The National WWII Museum
D-Day *Virtual Field Trip* videoconference

TEACHER GUIDE

Before your Virtual Field Trip

1. To better prepare your students for their National WWII Museum virtual field trip, please share with them the enclosed D-Day Fact Sheet, Word Search, and Vocabulary List.

2. Print out the handouts on **pages 7-11**— D-Day Decision-Making Matrix, Northwestern Europe map, Sunlight and Moonlight Table, and Letter to the Allied Expeditionary Force (they do not have to be printed in color, but they look better that way). Make separate copies for each student or set of students.

3. Distribute copies of the handouts to each group ***before the Virtual Field Trip starts***.

4. For Virtual Field Trips over 1 hour, please download **Artifact Images** and make copies each group.

5. Make a **Test Call** to The National WWII Museum at least one day before your Virtual Field Trip. E-mail virtualclassroom@nationalww2museum.org to arrange your test call.

On the day of your Virtual Field Trip

1. After handing out the **D-Day Maps**, dial The National WWII Museum's IP address: **72.158.213.42**

2. If there is a loss of connection during the video-conference, hang up and try to re-dial. The telephone number in the Museum's distance learning studio is **504-527-6012, x 351.**

3. The Museum educator will greet your students and conduct the session. Students will be asked to participate by raising their hands. You may be asked to select students to answer certain questions or perform certain activities. You will be called upon to distribute hand-outs at the appropriate time. You are required to remain in the room during the entire video-conference.

After your Virtual Field Trip

1. Divide your class into four groups and distribute copies of the **D-Day Documents**. The hand-outs are numbered into 4 groups. Each group will get a different set of documents. Give each group a few minutes to review their documents and then have each group report on what they have and what the strengths and weaknesses of their documents are in researching D-Day. This exercise should show them that the wider the variety of sources, the more complete the picture.

2. A list of other post-visit activities is attached.

3. The Museum will email you a simple evaluation form to fill out and email back.

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LEARNING OUTCOMES

The National WWII Museum in New Orleans has created this Virtual Field Trip video-conference to introduce students to the history and lessons of D-Day and World War II. By participating in this Virtual Field Trip, students will:

- **Learn the following vocabulary:**
  - Normandy
  - D-Day
  - Amphibious
  - Landing craft
  - Allies
  - Axis
  - Nazi
  - Andrew Higgins
  - Dwight Eisenhower
  - Erwin Rommel
  - Adolf Hitler

- **Gain familiarity with the following geographic locations:**
  - Great Britain
  - France
  - Normandy
  - Germany
  - New Orleans

- **Explore WWII artifacts, gaining insight into history through object-based inquiry**

- **Read primary documents related to D-Day and:**
  - Determine whether a document is a primary or secondary source
  - Analyze the contents of documents
  - Compare and contrast different type of documents
  - Evaluate the strengths and weaknesses of different type of documents for historical research
  - Discuss and determine ways of further analyzing documents

- **Gain an appreciation through historical example for the value of teamwork**

- **Gain a knowledge of several career opportunities related to the study of history, including:**
  - Museum curator
  - Museum educator
  - Historical researcher

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A Brief History of D-Day

Since Nazi Germany forced the Allies out of France to Great Britain in the spring of 1940, the Allies had begun planning a cross-Channel assault to retake the continent and defeat Hitler's Third Reich. By the spring of 1944 an elaborate plan—code-named Operation *Overlord*—was secretly in place to launch the attack. The Allies, led by American General Dwight Eisenhower, faced an enemy determined to keep them from landing successfully anywhere along the western European coastline. To ensure against such a landing, Hitler ordered Field Marshal Erwin Rommel to complete the Atlantic Wall—a 2,400-mile fortification made up of concrete bunkers, barbed wire, tank ditches, landmines, fixed gun emplacements, and beach and underwater obstacles. Many of these obstacles were specially designed to rip out the bottoms of landing craft or blow them up before they reached the shore. Others were made to trap soldiers on the beach where they would be exposed to intense gunfire from fortified positions.



