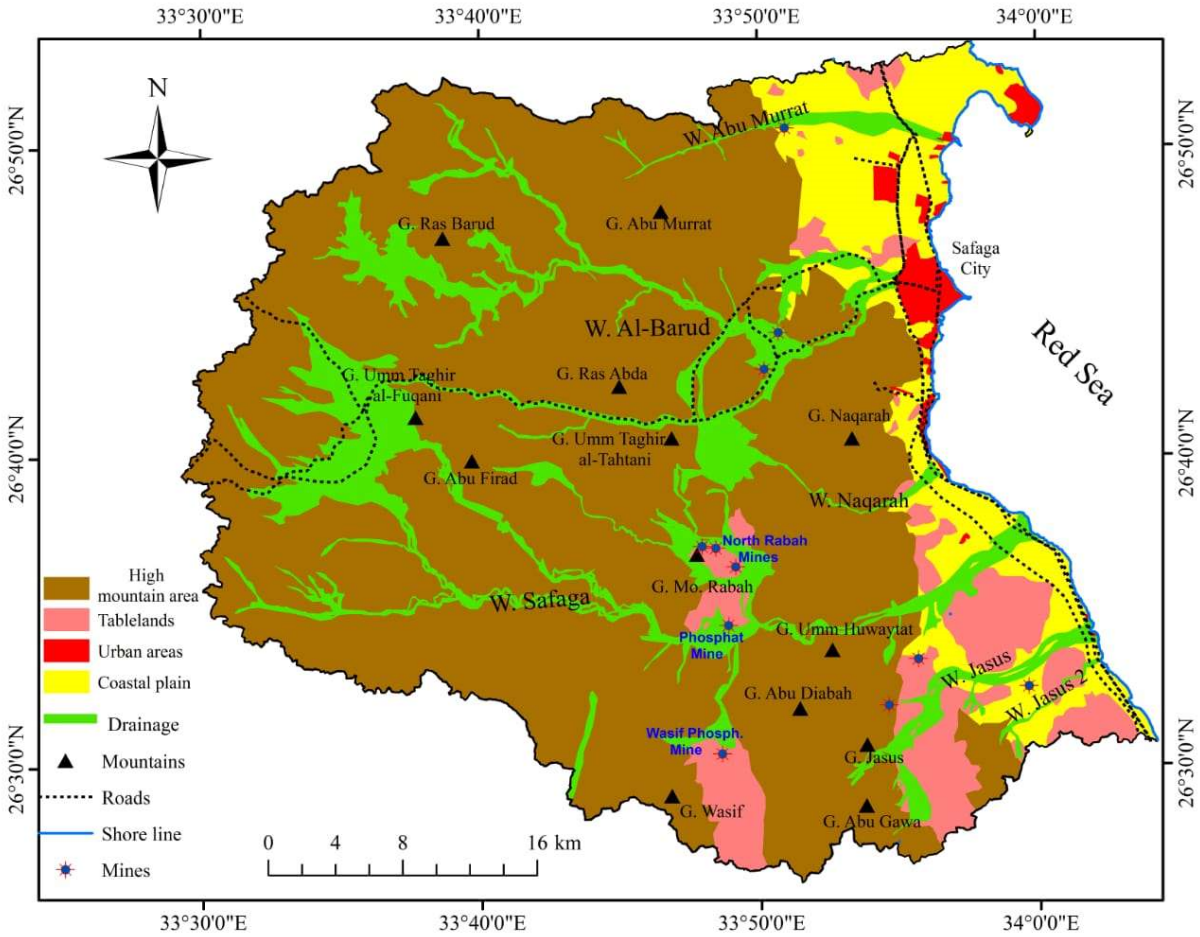
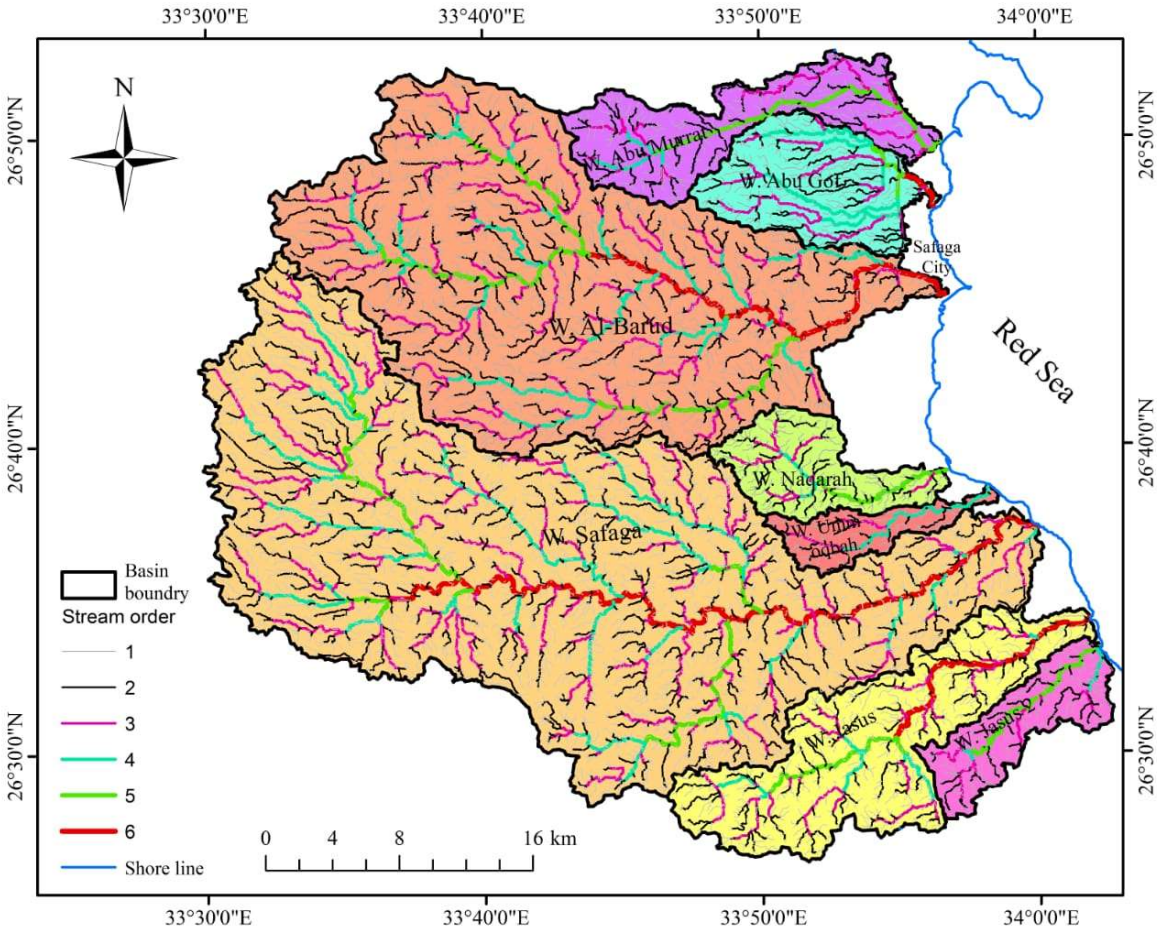
The following Appendix (Appendixes 1-6) is the Electronic Supplementary Material of the article entitled "GIS-based flash flooding susceptibility analysis and water management in arid mountain ranges: Safaga Region, Red Sea Mountains, Egypt" at https://doi.org/10.1007/s11629-023-8142-2.



