

Isabel September 18, 2003

Governor Mark Warner described Isabel as “probably the worst storm in a generation.” Isabel not only affected Richmond but nearly the entire state. Gale force winds uprooted trees and knocked out power to much of Virginia. Isabel by number: Fatalities 36, Total damage was \$1.9 billion, homes destroyed 1,124, and homes damaged 9, 027, businesses destroyed or seriously damaged 1477. The Richmond International Airport recorded a wind gust of 74 mph and Richmond received 4.32 inches of rain.

Hurricane Isabel: Isabel turned 100 Virginia localities into disaster areas, and left nearly 80 percent of the state's population without power.

Great Image of Isabel's Eye – Link

<http://glenallenweather.com/alink/09hur/Isabeleye.jpg>

NAT. WEATHER SERVICE WAKEFIELD VA 910 AM EDT OCT 9 2003

...GENERAL INFORMATION...

ISABEL BECAME A TROPICAL STORM ON SEPTEMBER 6...EAST OF THE LEEWARD ISLANDS...STRENGTHENING TO A HURRICANE ON SEPTEMBER 7. ISABEL INCREASED TO A CATEGORY 5 HURRICANE ON SEPTEMBER 11...NORTHEAST OF THE LEEWARD ISLANDS...PEAKING IN STRENGTH ON SEPTEMBER 12...WITH 160 MPH WINDS. ISABEL WEAKENED TO A CATEGORY 2 HURRICANE ON SEPTEMBER 18...WHEN LANDFALL OCCURRED NEAR OCRACOCKE INLET IN NORTH CAROLINA.

STRONG HIGH PRESSURE OVER NEW ENGLAND AND SOUTHEAST CANADA... PREVENTED ISABEL FROM TAKING THE TYPICAL NORTH TO NORTHEAST TRACK THAT PARALLELS THE EAST COAST OF THE UNITED STATES. INSTEAD THE HIGH PRESSURE SYSTEM DEFLECTED ISABEL TO THE NORTHWEST...THROUGH EASTERN NORTH CAROLINA AND CENTRAL VIRGINIA. BY MIDDAY SEPTEMBER 19...ISABEL HAD TRACKED INTO WESTERN PENNSYLVANIA.

THE WIND FIELD OF ISABEL EXPANDED WELL NORTHWARD AS IT TRACKED THROUGH NORTH CAROLINA AND VIRGINIA...DUE TO THE PRESSURE GRADIENT BETWEEN ISABEL AND THE STRONG HIGH PRESSURE TO THE NORTH. SUSTAINED TROPICAL STORM FORCE WINDS...WITH FREQUENT WIND GUSTS APPROACHING AND EXCEEDING HURRICANE FORCE...WERE OBSERVED OVER AN UNUSUALLY EXTENSIVE AREA OF NORTH CAROLINA...VIRGINIA AND MARYLAND.

THE WINDS ALSO CONTRIBUTED TO THE MOST SIGNIFICANT TROPICAL CYCLONE RELATED STORM SURGE ON THE OUTER BANKS OF NORTH CAROLINA...HAMPTON ROADS...AND THE MAIN STEM RIVERS FEEDING INTO THE CHESAPEAKE BAY...SINCE THE 1933 CHESAPEAKE-POTOMAC HURRICANE. IN SOME

CASES...THE STORM SURGE ON THE MAIN STEM RIVERS EXCEEDED THE 1933 STORM SURGE.

HEAVY RAIN CAUSED FLOODING OVER CENTRAL AND SOUTHERN VIRGINIA... CAUSING HIGH WATER ON MANY ROADS UNTIL LATE ON FRIDAY...SEPTEMBER 19.

ISABEL WILL BE REMEMBERED FOR THE GREATEST WIND...AND STORM SURGE IN THE REGION...SINCE HAZEL IN 1954...AND THE 1933 CHESAPEAKE-POTOMAC HURRICANE.

ISABEL WILL ALSO BE REMEMBERED FOR THE MOST EXTENSIVE POWER OUTAGES EVER IN VIRGINIA...AND PERMANENT CHANGE TO THE LANDSCAPE FROM ALL THE FALLEN TREES...AND STORM SURGE.

A. HIGHEST WINDS...ALL WINDS IN MPH AND TIMES IN UTC
ANEMOMETER AT CHESAPEAKE BAY BRIDGE TUNNEL AND CHESAPEAKE LIGHT ARE AT ROUGHLY 90 FEET ABOVE THE WATER.

