DEVELOPMENT OF A WEB INTERFACE TO PROVIDE EXTERNAL ACCESS TO CPTEC/INPE CLIMATIC DATA

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Summary
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This paper describes a visualization and distribution system for climatic data that are stored in CPTEC/INPE database (Center for Weather Forecast and Climatic Analysis) from INPE (National Institute of Space Research). This project was supported by PROTIM program (Program of Information Technology applied in Meteorology). This work consists in the development of a Web Interfaces for external access and visualization of time-series data for many stations in South America.

INTRODUCTION

The Climatology studies the atmospheric phenomena using statistical registers (average and variability) to characterize the climate in function of the geographic localization, station of the year, hour of the day, etc. These data and statistical relations, average values, normal values, frequency of variations and distribution of the meteorological events are very important for the scientific community. With the observational data collected in stations it is possible to characterize the climate. Many of the informations collected in Brazil have been added to our climate data base.

In this work the objective was to build an web interface to make easy and fast the climatological data retrieval for researchers and general users. These information will be available in a Home Page together with all the other interfaces of the PROTIM Program. Of course that the distribution of these data will have to respect the rights of property of the data and in some cases could need previous authorization.

THE SYSTEM’S ARCHITECTURE

The database that stores the climatic data is the MySQL and the webpages are in JAVA. The climatic database of the CPTEC/INPE stores data received from several institutions, some of these dated of century XIX.

STATISTICS ABOUT THE CLIMATIC DATA

In the database there are Monthly means, Daily and Extreme values. The available variables in the database are: maximum temperature, minimum temperature, mean temperature and precipitation. The temperatures are measured in Celsius Degree °C and the precipitation in millimeters mm. For the monthly data there are temperatures maximum, minimum, average and precipitation. For the daily and extreme data we have the maximum temperatures, minimum and precipitation.

The developed site allows the user to visualize graphically several informations. The graphs contains the climatic data for a period of time. In the database of the CPTEC/INPE fifteen (15) extreme values for each station are available. These data will be presented in the table format. These data will be available for download in CVS, Excel and XML format.

FINAL REMARKS:

In this work we describe the main characteristics of the system of Visualization and Distribution of Climate Data for the web whose objective is to provide access for the researchers interested in the climatic data of the database of the CPTEC/INPE. This distribution will need previous authorization and will have to respect the property rights. These data are important for research and other applications. Currently these data are stored in the climatic data base of the CPTEC/INPE. This database is of difficult access for users who are go out of the Institution. With the development of this site the external access to these data will be easy and fast.