

Table S1. Literature Overview.

a/a	Authors	Location	Characteristics of Study Area	Applied Methods
1	Doerfinger & Zwahlen (1999)	Switzerland, St. Imier Spring, Bern	Area: 110 km ² Malm limestone, 200–400 m Main pollutant: liquid manure	First application of EPIK method with the aim of new delineation of protection zones and re-establishment of groundwater protection areas in the St. Imier water catchment.
2	Gogu & Dassargues (2000)	Belgium, Beauraing	Area: 2,5 km ² Karstified limestone Unconfined aquifer, water table 18 m–40 m Epikarst medium - poor degree of karstification	Statistical sensitivity analysis and application of EPIK method have shown differences between effective weights and theoretical weights of the parameter weightings.
3	Gogu, Hallet, Dassargues (2003)	Belgium, Neblon River Basin	Area: 65 km ² Limestone Main land use is agriculture and forests, villages are present in the study area High degree of karstification	Application of EPIK, DRASTIC, GOD and ISIS method.
4	Neukum & Hötzl (2006)	Germany, Karlsruhe, Stuttgart	Area: 135 km ² Limestones, Marls and Dolomites, 100 m Well karstified aquifer, flow velocity 185 m/h	Application of EPIK, DRASTIC, PI and GLA method
5	Ravbar & Goldscheider (2008)	Slovenia, Catchment of Podstenjsek spring	Area: 9 km ² Carbonate Rock, Flysch High water table fluctuations	Application of EPIK, PI, COP and Slovene Approach
6	Polemio, Casarano, Limoni, (2008)	Italy, Murgia Aquifer, Apulia	Area: 78.2 km ² Large coastal karst aquifer, affected by seawater intrusion	Application of EPIK, PI, COP, GOD, DRASTIC and SINTACS method
7	Kazakis, Oikonomidis, Voudouris (2015)	Greece, Anthemountas Basin	Area: 374 km ² Three different aquifer types, porous, karstic and fissured rocks aquifer. Very well developed karst	The DRASTIC, EPIK, AVI, DRASTIC-FM method were applied for vulnerability and risk assessment.
8	Hamdan et al. (2016)	Jordan, Tanour and Rasoun Spring	Area: 36 km ² Tanour springs and Rasoun springs are main water supply for domestic use in the area	Application of EPIK, COP, PI, VULK method
9	Baalousha (2016)	Quatar	Study area consists of karst and no karstic formations	Application of DRASTIC and EPIK method
10	Lenhare & Filho (2018)	Brazil, Guapiara Plateau and Paranapiacaba Range	Two test sites with differences in karst development. Highly vulnerable areas are already under consideration by the delineation of protection zones.	Application of EPIK and KDI method
11	Pereira et al. (2018)	Brazil, São Miguel Watershed	Tropical karst region with high contamination of phosphorus, nitrate and cadmium due to agricultural, livestock and urban land use.	EPIK, PI, DKI and COP method have been applied.
12	Jakada et al. (2018)	China, Yichang, Hubei Province	Area: 194 km ² Dominant rock type: Limestone Well developed karst system	EPIK method has been applied.
13	Moreno-Gómez (2018)	Mexiko, Yucatán Karst	Area: 39.52 km ² Dominant sediments: Limestone and Dolomites Well developed karst with conduit system and sinkholes	EPIK, COP, PI, PaPriKa method have been applied.
14	Momejian et al. (2019)	Lebanon	Three study areas; Beirut (22 km ²), Jal el Dib (1.5 km ²), and Tripoli (11 km ²)	Application of three different models of EPIK with differences in the urbanization impact.
15	Younos, Schreiber, Kosič Ficco, (2019)	USA, Big Ceek Basin, Arkansas	Batesville and Boone formations (sandstone and impermeable chert) Mantled karst, highly karstified	EPIK, COP, PI, DRASTIC, European Approach and Slovene Approach have been applied with additional Hazard and Risk mapping.