

## Summary table of inputs used to drive GLM2.

INPUT	Reference/Source
<b>Gridded Land-Use States</b>	Klein Goldewijk, K., Beusen, A., Doelman, J., and Stehfest, E.: Anthropogenic land use estimates for the Holocene – HYDE 3.2, <i>Earth Syst. Sci. Data</i> , 9, 927–953, <a href="https://doi.org/10.5194/essd-9-927-2017">https://doi.org/10.5194/essd-9-927-2017</a> , 2017.
<b>Gridded Potential Biomass Density, Cell Area, and Country Code Map</b>	Hurtt, George; Chini, Louise; Sahajpal, Ritvik; Frolking, Steve; Bodirsky, Benjamin Leon; Calvin, Kate; Doelman, Jonathan; Fisk, Justin; Fujimori, Shinichiro; Goldewijk, Kees Klein; Hasegawa, Tomoko; Havlik, Petr; Heinemann, Andreas; Humpenöder, Florian; Jungclaus, Johann; Kaplan, Jed; Krisztin, Tamás; Lawrence, David; Lawrence, Peter; Mertz, Ole; Pongratz, Julia; Popp, Alexander; Riahi, Keywan; Shevliakova, Elena; Stehfest, Elke; Thornton, Peter; van Vuuren, Detlef; Zhang, Xin (2017). Harmonization of global land use scenarios (LUH2): Historical v2.1h 850 - 2015. Version YYYYMMDD[1]. Earth System Grid Federation. <a href="https://doi.org/10.22033/ESGF/input4MIPs.1127">https://doi.org/10.22033/ESGF/input4MIPs.1127</a>
<b>National Annual Wood Harvest and Fuelwood</b>	<ul style="list-style-type: none"> <li>• Kaplan, J. O., Krumhardt, K. M., Ellis, E. C., Ruddiman, W. F., Lemmen, C., &amp; Goldewijk, K. K. (2011). Holocene carbon emissions as a result of anthropogenic land cover change. <i>The Holocene</i>, 21(5), 775–791. <a href="https://doi.org/10.1177/0959683610386983">https://doi.org/10.1177/0959683610386983</a></li> <li>• Zon R, Sparhawk WN (1923) <i>Forest Resources of the World</i>, Volume I. McGraw-Hill, NY, p 493</li> <li>• FAO (2016) FAOSTAT Database. Food and Agriculture Organization of the United Nations, Rome, Italy. Retrieved on July 28, 2016 from <a href="http://www.fao.org/faostat/en/#data/FO">http://www.fao.org/faostat/en/#data/FO</a>.</li> </ul>
<b>Industrial Fertilizer</b>	Zhang X, EA Davidson, DL Mauzerall, TD Searchinger, P Dumas, Y Shen. 2015. Managing nitrogen for sustainable development, <i>Nature</i> , 528, 51–59, doi:10.1038/nature15743.
<b>Irrigation and Rice Flooding</b>	Klein Goldewijk, K., Beusen, A., Doelman, J., and Stehfest, E.: Anthropogenic land use estimates for the Holocene – HYDE 3.2, <i>Earth Syst. Sci. Data</i> , 9, 927–953, <a href="https://doi.org/10.5194/essd-9-927-2017">https://doi.org/10.5194/essd-9-927-2017</a> , 2017.
<b>Gridded Crop-Type/Crop-Rotation Rate</b>	<ul style="list-style-type: none"> <li>• Monfreda, C., Ramankutty, N., and Foley, J. A. (2008), Farming the planet: 2. Geographic distribution of crop areas, yields, physiological types, and net primary production in the year 2000, <i>Global Biogeochem. Cycles</i>, 22, GB1022, doi:10.1029/2007GB002947.</li> <li>• FAO (2016) FAOSTAT Database. Food and Agriculture Organization of the United Nations, Rome, Italy. Retrieved on July 28, 2016 from <a href="http://www.fao.org/faostat/en/#data/QC">http://www.fao.org/faostat/en/#data/QC</a>.</li> </ul>
<b>Shifting Cultivation Rates and Extent</b>	Heinemann A, Mertz O, Frolking S, Egelund Christensen A, Hurni K, et al. (2017) A global view of shifting cultivation: Recent, current, and future extent. <i>PLOS ONE</i> 12(9): e0184479. <a href="https://doi.org/10.1371/journal.pone.0184479">https://doi.org/10.1371/journal.pone.0184479</a>
<b>Forest/Non-Forest Transitions</b>	Hansen, M. C., P. V. Potapov, R. Moore, M. Hancher, S. A. Turubanova, A. Tyukavina, D. Thau, S. V. Stehman, S. J. Goetz, T. R. Loveland, A. Kommareddy, A. Egorov, L. Chini, C. O. Justice, and J. R. G. Townshend. 2013. “High-Resolution Global Maps of 21st-Century Forest Cover Change.” <i>Science</i> 342 (15 November): 850–53

