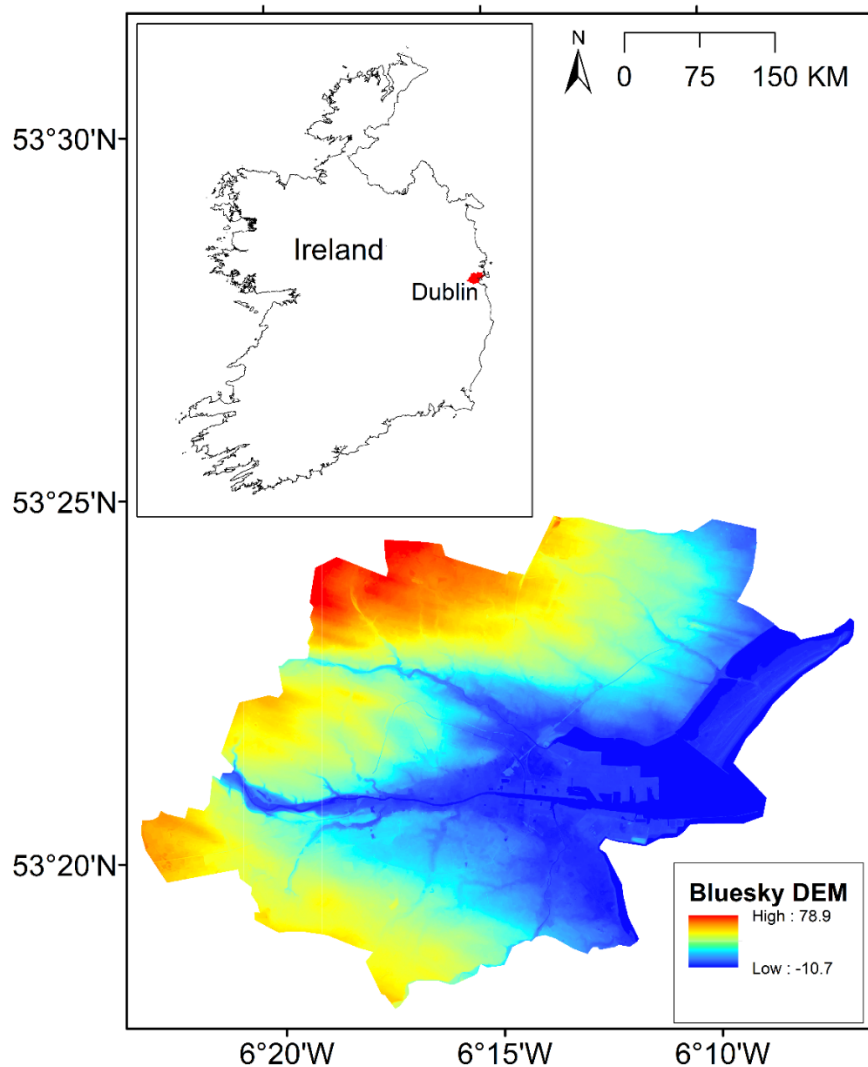# Supplementary Materials

Table S1. Linkage of landcover classes available in CORINE data and SWAT model. Details of the SWAT classes are available in SWAT Model Database Appendix A (https://swat.tamu.edu/media/69419/Appendix-A.pdf, accessed on 1 March 2022).

Sl.	Landcover CODE	Landcover description	SWAT class	Sl.	Landcover CODE	Landcover description	SWAT class
1	111	Continuous urban fabric	URBN	23	311	Broad-leaved forest	FRSD
2	112	Discontinuous urban fabric	URML	24	312	Coniferous forest	FRSE
3	121	Industrial or commercial units	UCOM	25	313	Mixed forest	FRST
4	122	Road and rail networks and associated land	UTRN	26	321	Natural grasslands	RNGE
5	123	Port areas	UTRN	27	322	Moors and heathland	RNGB
6	124	Airports	UTRN	28	323	Sclerophyllous vegetation	RNGB
7	131	Mineral extraction sites	SWRN	29	324	Transitional woodland-shrub	RNGB
8	132	Dump sites	UIDU	30	331	Beaches, dunes, sands	WETN
9	133	Construction sites	UIDU	31	332	Bare rocks	BARR
10	141	Green urban areas	RNGE	32	333	Sparsely vegetated areas	BARR
11	142	Sport and leisure facilities	UCOM	33	334	Burnt areas	BARR
12	211	Non-irrigated arable land	AGRL	34	335	Glaciers and perpetual snow	WATR
13	212	Permanently irrigated land	AGRL	35	411	Inland marshes	WETN
14	213	Rice fields	RICE	36	412	Peat bogs	WETL
15	221	Vineyards	GRAP	37	421	Salt marshes	WETL
16	222	Fruit trees and berry plantations	AGRL	38	422	Salines	WETL
17	223	Olive groves	OLIV	39	423	Intertidal flats	WETL
18	231	Pastures	PAST	40	511	Water courses	WATR
19	241	Annual crops associated with permanent crops	AGRL	41	512	Water bodies	WATR
20	242	Complex cultivation patterns	AGRL	42	521	Coastal lagoons	WATR
21	243	Land principally occupied by agriculture, with significant areas of natural vegetation	AGRL	43	522	Estuaries	WATR
22	244	Agro-forestry areas	FRST	44	523	Sea and ocean	WATR

Table S2. Location of Met Eireann rain (R) gauges, temperature (T) gauges and weather stations measuring relative humidity (RH), wind speed (WS) and solar radiation (SR) in and around Dodder river basin. Stations located inside the Dodder river basin are highlighted in bold.

Gauge Number	Location details		Data Range	Available Variables
	Lat	Lon		
S175	53.364	−6.350	16/08/2003-31/12/2020	R, T, RH, WS, SR
S1823	53.370	−6.270	01/01/1984-31/10/2020	R, T
S1923	53.239	−6.367	01/01/1984-30/09/2014	R
S3723	53.306	−6.439	01/01/1964-31/10/2020	R, T, RH, WS, SR
S3923	53.341	−6.253	01/01/1948-31/10/2020	R, T
S5623	53.239	−6.364	01/10/1959-31/10/2020	R
S6623	53.276	−6.304	01/02/1967-31/10/2020	R
S7523	53.325	−6.225	01/08/1972-28/02/2015	R

Figure S1. Digital Elevation Model data for Dublin city obtained from Bluesky at 1 meter spatial resolution.