Time series analysis

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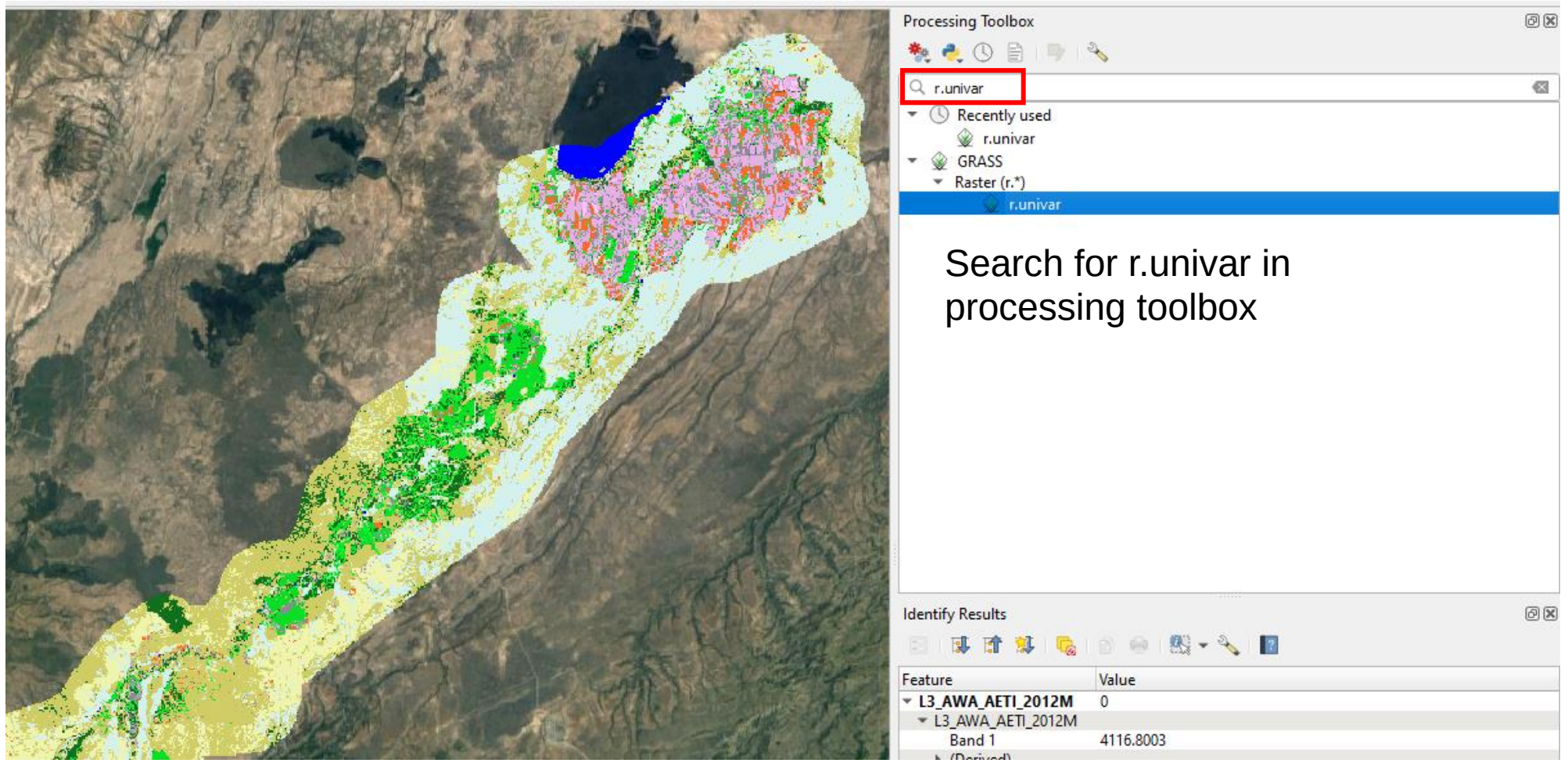
