Table S2: Input data and order of the approximation function used for land reconstruction on country level

**Legend:**

**FRA** = Data of FRA-report **FAO** = Data of FAOSTAT **EUST** = Data of EUROSTAT **“S&O”-PC** = Value obtained by FAO class “Settlement & Others” minus POP-CLC

**POP-CLC** = Value obtained by data of Lahmeyer populations statistics and CORINE Land Cover 2000 (“area of settlement class/inhabitant” was used as factor together with the population data of each year to calculate the total settlement area per country for each year)

**TREND** = Value obtained by using overlapping years of FAO “grassland” and “cropland” together with FRA “cropland & grassland” to calculate the area relation of FAO classes compared to FRA class. The trend of this relation over time was used to separate the FRA class where FAO was not available

**Polynomial Degree** = Degree which was used to interpolate the data by the use of the various sources used for each class

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | **IPCC class** | **Data** | **Polynomial degree** | **Notes** |
| Austria | Settlement | 2010,2005,2001-1950 (POP-CLC) | 2 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Forest | 2010 (FRA); 2008-1998 (FAO); 1997-1974 (EUST); 1963,1958,1953 (FRA) | 5 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 16 |  |
| Belgium | Settlement | 2010,2005,2002-1950 (POP-CLC) | 5 |  |
|  | Cropland | 2008-2007 (EUST); 2006-2005 (FAO); 2004-1995 (EUST); 1993-1974 (EUST); 1963,1958,1953 (TREND) | 5 |  |
|  | Forest | 2010 (FRA); 2008-2000 (FAO); 1992,1990,1985,1976,1963,1958,1953 (FRA) | 2 |  |
|  | Grassland | 2008-2007 (EUST); 2006-2005 (FAO); 2004-1995 (EUST); 1993-1974 (EUST); 1963,1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2001-2000,1985,1976,1963,1958,1953 ("S&O"-PC) | 3 |  |
| Bulgaria | Settlement | 2010,2005,2003-1950 (POP-CLC) | 3 |  |
|  | Cropland | 2007,2003-1999 (EUST); 1992,1985,1976,1963,1958,1953 (TREND) | 2 |  |
|  | Forest | 2010, 2005,2000,1992,1990,1985,1976,1963,1958,1953 (FRA) | 5 |  |
|  | Grassland | 2007,2003-1995 (EUST); 1992,1985,1976,1963,1958,1953 (TREND) | 2 |  |
|  | Other Land | 1992,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Cyprus | Settlement | 2010,2005,2001-1950 (POP-CLC) | 6 |  |
|  | Cropland | 2008-1961 (FAO);1958,1953 (TREND) | 2 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1963,1958,1953 (FRA) | 5 |  |
|  | Grassland | 2008-1961 (FAO);1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Czech Republic | Settlement | 2010,2005,2001-1959,1950 (POP-CLC) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Cropland | 2008-1993 (FAO);1992,1985,1976,1963 (TREND) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Forest | 2010 (FRA); 2008-1993 (FAO); 1990 (FRA) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Grassland | 2008-1993 (FAO);1992,1985,1976,1963 (TREND) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Other Land | 2005,2001-1992,1985,1976,1963 ("S&O"-PC) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
| Denmark | Settlement | 2010,2005,2003-1950 (POP-CLC) | 3 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 4 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 2 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 9 |  |
|  | Other Land | 2005,2003-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 5 |  |
| Estonia | Settlement | 2010,2005,2003-1950 (POP-CLC) | 5 |  |
|  | Cropland | 2008-1992 (FAO) | 2 |  |
|  | Forest | 2010 (FRA); 2008-1992 (FAO); 1990 (FRA) | 2 |  |
|  | Grassland | 2004, 2002-1990 (EUST) | 2 |  |
|  | Other Land | 2005,2001-1992 ("S&O"-PC) | 2 |  |
| Finland | Settlement | 2010,2005,2000-1950 (POP-CLC) | 2 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 3 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 3 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2000-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 6 |  |
| France | Settlement | 2010,2005,2001-1950 (POP-CLC) | 5 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 4 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 6 |  |
