Tides and Typhoons: Weather Obstacles at the Inchon Landing
Have you ever made a plan to go outside to play, take a walk, or meet with friends only to have something you cannot control force you to change your plans? Maybe bad weather rolled in, your friends were not ready, or the trail you hoped to hike had a downed tree blocking it. What did you do?

From a plan to go for a walk, to the plans for a significant military operation, decisions must be made based on changing circumstances. Through this packet, you will learn about how the environment can affect military planning and procedures by analyzing the landing of United Nations Troops at Inchon Harbor Korea, September 15, 1950.

Background:

In June 1950, the United Nations ordered military sanctions against Communist North Korea as they became increasingly violent towards South Korea. By July of the same year, the United States sent troops to aid in the prosecution of those sanctions. As the fighting began to escalate, the North Koreans pushed United Nations forces a line just outside Pusan, in the southeast corner of the peninsula. General Douglas MacArthur and his staff formulated a daring plan to surprise North Korean forces, and secure an important logistical hub on the west coast of Korea. The idea was to land an amphibious force at the port of Inchon. By landing at Inchon, far in the rear of the main combat area, North Korean troops would be surprised. With the element of surprise on the side of the U.N., the landing forces would face less resistance from the enemy. Less resistance allowed them to move forward to the supply centers and other objectives they hoped to capture.

Tides:

Enemy troops were only one of the forces that the U.N. landing force needed to consider. The port of Inchon was famous for extreme tides. What are tides? According to the National Oceanic and Atmospheric Administration (NOAA), tides are large waves moving through the ocean due to forces from the Sun and Moon. These waves move to the coast, where they appear as a rise or fall in the sea’s surface. The chief of planning for the landing U.S. Navy Rear Admiral James Doyle had to contend with a water-level that fluctuated 30 feet during September at Inchon.
Activity #1

Where can you find information on tides?

Rear Admiral Doyle and his staff needed to read tide tables to determine the best time to land on the day of the landing - September 15, 1950. You can also find information on tides to help your next trip out on the water!

What you need:
- Device with internet access
- Writing utensil

Imagine your family is going out on a boat trip. Your job is to find out when and what high and low tides are. Where do you find it? One resource is the NOAA website. To start this activity, go to the web address below.

https://tidesandcurrents.noaa.gov/

You will see a map that has some states highlighted in yellow. Click on a state to select a zoomed-in map of the area. You should see pins around the map. Click on one of the pins that have two colors (Water level and Met). Use the information you find to fill out the chart below.

<table>
<thead>
<tr>
<th>Time</th>
<th>Tide</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td></td>
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<tr>
<td></td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
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<tr>
<td></td>
<td>Low</td>
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</tbody>
</table>

Which tide is better for landing your boat close to shore?

What is the difference in feet between high tide and low tide for this region?

Weather

We have all been there before. You go outside with plans only to have a sudden storm appear, washing out our activity. What do you do to prevent that? Rear Admiral Doyle and other commanders had meteorologists on hand to help predict weather patterns. With only a three-day window to land at Inchon due to tide concerns, troops and materials’ movement to the landing area had a strict schedule to maintain. In September 1950, two Category 3 typhoons formed.

What is a typhoon?

According to NOAA, a typhoon is a tropical cyclone with an organized system of rotating clouds and thunderstorms forming in tropical or subtropical waters. Typhoons are divided into categories based on wind speed.

<table>
<thead>
<tr>
<th>Category</th>
<th>Windspeed (in miles per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>74-95</td>
</tr>
<tr>
<td>2</td>
<td>96-110</td>
</tr>
<tr>
<td>3</td>
<td>111-130</td>
</tr>
<tr>
<td>4</td>
<td>131-155</td>
</tr>
<tr>
<td>5</td>
<td>156+</td>
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</tbody>
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Modern satellite image of a typhoon near Korea
U.S. Navy weather planes gave three days’ notice that both storms were to hit southern Japan, where the task force was preparing. The Sailors hurried their pace, and the task force left Japan soon after to avoid damage to their ships. The task force faced extremely rough seas on their way but managed to survive and proceed to Inchon in time for the landing.

Activity #2

What you need:
- A container with approximately one gallon of water (like a bucket)
- Paperclip
- String
- Spoon

How to do this

1. Attach the string to the end of your paperclip
2. Have someone stir the water with the spoon until the water is spinning
3. Holding onto the string, lower your paperclip into the water without touching the bottom in three different places. The center of the “typhoon”, the edge and in between the center and the edge.

Conclusion:
The landing at Inchon on September 15, 1950, was a success. Leadership adapted to the tricky tides and unforeseen weather issues to complete a challenging but rewarding operation that turned the flow of the Korean War.
Contact the National Museum of the U.S. Navy for Field Trip and School Visit opportunities!

Visit the museum webpage at www.history.navy.mil