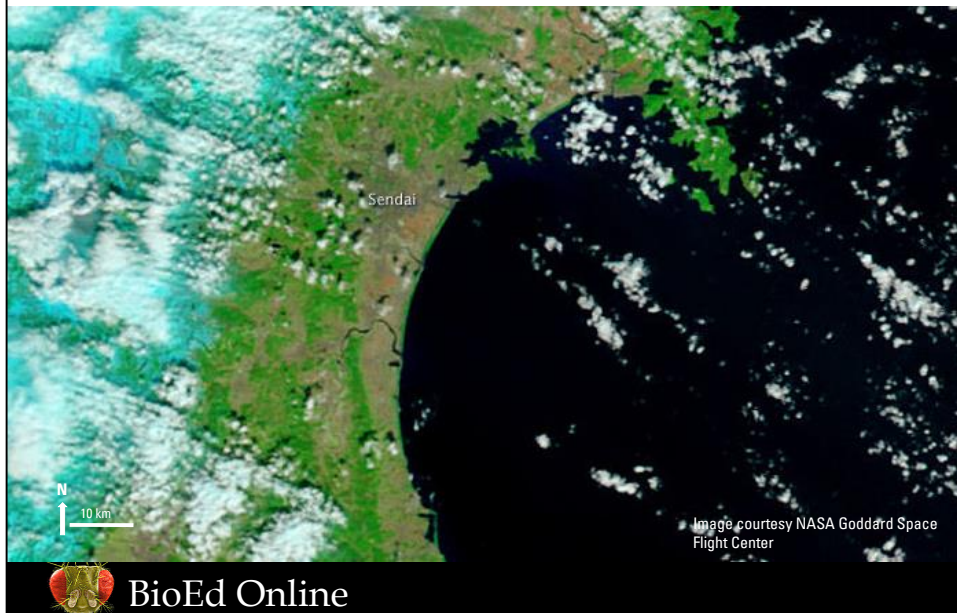


Sendai, Japan Coast Before the Tsunamis



NASA's Aqua satellite took this image of Japan's Sendai region on February 26, 2011. The satellite's MODIS, or Moderate Resolution Imaging Spectroradiometer instrument, used both visible and infrared light to highlight the water/land interface. The false colors used for the image (water appears black or dark blue) make the Sendai coastline clearly visible. Compare this image with the one on the next slide to view the extent of flooding caused by the tsunamis triggered by the March 11 earthquake.

Notice the small "north" arrow and map scale on the lower left. Have students hypothesize about which areas of the coastline are most susceptible to tsunamis and explain their reasoning.

Image Source: NASA Aqua Satellite, MODIS Rapid Response Team, NASA Goddard Space Flight Center

Sendai, Japan Coast After the Tsunamis



This comparison image of the Sendai coastline was taken by NASA's Terra spacecraft, using its MODIS instrument, approximately two days after the March 11 earthquake. In some places, the flooding extends as much as 5 kilometers (3 miles) inland. However, some areas, such as those just north and east of the fire (Matsushima Bay), show much less flooding. Have students suggest reasons for this.

(In fact, the bay has a rocky coastline with cliffs and small islands that are higher than the tsunami waves. Conversely, Sendai has a low coastline.)

What other areas on this picture show flooding? Change the two slides back and forth a few times to make the differences more obvious.

Image Source: NASA Terra Satellite, MODIS Rapid Response Team, NASA Goddard Space Flight Center