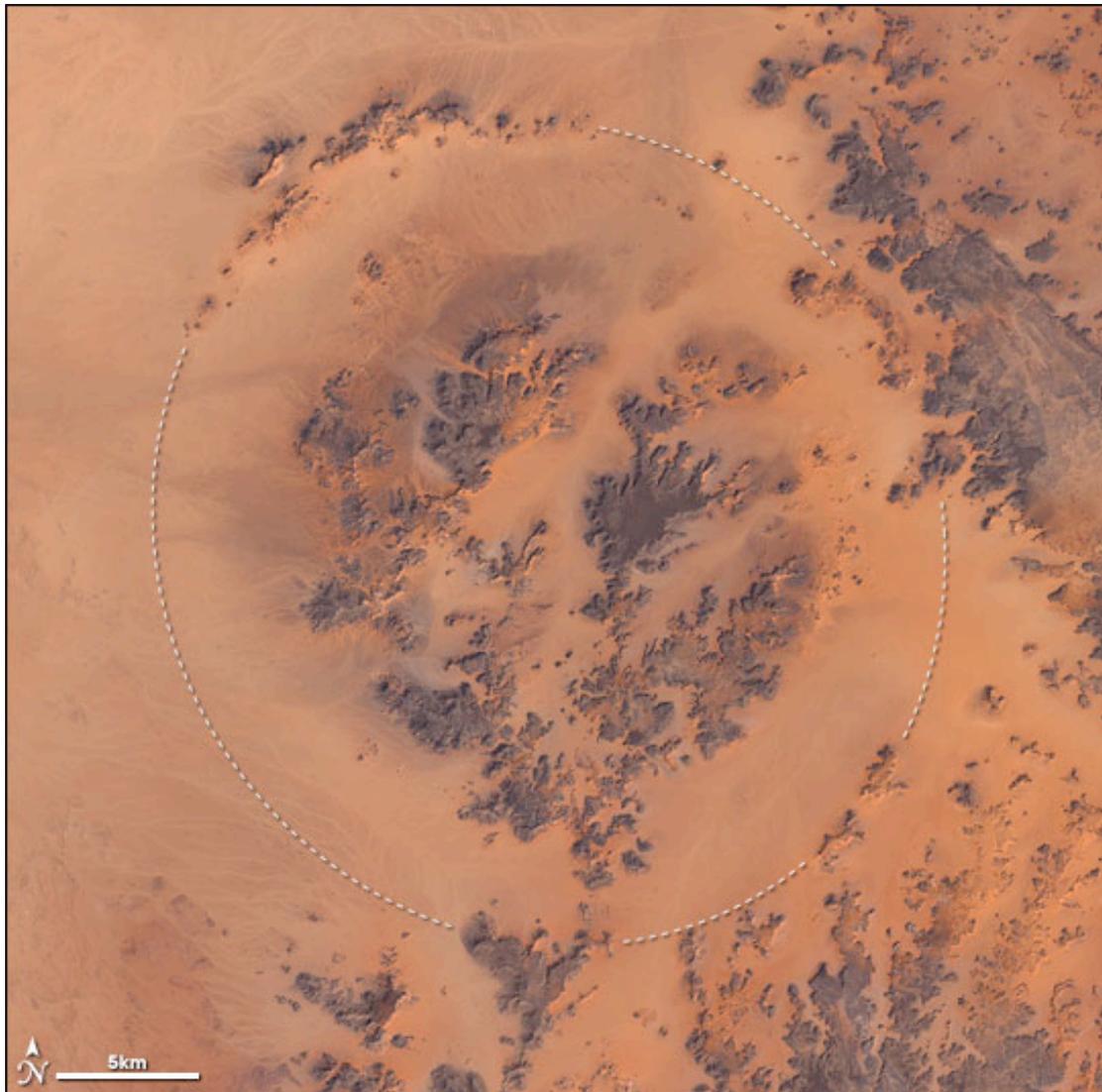


KEBIRA CRATER

March 8, 2006



NASA image by Robert Simmon, based on Landsat-7 data provided by the UMD Global Land Cover Facility, <http://earthobservatory.nasa.gov>

No, satellite images do not show any craters in Egypt's Western Desert that can account for the mysterious "**Desert Glass**" found there, Dr. Farouk El-Baz had just finished telling filmmakers interested in exploring the origins of the yellow-green glass fragments in late February 2006. But the interview made him wonder: could satellite data show him where the crater was after all? As a geologist who had spent most of his career studying the Earth's major deserts, he knew that the glass formed after a massive meteorite hit the desert with enough energy to splatter chunks of melted sand across the extensive fields where fragments are common today. But

beyond the glass, no evidence of such an impact had ever been found. Now the director of the Center for Remote Sensing at Boston University, El-Baz decided to take another look at satellite data of the Western Desert to see if he could find the elusive crater.

After the cameras stopped rolling, El-Baz sorted through image after image of the Western Desert when he came across a ring of rocks surrounded by traces of an outer ring: the telltale markings of an impact crater. He called Boston University research associate Eman Ghoneim, and she agreed that the image revealed a crater. The massive crater measured 31 kilometers across and was large enough to contain 70,000 football fields; the site was a very probable source of the glass. This Landsat-7 image, taken on March 15, 2001, shows the crater with pale fields of shifting sand surrounding the darker sandstone that bears the impression of the impact. The outer rim of the crater, mostly buried by sand, is outlined with a white dotted line.

El-Baz named the crater “Kebira,” which means “large” in Arabic. Because a crater is about twenty times larger than the meteorite that creates it, the meteorite that hit the Western Desert was larger than the famous Meteor (Barringer) Crater in Arizona, which is 1.2 kilometers wide. By contrast, the Chicxulub Crater left on the Yucatan Peninsula by the meteorite believed to have caused the extinction of the dinosaurs is ten times larger than Kebira, measuring 150 to 300 kilometers wide.

But why had no one noticed the giant Kebira crater before? El-Baz speculates that the crater’s massive size hid it in plain view. “The search for craters typically concentrates on small features, especially those that can be identified on the ground. The advantage of a view from space is that it allows us to see regional patterns and the big picture,” he said in a Boston University press release. Also, the double-ringed crater sits in sandstone that is 100 million years old, which means that the impact probably occurred around 100 million years ago. In the intervening time, wind and water have worn features of the crater away, making it hard to identify. For example, the beds of two ancient rivers run from east to west across the crater, leaving two gaps in the inner ring on the upper right side.