On the eve of June 5, 1944, 175,000 men, a fleet of 5,000 ships and landing craft, 50,000 vehicles, and 11,000 planes sat in southern England, poised to attack secretly across the English Channel along a 50-mile stretch of the Normandy coast of France. This force, one of the largest armadas in history, represented years of rigorous training, planning, and supplying. It also represented a previously unknown level of cooperation between Allied nations, all struggling for a common goal—the defeat of Nazi Germany. Because of highly intricate deception plans, Hitler and most of his staff believed that the Allies would be attacking at the Pas-de-Calais, the narrowest point between Great Britain and France.

In the early morning darkness of June 6, thousands of Allied paratroopers and glider troops landed silently behind enemy lines, securing key roads and bridges on the flanks of the invasion zone. As dawn lit the Normandy coastline the Allies began their amphibious landings, traveling to the beaches in small landing craft lowered from the decks of larger ships anchored in the Channel. They assaulted five beaches, code-named *Utah, Omaha, Gold, Juno,* and *Sword.* The bloodiest fighting occurred at *Omaha*, where the Americans suffered more than 2,000 casualties. By nightfall nearly all the Allied soldiers were ashore at a cost of 10,000 American, British, and Canadian casualties. Hitler's vaunted Atlantic Wall had been breached in less than one day. The beaches were secure, but it would take many weeks before the Allies could fight their way out of the heavily defended Normandy countryside and almost a full year to reach and defeat Germany in the spring of 1945.

Operation *Overlord* was not just another great battle, but the true turning point of WWII in Western Europe. While the US and Great Britain had earlier engaged the Axis powers on the periphery of the Europe (North Africa, Sicily, Italy), it was not until the invasion at Normandy that they brought on the beginning of the end for Hitler and his Nazis. Had the invasion failed *(Eisenhower was prepared to read a statement over the radio taking full responsibility if Allied troops were repulsed from the beaches)*, Hitler would have been able to pull troops out of France to strengthen his Eastern Front against the encroaching Soviet Union. A second Allied invasion into France would have taken more than a year to plan, supply, and assemble. Hitler, meanwhile, would have further strengthened his Atlantic Wall, his newly developed V-1 flying bombs would have continued to rain down on England from launching pads across the Channel, and the Nazis' *Final Solution* against European Jews might well have succeeded completely.

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The D-Day Invasion of Normandy

U W W F G K V N Y B N Y C H P

V T N D O M F N W A E T Q T P

M E A Y L I J Q G R O C H U N

W X V H D U L X P R N I F O N

O Q E B N Y R P I A G R B M C

S B Y O D L N G N G P M L S S

R E W O H N E S I E V O E T X

E K X N L A B N G B A I Y R Q

G E H I H L S O M A I Z X O N

N Q T A S B H K G L R E E P D

A Y M O O E B M U L B E R R Y

R O W A G A N S N O O V I N C

I M T D J R M U S O R B W G P

A O E S W O R D J N N T L O V

R H Y D N A M R O N E U P X C

Airborne	Barrage Balloon	Eisenhower
Gold	Hedgehog	Higgins Boat
June Six	Juno	Mulberry
Normandy	Omaha	Portsmouth
Rangers	Sword	Utah

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Normandy D-Day Vocabulary

Airborne: American and British paratroopers (soldiers who dropped from planes and parachuted onto the battlefield) who entered Normandy on D-Day

Barrage Balloons: huge helium-filled balloons anchored to ships by thick cables, which were used to discourage German dive-bombers and low-level attacks on the Allied armada

Eisenhower: American general and Supreme Commander of the Allied forces on D-Day

Gold Beach: the Allies' code name for the Normandy beach where the British 50th Infantry Division landed on D-Day

Hedgehog: one of an assortment of beach obstacles the Germans hoped would slow down or stop an amphibious Allied invasion of Western Europe

Higgins Boat: boats designed and manufactured in New Orleans that delivered American soldiers to the beaches of Normandy and other enemy beaches around the world during WWII

June Six: the invasion of Normandy, France, took place on D-Day, June 6, 1944

Juno Beach: the Allies' code name for the Normandy beach where the Canadian 3rd Infantry Division landed on D-Day

Mulberry: artificial harbors installed by the Allies along the Normandy coastline soon after the D-Day invasion. These harbors were used for unloading supplies and troops for the fighting in France.

