



## Georgia

### Infrastructure & Wastewater

	2004 Data	2018 Data	
<b>Total Number of WWTPs:</b>	<b>462 (survey), 350 CWNS</b>	<b>133 (survey), 330 CWNS</b>	
<b>WWTP &amp; Biosolids Infrastructure Totals</b>			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):	1	1	-----
Total number of your state's WWTPs sending to those Separate Preparers:	12	>2	-----
Number of operating sludge incinerators in your state (total):	4	1	-----
Fluidized bed:	0	0	-----
Multiple hearth:	4	1	-----
Number of Part 258 landfills in your state accepting sewage sludge:	data not requested for 2004	several	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	no data	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	many	-----
<b>Wastewater Flow Totals</b>			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	720	-----
Total statewide WWTP <i>design</i> capacity for wastewater flow (MGD):	data not requested for 2004	no data	-----
Total statewide average daily <i>dry weather</i> flow (MGD):	data not requested for 2004	no data	-----
<b>Other Totals</b>			
Number of documented odor & nuisance complaints received by state in 2018 related to biosolids transportation and use or disposal outside of the gates of the WWTP:	data not requested for 2004	no data	-----
Number of WWTPs involved in those complaints:	data not requested for 2004	no data	-----
Percent of population served by on-site systems (e.g. septic systems):	no data	no data	-----

NBDP's primary data source is a 2018 Biosolids Survey conducted by Georgia Association of Water Professionals (GAWP) in 2019. The GAWP data include direct responses from 99 facilities across GA, plus data pulled from EPD annual biosolids reports for 28 additional facilities (127 facilities total). GA's state biosolids coordinator provided NBDP with EPD annual biosolids report data from 2018 for 45 facilities, 39 of which were also represented in GAWP's data. The EPD data provided directly to NBDP added 6 additional facilities (133 facilities in total). Additional details on data cleaning process available; where inconsistencies existed between datasets reviewed, NBDP took steps least likely to significantly skew final numbers. • One known separate preparer is EARTH Products, which composites biosolids for mixes sold to the general public. Number of WWTPs sending to EARTH Products is likely higher than shown at left. • Statewide wastewater flow is calculated twice: first using GAWP survey data from 2018 for 99 facilities, supplemented with several data points from Seiple et al. 2020. This calculation is likely closest to total average daily flow for the facilities with solids data for 2018: 720 MGD. Seiple et al. estimated 805 MGD, which includes 330 WRRFs, including the hundreds of very small WRRFs that likely do not use or dispose of solids every year.

### Biosolids Use and Disposal

UNITS:	Dry U.S. tons	Dry U.S. tons	
<b>BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total):</b>		<b>181,900</b>	
<b>Summary</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...
			Quantity of Biosolids
Beneficial Use (applied to soils, not including ADC)	57	49,224	54
Disposal & Alternative Dispositions	404	150,051	90
Other	1	725	
<b>TOTAL</b>	<b>462</b>	<b>200,000</b>	<b>144</b>
			<b>181,949</b>
<b>Beneficial Use</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...
			Quantity of Biosolids
Agricultural (EQ, Class A, & Class B)	52	39,121	52
Forestland (EQ, Class A, & Class B)	0	0	
Reclamation (EQ, Class A, & Class B)	0	0	
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)	5	10,103	2
Beneficial Use Subtotal	57	49,224	54
Long-term storage	1	725	
			6,042
			46,222
			0
Number of <i>acres</i> to which biosolids were applied:	no data		no data
<b>Landfill</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...
			Quantity of Biosolids
Landfill (total)	400	108,533	89
			115,540

**NOTE:** Quantity of sewage sludge or biosolids used or disposed means the quantity that goes out the gate of the WWTPs. Use the units (the form of measurement) you chose above.

Agricultural includes Class B biosolids from 38 WWTPs (32,615 dt) plus Class A biosolids from 14 WWTPs (7,565 dt). Class A EQ Distribution includes solids from 2 WWTPs that are known to go to separate preparer EARTH Products, which composites biosolids for soil amendment mixes sold on the general market.

