

DASHBOARD

South Dakota State Biosolids Statistics

Data Quality & Methods	2018	explanations & sources
<p>Quality & Confidence in this state's data:</p> <p>Data sources & methods:</p> <p>State biosolids included in 2018 EPA ECHO data</p>	<p>MODERATELY HIGH</p> <p>Data from U.S. EPA ECHO database, with additional data from state biosolids coordinator.</p> <p>115% % in ECHO vs. the total presented here; ECHO data include solids stored, which are not included by NBDP</p>	<p>ranking by survey team based on information provided in survey (options: High, Moderate, Low, None)</p> <p>https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual</p>
<p>Demographics & Wastewater</p> <p>State population:</p> <p>Total land area in state (acres):</p> <p>Population density (persons/square mile):</p> <p>Total number of WRRFs reported in state survey:</p> <p>total number of WRRFs permitted/reported elsewhere:</p> <p>number of WRRFs in EPA ECHO reports for 2018:</p> <p>Average population served per WRRF:</p> <p>Average wastewater flow statewide (MGD)</p> <p>avg.wastewater flow statewide (MGD, Seiple):</p> <p>Number of WRRFs that treat >75% of state flow:</p> <p>% of population served by on-site (septic) systems:</p> <p>Biosolids used or disposed / person in 2018 (lbs):</p>	<p>882,235</p> <p>48,519,040</p> <p>11.6</p> <p>19</p> <p>42</p> <p>18</p> <p>15,754</p> <p>61</p> <p>61</p> <p>9</p> <p>25%</p> <p>13.27</p>	<p>U. S. Census estimate for July 1, 2018 https://www.census.gov/newsroom/press-kits/2018/npp-estimates-national-state.html</p> <p>calculated</p> <p>ECHO and state data</p> <p>Seiple et al., 2020; state experts, etc. https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual</p> <p>calculated</p> <p>Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852</p> <p>Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110852</p> <p>Seiple et al., 2020 https://doi.org/10.1016/j.jenvman.2020.110853</p> <p>2004 NBDP estimate</p> <p>calculated</p>
<p>Biosolids Application</p> <p>Agricultural land cropland (acres):</p> <p>% of state area in cropland:</p> <p>Number of farms with that cropland:</p> <p>% cropland to which biosolids were applied:</p> <p>Application rate if all state biosolids were applied to cropland (dry U.S. tons/ac.):</p> <p>% cropland needed if all state biosolids were applied at typical rate (~3 dt/ac):</p>	<p>19,813,517</p> <p>41%</p> <p>25,182</p> <p>no data</p> <p>0.0003</p> <p>0.01%</p>	<p>https://quickstats.nass.usda.gov/results/0CBBAD84-6032-3776-AF8B-624DB8825822</p> <p>calculated</p> <p>https://quickstats.nass.usda.gov/results/FS6563D1-C9CD-30FE-9774-2B91CC0640EC</p> <p>calculated</p> <p>calculated</p> <p>calculated</p>
<p>Nutrient Sources - Comparison</p> <p>Nitrogen (N) in all this state's biosolids (metric tonnes, 2018):</p> <p>N in this state's animal manures (metric tonnes):</p> <p>N in this state's purchased fertilizer (metric tonnes, 2011):</p>	<p>281</p> <p>189,425</p> <p>472,276</p>	<p>calculated assuming avg. 4.8% biosolids N</p> <p>https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure</p> <p>https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased</p>

<p>If all state's biosolids applied, what % of state's applied N would come from biosolids? Phosphorus (P) in this state's biosolids (metric tonnes, 2018):</p> <p>P in this state's animal manures (metric tonnes):</p> <p>P in this state's purchased fertilizer (metric tonnes, 2011):</p> <p>If all state's biosolids applied, what % of state's applied P would come from biosolids?</p>	<p>0.04% 117</p> <p>59,013</p> <p>105,873</p> <p>0.1%</p>	<p>calculated calculated assuming avg. 2% biosolids P https://www.epa.gov/nutrient-policy-data/estimated-animal-agriculture-nitrogen-and-phosphorus-manure https://www.epa.gov/nutrient-policy-data/commercial-fertilizer-purchased</p> <p>calculated</p>
<p>State Regulatory Involvement</p> <p>Biosolids oversight agency / division: Permitting.... of biosolids programs: ...of land application sites: FTEs: state biosolids regulatory program:</p> <p>Biosolids program FTEs per million population:</p> <p>Enforcement: Inspections of biosolids facilities & field sites in 2018:</p> <p>Formal violations issued:</p> <p>Amount of state regulations beyond Part 503:</p> <p>Amount of state regulation of nutrient management & phosphorus:</p> <p>Accessibility of biosolids data to public:</p> <p>State encouragement of biosolids recycling to soils: Voluntary additional protections by land appliers known & reported by state coordinator:</p>	<p>Agriculture and Environment agency - water / wastewater program statewide general biosolids permit, plus local biosolids program permits Class B land application sites are permitted by the state</p> <p>0.3 NBDP estimate</p> <p>0.34 calculated from NBDP estimate</p> <p>no data no data Low Low Low Moderate None</p>	<p>NBDP estimate calculated</p> <p>rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)</p>
<p>Trends</p> <p>New land application activity, 2018 - new permits & acreage, acres applied: acres applied in 2018:</p> <p>Local regulations & their impacts?: details...</p> <p>Legislative & state regulatory actions in 2018 & their impacts?: details...</p> <p>Biosolids beneficial use increasing... ..in 2018?: in 2020?: details...</p>	<p>Low no data None no activity in 2018 None</p> <p>It's staying the same. It's staying the same. It is staying the same</p>	<p>rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)... With quotes of survey responses by state expert(s)</p> <p>survey response by state expert survey response by state expert</p>
<p>Changes in Biosolids Use & Disposal, 2004 - 2018</p> <p>Change* in solids reported used or disposed (in units used by state):</p> <p>Beneficial Use - percentage point increase or decrease (-):</p> <p>Landfill & surface disposal - % point increase or decrease (-):</p> <p>Incineration - percentage point increase or decrease (-):</p> <p>Class A - percentage point increase or decrease (-):</p> <p>Class B - percentage point increase or decrease (-):</p> <p>No class or not known - percentage point increase or decrease (-)</p>	<p>(1,238) dry metric tons</p> <p>-31%</p> <p>31%</p> <p>0%</p> <p>-5%</p> <p>2%</p> <p>3%</p>	<p>*Solids stored were included in 2004 totals, but have been removed for this comparison. Change may be due to population increase/decrease, change in treatment at a large WWTP, and/or different systems of data tracking and reporting.</p> <p>calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)</p>