Normandy: area in northwestern France that the Allies (Americans, British, and Canadians) invaded on D-Day, June 6, 1944, to help defeat Nazi Germany

Omaha: the Allies' code name for the Normandy beach where the American 1st and 29th Infantry Divisions landed on D-Day

Portsmouth: British port-city where many of the ships in the Allied armada embarked for the D-Day invasion

Rangers: specially trained US assault forces used on D-Day and throughout the war

Sword: the Allies' code name for the Normandy beach where the British 3rd Infantry Division landed on D-Day

Utah: the Allies' code name for the Normandy beach where the American 4th Infantry Division landed on D-Day

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POST-VIDEOCONFERENCE ACTIVITIES

To re-enforce the lessons learned during your Virtual Field Trip, do one or more of the following activities with your class:

1. Invite a local WWII veteran to address your class. Have students research his participation in the war and prepare questions ahead of time.

2. Have students conduct research and prepare reports one of the following D-Day topics:
    - The deception effort
    - Enigma
    - SHAEF
    - Mulberry Harbors
    - PLUTO
    - Utah, Omaha, Juno, Gold, or Sword Beach
    - Higgins boats
    - Eisenhower
    - Rommel
    - The Atlantic Wall
    - The French Resistance
    - The Airborne Operation

3. Using a large roll of paper, create an illustrated timeline of D-Day. The timeline can stretch from the initial planning stages for D-Day to the end of the battle for Normandy or can concentrate solely on the details of June 6, 1944. Students can produce their own drawings or print out appropriate images from the Internet.

4. D-Day is considered to be one of the crucial turning pint battles in World War II. Have students research and report on one of the other turning points of WWII: Stalingrad, Midway, or El Alamein.

5. The Allied success on D-Day represented a level of teamwork never before accomplished between nations, political leaders, military leaders, and fighting men on the battlefield. Hold a class discussion about teamwork in your students' lives. How important is it? Do they value teamwork? How do they experience teamwork and how can they become agents of teamwork?

For Further Information:

The National World War II Museum has an excellent website with an abundance of information and activities available to teachers and students. Please let your students know about our website and provide them with the web address:

www.nationalww2museum.org

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TOP SECRET

Supreme Headquarters, Allied Expeditionary Forces

OPERATION OVERLORD
Decision-Making Matrix

	ISSUE #1: Where to Invade		
Vote		**Pros**	**Cons**
	#1 Due east through Holland		
	#2 Across the Pas de Calais		
	#3 Due south to Normandy		
	#4 Southwest to the coast of Brittany		

