



Chesapeake Bay Impact Structure

A BLAST FROM THE PAST

General Information Product 159

U.S. Department of the Interior
U.S. Geological Survey

Chesapeake Bay Impact Structure

About 35 million years ago, a 2-mile-wide meteorite smashed into Earth in what is now the lower Chesapeake Bay in Virginia. The oceanic impact vaporized, melted, fractured, and displaced rocks and sediments and sent billions of tons of water, sediments, and rocks into the air. Glassy particles of solidified melt rock rained down as far away as Texas and the Caribbean. Large tsunamis affected most of the North Atlantic basin. The resulting impact structure is more than 53 miles wide and has a 23-mile-wide, filled central crater surrounded by collapsed sediments. Now buried by hundreds of feet of younger sediments, the Chesapeake Bay impact structure is among the 20 largest known impact structures on Earth.

Since its discovery in the early 1990s, scientists have conducted deep drilling and geophysical surveys of the impact structure to find out more about its size, composition, structure, age, and biological effects and to understand its lingering influences on the regional groundwater system. These efforts culminated in the drilling of a 1-mile-deep, continuously sampled corehole in 2005 by an international group of scientists and agencies.

For Further Information:

USGS Fact Sheet:

<http://dx.doi.org/10.3133/fs20153071>

Research studies:

<http://pubs.usgs.gov/pp/p1612/>

<http://specialpapers.gsapubs.org/content/458>

Salty groundwater:

<http://www.usgs.gov/newsroom/article.asp?ID=3725#.Ve2yxBZzOM8>

Earth Impact Database:

<http://www.passc.net/EarthImpactDatabase/>

Create an impact:

<https://www.purdue.edu/impactearth>

ISSN 2332-3531 (print) ISSN 2332-354X (online)

<http://dx.doi.org/10.3133/gip159>



Printed on recycled paper