|  | Grassland | 2008-1971,1969-1961 (FAO); 1958,1953 (TREND) | 9 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Germany | Settlement | 2010,2005,2001-1950 (POP-CLC) | 8 | Data before 1990 was added together from eastern and western part |
|  | Cropland | 2008 (EUST) 2007-2005 (FAO) 2004-1991 (EUST) 1990-1961 (FAO); 1958,1953 (TREND) | 2 | Data before 1990 was added together from eastern and western part |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 2 | Data before 1990 was added together from eastern and western part |
|  | Grassland | 2008 (EUST) 2007-2005 (FAO) 2004-1990 (EUST) 1989-1961 (FAO); 1958,1953 (TREND) | 2 | Data before 1990 was added together from eastern and western part |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 | Data before 1990 was added together from eastern and western part |
| Greece | Settlement | 2010,2005,2001-1950 (POP-CLC) | 5 |  |
|  | Cropland | 2004 (FAO) 2002-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1963,1958,1953 (FRA) | 4 | Large deviations of forest values among the data sources, several high peaks could be seen: probably due to the fact that the shrub vegetation was either accounted to forest or other land for different years, depending on the definitions, Eurostat values of Greece forest are not plausible |
|  | Grassland | 2002-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Other Land | 2001-1990,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Hungary | Settlement | 2010,2005,2001-1950 (POP-CLC) | 13 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 6 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 3 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 3 |  |
| Ireland | Settlement | 2010,2005,2002-1950 (POP-CLC) | 4 |  |
|  | Cropland | 2009 (EUST); 2008-1961 (FAO); 1958,1953 (TREND) | 5 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 2 |  |
|  | Grassland | 2008-1991 (FAO); 1985,1976,1963,1958,1953 (TREND) | 5 |  |
|  | Other Land | 2005,2002-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 6 |  |
| Italy | Settlement | 2010,2005,2001-1950 (POP-CLC) | 4 |  |
|  | Cropland | 2008-1971 (FAO); 1958,1953 (TREND) | 4 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1963,1958,1953 (FRA) | 2 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Latvia | Settlement | 2010,2005,2001-1950 (POP-CLC) | 2 |  |
|  | Cropland | 2008-1992 (FAO) | 2 | Large deviations of values from FAO around 1995 (probably new way of measurements) |
|  | Forest | 2010 (FRA); 2008-1992 (FAO); 1990 (FRA) | 5 |  |
|  | Grassland | 2008-1992 (FAO) | 2 |  |
|  | Other Land | 2008-1992 ("S&O"-PC) | 2 |  |
| Lithuania | Settlement | 2010,2005,2001-1950 (POP-CLC) | 7 |  |
|  | Cropland | 2008-1992 (FAO) | 2 | Large deviations of values from FAO & Eurostats around 2000 (probably new way of measurements) |
|  | Forest | 2010 (FRA); 2008-1992 (FAO); 1990 (FRA) | 2 |  |
|  | Grassland | 2008-1992 (FAO) | 2 | Large deviations of values from FAO & Eurostats around 2000 (probably new way of measurements) |
|  | Other Land | 2005, 2001-1992 ("S&O"-PC) | 2 |  |
| Luxembourg | Settlement | 2010,2005,2001-1950 (POP-CLC) | 16 |  |
|  | Cropland | 2006-2001, 1999-1991, 1989-1974 (EUST) | 8 |  |
|  | Forest | 2010 (FRA); 2008-2000 (FAO); 1992,1990, 1985, 1976, 1963, 1958, 1953 (FRA) | 2 |  |
|  | Grassland | 2006-1974 (EUST) | 4 |  |
|  | Other Land | 2005, 2001-2000, 1992, 1985, 1976, 1963, 1958, 1953 ("S&O"-PC) | 2 |  |
| Malta | Settlement | 2010,2005,2002-1950 (POP-CLC) | 4 |  |
|  | Cropland | 2008-1961 (FAO) | 2 |  |
|  | Forest | 2008-1990 (FAO) | 2 |  |
|  | Grassland | --- | --- |  |
|  | Other Land | 2005, 2001-2000, 1992, 1985, 1976, 1963, 1958, 1953 ("S&O"-PC) | 2 |  |
| Netherlands | Settlement | 2010,2003-1950 (POP-CLC) | 3 |  |
|  | Cropland | 2009-2007,2005-1988 (EUST); 1987-1961 (FAO); 1958,1953 (TREND) | 5 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 3 |  |
|  | Grassland | 2009-1974 (EUST); 1973-1961 (FAO); 1958,1953 (TREND) | 3 |  |
|  | Other Land | 2003-1990, 1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Poland | Settlement | 2010,2005,2001-1950 (POP-CLC) | 4 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 7 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 4 |  |
|  | Other Land | 2005,2001-1990, 1985,1976,1963,1958,1953 ("S&O"-PC) | 4 |  |