	ISSUE #2: When to Invade/Tides		
Vote		**Pros**	**Cons**
	Low Tide		
	High Tide		

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TOP SECRET

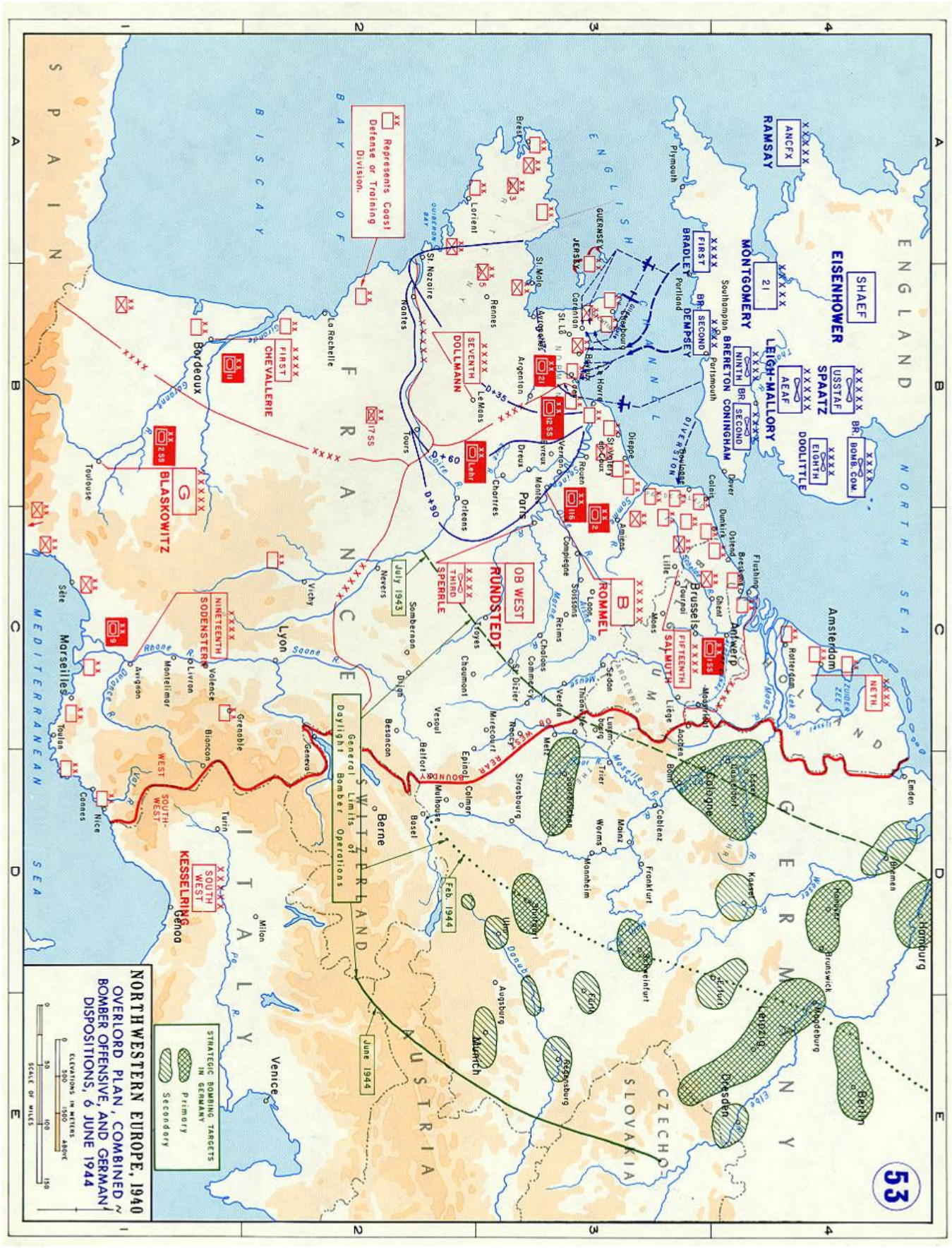
Supreme Headquarters, Allied Expeditionary Forces

OPERATION OVERLORD
Decision-Making Matrix

	ISSUE #3: When to Invade/Airborne		
Vote		**Pros**	**Cons**
	With Moonlight		
	Without Moonlight		

ISSUE #4: When to Invade/Date
List the three best dates for the invasion:

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NORTHWESTERN EUROPE, 1940
OVERLORD PLAN, COMBINED ~ BOMBER OFFENSIVE, AND GERMAN ~ DISPOSITIONS, 6 JUNE 1944
53
ENGLAND
NORTH SEA
ENGLISH CHANNEL
FRANCE
BELGIUM
GERMANY
SWITZERLAND
AUSTRIA
ITALY
SPAIN
BAY OF BISCAY
MEDITERRANEAN SEA
SHAEF
EISENHOWER
ANCFX
RAMSAY
21
MONTGOMERY
USSTAF
SPAATZ
AEAF
LEIGH-MALLORY
FIRST
BRADLEY
Portland
BR SECOND
DEMPSEY
Portsmouth
NINTH
BRERETON
BR SECOND
CONINGHAM
EIGHTH
DOOLITTLE
BOMB. COM
OB WEST
RUNDSTEDT
ROMMEL
B
DOLLMANN
SEVENTH
THIRD
SPERRLE
FIFTEENTH
SALMUTH
FIRST
CHEVALLERIE
BLASKOWITZ
G
NINETEENTH
SODENSTERN
SOUTH WEST
KESSELRING
NETH
Represents Coast Defense or Training Division.
Paris
Amsterdam
Rotterdam
Brussels
Antwerp
Berlin
Hamburg
Munich
Frankfurt
Cologne
Berne
Lyon
Marseilles
Bordeaux
Toulouse
Nice
Genoa
Venice
Normandy
Dover
Calais
Dunkirk
Ostend
Le Havre
Cherbourg
Caen
Falaise
Argentan
Le Mans
Tours
Orleans
Dreux
Rouen
Amiens
Lille
Metz
Strasbourg
Nancy
Dijon
Lyon
Vichy
Grenoble
Toulon
Cannes
Montpellier
Avignon
Nantes
St Nazaire
Lorient
Brest
La Rochelle
Rennes
St Malo
Guernsey
Jersey
Plymouth
Southampton
Portsmouth
Dover
Calais
Boulogne
Dieppe

