The Tunguska Event

[For more information, see: "The Last Great Impact on Earth," Discover magazine, September, 1996.]

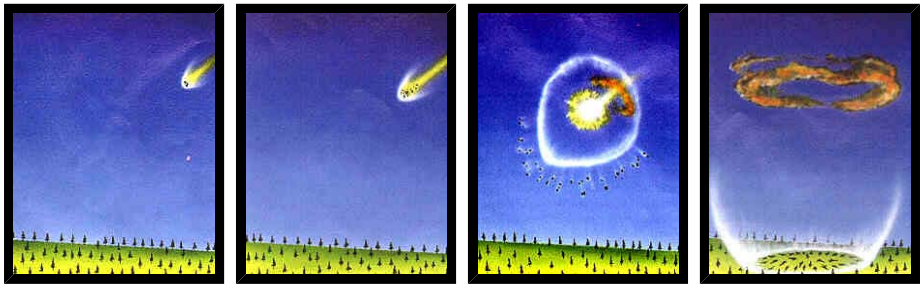
On June 30, an enormous explosion **1908** flattened hundreds of square miles of forest in a remote uninhabited region of western Siberia known as Tunguska. Thousands of fallen trees, pointed radially outward from the center of the blast. The sound of the explosion was heard half-way around the world in London, where it was assumed to just be a riot following a soccer match.

From the Discover article:

"A vast fireball raced through the dawn sky over Siberia, then exploded with the force of 1,000 Hiroshima bombs. The heat incinerated herds of reindeer and charred tens of thousands of evergreens across hundreds of square miles. For days, and for thousands of miles around, the sky remained bright with an eerie orange glow--as far away as western Europe people were able to read newspapers at night without a lamp. The effect was much like that of a great volcanic eruption, yet there had been no eruption. The only objective indication of the extraordinary event was a quiver on seismographs in the Siberian city of Irkutsk, indicating a moderate quake some 1,000 miles north in a remote region called Tunguska."

Almost 90 years have past , so much of the story 

is lost in the swamps and forests of this region.
So far, there is no direct evidence for the object that produced the explosion, although it is clear that it came from the sky because a bright fireball was seen for hundreds of miles around that night. The absence of an impact crater and lack of sizable fragments from the impactor might be explained if the meteorite or comet responsible exploded in the atmosphere above the region, as depicted below.



This event is now receiving **considerable attention** from scientists since it is the most recent significant impact known. A special meeting **Tunguska96**, was convened in 1996 in Bologne, Italy. It is not clear whether the bolide (object from space) was a **comet or asteroid**, but it has been estimated to be about **60 meters in diameter**, travelling at 18 km/sec, and probably consisting of many loosely bound pieces. The energy of the Tunguska would have been equivalent to **10 to 40 Megatons of TNT**, putting it in the same range as a **magnitude 8 earthquake**, or the eruption of Mt. St. Helens. **Had this happened over a populated area it would constitute one of the greatest natural disasters of all time.**