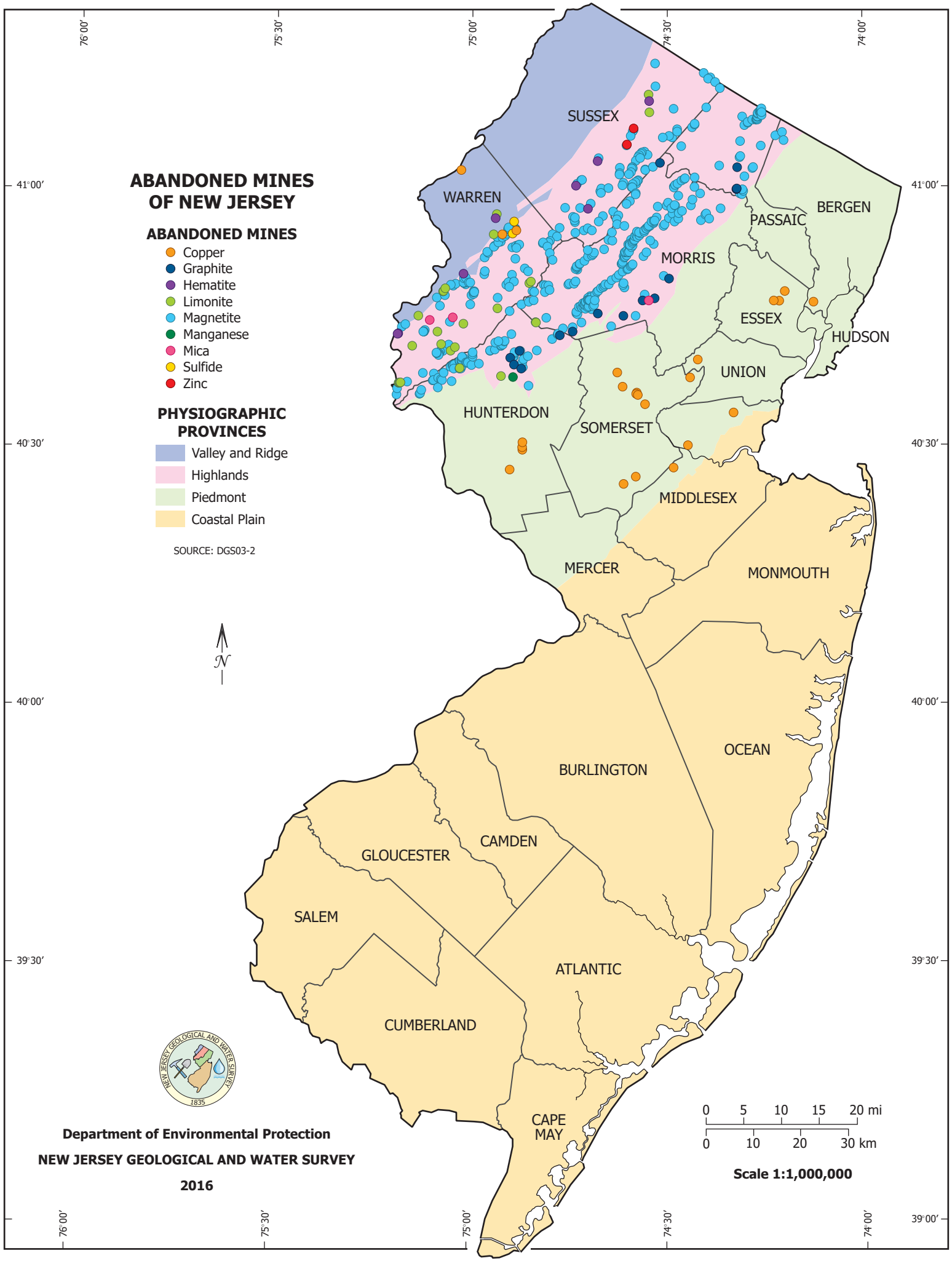
NEW JERSEY GEOLOGICAL AND WATER SURVEY

2016


MAGNETIC ANOMALY MAP
OF NEW JERSEY
DESCRIPTION OF MAP UNITS
Gammas
1200 to 1300
1100 to 1200
1000 to 1100
900 to 1000
800 to 900
700 to 800
600 to 700
500 to 600
400 to 500
300 to 400
200 to 300
100 to 200
0 to 100
-100 to 0
-200 to -100
76° 00'
75° 30'
75° 00'
74° 30'
74° 00'
41° 00'
40° 30'
40° 00'
39° 30'
39° 00'
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
HUDSON
UNION
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
N
0 5 10 15 20 mi
0 10 20 30 km
Scale 1:1,000,000
Department of Environmental Protection
NEW JERSEY GEOLOGICAL AND WATER SURVEY
2016