---

**INPUT****Reference/Source**

---

**Integrated Assessment  
Model Data  
(cropland area, grazing  
area, urban area,  
irrigated area, synthetic  
nitrogen fertilizer usage,  
wood harvest amounts,  
fuelwood amounts,  
protected areas, biofuels  
areas, rice flooding  
areas, region maps)**

- Detlef P. van Vuuren, Elke Stehfest, David E.H.J. Gernaat, Jonathan C. Doelman, Maarten van den Berg, Mathijs Harmsen, Harmen Sytze de Boer, Lex F. Bouwman, Vassilis Daioglou, Oreane Y. Edelenbosch, Bastien Girod, Tom Kram, Luis Lassaletta, Paul L. Lucas, Hans van Meijl, Christoph Müller, Bas J. van Ruijven, Sietske van der Sluis, Andrzej Tabeau, Energy, land-use and greenhouse gas emissions trajectories under a green growth paradigm, *Global Environmental Change*, Volume 42, 2017, Pages 237-250, ISSN 0959-3780, DOI:10.1016/j.gloenvcha.2016.05.008
  - Oliver Fricko, Petr Havlik, Joeri Rogelj, Zbigniew Klimont, Mykola Gusti, Nils Johnson, Peter Kolp, Manfred Strubegger, Hugo Valin, Markus Amann, Tatiana Ermolieva, Nicklas Forsell, Mario Herrero, Chris Heyes, Georg Kindermann, Volker Krey, David L. McCollum, Michael Obersteiner, Shonali Pachauri, Shilpa Rao, Erwin Schmid, Wolfgang Schoepp, Keywan Riahi, The marker quantification of the Shared Socioeconomic Pathway 2: A middle-of-the-road scenario for the 21st century, *Global Environmental Change*, Volume 42, 2017, Pages 251-267, ISSN 0959-3780, DOI:10.1016/j.gloenvcha.2016.06.004
  - Shinichiro Fujimori, Tomoko Hasegawa, Toshihiko Masui, Kiyoshi Takahashi, Diego Silva Herran, Hancheng Dai, Yasuaki Hijioka, Mikiko Kainuma, SSP3: AIM implementation of Shared Socioeconomic Pathways, *Global Environmental Change*, Volume 42, 2017, Pages 268-283, ISSN 0959-3780, DOI:10.1016/j.gloenvcha.2016.06.009
  - Katherine Calvin, Ben Bond-Lamberty, Leon Clarke, James Edmonds, Jiyong Eom, Corinne Hartin, Sonny Kim, Page Kyle, Robert Link, Richard Moss, Haewon McJeon, Pralit Patel, Steve Smith, Stephanie Waldhoff, Marshall Wise, The SSP4: A world of deepening inequality, *Global Environmental Change*, Volume 42, 2017, Pages 284-296, ISSN 0959-3780, DOI:10.1016/j.gloenvcha.2016.06.010
  - Elmar Kriegler, Nico Bauer, Alexander Popp, Florian Humpenöder, Marian Leimbach, Jessica Strefler, Lavinia Baumstark, Benjamin Leon Bodirsky, Jérôme Hilaire, David Klein, Ioanna Mouratiadou, Isabelle Weindl, Christoph Bertram, Jan-Philipp Dietrich, Gunnar Luderer, Michaja Pehl, Robert Pietzcker, Franziska Piontek, Hermann Lotze-Campen, Anne Biewald, Markus Bonsch, Anastasis Giannousakis, Ulrich Kreidenweis, Christoph Müller, Susanne Rolinski, Anselm Schultes, Jana Schwanitz, Miodrag Stevanovic, Katherine Calvin, Johannes Emmerling, Shinichiro Fujimori, Ottmar Edenhofer, Fossil-fueled development (SSP5): An energy and resource intensive scenario for the 21st century, *Global Environmental Change*, Volume 42, 2017, Pages 297-315, ISSN 0959-3780, DOI:10.1016/j.gloenvcha.2016.05.015
-