

DASHBOARD

Colorado 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>HIGH</p> <p>State biosolids coordinator tracks land application closely & compiles data. Land applicators are certified & experienced & report annually.</p> <p>110% % in ECHO vs. the total presented here</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, NBDP):</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>5,695,564</p> <p>66,330,880</p> <p>55</p> <p>455</p> <p>268</p> <p>74</p> <p>10,014</p> <p>no data</p> <p>437</p> <p>21</p> <p>20%</p> <p>28</p>	<p>U. S. Census estimate for July 1, 2018</p> <p>https://www.census.gov/newsroom/press-kits/2018/non-estimates-national-state.html</p> <p>calculated</p> <p>survey response by state expert</p> <p>Seiple et al., 2020; state experts, etc.</p> <p>https://echo.epa.gov/facilities/facility-search?mediaSelected=bioAnnual</p> <p>calculated</p> <p>survey response by state expert</p> <p>Seiple et al., 2020</p> <p>https://doi.org/10.1016/j.jenvman.2020.110852</p> <p>Seiple et al., 2020</p> <p>https://doi.org/10.1016/j.jenvman.2020.110853</p> <p>estimated by NBDP team</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>11,056,259</p> <p>17%</p> <p>25,061</p> <p>no data</p> <p>0.01</p> <p>0.2%</p>	<p>https://quickstats.nass.usda.gov/results/0C8B6084-6032-3776-4FB8-624D8825922</p> <p>calculated</p> <p>https://quickstats.nass.usda.gov/results/F56563D1-C9CD-30EE-9774-2F91CC0640EC</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>If all state's biosolids applied, what % of state's applied N would come from biosolids?</p> <p>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>3,453</p> <p>136,460</p> <p>152,647</p> <p>1%</p> <p>1,439</p> <p>38,852</p> <p>12,829</p> <p>3%</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>calculated</p> <p>calculated assuming avg. 2% biosolids P</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>calculated</p>

State Regulatory Involvement

Biosolids oversight agency / division:

Permitting.... of biosolids programs:

...of land application sites:

FTEs: state biosolids regulatory program:

Biosolids program FTEs per million population:

Enforcement: Inspections of biosolids facilities & field sites in 2018:

Formal violations issued:

Amount of state regulations beyond Part 503:

Amount of state regulation of nutrient management & phosphorus:

Accessibility of biosolids data to public:

State encouragement of biosolids recycling to soils:

Voluntary additional protections by land appliers known & reported by state coordinator:

Environment agency - water / wastewater program

The water / wastewater program regulates the beneficial use of biosolids. The solids waste program regulates surface disposal and landfill disposal.

Colorado requires that Letters of Intent for the Use and Distribution of Biosolids be submitted to the State. LOI's must be submitted for land application sites for the beneficial use of biosolids, and if a facility or entity wants to produce a Class A biosolids for unrestricted use. Colorado evaluates the Letters of Intent for the Use and Distribution of Biosolids and will either issue or deny a Notice of Authorization (Certification) for each Letter of Intent. This is regulated under the Colorado Biosolids Regulation, Regulation 64.

1
0.18

72

1

Moderate

Moderate

Low

High

voluntary land applier certification Low

survey response by state expert

calculated

survey response by state expert

survey response by state expert

rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)

Trends

New land application activity, 2018 - new permits & acreage, acres applied:

acres applied in 2018:

Local regulations & their impacts?:

details...

Legislative & state regulatory actions in 2018 & their impacts?:

details...

Biosolids beneficial use increasing... ..in 2018?:

....in 2020?:

details...

Moderate
no data

None

no activity in 2018

None

It's staying the same.

It's staying the same.

rankings by survey team based on information provided in survey (options: High, Moderate, Low, None)... With quotes of survey responses by state expert(s)

survey response by state expert

survey response by state expert

Changes in Biosolids Use & Disposal

Change* in solids reported used or disposed (in units used by state):

Beneficial Use - percentage point increase or decrease (-):

Landfill & surface disposal - % point increase or decrease (-):

Long-term storage - percentage point increase or decrease (-):

Class A - percentage point increase or decrease (-):

Class B - percentage point increase or decrease (-):

No class or not known - percentage point increase or decrease (-)

(23,686)

10%

0.4%

-10%

2%

8%

-10%

*Change may be due to population increase/decrease, change in treatment at a large WWTP, and/or different systems of data tracking and reporting.

calculated comparing these 2018 data to 2004 data compiled by the same survey team (NEBRA, 2007)