

Why Florida has a Petroleum Cleanup Program

Ninety percent of Florida's drinking water comes from several aquifers underlying the State, providing over 4.3 billion gallons per day (Figure 1).

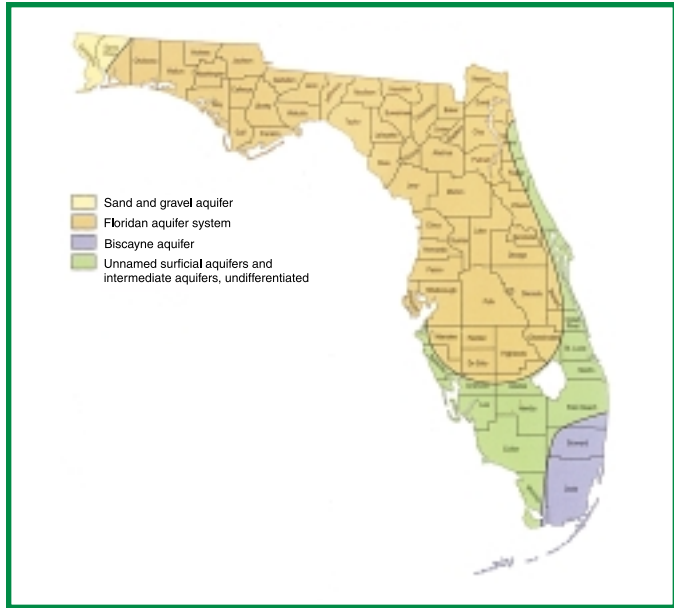


Figure 1 - Principal Aquifers of Use

The purpose of the petroleum cleanup program is to protect this critical environmental and economic resource from past and future petroleum releases. These releases occur for a variety of reasons including accidental spills, storage tank system leaks, and poor maintenance practices.

Groundwater, and any petroleum contamination in or floating on it, is not static. It moves horizontally through the subsurface in several directions, in most cases at a much slower rate than surface water. It also moves vertically with the continuous downward percolation of rainwater. In some places, aquifers overlie other aquifers and there can be vertical flow between them (Figure 2).

In addition, the groundwater depth can fluctuate between wet and dry seasons, and in coastal areas may fluctuate daily in response to tidal influences.

Florida has a diverse geology ranging from coastal sands, karst limestone, red clay marl, coral rock, organic peat, and silts (Figure 3). Each of these soil types has different size soil particles and other physical and chemical properties and, as a result, will adsorb or trap contaminants to varying degrees.

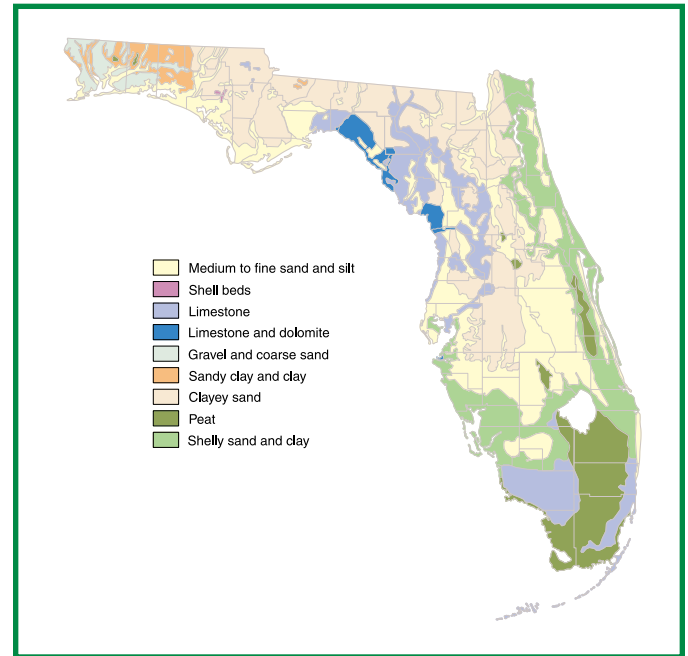


Figure 3 - Environmental Geology

This combination of diverse geology, diverse hydrology, and variable physical and chemical dynamics between contaminants and environmental media makes the identification and cleanup of petroleum contamination a challenging task. But, it is a necessary task if Florida is to protect this precious resource for current and future generations.

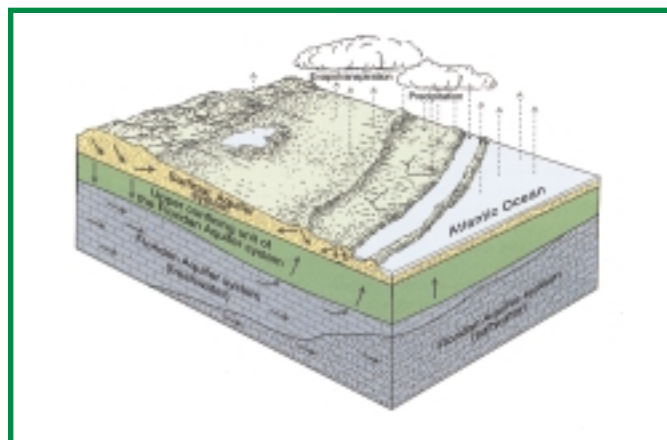


Figure 2 - Groundwater Flow