Table 1.7 Data coverage of indicators and other quantitative projections

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Section** | **Indicator/topic** | **Past trends** (longest time series) | **Projections** | **Emissions scenarios** | **Climate models** | **Socio-economic scenarios** |
| **3.2.2** | **Global and European temperature (\*)** | 1850–2015 | 2080s | RCP4.5/8.5 | RCM ensemble (EURO-CORDEX) | – |
| **3.2.3** | **Heat extremes** | 1960–2015 | 2030s, 2080s | RCP4.5/8.5 | GCM ensemble | – |
| **3.2.4** | **Mean precipitation** | 1960–2015 | 2080s | RCP8.5 | RCM ensemble (EURO-CORDEX) | – |
| **3.2.5** | **Heavy precipitation** | 1960–2015 | 2080s | RCP8.5 | RCM ensemble (EURO-CORDEX) | – |
| **3.2.6** | **Wind storms** | – | 2080s | A1B | 9 GCM and 11 RCM ensemble | – |
| **3.2.7** | **Hail** | 1951–2010 | – |  |  |  |
| **3.3.2** | **Arctic and Baltic sea ice (\*)** | *Arctic:*  1979–2016  *Baltic:* 1719–2016 | Up to 2100 | All RCPs | GCM ensemble | – |
| **3.3.3** | **Greenland and Antarctic ice sheets** | 1992–2015 | – |  |  |  |
| **3.3.4** | **Glaciers** | 1946–2014 | Up to 2100 | RCP4.5/8.5 | 14 GCM ensemble | – |
| **3.3.5** | **Snow cover** | 1922–2015 | Up to 2100 | All RCPs | GCM ensemble | – |
| **4.1.2** | **Ocean acidification** | 1988–2014 | Up to 2100 | All RCPs | GCM ensemble | – |
| **4.1.3** | **Ocean heat content** | 1957–2013 | – |  |  |  |
| **4.1.4** | **Sea surface temperature (\*)** | 1870–2015 | – |  |  |  |
| **4.1.5** | | **Range shifts of marine species** | 1958–2014 | – |  |  |  |
| **4.1.6** | **Ocean oxygen content** | 1906–2012 | – |  |  |  |
| **4.2.2** | **Global and European sea level rise (\*)** | *Global:* 1880–2015 | *Global:* 2081–2100 | All RCPs, A1B | GCM ensemble | – |
| *European:  1970–2014* | *European:* 2081–2100 | RCP4.5 | GCM ensemble | – |
| **4.3.2** | **River flows** | 1963–2000 | 2080s | A1B | 4 GCMs and 7 RCMs | – |
| **4.3.3** | **River floods** | 1980–2010 | 2006–2035, 2036–2065, 2066–2095 | RCP8.5 | 7 RCM ensemble | – |
| **4.3.4** | **Meteorological and hydrological droughts** | *Meteorological:* 1950–2012 | *Meteorological:* 2050s, 2080s | RCP4.5/8.5 | RCM ensemble | – |
| *Hydrological:* 1963–2000 | *Hydrological:* 2080s | A1B | 12 GCM ensemble | Economy First |
| **4.3.5** | **Water temperature** | 1911–2014 | – |  |  |  |
| **4.4.2** | **Soil moisture** | 1951–2012 | 2030s | A1B | 12 RCM ensemble | – |
| **4.4.3** | **Phenology of plant and animal species** | 1982–2011 | – |  |  |  |
| **4.4.4** | **Distribution shifts of plant and animal species** | – | 2050, 2100 | A2, B1 | HadCM3 | SEDG, GRAS |
| **4.4.5** | **Forest composition and distribution** | – | 2100 | A1B | 6 RCM ensemble | – |
| **4.4.6** | **Forest fires** | 1980–2013 | 2080s | A1B | RACMO2 driven by ECHAM5 | – |
| **5.1.3** | **Economic losses from climate-related extremes (\*)** | 1980–2013 | – |  |  |  |
| **5.2.3** | **Floods and health** | 1991–2015 | – |  |  |  |
| **5.2.4** | **Extreme temperatures and health** | 1987–2010 | – |  |  |  |
| **5.2.5** | **Vector-borne diseases** | Up to 2016 | *Chikungunya:* 2020s, 2050s, 2080s | A1B, B1 | COSMO-CLM | – |