SUNLIGHT AND MOONLIGHT TABLE

MAY 25 TO JUNE 21, 1944

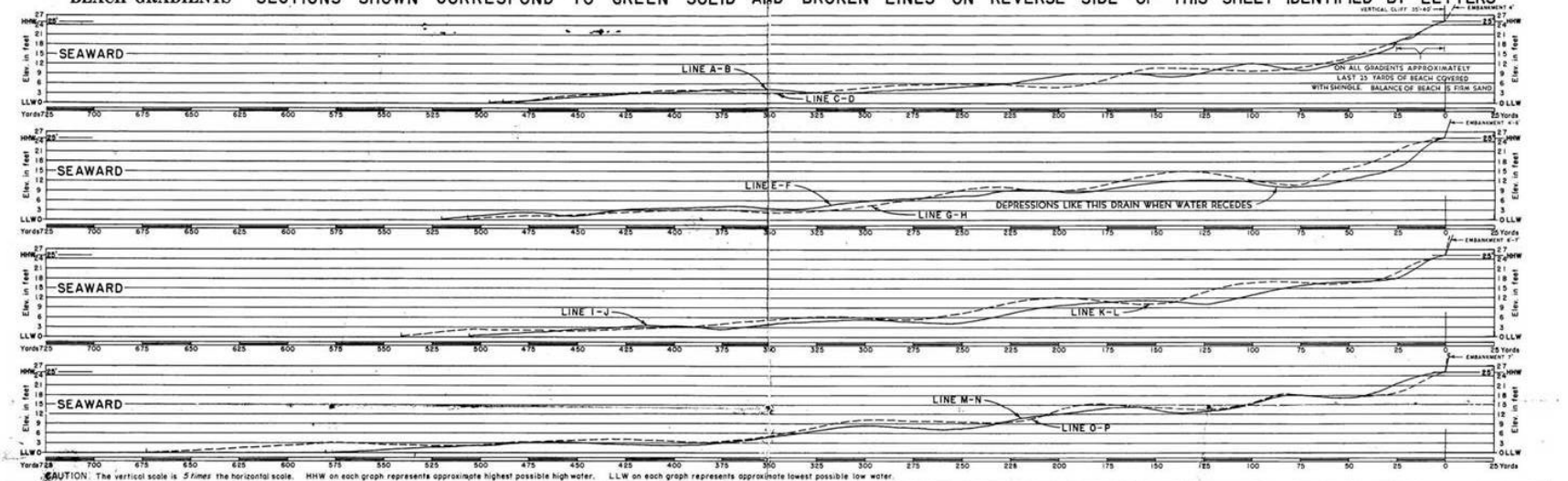
ALL TIMES SHOWN ARE MST (GMT PLUS 2 HOURS)

FIRST LIGHT and LAST LIGHT are here defined as the beginning and ending respectively of Civil Twilight (Sun 6° below the horizon).

