

Compiled from USGS 1:24 000-scale topographic maps dated 1964-1991.
Planimetry revised from aerial photographs taken 1982 and other sources.

Compiled from USGS 1:24 000-scale topographic maps dated 1964-1991. Planimetry revised from aerial photographs taken 1982 and other source data. Revised information not field checked. Map edited 1984.

Bathymetry compiled by the National Ocean Service from tide-coordinated hydrographic surveys. This information is not intended for navigational purposes.

Mean lower low water (dotted line) and mean high water (heavy solid line) compiled by NOS from tide-coordinated aerial photographs. Apparent shoreline (outer edge of vegetation) shown by light solid line. Projection and 10 000-meter grid, zone 18: Universal Transverse Mercator 25 000-foot grid ticks based on Virginia coordinate system, zone 18, 1927 North American Datum. To place on the predicted North American Datum 1983, move the projection lines 11 meters south and 29 meters west. There may be private inholdings within the boundaries of the National or State reservations shown on this map.

CONTOUR INTERVAL 5 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ELEVATIONS SHOWN TO THE NEAREST METER
BATHYMETRIC CONTOUR INTERVAL 2 METERS WITH SUPPLEMENTARY
1 METER CONTOURS-MEAN LOWER LOW WATER DATUM
THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE

Meters	Feet
1	3.2808
2	6.5617
3	9.8425
4	13.1234
5	16.4042
6	19.6850
7	22.9659
8	26.2467
9	29.5276
10	32.8084

DECLINATION DIAGRAM

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

1	2	3
4	5	6
7	8	

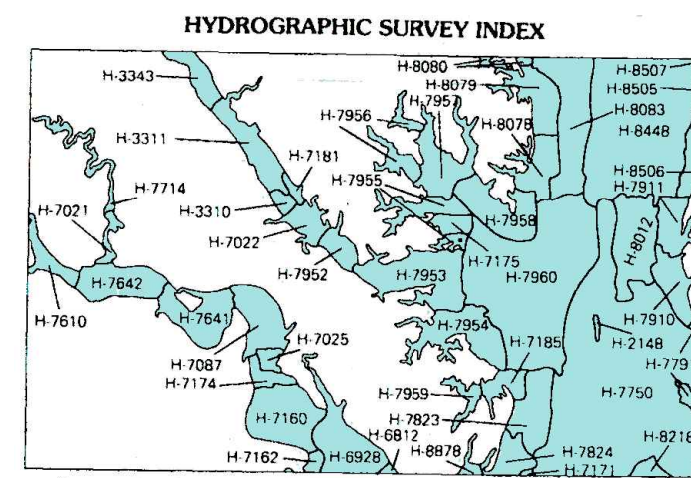
1 Richmond
2 Tappahannock
3 Chincoteague
4 Petersburg
5 Chertown
6 Emporia
7 Norfolk
8 Va. Beach

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

FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 22092, OR RESTON, VIRGINIA 22092
AND NATIONAL OCEAN SERVICE, ROCKVILLE, MARYLAND 20852

Primary highway, hard surface		150
Secondary highway, hard surface		
Light duty road, gravel or earth, hard to traverse		
Other road or street: trail		
Postal marker: Interstate, U.S. State		
Railroad: standard gage, narrow gage		
Highway: express, interstates		
Tunnel: rock, pipe		
Build up area: boundary, elevation		150
Depression: land fill, land sink		
State boundary		
County boundary		
National or State recreation boundary		
And grant boundary		
U.S. public lands survey: range, township, section		
Range, township, section line, protected		
Water: nonperennial line, pipeline		
Jen, dam with lock		
Cemetery, building		
Waterfall, water well, spring		
Mine shaft, salt or coal mine, mine, gravel pit		
Shrine, cliff dwelling		
U.S. national monument		
Contour: index, intermediate, supplementary		
Isarithmic contour: index, intermediate		
Stream, lake, marsh, intermittent		
Depression and canal		
Ice, lake to be submerged, marsh, swamp		
And subject to controlled inundation, woodland		
Wetland		
Wetland: vineyard		

brochure describing topographic maps is available on request.



