

## **Climate Change: Earth Surface Temperature Data**

### **Subject Overview**

Climate change has a big impact on Earth environment and human activities. People, animals, and plants are affected by the consequences of climate change. Knowing and understanding how these changes happen could contribute to be better prepared for the further challenges and improve the quality of life for all alive beings.

### **Project Summary**

In this capstone project some data coming from Kaggle web site, regarding land and ocean temperature (minimum, maximum and average) as well as by country, since 19th century at least until nowadays, will be used.

<https://www.kaggle.com/berkeleyearth/climate-change-earth-surface-temperature-data>

### **Project Objective**

Analyze the different kind of temperature and its evolution through time and location. This analysis could help the scientific organizations to propose decisions to be taken by governmental entities.

### **Data sets**

Global Land Temperatures.

## **Transport in EU**

### **Subject Overview**

Expedite and comfortable means of transportation are fundamental nowadays for business trips and tourism journeys as well. A good and functional transportation network is a must anywhere. Otherwise, organizations, companies and people will suffer not only costings but also negative physical and psychological effects.

### **Project Summary**

In this capstone project some data coming from Pordata web site, regarding passengers transported by air, rail, and maritime will be collected. Other kind of data will also be considered as, among others, investment, length of motorways, and number of aircrafts.

<http://www.pordata.pt/en/Theme/Europe/Transport-83>

### **Project Objective**

Analyze the mentioned parameters, identify its evolution through time, and evaluate future tendencies. The conclusions could contribute to build new transportation models for next future in compliance with the main requirements.

### **Data sets**

Data from Pordata web site.

## **Forest Fires**

### **Subject Overview**

Forest fires are one of the most serious natural disasters that occur worldwide and very particularly in Portugal. The high frequency of its occurrence and the enormous extension of land that they reach mean a strong impact on economy and environment as well as on people and properties. In consequence, the knowledge on its causes and propagation are relevant ways to fight and avoid them.

### **Project Summary**

In this capstone project some data, mainly from ICNF (Instituto da Conservação da Natureza e das Florestas - Institute for the Nature and Forest Conservation) web site, about the forest fires occurred since 1980 will be used. This data includes figures, by time and location, on the type of fire, burnt area, its possible cause, and type of vegetation, among other kind of data.

<http://www.icnf.pt/portal/florestas/dfci/inc/estat-sgif>

Besides these figures, other ones will also be used such as climate and people density data, from Pordata web site.

<http://www.pordata.pt/en/Subtheme/Portugal/Environmental+Pollution+and+Climate+-86>

<http://www.pordata.pt/en/Municipalities/Population+density++according+to+the+Census-591>

In order to cross the stated data with other more detailed data concerning the kind of trees and vegetation per geographical region, some data from ICNF will also be collected.

<http://www.icnf.pt/portal/florestas/dfci/inc/estat-sgif>

### **Project Objective**

Analyze and combine all the mentioned data, identify the cause for the fires, its propagation and evolution, time of reaction and resolution, as well as other conditions such as geographical, orographical and meteorological will be the main objective of the project. Its conclusions could help to build preventive programs.

### **Data sets**

Data from ICNF and Pordata web site.