ABANDONED MINES OF NEW JERSEY
ABANDONED MINES
Copper
Graphite
Hematite
Limonite
Magnetite
Manganese
Mica
Sulfide
Zinc
PHYSIOGRAPHIC PROVINCES
Valley and Ridge
Highlands
Piedmont
Coastal Plain
SOURCE: DGS03-2
SUSSEX
WARREN
BERGEN
PASSAIC
MORRIS
ESSEX
HUDSON
UNION
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
76° 00′
75° 30′
75° 00′
74° 30′
74° 00′
41° 00′
40° 30′
40° 00′
39° 30′
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0 5 10 15 20 mi
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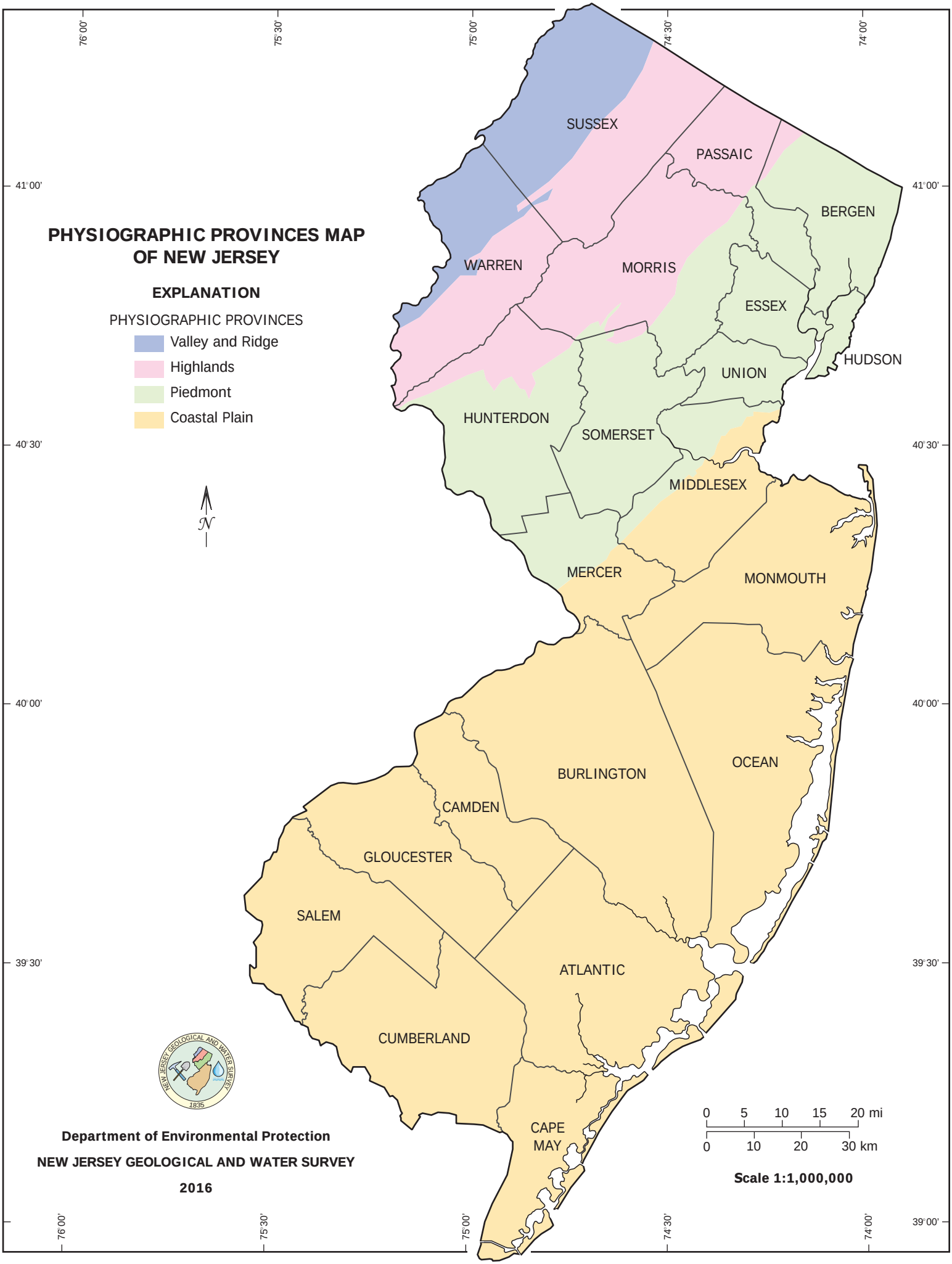
Department of Environmental Protection
NEW JERSEY GEOLOGICAL AND WATER SURVEY
2016