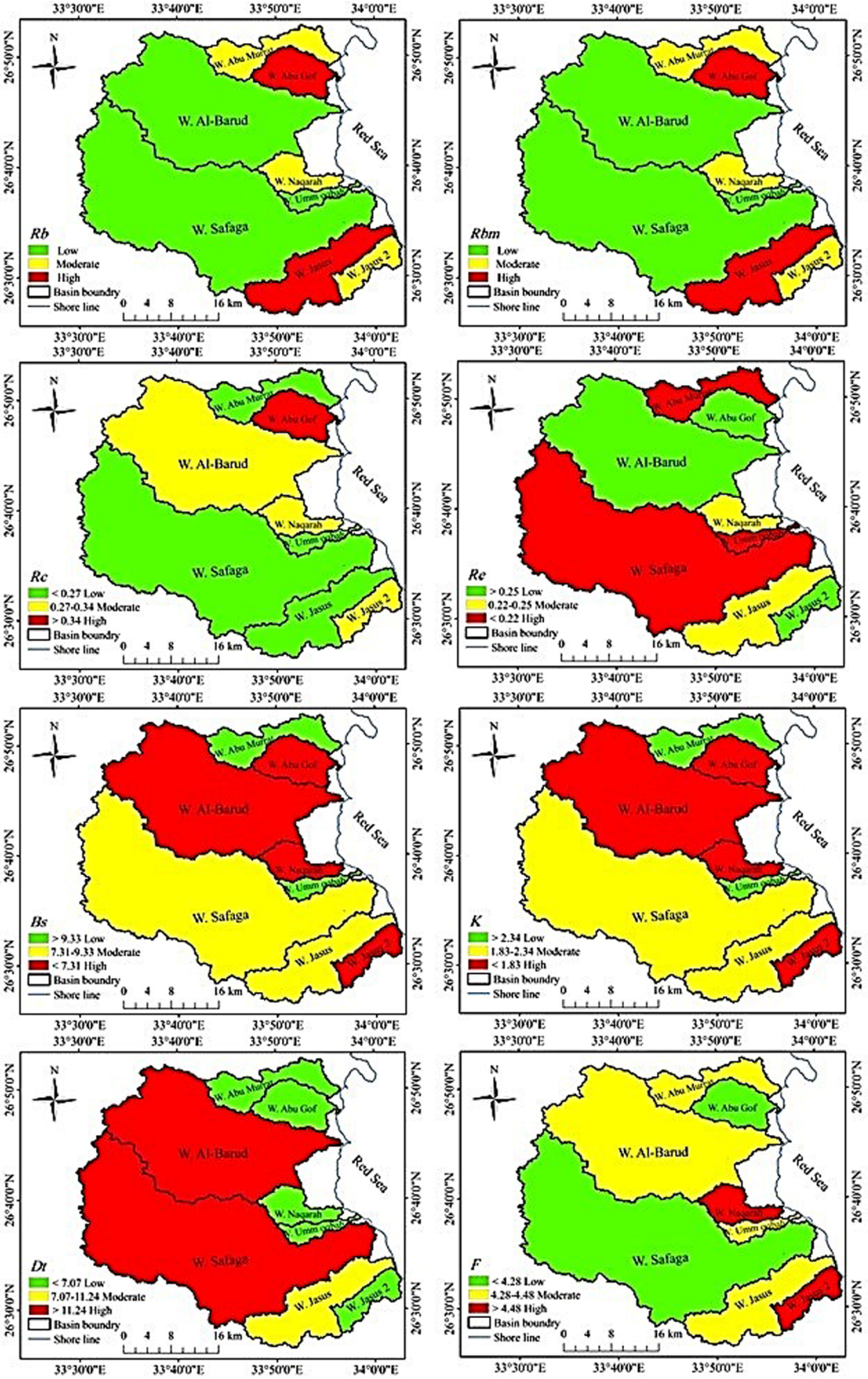
Appendix 1 Geomorphological units of Safaga Region driven from the different enhanced satellite images.



Appendix 2 Surface drainage network of Safaga hydrographic basins.