LOCATION	SUSTAINED WIND	MAX GUST	MAX GUST TIME
DUCK NC (DUCN7)	73	92	1834 UTC
ELIZABETH CITY NC**	59	74	1543 UTC (KECG)
ROANOKE RAPIDS NC**	37	63	2147 UTC (KRZZ)
BAY BRIDGE TUNNEL (CBBT)	61	74	2048 UTC
CHESAPEAKE LIGHT (CHLV2)	72	93	2137 UTC
KIPTOPEKE VA	45	68	2218 UTC
LANGLEY AFB VA	53	76	1808 UTC (KLFI)
LEWISSETTA VA	53	68	2300 UTC
NEWPORT NEWS INTL ARPT**	44	65	1756 UTC (KPHF)
NORFOLK INTL AIRPORT VA**	47	74	2049 UTC (KORF)
NORFOLK NAVAL STATION	58	83	2110 UTC (KNGU)
OCEANA NAVAL STATION	55	69	2056 UTC (KNTU)
RICHMOND INTL ARPT	38	73	0013 UTC (KRIC)
WALLOPS ISLAND VA	50	62	1747 UTC (KWAL)
GLOUCESTER PT VA (VIMS)	69	91	2200-2300 UTC
CAMBRIDGE MD	45	57	2055 UTC
OCEAN CITY MD	41	53	2252 UTC (KOBX)
SALISBURY MD	37	51	2009 UTC (KSBY)

** - OBSERVATIONS AT THESE LOCATIONS ARE BASED UPON ALL AVAILABLE DATA...AS THESE LOCATIONS LOST POWER AND WERE POTENTIALLY UNAVAILABLE WHEN THE HIGHEST WIND GUSTS OCCURRED.

OTHER WIND GUSTS (ONLY GUSTS AVAILABLE)
ANEMOMETERS AT MOST OF THESE LOCATIONS ARE NOT AT THE STANDARD 33 FOOT LEVEL. ANEMOMETERS AT HAMPTON AND GWYNNS ISLAND ARE AT THE TOP OF BUILDINGS...POSSIBLY ABOVE THE STANDARD 33 FOOT LEVEL.

LOCATION	GUST SPEED	TIME OF GUST
ELIZABETH CITY NC (FROM CLEMSON UNIV. OBS. SITE IN ELIZ. CITY)	97 MPH	1900-2000 UTC
HAMPTON VA (SPOTTER) (SUSTAINED 67 MPH)	92 MPH	2130 UTC
RICHMOND VA (WWBT-TV)	63 MPH	UNKNOWN
PORTSMOUTH VA (SPOTTER)	55 MPH	1944 UTC
CHASE CITY VA (SPOTTER)	53 MPH	2010 UTC
RICHMOND COUNTY VA (SPOTTER)	65 MPH (ESTD)	UNKNOWN

(SUSTAINED 48 MPH)

SMITH ISLAND VA	83 MPH	UNKNOWN
CHINCOTEAGUE VA (USCG STATION)	71 MPH	
ONLEY VA (ACCOMACK CO.)	62 MPH	
PARKSLEY VA (ACCOMACK CO.)	65 MPH	
FIVE FORKS VA (JAMES CITY CO.)	80 MPH	
REEDVILLE VA (MIDDLESEX CO.)	100 MPH	
GWYNNS ISLAND VA (MATHEWS CO.)	107 MPH	0042 9/19
HURLOCK MD (DORCHESTER CO.)	62 MPH	

B. PRESSURE DATA...ALL TIMES IN UTC (SUBTRACT 4 HOURS FOR EDT)

NORFOLK VA (ORF)	2151 9/18	29.24 INCHES
OCEANA NAVAL STATION (NTU)	2056 9/18	29.26 INCHES
NEWPORT NEWS VA (PHF)	2237 9/18	29.24 INCHES
HAMPTON VA (LFI)	2348 9/18	29.29 INCHES
WALLOPS ISLAND VA (WAL)	0012 9/19	29.62 INCHES
OCEAN CITY MD (OXB)	2257 9/18	29.71 INCHES
SALISBURY MD (SBY)	0331 9/19	29.68 INCHES
DUCK NC (DUCN7)	1900 9/18	29.06 INCHES
ARROWHEAD BEACH NC (NEAR EDENTON)***	2030 9/18	28.26 INCHES
CHESAPEAKE LIGHT (CHLV2)	2100 9/18	29.26 INCHES
FALSE CAPE (44014)	1900 9/18	29.41 INCHES
DELAWARE BAY BUOY (44009)	0000 9/19	29.74 INCHES
PORTSMOUTH VA	2225 9/18	29.15 INCHES
CHESAPEAKE BAY BRIDGE TUNNEL VA	2154 9/18	29.29 INCHES

***DENOTES LOWEST PRESSURE OBSERVATION REPORTED TO NWS WAKEFIELD. THIS OBSERVATION WAS TAKEN WITH UNOFFICIAL EQUIPMENT AND MAY BE SLIGHTLY LOW.

C. RAINFALL...STORM TOTALS IN INCHES

LOCATION (COUNTY OR SITE ID)	AMOUNT (INCHES)
AMELIA VA (AMELIA)	5.50
ASHLAND VA (HANOVER)	5.20
BLACKSTONE VA (NOTTOWAY)	7.00
BOWLING GREEN VA (CAROLINE)	4.22
BUMPASS VA (LOUISA)	5.45
CARSON VA (DINWIDDIE)	6.20
CARTERSVILLE VA (GOOCHLAND)	4.91
CHARLES CITY VA	4.90
CHESTER VA (CHESTERFIELD)	5.50
CHESTERFIELD VA (CHESTERFIELD)	5.80
CHINCOTEAGUE VA	1.50
CREWE VA (NOTTOWAY)	5.10
EMPORIA VA (DOWNTOWN)	6.41