DISCUSS AND RESEARCH ON THE CHANGING OF THE SILK ROAD USING GEO-SPATIAL TECHNOLOGY

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1. INTRODUCTION

The silk road has an over 2,000 years history and as an main artery of the intercommunication between oriental and occident, it is the living fossil of the interaction of human beings so it is the hot field of the history research during the world. All over the world scientists have researched this area to find why and how such an important artery has been formed and why has been disappeared in the end. But now the researchers mainly used the traditional methods to research the silk road, this is a very useful work for the history research, but for the silk road which has so long in distance and in history which has across so many history and now time countries and develop about over two thousand years, it is difficult for us to research it only in the traditional tools. The spatial information technology has been a good tools for us to research such area. So in this article we just put forward using the spatial information technology to research the silk road development and changing of the environment around it.

2. THE MAIN TECHNOLOGY AND METHOD USED

In this article we first summarize the production in the silk road research area, including history research achievement, information research achievement and so on. Through the summarized analysis of home and abroad silk road research we give a conclusion that the silk road research is very important to the research of the ancient middle Asia's environment, country relationships and the develop or vanish of the road. After that we introduce the remoted sensed, global position system and geographic information system technologies which have so many advantages to be used into the history research. Through this analysis, we prefer that the information especially spatial information application is the most important for the silk road developing research and now this is the vacant area in China and even in the world. Finally we put forwards a new method which is using geo-spatial technology to research the history which was used to research on the traditional methods.

3. THE SILK ROAD DATABASE ESTABLISHING

First, we construct the space and time database for the silk road, use the database to management different scales, different time and dynasties and different format data. In this database, it has the whole world spatial data map, the whole Chinese spatial data map and TM image data which covered all range of silk road, all of these data will be as the background of the silk road changing system.

Then according to the history martials, we established the different dynasties boundary spatial map including Han (206B.C.-280A.D.), Tang(618-907), Song(960-1279), Yuan(1271-1368), Ming(1368-1644) and Qing(1644-1911) Dynasties. All of these different times boundary data were made on the basis of the world map and Chinese map, and revise according to the records in the history martials.

Except these spatial data, we also have a large amount of attribute data such as history martial, history heroes, big battles and so on. All of these data may have the time and spatial attribute and we use these attributes to connect them into the database, so that when users find these martials, they can also find the location and time when and where it has happened. Using this database, we can also find the environment's changing in different time, especially in the silk road where the natural environment was so bad and the environment has changed so quickly.

4.CONCLUSION

Finally, we according the database we construct the Chinese silk road geo-spatial information system. In this system people can get the silk road information in different space and different time information along the silk road, we can also use now and history place names, coordinate information to find and located the sites. We even can use the powerful analysis

functions which provide by the system to do some location service, mapping service and routing analysis, all above functions can give the history researchers a powerful tool to research during the space and time fields.

5. REFERENCES

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