HYDROGRAPH SURVEY INFORMATION							
ALPHA NUMBER	SURVEY DATE	SURVEY TIME	SURVEY LINE (NAUT. MILES)	SURVEY NUMBER	SURVEY DATE	SURVEY TIME	SURVEY LINE (NAUT. MILES)
H-1318	1948	2:00		H-7674	1948-50	1:10	00-06
H-1310	1911	2:20	04-06	H-7675	1948-50	1:10	02-06
H-1311	1911	2:20	04-06	H-7676	1948-50	1:10	02-06
H-1312	1911	2:20	04-06	H-7677	1948-50	1:10	02-06
H-1313	1911	2:20	04-06	H-7678	1948-50	1:10	02-06
H-1314	1911	2:20	04-06	H-7679	1948-50	1:10	02-06
H-1315	1911	2:20	04-06	H-7680	1948-50	1:10	02-06
H-1316	1911	2:20	04-06	H-7681	1948-50	1:10	02-06
H-1317	1911	2:20	04-06	H-7682	1948-50	1:10	02-06
H-1318	1911	2:20	04-06	H-7683	1948-50	1:10	02-06
H-1319	1911	2:20	04-06	H-7684	1948-50	1:10	02-06
H-1320	1911	2:20	04-06	H-7685	1948-50	1:10	02-06
H-1321	1911	2:20	04-06	H-7686	1948-50	1:10	02-06
H-1322	1911	2:20	04-06	H-7687	1948-50	1:10	02-06
H-1323	1911	2:20	04-06	H-7688	1948-50	1:10	02-06
H-1324	1911	2:20	04-06	H-7689	1948-50	1:10	02-06
H-1325	1911	2:20	04-06	H-7690	1948-50	1:10	02-06
H-1326	1911	2:20	04-06	H-7691	1948-50	1:10	02-06
H-1327	1911	2:20	04-06	H-7692	1948-50	1:10	02-06
H-1328	1911	2:20	04-06	H-7693	1948-50	1:10	02-06
H-1329	1911	2:20	04-06	H-7694	1948-50	1:10	02-06
H-1330	1911	2:20	04-06	H-7695	1948-50	1:10	02-06
H-1331	1911	2:20	04-06	H-7696	1948-50	1:10	02-06
H-1332	1911	2:20	04-06	H-7697	1948-50	1:10	02-06
H-1333	1911	2:20	04-06	H-7698	1948-50	1:10	02-06
H-1334	1911	2:20	04-06	H-7699	1948-50	1:10	02-06
H-1335	1911	2:20	04-06	H-7700	1948-50	1:10	02-06
H-1336	1911	2:20	04-06	H-7701	1948-50	1:10	02-06
H-1337	1911	2:20	04-06	H-7702	1948-50	1:10	02-06
H-1338	1911	2:20	04-06	H-7703	1948-50	1:10	02-06
H-1339	1911	2:20	04-06	H-7704	1948-50	1:10	02-06
H-1340	1911	2:20	04-06	H-7705	1948-50	1:10	02-06
H-1341	1948	1:00	01-03	H-7671	1948-50	1:20	00-06
H-1342	1948	1:00	01-03	H-7672	1948-50	1:20	00-06
H-1343	1948	1:00	01-03	H-7673	1948-50	1:20	00-06
H-1344	1948	1:00	01-03	H-7674	1948-50	1:20	00-06
H-1345	1948	1:00	01-03	H-7675	1948-50	1:20	00-06
H-1346	1948	1:00	01-03	H-7676	1948-50	1:20	00-06
H-1347	1948	1:00	01-03	H-7677	1948-50	1:20	00-06
H-1348	1948	1:00	01-03	H-7678	1948-50	1:20	00-06
H-1349	1948	1:00	01-03	H-7679	1948-50	1:20	00-06
H-1350	1948	1:00	01-03	H-7680	1948-50	1:20	00-06
H-1351	1948	1:00	01-03	H-7681	1948-50	1:20	00-06
H-1352	1948	1:00	01-03	H-7682	1948-50	1:20	00-06
H-1353	1948	1:00	01-03	H-7683	1948-50	1:20	00-06
H-1354	1948	1:00	01-03	H-7684	1948-50	1:20	00-06
H-1355	1948	1:00	01-03	H-7685	1948-50	1:20	00-06