PHYSIOGRAPHIC PROVINCES MAP
OF NEW JERSEY
EXPLANATION
PHYSIOGRAPHIC PROVINCES
Valley and Ridge
Highlands
Piedmont
Coastal Plain
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
HUDSON
UNION
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
BURLINGTON
OCEAN
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE
MAY
76° 00'
75° 30'
75° 00'
74° 30'
74° 00'
41° 00'
40° 30'
40° 00'
39° 30'
39° 00'
N
0 5 10 15 20 mi
0 10 20 30 km
Scale 1:1,000,000
Department of Environmental Protection
NEW JERSEY GEOLOGICAL AND WATER SURVEY
2016

MAP OF EARTHQUAKES EPICENTERED IN NEW JERSEY

EXPLANATION

DESCRIPTION OF MAP UNITS

Sedimentary Rocks

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- Jurassic and Triassic: basalt
- Jurassic: diabase

PALEOZOIC

- Ordovician and Cambrian: schist, gneiss

MESOPROTEROZOIC

- marble
- gneiss, granite

MAGNITUDE

- 0.0 - 0.3
- 0.4 - 1.3
- 1.4 - 2.3
- 2.4 - 3.3
- 3.4 - 4.3
- 4.4 - 5.3

Fault line

SOURCE: DGS04-1

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NEW JERSEY GEOLOGICAL AND WATER SURVEY

2017

SUSSEX
WARREN
PASSAIC
BERGEN
MORRIS
ESSEX
HUDSON
HUNTERDON
UNION
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY

Jenny Jump Thrust Fault
Mountain Lake Fault
Tranquility Thrust Fault
Wright Pond Fault
East Fault
Harpburg Fault
Zero Fault
Wawayanda Fault
Ledgewood Fault
Longwood Valley Fault
Mount Hope Fault
Ramapo Fault
Pequest Allamuchy Fault
Kennedys Fault
Musconetcong Thrust Fault
Longwood Valley Fault
Pahaquarry Fault
Rockaway Valley Fault
Pohatcong Thrust Fault
Panners Brook Fault
Ramapo Fault
Flemington Fault
Hopewell Fault
New Brunswick Fault

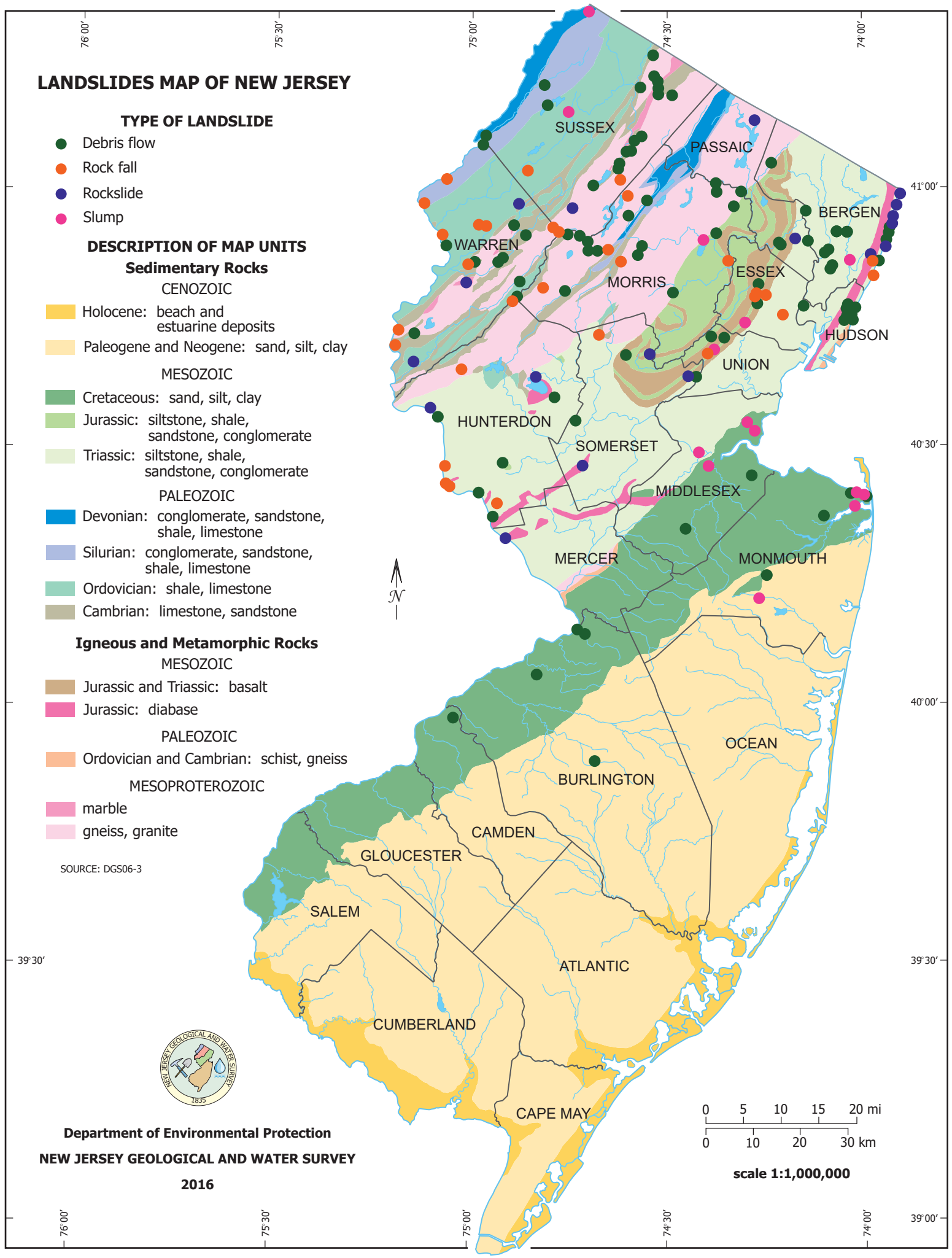
76°00′ 75°30′ 75°00′ 74°30′ 74°00′
41°00′ 40°30′ 40°00′ 39°30′ 39°00′