DAY OF MONTH	MAY 25	26	27	28	29	30	31	JUNE 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
FIRST LIGHT	0528	0527	0526	0525	0524	0523	0522	0521	0520	0519	0518	0517	0516	0516	0516	0515	0514	0514	0514	0513	0513	0513	0512	0512	0512	0512	0512	0513
SUNRISE	0608	0607	0606	0605	0604	0604	0603	0602	0601	0601	0600	0559	0558	0558	0558	0557	0557	0557	0557	0557	0557	0556	0556	0556	0557	0557	0557	0557
SUNSET	2154	2155	2156	2157	2159	2200	2201	2202	2203	2204	2205	2206	2207	2208	2208	2209	2210	2210	2211	2211	2212	2212	2212	2213	2213	2214	2214	2214
LAST LIGHT	2234	2235	2237	2238	2239	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2255	2256	2256	2256	2257	2257	2257	2258
MOONRISE	*0853*	*0948*	*1048*	*1150*	*1252*	*1356*	*1459*	*1603*	*1708*	*1815*	*1924*	*2033*	*2144*	2250	2351		0043	0126	0202	0232	0258	0324	0349	0415	0444	*0517*	*0556*	*0642*
MOONSET	0011	0102	0145	0220	0250	0315	0337	0359	0419	0441	0504	*0531*	*0604*	*0643*	*0742*	*0831*	*0940*	*1054*	*1211*	*1329*	*1445*	*1602*	*1715*	*1832*	*1945*	*2054*	*2158*	*2254*
PHASE OF MOON	)	)	)	)	)	LAST QTR	)	)	)	)	)	●	●	●	●	●	●	●	●	●	(	(	(	(	(	(	(	NEW MOON

Moonrise and Moonset figures in *italic* indicate that moonrise and/or moonset occur during daylight, i.e., between First Light and Last Light.

BEACH GRADIENTS SECTIONS SHOWN CORRESPOND TO GREEN SOLID AND BROKEN LINES ON REVERSE SIDE OF THIS SHEET IDENTIFIED BY LETTERS



CAUTION: The vertical scale is *5 times* the horizontal scale. HHW on each graph represents approximate highest possible high water. LLW on each graph represents approximate lowest possible low water.

CURRENTS

The currents in this region are complex and their detailed behavior little known. In general, they flow eastward along the shore as the tide rises, reach a maximum about half tide, become slack during high water stand and then reverse, flowing westward as the tide falls, again reaching a maximum at about half tide and becoming slack near the time of low water. Maximum currents are experienced during spring tides and minimum currents, during neap tides. Maximum currents attain velocities of about 2.7 knots at a distance of five miles offshore and decrease as they approach the shore, becoming about 2.2 knots at a distance of one mile offshore. The currents slack and reverse directions somewhat sooner near the shore than to seaward. Closer inshore than one mile, the current directions become more confused as the depths decrease, but in general, the velocities also decrease, and it is reasonable to assume that they become insignificant at the proposed grounding points. The following table of currents has been compiled from all the available information. The listed values have been estimated from measured values at other points along the coast, and so should be treated as estimates only. Strong and persistent winds may cause considerable departure from the average values shown in the table.

ESTIMATED INSHORE CURRENTS

Use with caution

Time Referred to the end of High Water Stand (see tide curves)	Set	5 Miles Out Drift Kts. During Spring Tides	5 Miles Out Drift Kts. During Neap Tides	Set	3½ Miles Out Drift Kts. During Spring Tides	3½ Miles Out Drift Kts. During Neap Tides	Set	1 Mile Out Drift Kts. During Spring Tides	1 Mile Out Drift Kts. During Neap Tides
5 hours before	E	0.3	0.1	E	0.3	0.3	E	0.7	0.4
4 hours before	E	1.0	1.1	E	2.1	1.3	E	1.4	1.1
3 hours before	E	3.7	1.6	E	2.3	1.3	E	2.3	1.3
2 hours before	E	3.6	1.5	E	2.2	1.5	E	2.0	1.1
1 hour before	E	1.6	0.9	E	1.1	0.6	E	0.7	0.4
End of high water stand	W	0.1	0.1	W	0.3	0.1	W	0.3	0.2
1 hour after	W	0.7	0.4	W	0.3	0.1	W	0.3	0.2
2 hours after	W	2.7	1.6	W	2.5	1.5	W	2.0	1.2
3 hours after	W	3.7	1.6	W	2.5	1.5	W	2.0	1.2
4 hours after	W	3.5	1.5	W	2.3	1.5	W	2.0	1.2
5 hours after	W	1.3	0.8	W	1.0	0.6	W	1.0	0.6
6 hours after	W	0.2	0.1	W	Slack	0	E	0.3	0.1

Example of the Use of the Current Table

Suppose that it is desired to determine the inshore currents at 0600 MST on 15 June.

