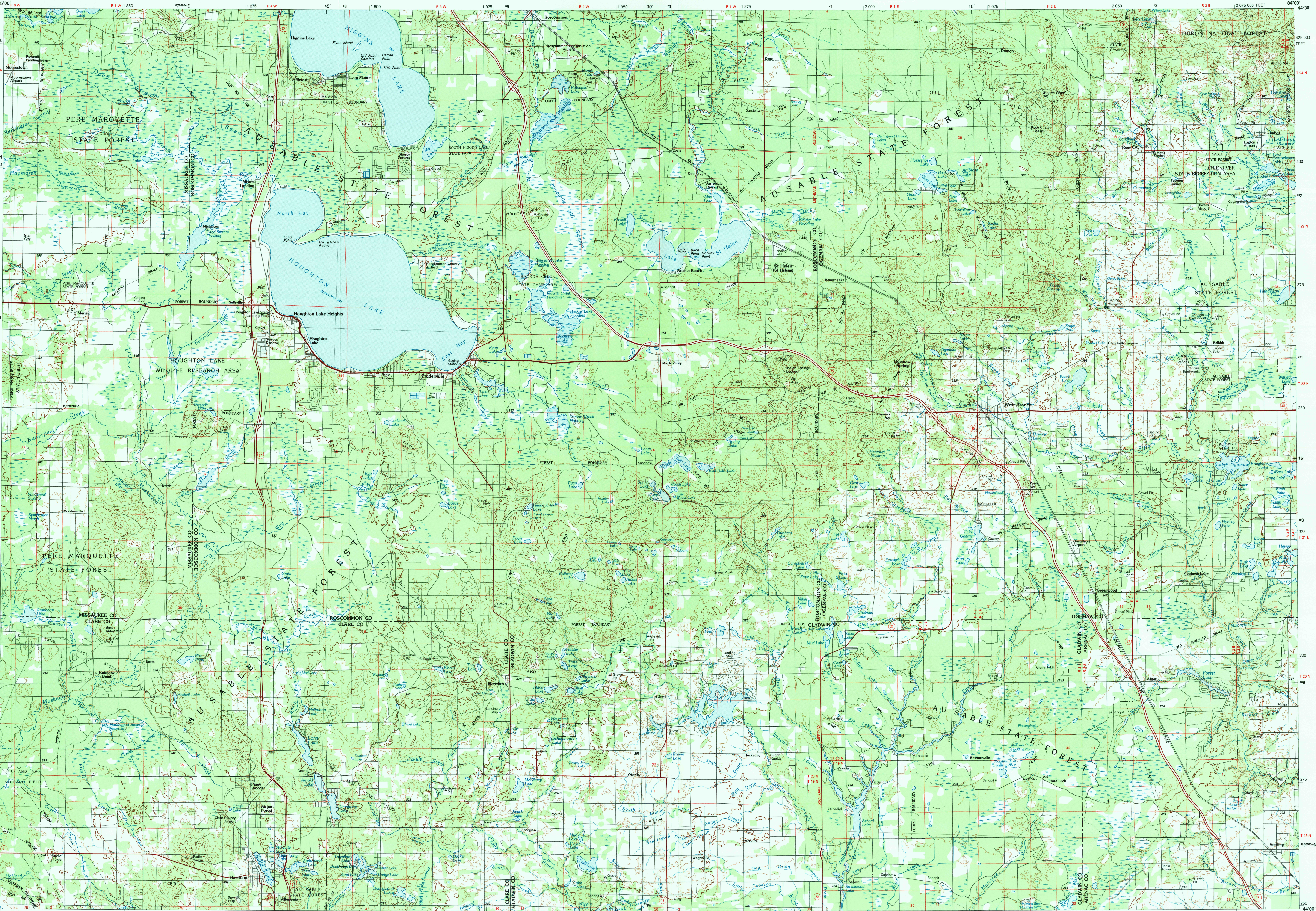


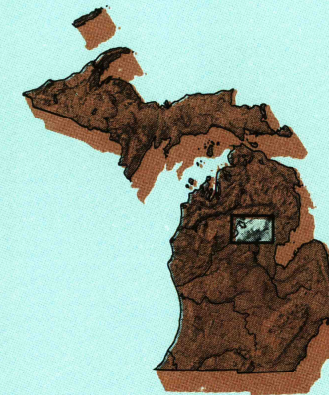
HOUGHTON LAKE, MICHIGAN

30 X 60 MINUTE SERIES (TOPOGRAPHIC)



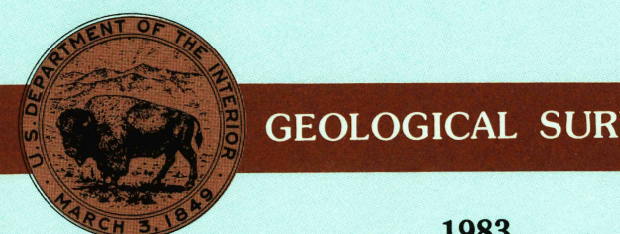
Houghton Lake
MICHIGAN

1:100 000-scale metric
topographic map



30 X 60 MINUTE QUADRANGLE
SHOWING

- Contours and elevations in meters
- Highways, roads and other manmade structures
- Water features
- Woodland areas
- Geographic names



Produced by the United States Geological Survey
Compiled from USGS 1:24 000 and 1:62 500-scale topographic maps dated 1956-1969. Planimetry revised from aerial photographs taken 1981 and other source data. Revised information not field checked. Map edited 1983
Projection and 10 000-meter grid, zone 16, Universal Transverse Mercator
25 000-foot grid ticks based on Michigan coordinate system, central zone
1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 1 meter north and 2 meters west
There may be private inholdings within the boundaries of the National or State reservations on this map

CONTOUR INTERVAL 10 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ELEVATIONS SHOWN TO THE NEAREST METER

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

CONVERSION TABLE		DECLINATION DIAGRAM		ADJOINING MAPS		
Meters	Feet	Diagram		1	2	3
1	3.2808			1	2	3
2	6.5617			4	5	
3	9.8425			6	7	
4	13.1234			8		
5	16.4042					
6	19.6850					
7	22.9658					
8	26.2467					
9	29.5275					
10	32.8084					

To convert meters to feet multiply by 3.2808
To convert feet to meters multiply by 0.3048

UTM grid convergence (GN) and 1983 magnetic declination (MN) at center of map
Diagram is approximate

1 Traverse City
2 Grand Haven