N

0 5 10 15 20 mi
0 10 20 30 km

scale 1:1,000,000

LANDSLIDES MAP OF NEW JERSEY



TYPE OF LANDSLIDE

- Debris flow
- Rock fall
- Rockslide
- Slump

DESCRIPTION OF MAP UNITS

Sedimentary Rocks

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PALEOZOIC

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MESOPROTEROZOIC

- marble
- gneiss, granite

SOURCE: DGS06-3

scale 1:1,000,000

Department of Environmental Protection

NEW JERSEY GEOLOGICAL AND WATER SURVEY

2016

SURFICIAL GEOLOGIC MAP OF NEW JERSEY

DESCRIPTION OF MAP UNITS

HOLOCENE

- floodplain alluvium
- beach sand
- freshwater wetland deposit
- estuary and salt marsh deposit
- postglacial stream terrace

PLEISTOCENE GLACIAL

- Kittatinny Mountain Till
- Netcong Till
- Rahway Till
- Flanders Till
- Port Murray Till
- moraine
- sand and gravel
- lake clay

PLEISTOCENE NONGLACIAL

- windblown sand and silt
- colluvium
- Lower Stream Terrace
- Upper Stream Terrace
- Cape May 3 Marine Terrace
- Cape May 2 Marine Terrace
- Cape May 1 Marine Terrace

PLIOCENE

- Pensauken Formation

LATE MIOCENE

- Bridgeton Formation
- Upland Gravel
- Beacon Hill Gravel
- surficial deposits thin or absent

DESCRIPTION OF MAP SYMBOLS

- limit of late Wisconsinan glaciation
- limit of Illinoian glaciation
- limit of pre-Illinoian glaciation

Department of Environmental Protection

NEW JERSEY GEOLOGICAL AND WATER SURVEY

2016

SUSSEX
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Andover
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PASSAIC
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MORRIS
Morristown
ESSEX
Newark
HUDSON
Jersey City
Gladstone
Phillipsburg
UNION
Elizabeth
Somerville
Carteret
Milford
HUNTERDON
Flemington
SOMERSET
New Brunswick
MIDDLESEX
MERCER
Trenton
Freehold
MONMOUTH
Asbury Park
Mount Holly
Toms River
Camden
OCEAN
BURLINGTON
Woodbury
CAMDEN
GLOUCESTER
SALEM
Salem
ATLANTIC
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CUMBERLAND
Atlantic City
CAPE MAY
Cape May Court House