Burial	data not requested for 2004	data not requested for 2004		
Alternative daily (ADC), intermediate, or final cover	data not requested for 2004	data not requested for 2004		
Surface Disposal	0	0		
Incineration	4	41,518	1	20,187
Cement kiln or industrial furnace	data not requested for 2004	data not requested for 2004		
Deep well injection	data not requested for 2004	data not requested for 2004		
Gasification	data not requested for 2004	data not requested for 2004		
Pyrolysis	data not requested for 2004	data not requested for 2004		
Disposal & Alternative Dispositions Subtotal	404	150,051	90	135,727
<b>TOTAL</b>	<b>462</b>	<b>200,000</b>	<b>144</b>	<b>181,949</b>

GAWP's survey specifies that 60 facilities use only landfill for disposal methods, while 11 additional facilities use landfill as a backup option. • The one incineration facility remaining in GA in 2018 was at the Clayton WRRF in Atlanta, and it is being phased out.

### Biosolids Quality Summary

	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids
Class A EQ	5	10,103	6	7,149
Other Class A	0	0		
Class B	50	39,121	40	57,887
Other (no data, etc.)	407	150,776	84	116,911
<b>TOTAL</b>	<b>462</b>	<b>200,000</b>	<b>130</b>	<b>181,947</b>

NOTE: For "number of entities," the total may not match because some entities go to more than one use or disposal.

Class A EQ includes biosolids labeled as Class A in GAWP survey, but are assumed to be EQ based on treatment processes used and rarity of non-EQ Class A biosolids.

### Biosolids Treatment Practices

	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...
<b>Stabilization</b>				
<b>Aerobic Digestion (total)</b>	no data	no data	68	74,510
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004		
Class B	data not requested for 2004	data not requested for 2004		
<b>Anaerobic digestion (AD) (total)</b>	no data	no data	13	66,088
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004		
Class B (mesophilic)	data not requested for 2004	data not requested for 2004		
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004		N/A
Biogas used (heating, electricity, fuel, etc. scf/year)	data not requested for 2004	data not requested for 2004		N/A
<b>Lime/Alkaline (total)</b>	no data	no data	3	28,059
Class A lime/alkaline	data not requested for 2004	data not requested for 2004		
Class B lime/alkaline	data not requested for 2004	data not requested for 2004		
<b>Composting</b>	no data	no data	15	13,197
<b>Thermal (e.g. heat drying, not incineration/gasificatn/pyrol)</b>	no data	no data	2	5,417
<b>Gasification</b>	data not requested for 2004	data not requested for 2004		
<b>Pyrolysis</b>	data not requested for 2004	data not requested for 2004		
<b>Hydrolysis (thermal, chemical, etc.)</b>	data not requested for 2004	data not requested for 2004		N/A
<b>Long-term (lagoons, reed beds, etc.)</b>	no data	no data		N/A
<b>Oxidation ditch / extended aeration</b>	data not requested for 2004	data not requested for 2004		N/A
<b>Other stabilization technology</b>	no data	no data		
<b>Dewatering</b>				
<b>Belt Filter Press</b>	no data	no data	59	84,165
<b>Plate &amp; Frame Press</b>	no data	no data	3	24,335
<b>Screw Press</b>	no data	no data		
<b>Centrifuge</b>	no data	no data	25	92,044
<b>Vacuum Filter</b>	no data	no data		
<b>Drying beds (open-air)</b>	no data	no data	8	2,780
<b>Solar drying (e.g. in greenhouse)</b>	data not requested for 2004	data not requested for 2004		
<b>Other dewatering technology</b>	no data	no data		
<b>Thickening</b>				
<b>Gravity thickener</b>	data not requested for 2004	data not requested for 2004		
<b>Gravity belt thickener (GBT)</b>	data not requested for 2004	data not requested for 2004		
<b>Centrifuge</b>	data not requested for 2004	data not requested for 2004		
<b>Dissolved air flotation (DAF)</b>	data not requested for 2004	data not requested for 2004		
<b>Other thickening technology</b>	data not requested for 2004	data not requested for 2004		
<b>Other</b>				
<b>Biosolids sold in bags (explain at right what size bags)</b>	data not requested for 2004	data not requested for 2004		

These data are from the 99 facilities that responded to GAWP's 2019 Biosolids Survey requesting 2018 data. Aerobic and Anaerobic Digestion fell under the "Pre-treatment" category in GAWP's survey report. All other technologies (divided here into stabilization, dewatering, and thickening) fell under "Drying Technology" in GAWP's survey report. Line 82 ("Thermal" at left) is the "Drying Technology" labeled "Dryer" in GAWP's summary report. • It's possible that the technologies listed here were used for multiple or different purposes than we've indicated (e.g. centrifuge used for dewatering and/or thickening).

