

*SUPPLEMENTARY MATERIALS*

Article

## Vulnerability in a populated coastal zone and its influence by oil wells in Santa Elena, Ecuador.

Supplementary Materials:

**Table S1.** Comparison of studies presenting different methodologies for the vulnerability assessment of the oil and gas industry.

Y	V.T.			E. T.		M.		Contribution	
	S	P	E <sub>n</sub>	E <sub>c</sub>	I	C	Q <sub>n</sub>		Q <sub>i</sub>
2002			X			X	X	Methodology to identify the vulnerability of seabird species to potential oil spills through risk and environmental analysis [52].	
2003			X		X	X		Review and analysis of the vulnerability of different vertebrate species due to oil pollutants and metals [53].	
2004	X		X			X	X	Oil spill analysis through theoretical, practical and applied approaches [44].	
2005	X	X	X		X	X	X	Methodology to identify vulnerability for gas pipelines to potential seismic events using probabilistic models [56].	
2006		X	X		X	X	X	Groundwater vulnerability assessment methodology using GIS, fuzzy logic and decision-making techniques [48].	
2007	X	X			X	X	X	Analysis of oil infrastructure vulnerability due to vandalism through risk analysis [58].	
2008				X			X	Methodology to identify the vulnerability of oil-importing countries to high prices per barrel [39].	
2009	X	X	X	X		X	X	Integral vulnerability model for oil spills on shorelines [40].	
2010	X		X			X	X	Methodology to identify the vulnerability of mangroves and villages to oil spills [41].	
2011			X		X	X	X	Vulnerability assessment model for confined groundwater to oil contamination [46].	
2012		X	X			X	X	Model for oil spill risk assessment and the simulation of hydrodynamics using finite elements [42].	
2013	X		X	X		X	X	Quantitative assessment of oil spills in coastal areas comprising different indicators [43].	
2014				X		X	X	Model of seabird vulnerability caused by the development of offshore oil and gas platforms. [51].	
2015		X				X	X	X	Model for assessing the risks and vulnerability caused by an oil refinery in coastal areas [54].
2016	X	X		X		X	X	Model for assessing coastal zone vulnerability to energy infrastructure development [55].	
2017	X						X	X	Vulnerability analysis for exposure to airborne petroleum products and attention deficit disorder in children [50].
2018		X			X	X	X	Analysis model for oil infrastructure vulnerability to possible corrosion due to different conditions [57].	
2019			X		X	X	X	X	Model for assessing the vulnerability of aquifers to oil exploitation activities [47].
2020			X		X	X	X	Model for assessing vulnerability to oil spills in sensitive environments. [45].	
2021			X		X		X	Vulnerability assessment model for watershed fracking development in mountainous areas [49].	

Y (Year). V.T. (vulnerability type: S, Social; P, Physical; E<sub>n</sub>, Environmental; E<sub>c</sub>, Economical); E.T. (Environment type: I, Interior; C, Coastal); M. (Methodology: Q<sub>n</sub>, Quantitative; Q<sub>i</sub>, Qualitative).