N

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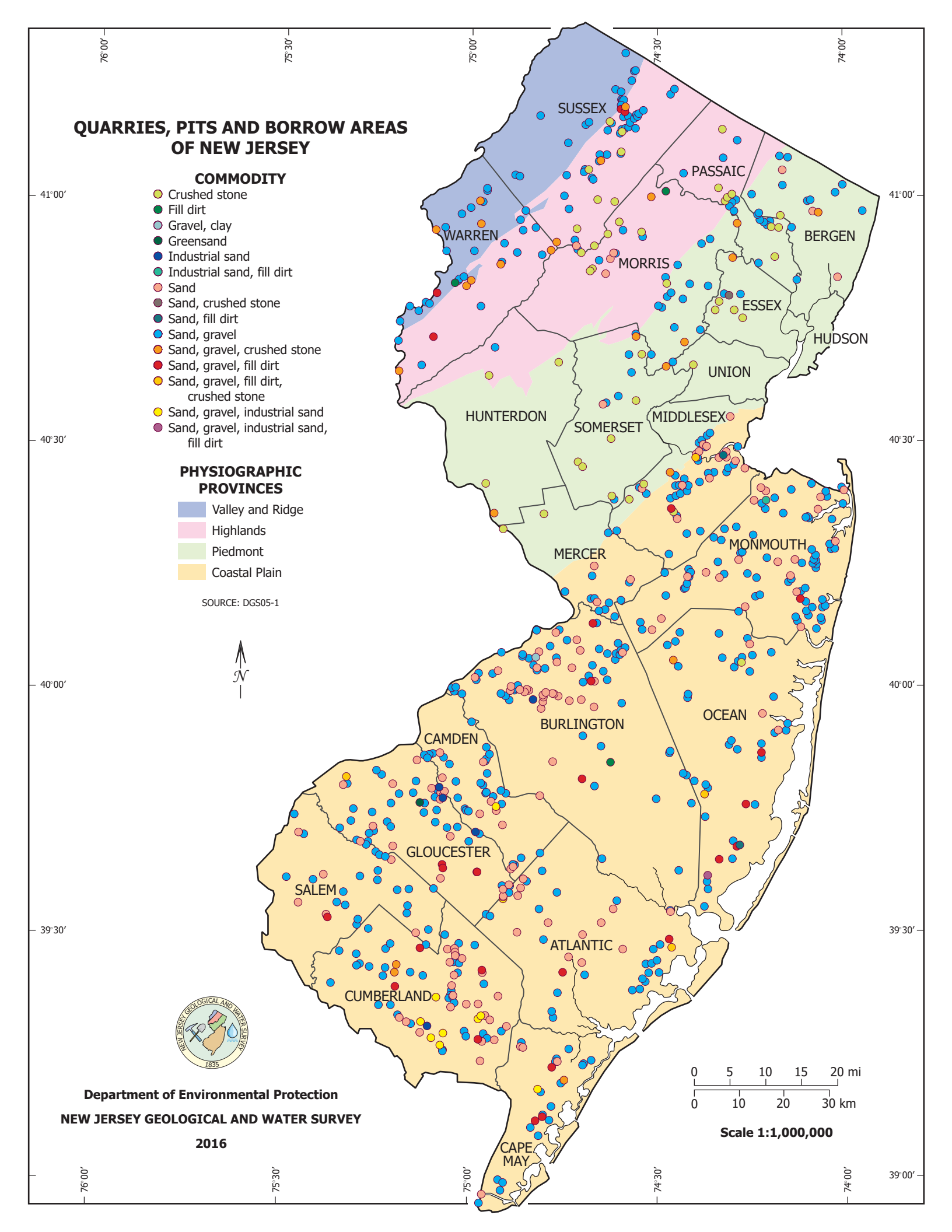
QUARRIES, PITS AND BORROW AREAS OF NEW JERSEY
COMMODITY
Crushed stone
Fill dirt
Gravel, clay
Greensand
Industrial sand
Industrial sand, fill dirt
Sand
Sand, crushed stone
Sand, fill dirt
Sand, gravel
Sand, gravel, crushed stone
Sand, gravel, fill dirt
Sand, gravel, fill dirt, crushed stone
Sand, gravel, industrial sand
Sand, gravel, industrial sand, fill dirt
PHYSIOGRAPHIC PROVINCES
Valley and Ridge
Highlands
Piedmont
Coastal Plain
SOURCE: DGS05-1
SUSSEX
WARREN
PASSAIC
BERGEN
MORRIS
ESSEX
HUDSON
UNION
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
76° 00′
75° 30′
75° 00′
74° 30′
74° 00′
41° 00′
40° 30′
40° 00′
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0 5 10 15 20 mi
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Department of Environmental Protection
NEW JERSEY GEOLOGICAL AND WATER SURVEY
2016