From the tidal curves below, it is seen that 15 June lies about one third between spring and neap tides, the last spring tide having occurred on 8 June and the next neap tide being expected on 24 June; the end of high water stand on 10 June is seen to be 0225 MST. Since 0600 is 3 hours and 35 minutes after the end of high water stand, the current table is entered with this value, and the probable currents found to be between 2.0 and 2.3 knots at five miles offshore, between 1.3 and 1.5 knots at two and one half miles offshore, between 1.0 and 1.1 knots at one mile offshore. Closer inshore, the currents are probably less than 1.0 knot. These values are for a time 1½ days from the last spring tide. If this is done, the most probable values of 2.2 knots, 1.4 knots, and 1.4 knots, are found for five miles, two and one half miles and one mile offshore, respectively.

TIDAL STAGES

ALL TIMES SHOWN ARE M.S.T. (G.M.T. PLUS 2 HOURS)

The accompanying tidal curves show the height of the water at any time above the approximate level of lowest low water. Soundings are shown on the chart in plain brown figures (not circled) and they represent depths measured at lowest low water. To find the depth at those points at any time:

(1) Find the height of the tide in feet at the time in question, from the tidal curve.

(2) ADD the sounding figure to height of the tide. The sum gives the depth of water in feet at the time and place in question.

FOR EXAMPLE: At 1000 on June 9th the height of tide is 13 ft. The sounding figure at the point we select is 15 ft.; 15 ft. plus 13 ft. equals 28 ft. depth.

The circled brown figures in the water area between the high high and low low water marks represent points which are sometimes above water. These figures give the height of the beach in feet above the approximate level of lowest low water. To find the depth of water at any time over these points, proceed as follows:

(1) Find the height of the tide in feet at the time in question from the tidal curve.

(2) SUBTRACT the circled brown figure from the height of tide. The result is the depth of water in feet at the time and place in question. If the circled brown figure is greater than the height of the tide and cannot be subtracted, it means that the point will be above water at this time.

FOR EXAMPLE: At 0130 on June 21st the height of tide is 20.5 ft. The beach height figure at the point we select is 9 ft.; 20.5 ft. minus 9 ft. equals 11.5 depth.

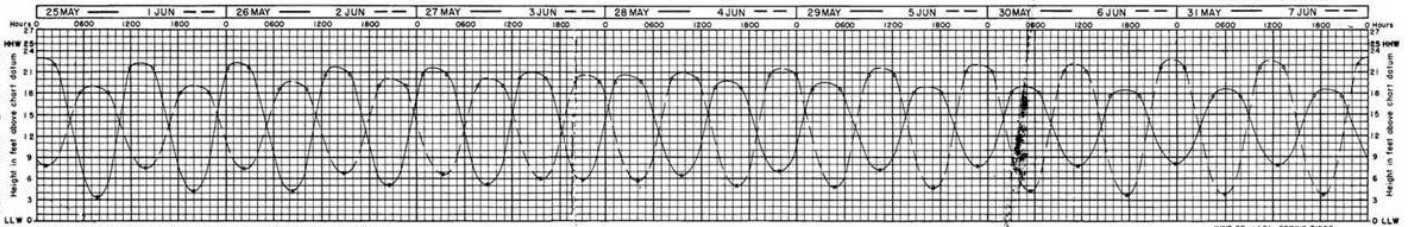
The soundings on the high water fathom lines (figures in blue on chart) should not be used to compute spot depths. The high water fathom lines are shown on the chart merely to give an idea of the underwater beach contours between the high high water and low low water marks.