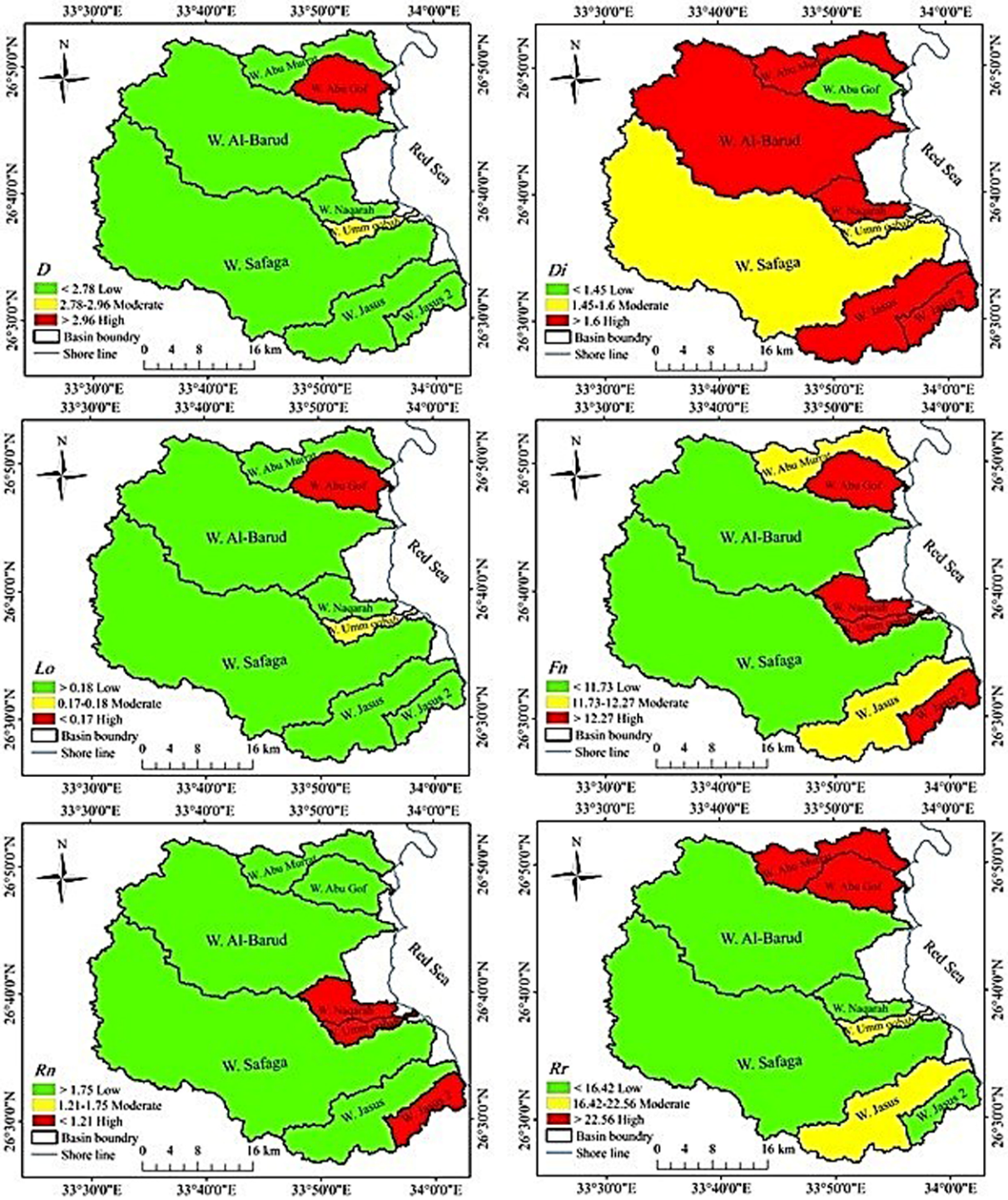
Appendix 3 Total number of stream segments (Nu) and total stream length (Lu) for each stream order of the drainage basins and related sub-basins in Safaga region.