3 Holland Lake
4 Cadillac
5 Tawas City
6 Big Rapids
7 Midland
8 Bay City

FOR SALE BY U. S. GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

Topographic Map Symbols

- Primary highway, hard surface.....
- Secondary highway, hard surface.....
- Light duty road, principal street, hard or improved surface.....
- Other road or street; trail.....
- Route marker: Interstate; U.S.; State.....
- Railroad: standard gage; narrow gage.....
- Bridge: overpass; underpass.....
- Tunnel: road; railroad.....
- Built up area; locality; elevation.....
- Airport; landing field; landing strip.....
- National boundary.....
- State boundary.....
- County boundary.....
- National or State reservation boundary.....
- Land grant boundary.....
- U.S. public lands survey: range, township; section.....
- Range, township; section line: protracted.....
- Power transmission line; pipeline.....
- Dam; can with lock.....
- Cemetery; building.....
- Windmill; water well; spring.....
- Mine shaft; adit or cave; mine, quarry; gravel pit.....
- Campground; picnic area; U.S. location monument.....
- Ruins; cliff dwelling.....
- Distorted surface: strip mine, lava, sand.....
- Contours: index; intermediate; supplementary.....
- Bathymetric contours: index; intermediate.....
- Stream, lake; perennial; intermittent.....
- Rapids, large and small; falls, large and small.....
- Area to be submerged; marsh; swamp.....
- Land subject to controlled inundation; woodland.....
- Scrub; mangrove.....
- Orchard; vineyard.....

A pamphlet describing topographic maps is available on request

RETURN TO:
USGS AND HISTORICAL MAP ARCHIVES

HOUGHTON LAKE, MICHIGAN
44084-A1-TM-100

1983