Photocopy this page and cut out the cards along the lines.

Problem 1
You are driving from St. Louis, MO to Boise, ID, and need to know what the weather is likely to be along the way.

Problem 2
You are travelling through the midwest and want to see whether severe weather is expected during the next three days.

Problem 3
You just heard on the radio that an earthquake has been reported off the coast of Peru with a magnitude of 6.6 on the Richter scale. Is this likely to cause a tsunami on the U.S. Pacific coast?

Problem 4
Every day, hundreds of private and commercial aircraft are in the air over the United States. How can pilots check on weather conditions that may affect the safety of their flights?

Problem 5
More than 90 percent of the goods imported into the United States arrive via the oceans. How can ship captains obtain information to help them avoid dangerous sea conditions?

Problem 6
Over 77 million Americans enjoy recreational boating. How can these boaters keep track of weather that may affect them?

Problem 7
You just felt the earth shake! How can you find out if this is a minor tremor or a serious emergency?

Problem 8
A railroad tank car is leaking chlorine gas. What system is in place to provide emergency information to the public?

Problem 9
Intense bursts of electromagnetic radiation from the sun called “solar flares” can disrupt cell phones and GPS systems. Is there any way to predict when solar flares may happen?

Problem 10
Lightning is the second most frequent cause of weather-related deaths in the United States (floods are number one). How can you find out about lightning safety?

Problem 11
You are planning a boat trip through the Florida Keys. Where can you find out about nautical charts and other boating information for this area?

Problem 12
You are planning a SCUBA diving trip to photograph coral reefs with some friends, and want to be sure everyone knows how to plan dives and what to do in case of emergencies. Who has this information?

Problem 13
You live near a marina, and are concerned about what should be done in case of an oil spill. Where can you get this information?

Problem 14
You live near a salt marsh that used to be used as a local dump for construction debris. Now you and your friends would like to clean it up and restore it as a wildlife habitat. Who knows how to do this?

Problem 15
A ship captain entering Chesapeake Bay needs up-to-the-minute information on currents, tides, and water levels to be sure he can navigate beneath several bridges. Where can he get this information?
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<tr>
<td>You are looking for a poster that shows all of Earth's mountains and valleys, including those in the ocean. Where could you look?</td>
<td>You are doing a report on coral reefs, and need some great pictures of reef animals. Where can you find them?</td>
<td>Our nation's coasts are being developed at a rapid rate. What can be done to protect special coastal areas that contain unusual marine life and important historical resources like shipwrecks?</td>
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<tr>
<td>The deep ocean contains new species that may provide solutions to problems such as energy and human disease. Yet, most oceans are still unexplored. What organization is dedicated to ocean exploration?</td>
<td>In the days following Hurricane Sandy, rescuers desperately needed before-and-after aerial images that covered coastal areas affected by the storm. Who has these kinds of images?</td>
<td>Man Overboard! A sailor has fallen overboard, but no one noticed when the accident happened. The Coast Guard has been called, but how can they find him in hundreds of square miles of ocean?</td>
<td>You have just found an injured whale that seems to be stuck in shallow water. Who can you call?</td>
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<td>More people want to eat seafood, but overfishing is a serious problem and over 70% of our seafood is imported. How can we increase our domestic seafood supply and still protect our seafood resources?</td>
<td>Many marine turtles are threatened by accidental capture and drowning in fishing gear, boat collisions, and damage to coastal beaches where they nest. What can be done to protect sea turtles?</td>
<td>Living marine resources provide food, employment, and recreation, but are threatened by overuse, coastal development, pollution, and natural disasters. How can we protect living marine resources and still enjoy benefits they provide?</td>
<td>You have heard that temperature changes in the Pacific Ocean called El Nino can have serious effects on your local weather. Where can you find out whether these changes are happening right now, or are expected later this year?</td>
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<tr>
<td>You have heard that Earth's climate is changing. How can you find out whether temperatures in the U.S. have been above or below normal during the last few years?</td>
<td>How can you find out how global climate change is likely to affect marine ecosystems such as coral reefs?</td>
<td>Hurricane Hunters fly into the middle of storms to provide information for forecasts that save thousands of lives. Who has the planes and pilots to do this dangerous work?</td>
<td>Your science teacher is fascinated by marine biology and ocean research, and wants to get first-hand experience with scientific research at sea. How can she do that?</td>
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Solution 1
NOAA’s National Weather Service provides immediate access to all forecasts for the entire United States at www.weather.gov/

Solution 2
The National Weather Service Storm Prediction Center shows active storm systems over the 48 states, and provides detailed discussions of severe weather events at www.spc.noaa.gov/

Solution 3
NOAA’s Pacific Tsunami Warning Center and West Coast / Alaska Tsunami Warning Center provide tsunami warnings and information at www.tsunami.gov/

Solution 4
NOAA’s National Weather Service’s Aviation Digital Data Service provides forecasts, analyses, and observations of weather conditions that may affect safe aviation. www.aviationweather.gov

Solution 5
The National Weather Service’s Marine and Coastal Weather Services Branch provides information on coastal waters, Great Lakes, and open oceans. https://www.weather.gov/marine/

Solution 6
The National Weather Service’s Marine and Coastal Weather Services Branch provides information on conditions on coastal waters, Great Lakes, and open oceans. https://www.weather.gov/marine/

Solution 7
NOAA Weather Radio broadcasts weather forecasts, and emergency information about natural hazards, environmental hazards, and public safety (such as AMBER alerts). https://www.weather.gov/nwr/

Solution 8
NOAA Weather Radio broadcasts weather forecasts, as well as emergency information about natural hazards, environmental hazards, and public safety (such as AMBER alerts). https://www.weather.gov/nwr/

Solution 9
The National Weather Service Space Environment Center forecasts space weather caused by activity on the sun, such as solar flares. www.swpc.noaa.gov

Solution 10
NOAA’s Lightning Safety Web page has handouts, safety tips, medical facts, survivor stories, photos, and much more at https://www.weather.gov/safety/lightning

Solution 11
NOAA’s Office of Coast Survey provides nautical charts and other navigational products needed to safely operate marine vessels. https://nauticalcharts.noaa.gov/

Solution 12
The NOAA Diving Manual is an encyclopedia of diving which includes information about dive planning, operations, and emergencies. https://www.oma.noaa.gov/learn/diving-program

Solution 13
NOAA’s Office of Response and Restoration provides information and solutions for environmental hazards from oil, chemicals, and marine debris. www.response.restoration.noaa.gov

Solution 14
NOAA’s Office of Response and Restoration offers case studies, planning tools, and technical assistance to projects that restore and monitor coastal and estuarine habitats. www.response.restoration.noaa.gov

Solution 15
NOAA’s Tides and Currents Web site provides real-time and historical information on tides, water levels, currents, and weather in major ports and waterways throughout the U.S. www.tidesandcurrents.noaa.gov

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