| *West Nile Virus:* 2025, 2050 | A1B | CCSM3 | – |
| **5.2.6** | **Water- and food-borne diseases** | 1982–2010 | *Vibriosis:* 2050 | – | – | – |
| **5.3.2** | **Growing season for agricultural crops** | 1985–2014 | – |  |  |  |
| **5.3.3** | **Agrophenology** | 1985–2014 | – |  |  |  |
| **5.3.4** | **Water-limited crop yield** | – | *Winter wheat:* 2030 | RCP8.5 | 2 GCMs | – |
| *Crop mix:* 2050s  Wheat: 2060 | A1B  RCP8.5 | 12 GCM ensemble  16 GCM ensemble | –  – |
| **5.3.5** | **Crop water demand** | 1995–2015 | 2015–2045 | RCP8.5 | 2 GCMs | – |
| **5.4.2** | **Heating and cooling degree days** | 1951–2014 | – |  |  |  |
| **Quantitative projections not presented in indicator format** | | | | | | |
| **3.1.4** | **Changes in global and European temperature and precipitation** |  | *Global:* 2081–2100 | RCP2.6/8.5 | GCM ensemble | – |
| *European:* 2040s, 2080s | RCP2.6/8.5 | GCM ensemble | – |
| **4.4.7** | **Forest pests and diseases** |  | 2080s | A1B | 2 GCMs | – |
| **4.5.3** | **Climate change assessments of ecosystem services** |  | 2050s | A1B, A2, B1, B2 | 5 GCMs | We are the world  Should I stay or should I go |
| **5.6.2** | **Tourism climatic index** |  | 2080s | A2 | 5 RCM ensemble (PRUDENCE) | – |
| **6.1.1** | **Projected socio-economic developments** |  | Up to 2100 | – | – | SSP1–5 |
| **6.1.2** | **Projected changes in adaptive capacity** |  | 2020s, 2050s | – | – | We are the world  Icarus  Should I stay or should I go  Riders on the storm |
| **6.2.2** | **Multi-sectoral hotspots** |  | 2 °C warming | RCP4.5/8.5 | 10 RCMs | – |
| **6.2.3** | **Multi-hazard exposure** |  | 2020s, 2050s, 2080s | A1B | Different GCM-RCM combinations | – |
| **6.2.4** | **An ecosystem services perspective** |  | 2050s | A1B, A2, B1, B2 | 5 GCMs | We are the world, Icarus |
| **6.3** | **Projected costs of climate change in Europe** |  | 2080s | A1B, E1 (ENSEMBLES) | 4 RCMs | – |
| **6.6** | **Vulnerability to climate change in urban regions** |  | 2080s | A1B | 12 RCM ensemble | – |

Note: This table lists only quantitative projections of future changes in the form of graphs or maps. National or sub-national projections shown in a box are not considered. A decade followed by ‘s’ stands for the 30 years during which this decade is the centre (e.g. ‘2030s’ refers to 2021–2050). Please see note below Table 1.2 for an explanation of the colour codes of indicator names. Indicators marked with an asterisk (\*) are part of the EEA Core Set of Indicators (CSI) ([[1]](#footnote-2)).

CCSM3, Community Climate System Model version 3; COSMO-CLM, Consortium for Small scale Modeling — Climate Limited-area Model; ECHAM5, fifth generation of the ECHAM general circulation model; GCM, general circulation model; HadCM3, Hadley Centre Coupled Model version 3; PRUDENCE, Prediction of Regional scenarios and Uncertainties for Defining EuropeaN Climate change risks and Effects; RACMO2, Regional Atmospheric Climate Model version 2; RCM, regional climate model.

1. () <http://www.eea.europa.eu/data-and-maps/indicators#c5=&c0=10&b_start=0&c10=CSI> [↑](#footnote-ref-2)