

SUPPLEMENTARY MATERIAL 2

Table S2. Search criteria and Boolean operators applied to Web of Science and ScienceDirect databases. (Porous media aquifers)

Group 1	(Groundwater contamination OR groundwater vulnerability OR aquifer vulnerability OR Groundwater pollution)
AND	
Group 2	(Spatiotemporal OR Temporal OR Spatial-temporal OR Spatio-temporal)
NOT	
Group 3	(health)
Document Type	
Group 4	Article only
Timespan	
Group 4	2010-2021

Table S3. Search criteria and Boolean operators applied to Web of Science and ScienceDirect databases. (Karst aquifers)

Group 1	("karst groundwater" OR "karst aquifers")
AND	
Group 2	(Vulnerability OR contamination OR pollution)
AND	
	(Spatiotemporal OR Temporal OR time-dependent OR spatio-temporal)
NOT	
Group 3	(health)
Document Type	
Group 4	Article only
Timespan	
Group 4	2001-2021

Table S4. Exclusion criteria followed by PRISMA for the need of this review.

Stage1: Screening the list of gathered samples from all sources (on MS Excel)
Remove duplicates
Stage2: Screening Titles and Abstracts
Not related to GW contamination
Soil pollution
Forest & Wetland pollution
watershed dynamics & catchment management
Riverbank morphology and filtration
Soil and surface water dynamics
GW quantitative vulnerability
GW management & remediation
Stage3: Screening full text
Not related to modelling
In situ field observations
Coastal Aquifers & GW Salinity
Natural hazard
Manmade hazard (Oil & gas exploration and mining)
Microbial or viral pollution
Review papers (Included in introduction)
Not accessible