Ludington

**MICHIGAN** 1:100 000-scale metric

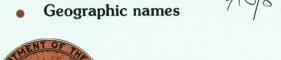
topographic map

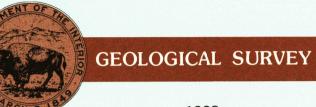


43086-E1-TM-100

30 X 60 MINUTE QUADRANGLE SHOWING

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





Produced by the United States Geological Survey Compiled from USGS 1:24 000 and 1:62 500-scale topographic maps dated 1958-1983. 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, south and central zones 1927 North American Datum To place on the predicted North American Datum 1983, move the projection lines 2 meters north and 3 meters east There may be private inholdings within the boundaries of the National or State reservations shown 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

CONVERSI	ON TABLE	DECLINATION DIAGRAM	ADJOINING M		MAPS
Meters	Feet	★ MN	1	2	3
1	3.2808	GN			_
2	6.5617		4		5
3	9.8425				
4	13.1234	21/2°	6	7	8
5	16.4042	44 MILS   0°21′			
6	19.6850	6 MILS	1		
7	22.9659				
8	26.2467		2 Ma	nistee	
9	29.5276		3 Ca	dillac	
10	32.8084	V	4		
To convert meters to feet multiply by 3.2808		UTM grid convergence (GN) and 1983 magnetic declination (MN)	5 Big Rapids 6 Milwaukee 7 Muskegon		
To convert feet to meters multiply by 0.3048		at center of map Diagram is approximate	8		

## Topographic Map Symbols

Primary highway, hard surface		
Secondary highway, hard surface		
Light duty road, principal street, hard or improved surface		ALL THE STATE OF T
Other road or street; trail		
Route marker: Interstate; U.S.; State		$\overline{}$
Railroad: standard gage; narrow gage		
Bridge; overpass; underpass	<del>+</del>	<del> </del>
Tunnel: road; railroad		$\longrightarrow - \longleftarrow$
Built up area; locality; elevation		• 155
Airport; landing field; landing strip	somogethenen	
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; dam with lock		0
Cemetery; building		
Windmill; water well; spring	<b>*</b> 0	0~
Mine shaft; adit or cave; mine, quarry; gravel pit	<b>∞</b> ≻	× ×
Campground; picnic area; U.S. location monument	*	<b>A</b>
Ruins; cliff dwelling.	[]	
Distorted surface: strip mine, lava; sand		
Contours: index; intermediate; supplementary		
Bathymetric contours: index; intermediate		
Stream, lake: perennial; intermittent	$\sim$	
Rapids, large and small; falls, large and small	<b>3</b>	D-
Area to be submerged; marsh, swamp		He sale, see
Land subject to controlled inundation; woodland	AND THE RESERVE AND THE PARTY	
Scrub; mangrove		HEREN HE
Orchard; vineyard		

A pamphlet describing topographic maps is available on request

RETURN TO:
USGS NMD HISTORICAL MAP ARCHIVES