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The concern with the quality of groundwater is growing and increasingly widespread in society, since, in the same way, its importance in the public supply of the municipalities of western São Paulo grows, as well as the deterioration of its quality by anthropic action. Thus, it is extremely important to detect sources of contamination in the aquifers of the State of São Paulo. Results of groundwater quality monitoring by the Environmental Company of the State of São Paulo (CETESB) and studies by Varnier et al. (2010), Montanheiro (2014), Procel Guerra (2011), Silva (2009) and Cagnon (2003), showed nitrate concentrations that exceed the potability standard in several wells that capture water, mainly from the Bauru Aquifer System (SAB).

A recent study performed by IG and IPT (2019), mapped the potential nitrate load contamination areas (PNL) in the groundwater of the SAB and outcrop SAG Aquifers, originated from sanitation systems. The methodology applied was based on POSH-IG (IRITANI, 2013), from the crossing of these variables: evolution of the urban network, population density and presence of a sewage network.

This work aims to assess the correlation between the potential loads (PNL) mapped and nitrate concentrations obtained in the well database of this study (IG and IPT, 2019), as well as to evaluate the correlation between the PNL, nitrate concentration , and the chemical and constructive characteristics of wells in some cities prioritized for detailed studies: Andradina, Luiziânia, Santo Anastácio and Vista Alegre do Alto. For this, secondary analysis data and constructive information on the wells have been compiled and organized, as well the cartographic bases survey of the municipalities. This information was consolidated into a georeferenced database and interpreted considering maps and graphs.

The assessment has demonstrated coherence with the methodology used by IG and IPT (2019), mainly in the subclass of large equipment land use, and in rural areas defined by IBGE. Although the qualitative calculation of the potential nitrate load is a potential classification for management, and not a definition of the nitrate concentrations existing in the aquifer, it is recommended to test other matrices for qualitative classification of the potential nitrate load, seeking to verify its influence in the correlation between PNL distribution and nitrate concentrations.

Keywords: nitrate; groundwater protection; vulnerability mapping.