WARNING ON TIDAL, SOUNDING AND BEACH CONTOUR FIGURES

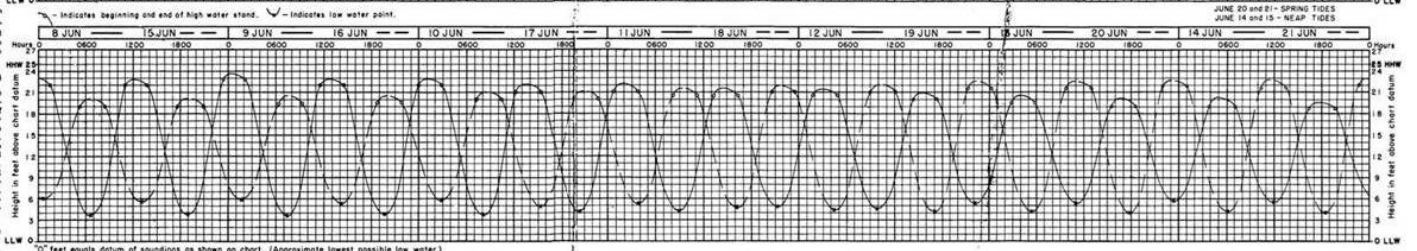
Any tidal, sounding and beach contour figures, even for familiar home waters, are only approximate. The combined influence of wind and atmospheric pressure alone may cause variations from the predicted heights of high water and low water, amounting to as much as 2½ feet. For enemy waters these figures are likely to be even more subject to error due to difficulties of obtaining recent accurate tidal and sounding information. Beach Gradients based on such sounding figures may also be subject to inaccuracies. Tides may form grooves and ridges in the sand parallel and perpendicular to the beach which will not show on navigation charts. THEREFORE, USE ALL TIDAL, SOUNDING AND BEACH CONTOUR FIGURES WITH EXTREME CAUTION. ALWAYS ALLOW A SUFFICIENT SAFETY FACTOR BY FIGURING THE WATER MAY BE A FEW FEET SHALLOWER THAN CALCULATED. WHEN NAVIGATING NEAR ROCKS OR SANDBARS ALLOW AN ADDITIONAL SAFETY FACTOR.

IMPORTANT: All soundings on chart and all readings on graphs are in FEET.

MAY 30 and 31 – NEAP TIDES
JUNE 7 and 8 – SPRING TIDES



JUNE 20 and 21 – SPRING TIDES
JUNE 14 and 15 – NEAP TIDES



6 June 1944 - D - Day
In honor of my uncles
of the 116th F.A., 29th. Inf. Div.
T/5 Harry F. Green,
Col. David Green

Tim Roop
P.O. Box 2602
Ocean City, MD. 21842

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SUPREME HEADQUARTERS
ALLIED EXPEDITIONARY FORCE



Soldiers, Sailors and Airmen of the Allied Expeditionary Force!

You are about to embark upon the Great Crusade, toward which we have striven these many months. The eyes of the world are upon you. The hopes and prayers of liberty-loving people everywhere march with you. In company with our brave Allies and brothers-in-arms on other Fronts, you will bring about the destruction of the German war machine, the elimination of Nazi tyranny over the oppressed peoples of Europe, and security for ourselves in a free world.

Your task will not be an easy one. Your enemy is well trained, well equipped and battle-hardened. He will fight savagely.

But this is the year 1944! Much has happened since the Nazi triumphs of 1940-41. The United Nations have inflicted upon the Germans great defeats, in open battle, man-to-man. Our air offensive has seriously reduced their strength in the air and their capacity to wage war on the ground. Our Home Fronts have given us an overwhelming superiority in weapons and munitions of war, and placed at our disposal great reserves of trained fighting men. The tide has turned! The free men of the world are marching together to Victory!

I have full confidence in your courage, devotion to duty and skill in battle. We will accept nothing less than full Victory!

Good Luck! And let us all beseech the blessing of Almighty God upon this great and noble undertaking.

Dwight D. Eisenhower

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