| Portugal | Settlement | 2010,2005,2001-1950 (POP-CLC) | 3 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 3 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 3 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 |  |
|  | Other Land | 2005,2001-1990, 1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Romania | Settlement | 2010,2005,2001-1950 (POP-CLC) | 4 |  |
|  | Cropland | 2009 (EUST); 2008-1961 (FAO); 1958,1953 (TREND) | 19 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO); 1985,1976,1963,1958,1953 (FRA) | 9 |  |
|  | Grassland | 2009 (EUST); 2008-1961 (FAO); 1958,1953 (TREND) | 5 |  |
|  | Other Land | 2005,2001-1990, 1985,1976,1963,1958,1953 ("S&O"-PC) | 4 |  |
| Slovakia | Settlement | 2010,2005,2001-1950 (POP-CLC) | 10 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Cropland | 2008-1993 (FAO) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Forest | 2010 (FRA); 2008-1993 (FAO); 1990 (FRA) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Grassland | 2008-1993 (FAO) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
|  | Other Land | 2005,2001-1993 ("S&O"-PC) | 2 | Data was used back until 1990, before that data of Czechoslovakia was used on the area of Czech Republic and Slovakia |
| Slovenia | Settlement | 2010,2005,2001-1950 (POP-CLC) | 3 |  |
|  | Cropland | 2008-1992 (FAO) | 3 |  |
|  | Forest | 2010 (FRA); 2008-1993 (FAO) | 2 |  |
|  | Grassland | 2008-1992 (FAO) | 2 |  |
|  | Other Land | 2005,2001-1992 ("S&O"-PC) | 2 |  |
| Spain | Settlement | 2010,2005,2001-1950 (POP-CLC) | 6 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 3 |  |
|  | Forest | 2010 (FRA); 2008-1998 (FAO); 1997-1974 (EUST); 1963,1958,1953 (FRA) | 4 | Large deviations of forest values among the data sources, several high peaks could be seen: probably due to the fact that the shrub vegetation was either accounted to forest or other land for different years, depending on the definitions |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 5 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 |  |
| Sweden | Settlement | 2010,2005,2001-1950 (POP-CLC) | 3 |  |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 4 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO) 1985,1976,1963,1958,1953 (FRA) | 6 |  |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 6 |  |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 5 |  |
| Switzerland | Settlement | 2010,2005,2001-1950 (POP-CLC) | 3 | CLC Data was obtained from the Swiss Corine Program available at EEA |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 4 | Baseline map is based on Swiss CLC data |
|  | Forest | 2010 (FRA); 2008-1990 (FAO) 1985,1976,1963,1958,1953 (FRA) | 3 | Baseline map is based on Swiss CLC data |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 4 | Baseline map is based on Swiss CLC data |
|  | Other Land | 2005,2001-1990,1985,1976,1963,1958,1953 ("S&O"-PC) | 2 | Baseline map is based on Swiss CLC data |
| United Kingdom | Settlement | 2010,2005,2001-1950 (POP-CLC) | 2 |  |
|  | Cropland | 2008-1961 (FAO) | 7 |  |
|  | Forest | 2010 (FRA); 2008-1990 (FAO) 1985,1976, 1946, 1939, 1929, 1924, 1919, 1914 (FRA) | 5 | Values from 1914-1946 are derived from Unasylva 1946 special report on UK forests |
|  | Grassland | 2008-1961 (FAO) | 7 |  |
|  | Other Land | 2005,2001-1990,1985 ("S&O"-PC) | 3 |  |
| Czechoslovakia | Settlement | 2010,2005,2001-1959,1950 (POP-CLC) | 2 | Data was used since 1990, after that data of Czech Republic & Slovakia was used for each country area |
|  | Cropland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 | Data was used since 1990, after that data of Czech Republic & Slovakia was used for each country area |
|  | Forest | 2010 (FRA); 2008-1991 (FAO) 1990,1985,1976,1963,1958,1953 (FRA) | 4 | Data was used since 1990, after that data of Czech Republic & Slovakia was used for each country area |
|  | Grassland | 2008-1961 (FAO); 1958,1953 (TREND) | 2 | Data was used since 1990, after that data of Czech Republic & Slovakia was used for each country area |
|  | Other Land | 2005,2001-1990,1985 ("S&O"-PC) | 3 | Data was used since 1990, after that data of Czech Republic & Slovakia was used for each country area |