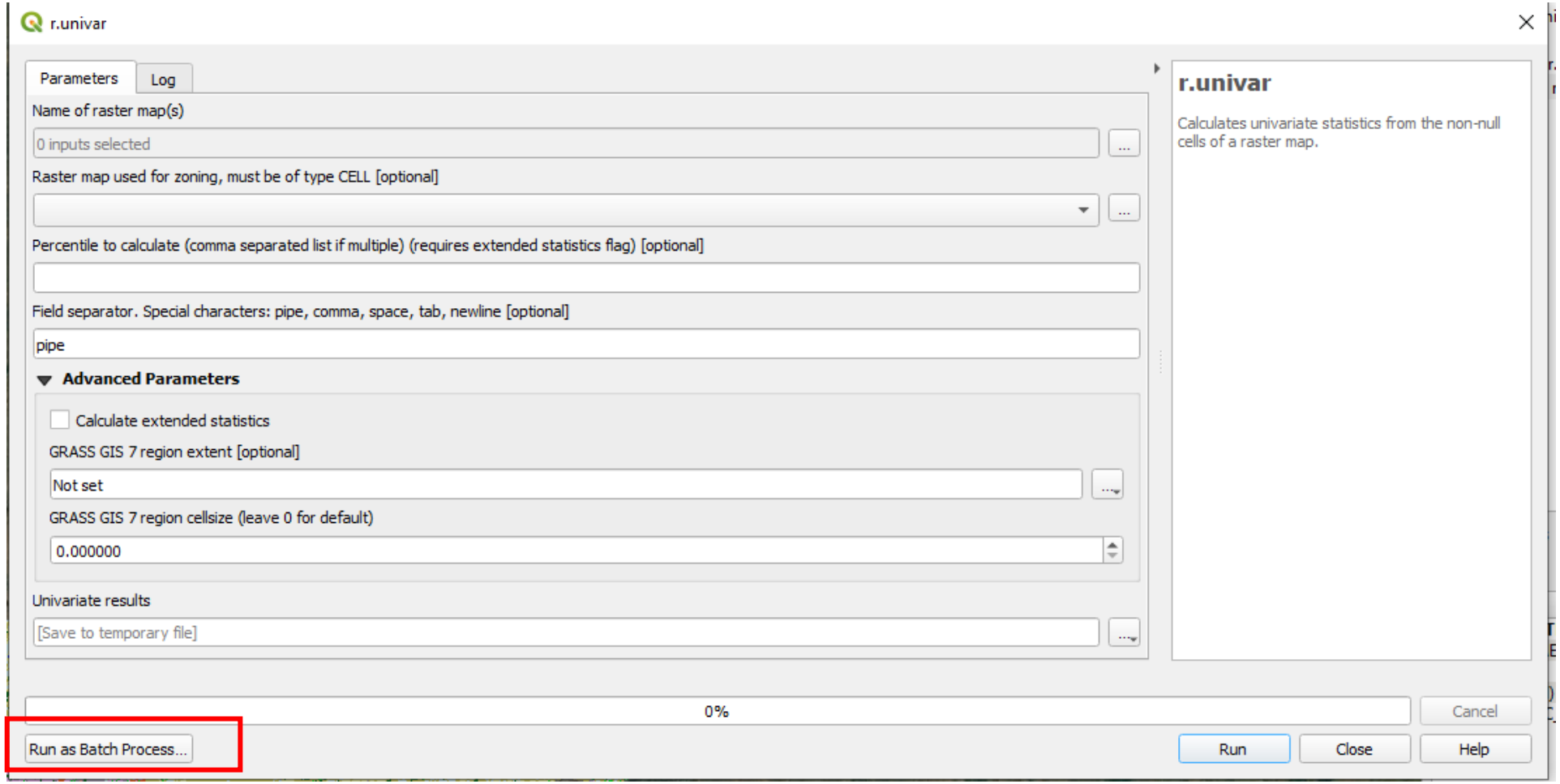
Calculate univariate statistics of raster

