

# THE PAMPA OF NASCA – DEVELOPMENT OF A MULTIMEDIA GIS

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## ABSTRACT

The Nasca Lines and geoglyphs are one of the best known archaeological sites in South America, indeed the world. These large biomorph figures, long straight lines, and various geometric shapes were drawn on the surface of the desert near the town of Nasca beginning over two millennia ago. In 1995 the UNESCO added this area to the World Heritage List. The unanswered question that has historically aroused the most attention is: “Why were they created?”

About 20 theories are current amongst scientists and pseudo-scientists but even today nobody is able to provide a comprehensive and scientifically provable answer to this question. One of the major theories deals with astronomical phenomena. In order to prove this astronomical theory a special research project was started by the department of surveying and cartography of the University of Applied Sciences in Dresden, Germany.

The initial steps were the development of a special datamodel and the creation of a regional Digital Terrain Model (DTM). In September 2000 the photogrammetric data processing of the Nasca block (about 150 images) was started. This includes aerial triangulation, local DTM- generation, the extraction of lines and geoglyphs and the generation of ortho-images. Parallel to that the development of an astronomical approach was started.

The presentation includes theoretical as well as practical aspects. We report about the current stage of the project. Especially, the datamodel and the astronomical concept will be explained in detail. In the practical part we will demonstrate some analyses and special animations using our GIS.

**Remarks:** A quite similar article was presented at the International Workshop on Recreating the Past ~ Visualization and Animation of Cultural Heritage ~ in Ayutthaya, Thailand, 26 February- 1 March 2001. This workshop was organized by ISPRS Com. V.

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### Employment

German Volunteer in two Projects of the FAO and WHO in Nepal/Asia.  
Research Fellow in Digital Image Processing and Remote Sensing, TU Berlin.  
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### Teaching Experience

Lecturer (1980–1985) for Astronomical and Physical Geodesy, Satellite Geodesy and Gravimetry at the Technical University of Berlin.  
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### Membership

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