H-1356	1948	1:00	01-03	H-7686	1948-50	1:20	00-06
H-1357	1948	1:00	01-03	H-7687	1948-50	1:20	00-06
H-1358	1948	1:00	01-03	H-7688	1948-50	1:20	00-06
H-1359	1948	1:00	01-03	H-7689	1948-50	1:20	00-06
H-1360	1948	1:00	01-03	H-7690	1948-50	1:20	00-06
H-1361	1948	1:00	01-03	H-7691	1948-50	1:20	00-06
H-1362	1948	1:00	01-03	H-7692	1948-50	1:20	00-06
H-1363	1948	1:00	01-03	H-7693	1948-50	1:20	00-06
H-1364	1948	1:00	01-03	H-7694	1948-50	1:20	00-06
H-1365	1948	1:00	01-03	H-7695	1948-50	1:20	00-06
H-1366	1948	1:00	01-03	H-7696	1948-50	1:20	00-06
H-1367	1948	1:00	01-03	H-7697	1948-50	1:20	00-06
H-1368	1948	1:00	01-03	H-7698	1948-50	1:20	00-06
H-1369	1948	1:00	01-03	H-7699	1948-50	1:20	00-06
H-1370	1948	1:00	01-03	H-7700	1948-50	1:20	00-06
H-1371	1948	1:00	01-03	H-7701	1948-50	1:20	00-06
H-1372	1948	1:00	01-03	H-7702	1948-50	1:20	00-06
H-1373	1948	1:00	01-03	H-7703	1948-50	1:20	00-06
H-1374	1948	1:00	01-03	H-7704	1948-50	1:20	00-06
H-1375	1948	1:00	01-03	H-7705	1948-50	1:20	00-06
H-1376	1948	1:00	01-03	H-7706	1948-50	1:20	00-06
H-1377	1948	1:00	01-03	H-7707	1948-50	1:20	00-06
H-1378	1948	1:00	01-03	H-7708	1948-50	1:20	00-06
H-1379	1948	1:00	01-03	H-7709	1948-50	1:20	00-06
H-1380	1948	1:00	01-03	H-7710	1948-50	1:20	00-06
H-1381	1948	1:00	01-03	H-7711	1948-50	1:20	00-06
H-1382	1948	1:00	01-03	H-7712	1948-50	1:20	00-06
H-1383	1948	1:00	01-03	H-7713	1948-50	1:20	00-06
H-1384	1948	1:00	01-03	H-7714	1948-50	1:20	00-06
H-1385	1948	1:00	01-03	H-7715	1948-50	1:20	00-06
H-1386	1948	1:00	01-03	H-7716	1948-50	1:20	00-06
H-1387	1948	1:00	01-03	H-7717	1948-50	1:20	00-06
H-1388	1948	1:00	01-03	H-7718	1948-50	1:20	00-06
H-1389	1948	1:00	01-03	H-7719	1948-50	1:20	00-06
H-1390	1948	1:00	01-03	H-7720	1948-50	1:20	00-06
H-1391	1948	1:00	01-03	H-7721	1948-50	1:20	00-06
H-1392	1948	1:00	01-03	H-7722	1948-50	1:20	00-06
H-1393	1948	1:00	01-03	H-7723	1948-50	1:20	00-06
H-1394	1948	1:00	01-03	H-7724	1948-50	1:20	00-06
H-1395	1948	1:00	01-03	H-7725	1948-50	1:20	00-06
H-1396	1948	1:00	01-03	H-7726	1948-50	1:20	00-06
H-1397	1948	1:00	01-03	H-7727	1948-50	1:20	00-06
H-1398	1948	1:00	01-03	H-7728	1948-50	1:20	00-06
H-1399	1948	1:00	01-03	H-7729	1948-50	1:20	00-06
H-1400	1948	1:00	01-03	H-7730	1948-50	1:20	00-06
H-1401	1948	1:00	01-03	H-7731	1948-50	1:20	00-06
H-1402	1948	1:00	01-03	H-7732	1948-50	1:20	00-06
H-1403	1948	1:00	01-03	H-7733	1948-50	1:20	00-06
H-1404	1948	1:00	01-03	H-7734	1948-50	1:20	00-06
H-1405	1948	1:00	01-03	H-7735	1948-50	1:20	00-06
H-1406	1948	1:00	01-03	H-7736	1948-50	1:20	00-06
