

manureshed Cheat Sheet

MANURED SHED QUICK REFERENCE

INSTALLATION

```
install.packages("manuredshed")
library(manuredshed)
```

BASIC ANALYSIS

```
# Simple analysis
results <- run_builtin_analysis(
  scale = "county",      # or "huc8", "huc2"
  year = 2016,           # 1987-2016
  nutrients = "nitrogen",
  include_wwtp = TRUE
)
```

DATA LOADING

```
# Load data manually
nugis <- load_builtin_nugis("county", 2016)
wwtp <- load_builtin_wwtp("nitrogen", 2016)
boundaries <- load_builtin_boundaries("county")
```

VISUALIZATION

```
# Create maps
map <- create_classification_map(results, "nitrogen")

# View interactive dashboard
launch_dashboard()
```

COMPARISON

```
# Compare scenarios
base <- run_builtin_analysis(..., include_wwtp = FALSE)
wwtp <- run_builtin_analysis(..., include_wwtp = TRUE)
compare_scenarios(list("Base" = base, "WWTP" = wwtp))
```

EXPORT

```
# Export results
export_gis(results, "output_dir")
save_spatial_data(results, "results.rds")
```

BATCH ANALYSIS

```
# Multiple years
batch_results <- batch_analysis_years(
```

```
  years = 2010:2016,  
  scale = "huc8"  
)
```

COMMON PATTERNS

County Analysis

```
results <- run_builtin_analysis(  
  scale = "county", year = 2016, nutrients = "nitrogen"  
)
```

State Analysis

```
ohio <- run_state_analysis(  
  state = "OH", scale = "county", year = 2016  
)
```

With Custom WWTP

```
results <- run_builtin_analysis(  
  ...,  
  custom_wwtp_nitrogen = "my_wwtp.csv"  
)
```

TROUBLESHOOTING

Slow downloads? Enable caching:

```
# Caching enabled by default  
data <- load_builtin_nugis("county", 2016)
```

Check data availability:

```
list_available_years()  
check_builtin_data()
```

Get help:

```
?run_builtin_analysis  
vignette("getting-started")
```

RESOURCES

- Documentation: <https://exelegch.github.io/manureshed-docs/>
- CRAN: <https://CRAN.R-project.org/package=manureshed>

Version 0.1.2 / More at: <https://github.com/cwru-sdle/manureshed>