Basin name and related sub-basins codes	1st Order		2nd Order		3rd Order		4th Order		5th Order		6th Order	
	N_u	L_u (km)	N_u	L_u (km)	N_u	L_u (km)	N_u	L_u (km)	N_u	L_u (km)	N_u	L_u (km)
Abu Murrat	305	113.1	62	67.03	14	29.7	3	7.9	1	22.07		
Abu Gof	242	107.2	53	58.8	15	38.9	5	31.9	2	4.9	1	3.3
Al-Barud (B)	1666	627.5	367	344.5	84	158.2	21	88.5	4	47.2	1	30.3
(B1)	347	133.4	75	72.1	18	32.1	3	20.7	1	16.7		
(B2)	484	172.2	106	116.2	23	45.8	6	22.06	1	17.4		
(B3)	290	103.2	66	52.8	13	35.6	4	8.2	1	12.5		
(B4)	61	29.2	15	14.2	3	3.9	1	9.1				
(B5)	103	37.1	23	18.6	6	10.8	2	9.1	1	1.2		
(B6)	42	18.2	10	6.6	3	7.4	1	3.5				
(B7)	70	30.1	18	12.1	4	7.6	1	7.4				
(B8)	42	12.5	10	9.5	3	3.9	1	3.8				
Naqarah	186	78.09	44	34.11	9	17.2	2	5.07	1	10.4		
Umm Oqbah	95	37.2	20	19.2	3	7.1	1	12.2				
Safaga (S)	2489	958.05	466	491.8	128	266.1	31	139.8	6	44.1	1	56.5
(S1)	244	90.5	58	45.3	16	13.7	4	12.3	1	14.13		
(S2)	83	29.71	18	13.9	5	14.85	2	2.72	1	1.19		