H-1407	1948	1:00	01-03	H-7737	1948-50	1:20	00-06
H-1408	1948	1:00	01-03	H-7738	1948-50	1:20	00-06
H-1409	1948	1:00	01-03	H-7739	1948-50	1:20	00-06
H-1410	1948	1:00	01-03	H-7740	1948-50	1:20	00-06
H-1411	1948	1:00	01-03	H-7741	1948-50	1:20	00-06
H-1412	1948	1:00	01-03	H-7742	1948-50	1:20	00-06
H-1413	1948	1:00	01-03	H-7743	1948-50	1:20	00-06
H-1414	1948	1:00	01-03	H-7744	1948-50	1:20	00-06
H-1415	1948	1:00	01-03	H-7745	1948-50	1:20	00-06
H-1416	1948	1:00	01-03	H-7746	1948-50	1:20	00-06
H-1417	1948	1:00	01-03	H-7747	1948-50	1:20	00-06
H-1418	1948	1:00	01-03	H-7748	1948-50	1:20	00-06
H-1419	1948	1:00	01-03	H-7749	1948-50	1:20	00-06
H-1420	1948	1:00	01-03	H-7750	1948-50	1:20	00-06
H-1421	1948	1:00	01-03	H-7751	1948-50	1:20	00-06
H-1422	1948	1:00	01-03	H-7752	1948-50	1:20	00-06
H-1423	1948	1:00	01-03	H-7753	1948-50	1:20	00-06
H-1424	1948	1:00	01-03	H-7754	1948-50	1:20	00-06
H-1425	1948	1:00	01-03	H-7755	1948-50	1:20	00-06
H-1426	1948	1:00	01-03	H-7756	1948-50	1:20	00-06
H-1427	1948	1:00	01-03	H-7757	1948-50	1:20	00-06
H-1428	1948	1:00	01-03	H-7758	1948-50	1:20	00-06
H-1429	1948	1:00	01-03	H-7759	1948-50	1:20	00-06
H-1430	1948	1:00	01-03	H-7760	1948-50	1:20	00-06
H-1431	1948	1:00	01-03	H-7761	1948-50	1:20	00-06
H-1432	1948	1:00	01-03	H-7762	1948-50	1:20	00-06
H-1433	1948	1:00	01-03	H-7763	1948-50	1:20	00-06
H-1434	1948	1:00	01-03	H-7764	1948-50	1:20	00-06
H-1435	1948	1:00	01-03	H-7765	1948-50	1:20	00-06
H-1436	1948	1:00	01-03	H-7766	1948-50	1:20	00-06
H-1437	1948	1:00	01-03	H-7767	1948-50	1:20	00-06
H-1438	1948	1:00	01-03	H-7768	1948-50	1:20	00-06
H-1439	1948	1:00	01-03	H-7769	1948-50	1:20	00-06
H-1440	1948	1:00	01-03	H-7770	1948-50	1:20	00-06
H-1441	1948	1:00	01-03	H-7771	1948-50	1:20	00-06
H-1442	1948	1:00	01-03	H-7772	1948-50	1:20	00-06
H-1443	1948	1:00	01-03	H-7773	1948-50	1:20	00-06
H-1444	1948	1:00	01-03	H-7774	1948-50	1:20	00-06
H-1445	1948	1:00	01-03	H-7775	1948-50	1:20	00-06
H-1446	1948	1:00	01-03	H-7776	1948-50	1:20	00-06
H-1447	1948	1:00	01-03	H-7777	1948-50	1:20	00-06
H-1448	1948	1:00	01-03	H-7778	1948-50	1:20	00-06
H-1449	1948	1:00	01-03	H-7779	1948-50	1:20	00-06
H-1450	1948	1:00	01-03	H-7780	1948-50	1:20	00-06
H-1451	1948	1:00	01-03	H-7781	1948-50	1:20	00-06
H-1452	1948	1:00	01-03	H-7782	1948-50	1:20	00-06
H-1453	1948	1:00	01-03	H-7783	1948-50	1:20	00-06
H-1454	1948	1:00	01-03	H-7784	1948-50	1:20	00-06
H-1455	1948	1:00	01-03	H-7785	1948-50	1:20	00-06
H-1456	1948	1:00	01-03	H-7786	1948-50	1:20	00-