Supplementary material

Table S1. Complete list of relevant terms per each topic identified in the topic modelling.

Topic Abbreviation	Relevant Terms	Number of Tweets
Topic 1	climate, change, crisis, climatecrisis, catastrophe, protection, energy, extreme, heat, climateactionnow	231
Topic 2	limburg, water, maas, high, flooding, venlo, valkenburg, maastricht, watersnood, south	719
Topic 3	cologne, intensity, precipitation, area, koelle	46
Topic 4	towards, direction, closed, near, blocked, bastogne, li, flooding, charleroi, travel	301
Topic 5	people, affected, flood, disaster, many, victims, floods, solidarity, help, thanks	594
Topic 6	country, poland, italy, uk, people, hunger, strike, schoenstatt, schoenstattorg, srebrenica	300
Topic 7	pastoral, care, emergency, koblenz, mayen, mission, landkreismayenkoblenz, deployment, districtmayenkoblenz, operation	10
Topic 8	mh, mystery, solved, youtube, check, video, judge, answers, research, questions	16
Topic 9	ahrweiler, flood, help, germany, donations, bonn, district, ahr, fire, people	445
Topic 10	electricity, power, warning, diesel, disaster, siren, areas, lives, without, outage	139
Topic 11	br, veghel, bob, upscaling, alarm, veldenweg, drunen, new, middle, large	17
Topic 12	vaccinated, vaccination, covid, corona, infections, pandemic, people, via, incidence, cases	347
Topic 13	belgium, floods, liege, li, namur, meuse, dinant, water, flooding, city	389

Topic 14	khuzestan, tigray, justice, people, defundaredes, liberenalos, freedom, kurdistan, iran, crime	225
Topic 15	samson, gesves, closed, towards, flooding	8
Topic 16	hotton, tohogne, ardenne, roche, travel, direction, blocked, towards, flooding, accident	10
Topic 17	hertogenbosch, cooperation, found, injury, missing, police, transport, bbn, burgernet, accident	116
Topic 18	bless, god, amen, living, dead, lord, condolences, relatives, flees, crawls	207
Topic 19	cuba, soscuba, venezuela, cuban, freedom, cubans, cubaesunadictadura, cambiodesistema, free, cubadecide	121
Topic 20	ring, inner, accident, near, lane, outer, blocked, zellik, left, tervuren	63
Topic 21	belgium, national, day, victims, mourning, solidarity, floods, silence, minute, netherlands	358
Topic 22	laschet, germany, merkel, chancellor, cdu, german, catastrophe, people, climate, nrw	190
Topic 23	donations, help, donate, aid, flood, donation, thank, money, volunteers, distance	245
Topic 24	neufch, teau, sunday, valjoly, sweets, wiese, nebach, mutt, saure, monday	20
Topic 25	germany, flood, rhine, rain, heavy, water, erftstadt, nrw, cologne, wuppertal	460
Topic 26	water, basement, high, see, damage, flooded, dry, photo, house, cellar	301
Topic 27	fire, leverkusen, explosion, brigade, bait, dog, poison, waste, operation, friesenhagen	201
Topic 28	flood, rain, floods, water, weather, flooding, storm, heavy, flooded, like	540
Topic 29	direction, near, lummen, blocked, accident, lane, brussels, closed, ranst, stop	235
Topic 30	good, strength, thank, family, luck, everyone, keep, people, fingers, thanks	369