## State Pollutant (trace metal, etc.) Concentration Limits in Biosolids Applied to Land, 2018

Enter numbers only where state limits differed in 2018 from U.S. EPA limits.

	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Selenium (Se)	Zinc (Zn)
EPA Table 1 (mg/kg)	75	85		4300	840	57	75	420	100	7500
EPA Table 3 (mg/kg) & CPLR (kg/ha)	41	39		1500	300	17		420	36 (CPLR = 100)	2800
State ceiling limit (higher limit) (mg/kg)										
State high quality (lower number) limit (mg/kg)										
State CPLR (kg/ha)										
State APLR (kg/ha/365days)										

### TESTING

For each of the following constituents, indicate if testing is required by your state, as of 2018.	Is testing required for all sewage sludge or biosolids?	Or is testing required only for biosolids being beneficially used as fertilizers and soil amendments?	Frequency of testing (indicate how often testing must be done for each parameter):		If frequency depends on wastewater flow or amount of biosolids used or disposed of, please explain:
			In accordance with Part 503 requirements	In accordance with other frequency required by state (if applicable, please specify)	
Part 503 metals (As, Cu, Hg, etc.)	no	yes	yes		
Other metals (boron, silver...)	no	no	no		
Dioxins/furans	no	no	no		
PCBs	no	no	no		
Priority pollutants ( <a href="https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf">https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf</a> )	no	no	no		
Other organic compounds (e.g. PDBEs, pharmaceutical)	no	no	no		
Radioactive isotopes (alpha, beta, Ra 226, etc.)	no	no	no		
Nutrients (NPK)	no	yes	yes		
Pathogen reduction (Class A or B)	no	yes	yes		
Vector attraction reduction (VAR)	no	yes	yes		
PFAS (as of 2018)	no	no	no		
Microplastics (as of 2018)	no	no	no		
TCLP (toxicity characteristic leaching procedure)	no	no	no		
Paint Filter Liquids Test	no	no	no		

### REPORTING

For each of the following, indicate what WWTPs and/or biosolids preparers must report to the state:	Is reporting to the state required for these parameters?	Frequency of reporting (indicate how often testing must be done for each parameter):		How are these data stored by the state?	Are data compiled by the state in reports or summaries? If so, please attach.
		In accordance with Part 503 requirements	In accordance with other frequency required (if applicable, please specify)		
The amounts of biosolids/sewage sludge used or disposed	yes	yes		paper	no
Part 503 metals (As, Cu, Hg, etc.)	yes	yes		paper	no
Other metals (boron, silver...)	no	no			
Dioxins/furans	no	no			
PCBs	no	no			
Priority pollutants ( <a href="https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf">https://www.epa.gov/sites/production/files/2015-09/documents/priority-pollutant-list-epa.pdf</a> )	no	no			
Other organic compounds (e.g. PDBEs, pharmaceutical)	no	no			
Radioactive isotopes (alpha, beta, Ra 226, etc.)	no	no			
Nutrients (NPK)	yes	yes		paper	no
Cumulative Pollutant Loading Rates (CPLR)	no	no			
How biosolids achieve Class A or Class B	yes	yes		paper	no
How biosolids achieve vector attraction reduction (VAR)	yes	yes		paper	no
Solids stabilization process(es) used	yes	yes		paper	no
Other biosolids treatments	no	no			
End use or disposal practice	yes	yes		paper	no
PFAS (as of 2018)	no	no			
Microplastics (as of 2018)	no	no			
TCLP (toxicity characteristic leaching procedure)	no	no			
Paint Filter Liquids Test	no	no			