

ENAC-SIE, Master Project, Fall 2018	Start: 18/09/2018
30 ECTS credits	End: 21/12/2018 (approx.)

Title	Evaluation and prediction of world population dynamics
Supervisors	Dr. Paolo Benettin (ECHO laboratory), Prof. Anders Meibom (LGB laboratory)
Objective	Develop new projections of world population growth
Abstract	World populations evolve in time following the patterns of fertility, mortality and emigration. Most european countries are in an “ageing” phase, where new-born are decreasing and mean population age is around 40 years. The opposite case is that of developing countries, particularly in the african continent, where population is still in a fast growth phase and mean age is slightly over 20 years. These dynamics can be quantified using global datasets provided by the United Nations and other international organizations. The analysis of these datasets (example in Figure 1) can reveal the population evolution of each country in the world over the last 60 years and it is the basis to make new prediction of the future population evolution.
Task description	1. analysis of global population datasets 2. analysis of fertility and mortality data 3. developement of a model to predict future world population 4. developement of tools to visualize future population distribution
Required skills	• good numerical and programming skills (Matlab, Python or R)
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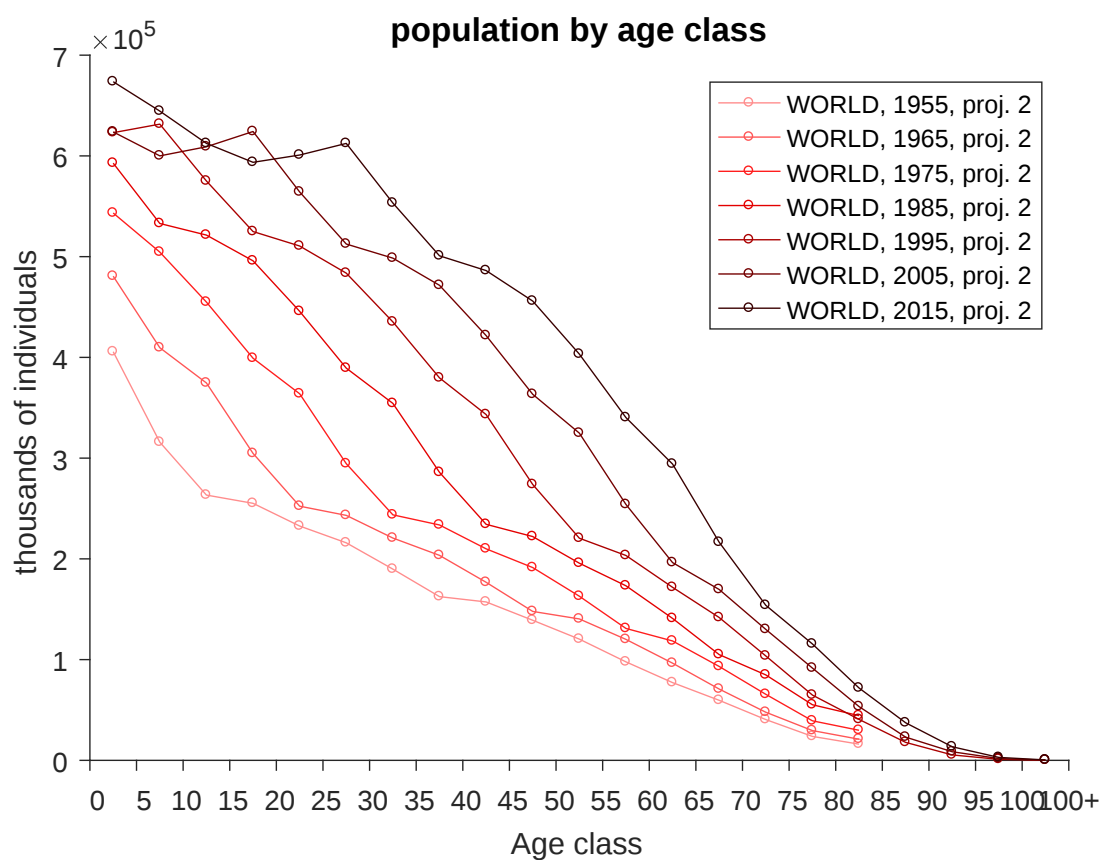


Figure 1: Examples of world population evolution by age class in the last 60 years.