Developing a Karst Map for West Virginia
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THE PROBLEM
Technological advances in oil and gas well drilling have led to development of horizontal drilling in the western Jefferson, McGlinchey, and Barbour counties of the state. However, the potential for karst in these areas is not fully understood, and no comprehensive database of karst exists.

The geology of West Virginia is complex, with many carbonate-rich rock units that have the potential to form karst features. Karst areas are typically characterized by sinkholes, underground voids, and water-filled caves, which can pose hazards to drilling operations.

THE SOLUTION
We decided to define karst regions to be those county tax districts within which carbonate rock units occur. This approach builds upon previous assumptions that karst in West Virginia is associated with certain rock units, and included areas of soluble rocks, as defined by the West Virginia Geological and Economic Survey (WVGES) and other studies.

West Virginia, like many other states, faces challenges in managing and mitigating the impacts of karst features on oil and gas drilling operations. Karst areas are typically characterized by sinkholes, underground voids, and water-filled caves, which can pose hazards to drilling operations. Developing a comprehensive database of karst areas is crucial for ensuring safe and sustainable development in carbonate-rich regions.

What's Next?
As of the final report date, the data processing was nearly complete, and we are preparing to test the rules defined by the Secretary of State for protecting karst areas. The testing will involve checking the effectiveness of the rules in preventing karst-related hazards during drilling operations. Based on the results of the testing, we will proceed with finalizing the rules and seeking approval from the Secretary of State.