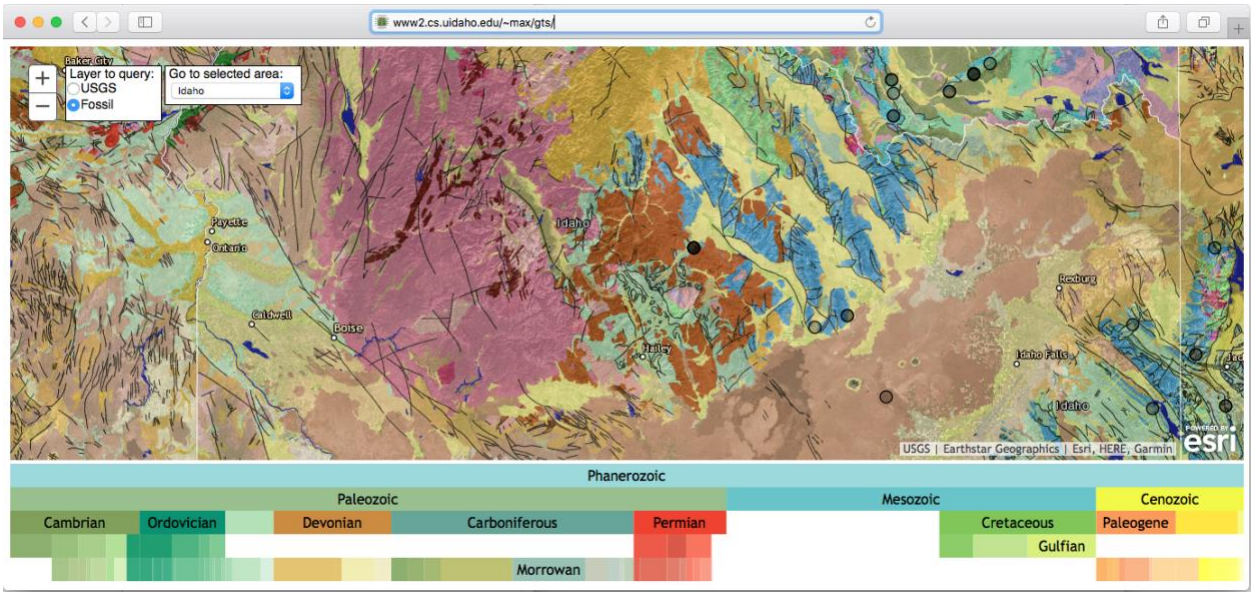
How to use this pilot system

The aim of this system is to help users find fossil records in the U.S. through a visualized geologic time scale. The geologic time scale here includes local terminology used in the North America. The system connects elements from geologic time scale, paleontology, and WMS geologic map service together. The user interface includes the visualized geologic time scale ontology at the bottom, a main window in the center displaying geologic and geographic base maps and fossil locations, radio buttons at the top left corner for choosing layers for further information query, a dropdown list to change the map window to different U.S. states, and dynamic pop-up windows for displaying query results.




The general workflow in the pilot system includes the following steps.

- First, a user can navigate in the ontology visualization to find an interval of interest.
- Second, he can double click the node of the selected time interval, the system will pass the node name to PBDB for retrieving relevant fossil records within that time coverage, and display them in the map window.
- Third, the user can load the geologic map and use the radio buttons on the top left corner to choose the object layer (USGS geologic map or Fossil) for querying attribute information.

  For example, when the 'USGS' layer is selected, the user can retrieve the geologic information of a place on the map by a mouse click. When the 'Fossil' layer is selected, the user can click spots in the fossil records layer to see attribute of fossils. The retrieved information is displayed in a mini pop-up window at the mouse click point.

During the process, the user can also change the center of the map window to different states in the U.S. by making selections in a dropdown list at the top left.

Ideally, all the properties of fossil can be retrieved from the PBDB API. In this work, we only displayed information of strata containing fossil and age to compare with the geologic information from the USGS open dataset.