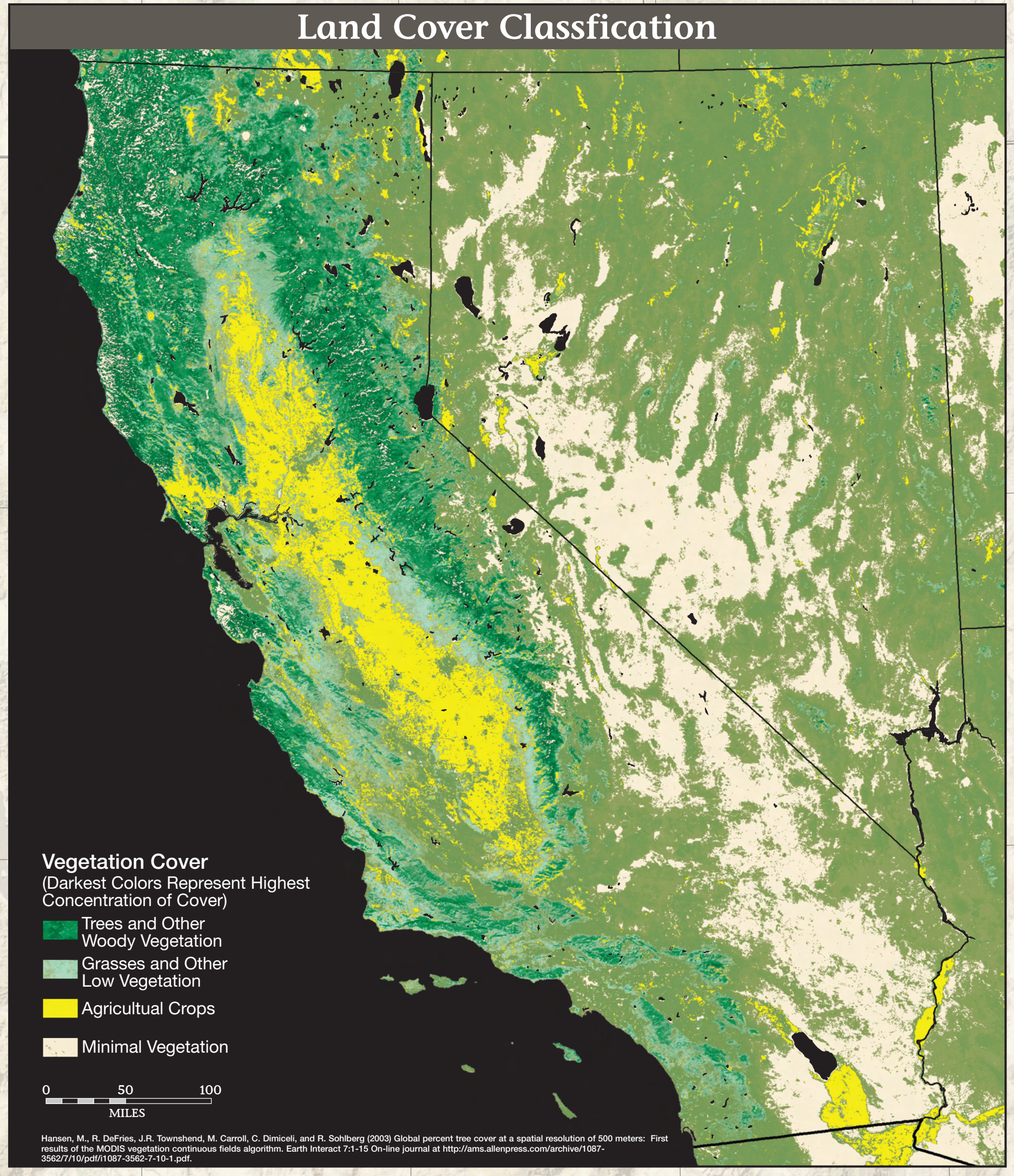


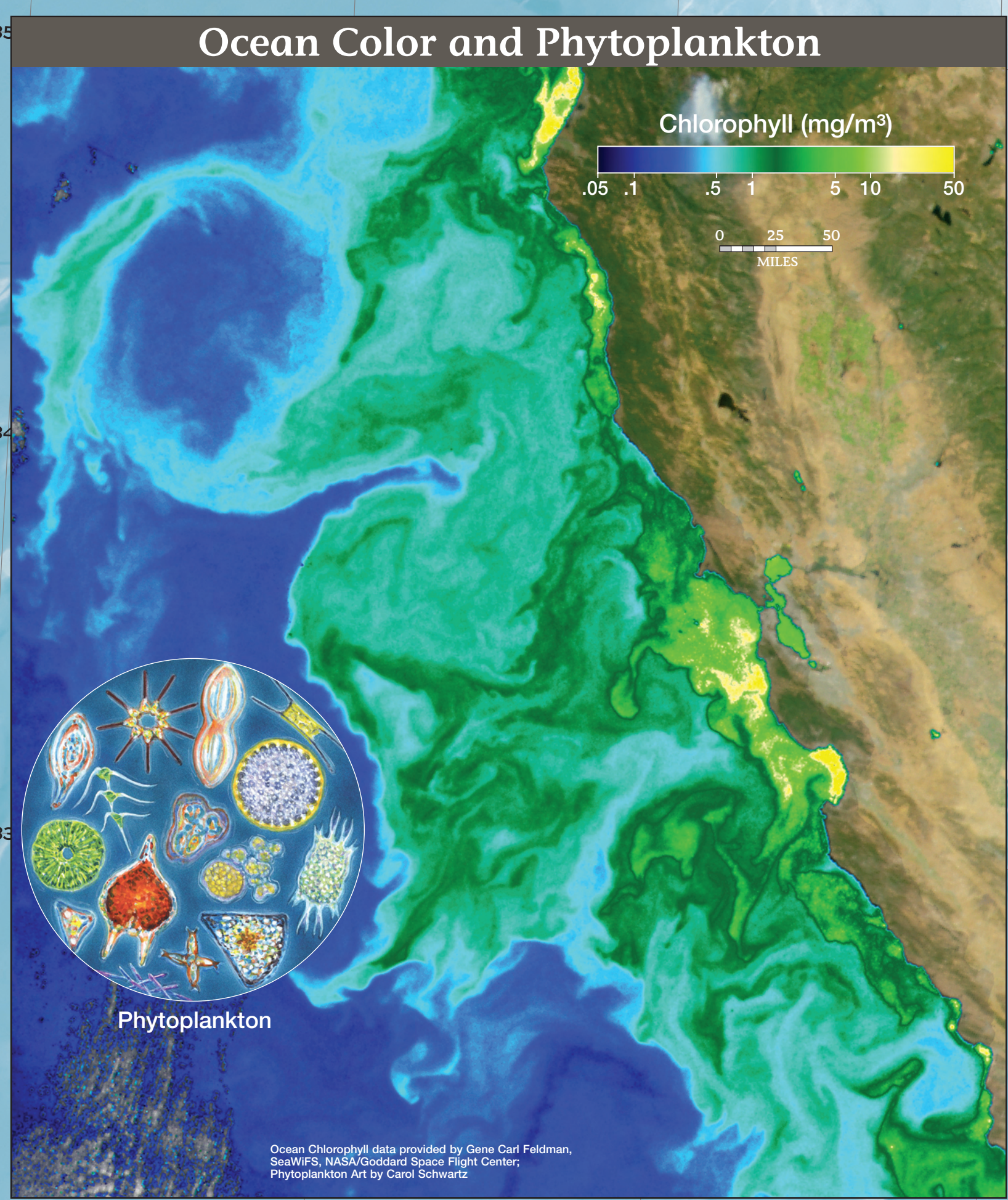
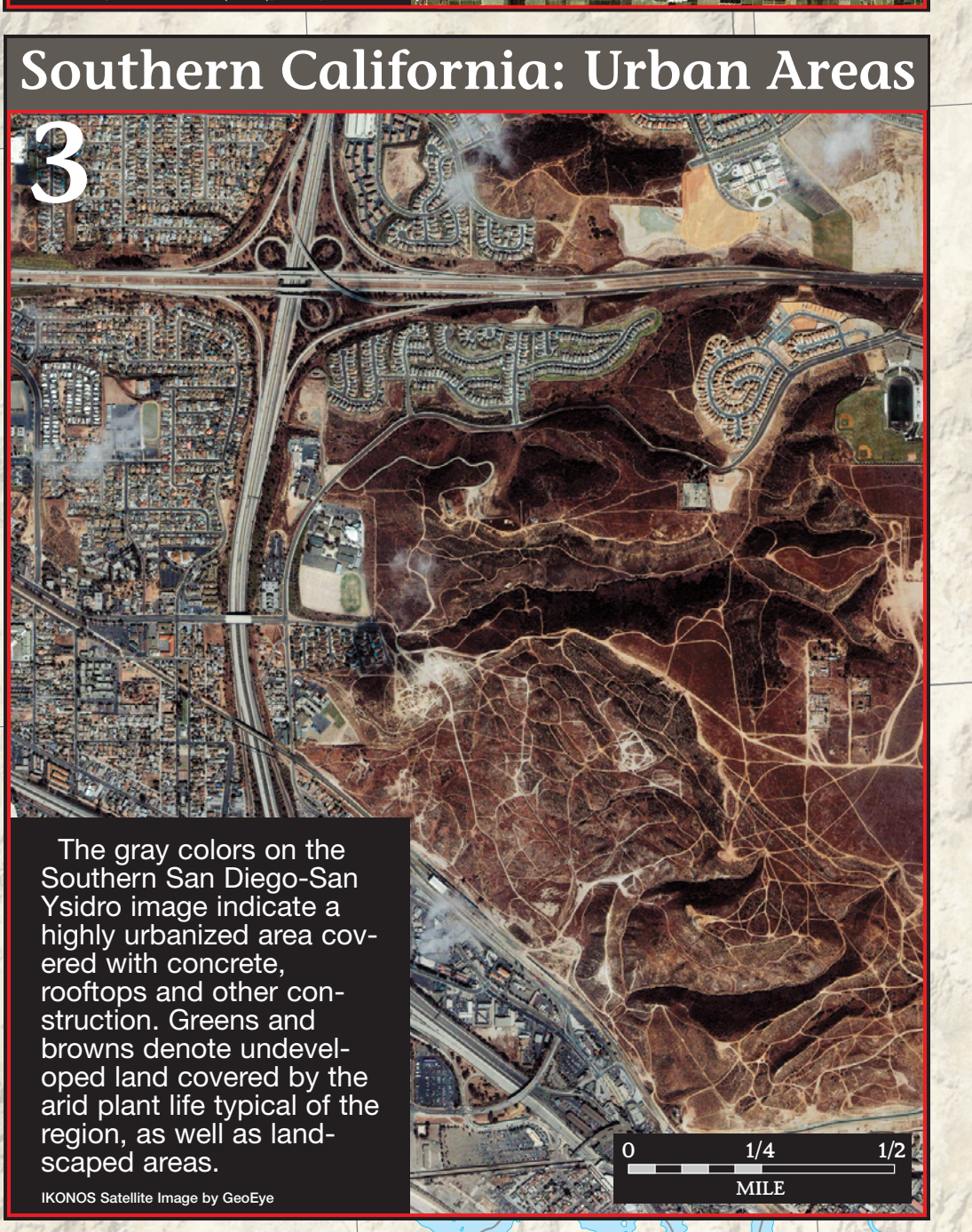


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California from Space

This map shows various views of California taken from satellite images. The largest one is from Landsat 7—a sensor called the Enhanced Thematic Mapper. Scientists analyze images like this by assigning different colors to each pixel from the satellite. This results in a “false color” view of Earth’s surface. Brighter, more reflective land cover—such as deserts and snow—are indicated by the light colors. Other land cover is indicated with other colors such as green for vegetation and orange to help make cities and other populated areas stand out. Satellite images taken during different seasons have different appearances—deciduous forests, for example, appear as different colors throughout the year. Creating a complete image of California, requires piecing together many images from a series of satellite orbits.



Phytoplankton are comprised of single-celled plants that drift with the currents. Like terrestrial plants, phytoplankton use chlorophyll for photosynthesis, the process of converting light energy into chemical energy that is stored in carbohydrates. Large blooms of phytoplankton can change the color of the ocean—often making the changes visible from space. In this “false-color” satellite image, the amount of chlorophyll is an indicator of the quantity of phytoplankton. Yellow areas have the most phytoplankton while blue areas have much less phytoplankton. Scientists use the quantity of phytoplankton as an indicator for ocean productivity. Since phytoplankton form the basis of the marine food chain, its distribution and abundance influence the distribution and abundance of other life forms including fish and marine mammals. Phytoplankton are equally important to terrestrial ecosystems because they produce 50% of Earth’s oxygen.