(S3)	218	84.7	45	51.7	12	21.5	4	10.9	2	3.9	1	5.5
(S4)	573	242.02	106	113.4	28	78.9	9	41.13	1	18.8		
(S5)	363	132.6	86	70.5	18	36.3	3	29.3	1	5.5		
(S6)	207	79.9	45	34.8	9	17.03	1	18.15				
Jasus	532	210.1	108	108.1	27	48.6	7	15.2	2	11.7	1	18.33
Jasus 2	180	68.34	38	33.42	8	11.5	3	4.4	1	13.4		

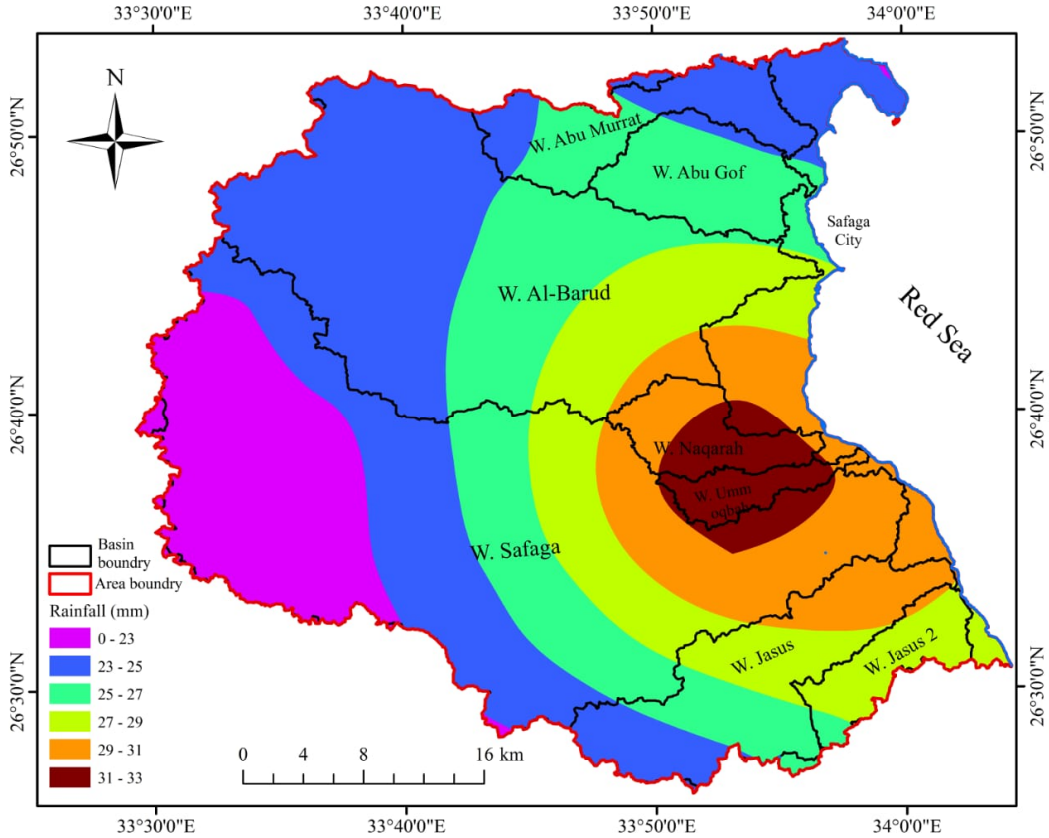


Appendix 4 Flood risk potentiality maps based on the estimated morphometric parameters for Safaga drainage networks. (-To be continued-)

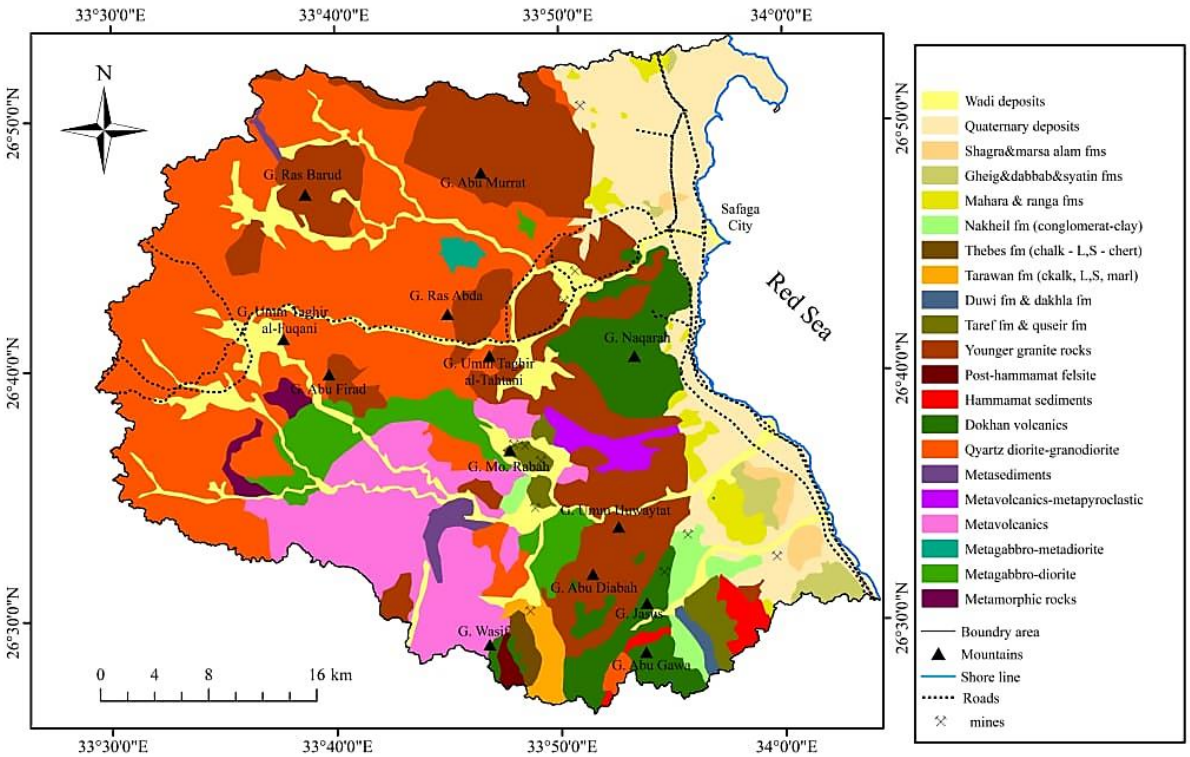
(-Continued-)



Appendix 4 Flood risk potentiality maps based on the estimated morphometric parameters for Safaga drainage networks.



Appendix 5 Spatial distribution of rainfall over the Safaga area using TRMM 3B42 V7 satellite data, based on daily records from 1998 to 2018.



Appendix 6 Lithological map of Safaga region constructed from the different enhanced satellite images and correlated with CONOCO, 1987.