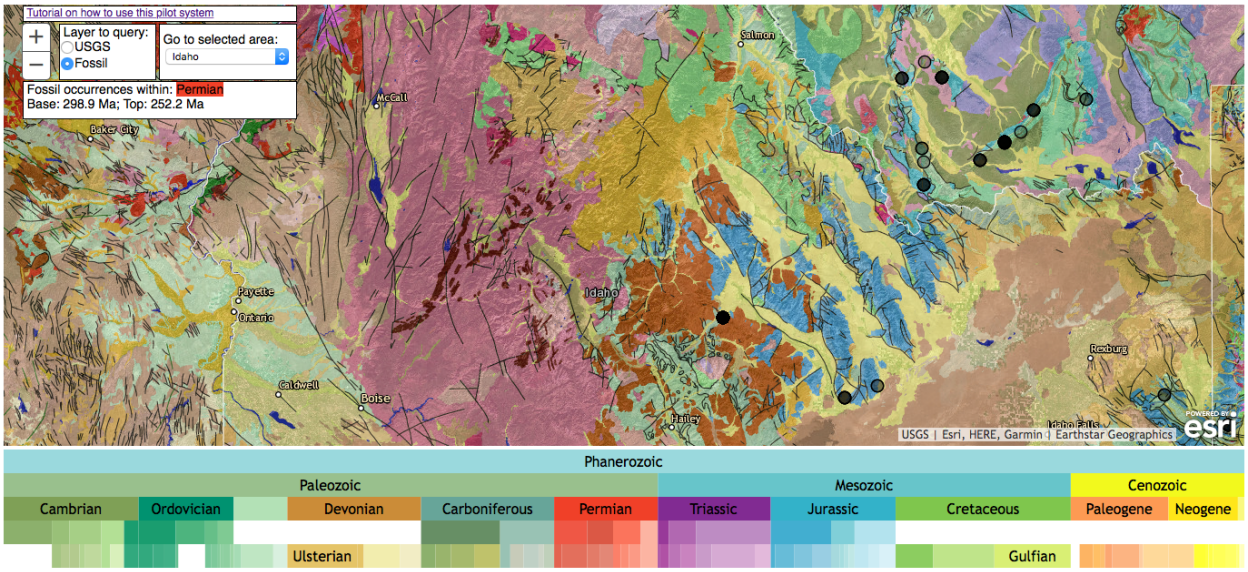
How to use this pilot system

The aim of this pilot 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, the user can double click the node of the selected time interval, the system will retrieve the base and top time boundaries of that interval and send them to PBDB for retrieving relevant fossil occurrence records within that time coverage, and display the records in the map window. There is also an information window on the top left corner of the map window to show the selected interval and the base and top time boundaries of it.
- Third, the user can 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.
- The map window is based on the ESRI map. The user can use the '+/-' buttons at the top left corner to zoom in/out the window. Another way to zoom in/out the window is use the 'Shift' key together with the scrolling wheel on a mouse.
- Note: the fossil occurrence records may need a relatively long time (~10 seconds) to load into the map window when the system is initializing and when the time interval is reselected.

Source code of the pilot system is accessible at: https://github.com/xgmachina/geotimeNam
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