This dataset consists of the baseline data for the SDM of the SIM4NEXUS case of the Netherlands. Most data is based on year data that has been equally distributed over 12 months per year. For optional extension to monthly data, the data display already monthly data starting at December 2009 until December 2050 i.e. 493 points in time. The data include time series for socio-economic indicators, land use, food production, energy use, climate and water. The socio-economic system includes data on population and gross domestic product (GDP) per capita. The land system includes data on four main land uses, namely built-up areas, agriculture (with areas for food, energy crops and fodder crops production) , nature areas (non-forest, forest not for biomass production, forest for biomass production) , and areas for renewable energy production like wind mills and solar power fields. The food system includes plant-based (food crops like cereals and vegetables and fruit) and animal-based food production (based on the herds of cattle, pigs and poultry) in terms of protein. In addition, the animal- and plant-based protein requirements of Dutch consumers are also estimated. The energy system has an energy production and an energy demand part. Energy demand is determined for the domestic sector (i.e. households) based upon population and households’ demands for renewable and non-renewable energy. For the other economic sectors (agriculture, manufacturing industry, transportation and services sector) the demands for renewable and non-renewable energy are determined by GDP per sector and the energy intensity of the sectors. Energy supply is divided into non-renewable energy production and renewable energy production. Non-renewable energy sources include energy from coal, natural gas, oil and nuclear. The renewable energy consist of energy from wind (onshore and offshore), solar (on buildings and solar power fields), biomass and other sources (innovations like hydrogen or geothermic power). The energy of biomass there are 7 sources of biomass: energy crops, crop residues, manure, organic household waste, organic waste from public areas, waste water and timber residues. Timber residues are largely imported for large-scale use of co-firing in coal power plants and bio-based activities in the manufacturing industries. The water system has two parts: water quality which are the agricultural emissions of nitrogen and phosphorus to water, and water quantity i.e. agricultural water demand for irrigation and livestock drinking water. Finally, the climate system is divided into non-agricultural GHG emissions, and agricultural emissions. The non-agricultural GHG emissions are based on the GHG emissions from non-renewable energy production and non-energy related GHG emissions per economic sector except for agriculture. The agricultural GHG emissions relate to GHG emissions from livestock production, crop production and wetlands.