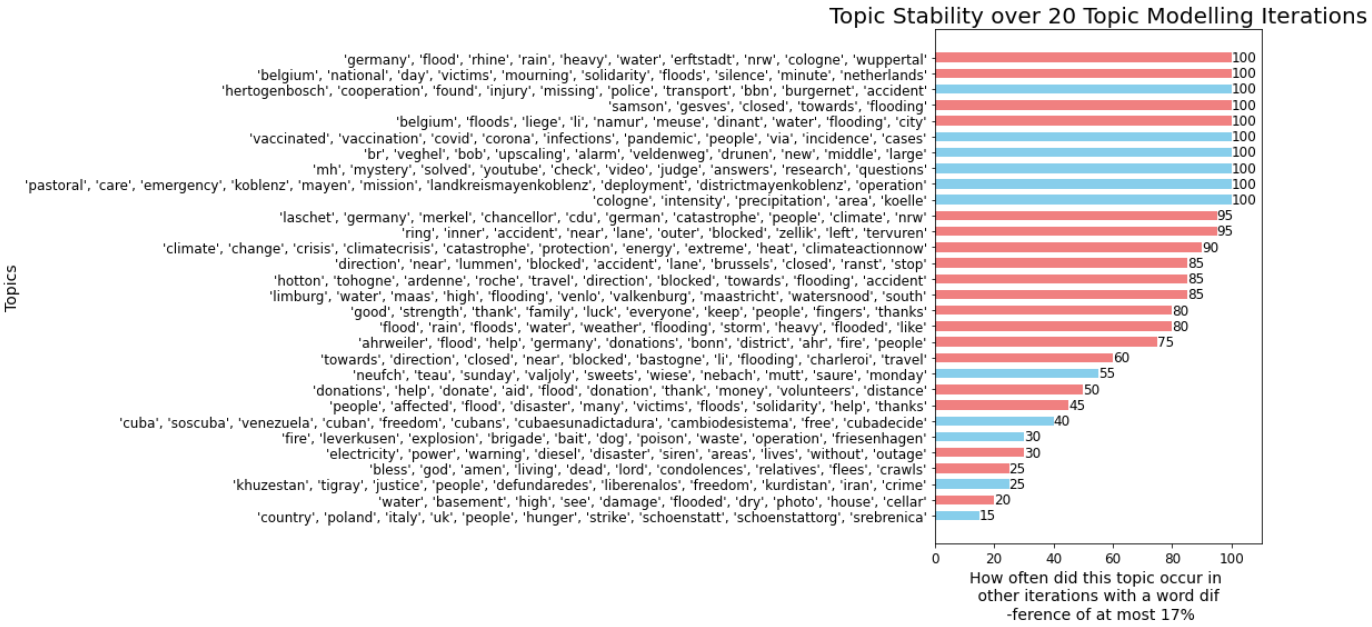

Figure S2. Topic stability in percent of all iteration, for the topics in the iteration with the most stable topics. The percentages indicate across how many iterations this topic emerged with a maximum difference of 17%. The red bars depict the topics selected for further analysis.

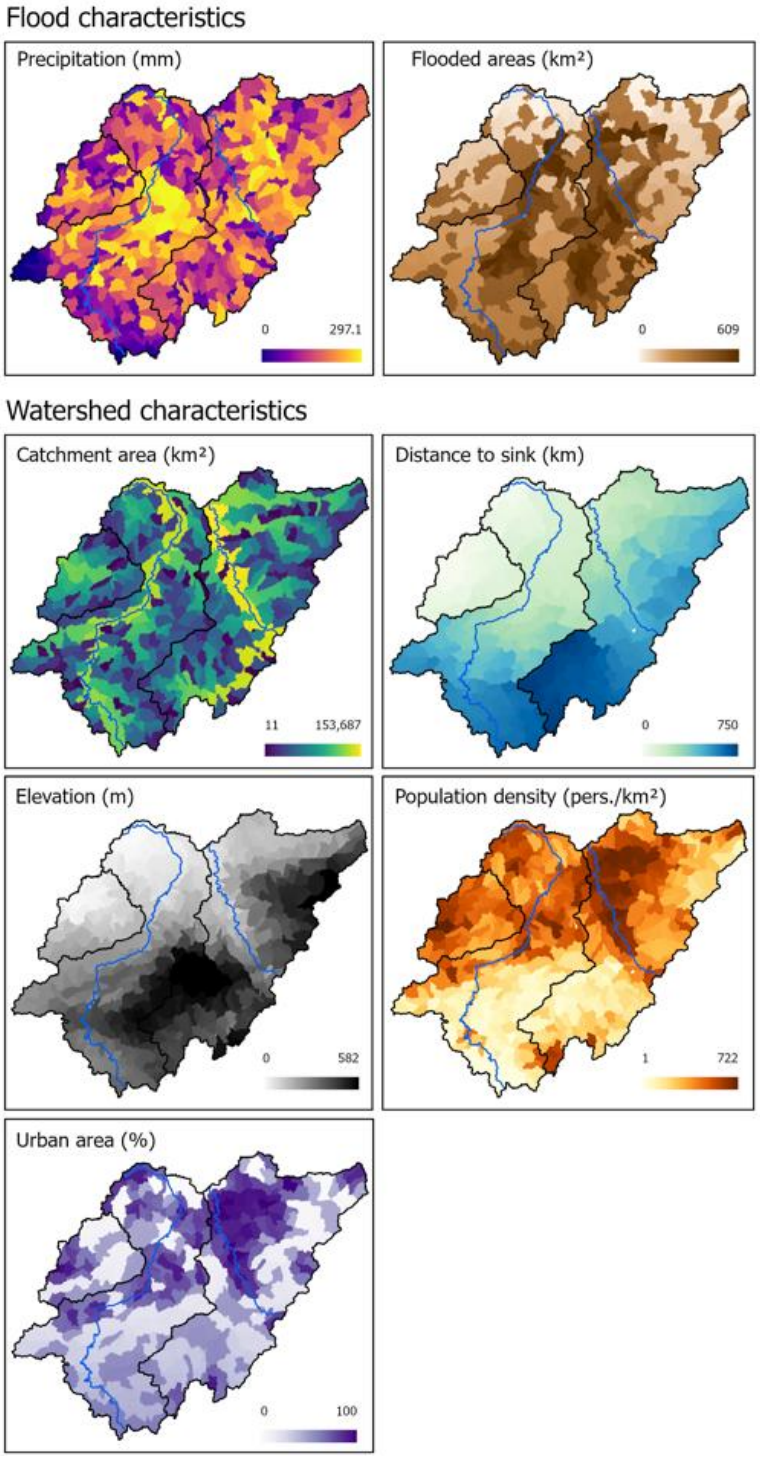

Figure S3. Map of variables analysed to describe the flood and watershed characteristics across three main river basins (Escaut, Meuse, and Rhine). Variables are classified using a quantile method (100 classes).