

## **Codebook for files tracking local government and watershed management activity in wake of passage of 1982 Metropolitan Surface Water Management Act**

In establishing the collaborative mandate, the State of Minnesota delegated supervision and monitoring authority to the Board of Water and Soil Resources (BWSR), a quasi-state agency partially governed by local units of government. BWSR was responsible for approving watershed plans and kept records of these plans and other materials. Now archived by the Minnesota Historical Society (Minnesota Board of Water and Soil Resources 1985), this repository provides a valuable source of documentary evidence about MSWA compliance, including especially an evaluative report from the Metropolitan Local Water Management Task Force (1989-1990). I also consulted records kept by BWSR's predecessor organization on the history of WDs (Minnesota Water Resources Board 1965) and a corroboratory archive of financial records on WMOs kept by the State Auditor, to whom budget information was also statutorily required (Minnesota State Auditor 1970). With these archival materials in hand, I also consulted the most recent watershed plan from the existing WMOs. These recent reports almost universally had brief narratives on the history of the organization or its predecessors, providing a general sketch which I could fill in with documentary evidence. From these materials, I synthesized a few intermediary products: historical narratives for each of the 32 contemporary WMOs, tabular data from 1975-1995 of the count of WMOs formed, involved in planning, and jointly budgeting, and a longer time-series of WMO formation, dissolution, and changing membership from 1975-2011. See associated research paper for more.

### **Nodes table, enumerating the 255 vertices in the collaborative network with additional information**

<b>Field</b>	<b>Description</b>
ID	Numeric identifier for the node, required for statnet R package.
NAME	Name of the local unit of government or watershed management organization. All caps with underscores. Eg: COUNTY_OF_ANOKA.
type	Either LUG (local unit of government) or WMO (watershed management organization)

subtype	For LUGs, the subtype is either County, Municipality, Township, SWCD (soil and water conservation district), or “other” (Minneapolis Park Board, and University of Minnesota, both having briefly been involved in WMOs). For WMOs, the subtype is either JPA (joint powers agreement), WD (watershed district) or COU (county-administered).
is_actor	TRUE/FALSE variable that is TRUE for the LUG nodes. Required to identify the network as bipartite to the statnet R package.
formationYr	Year of formation of the entity. For all LUGs, this is recorded as “-Inf” to indicate to statnet R package that the local government predates the observation period. WMO formation years span from 1959 to 2014, though statistical analysis only starts at 1975.
dissolutionYr	Year of dissolution of the entity. For all LUGs, except one, this is recorded as “Inf”. The Hennepin County Soil and Water Conservation district was disbanded and its functions incorporated into the county itself in 2013. WMOs dissolve as soon as 1983 and as late as 2014. Numerical estimation using the statnet R package is not currently capable of handling changing node sets, however, so the temporal information in the nodes is ignored.

**Links table, enumerating the observed collaborative links between LUGs and WMOs**

<b>Field</b>	<b>Description</b>
IDsource	Numeric id for the sending node (a LUG) matching the ID variable in the nodes table.
IDtarget	Numeric id for the receiving node (a WMO) matching the ID variable in the nodes table.
LUG	The name of the LUG in the link, corresponding to the same field in the nodes table.
WMO	The name of the WMO in the link, corresponding to the same field in the nodes table.
startYear	The year the relationship was initiated. Links start as early as 1959 and as late as 2014.

stopYear	Year of termination of the relationship. Links end as early as 1983 and as late as 2014. There are 155 links that persist beyond the study period and are listed as “Inf”.
Membership	Legally speaking, watershed districts are governed by their intersecting counties. In such cases, the participation of other units of government is inferred from advisory board membership, and listed as “informal” in this field. Both formal and informal links are treated as equivalent in the paper’s analysis.
citation	Short citation for the method of confirming the relationship. These fall into three categories: an archival document (as listed in paper references), a WMO or LUG website, or a note that memberships were inferred from spatial data alongside archival information.

#### **Table of WMO activity**

<b>Field</b>	<b>Description</b>
year	Year in 1975-1995 range the observation corresponds to
name	Name of the WMO
interGovAgreement	Binary variable. Does an intergovernmental agreement exist for this WMO in this year? No missing data.
budget	Binary variable, where no absences of budget have been confirmed. Possible values are 1 and NA, for missing.
approvedPlan	Binary variable. Does this WMO have a BWSR approved plan in this year? Assumed to be no (0) until first year of documented approved plan, and yes (1) from that year on.
ongoingPlanning	Most are missing (NA), unless evidence specifically indicated the contrary, in which case that year-WMO pair is given a yes (1).