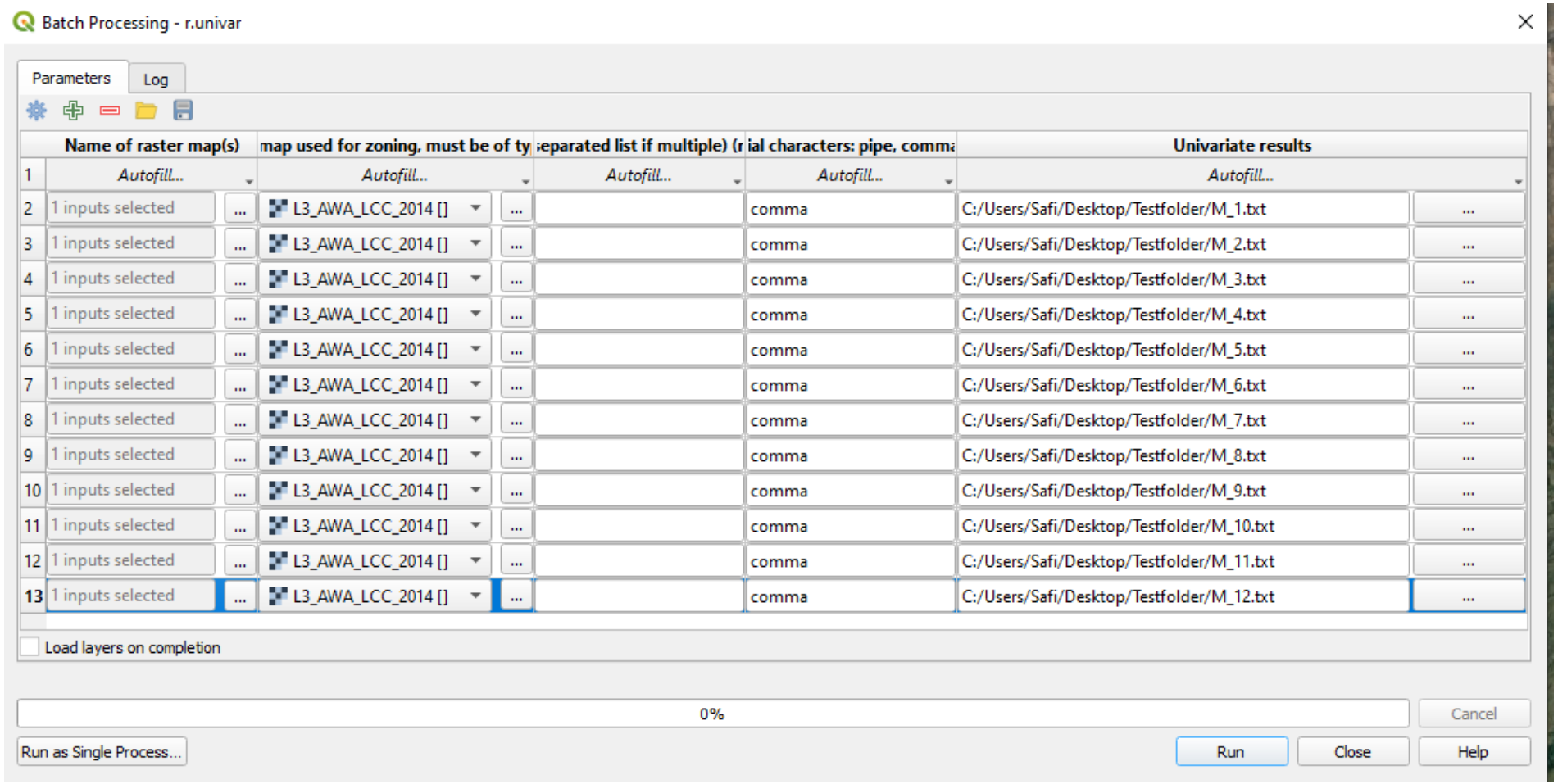


For documentation: https://grass.osgeo.org/grass78/manuals/r.univar.html

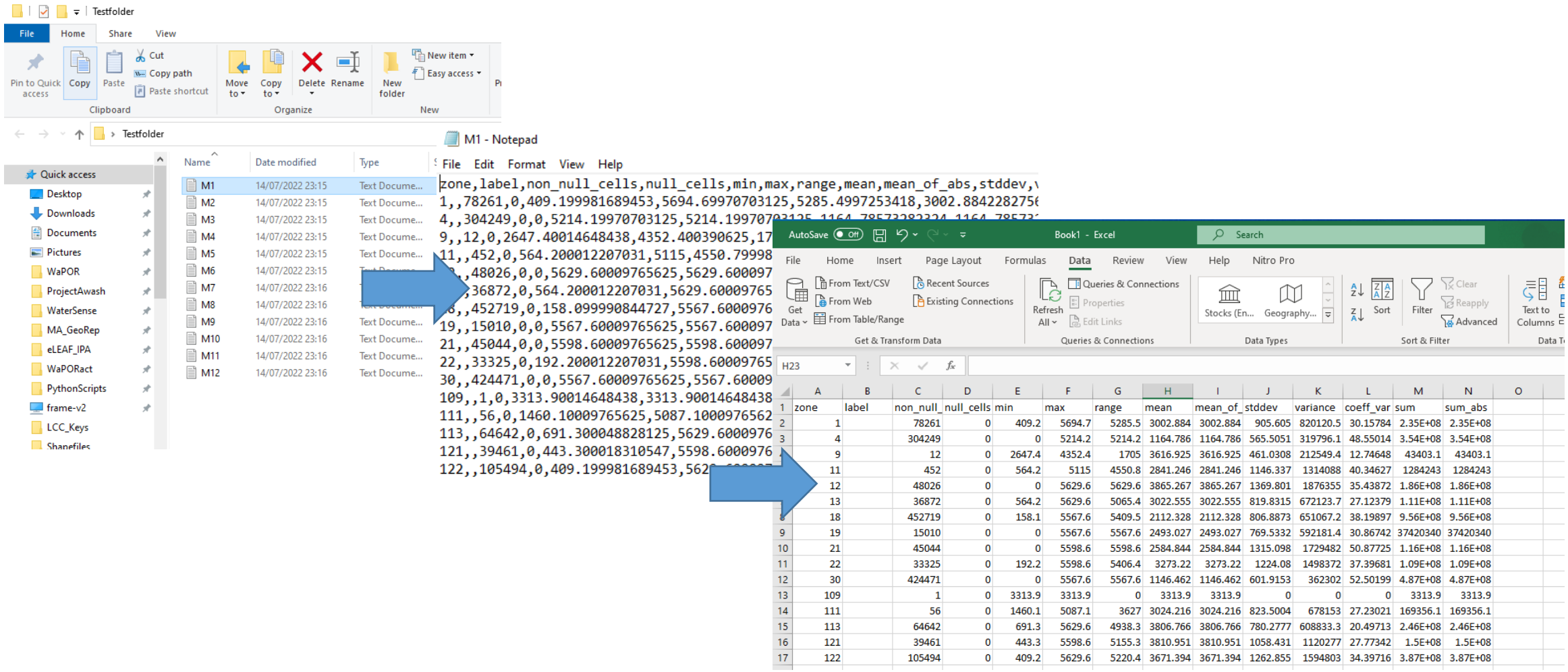
Run as batch process



Run as batch process

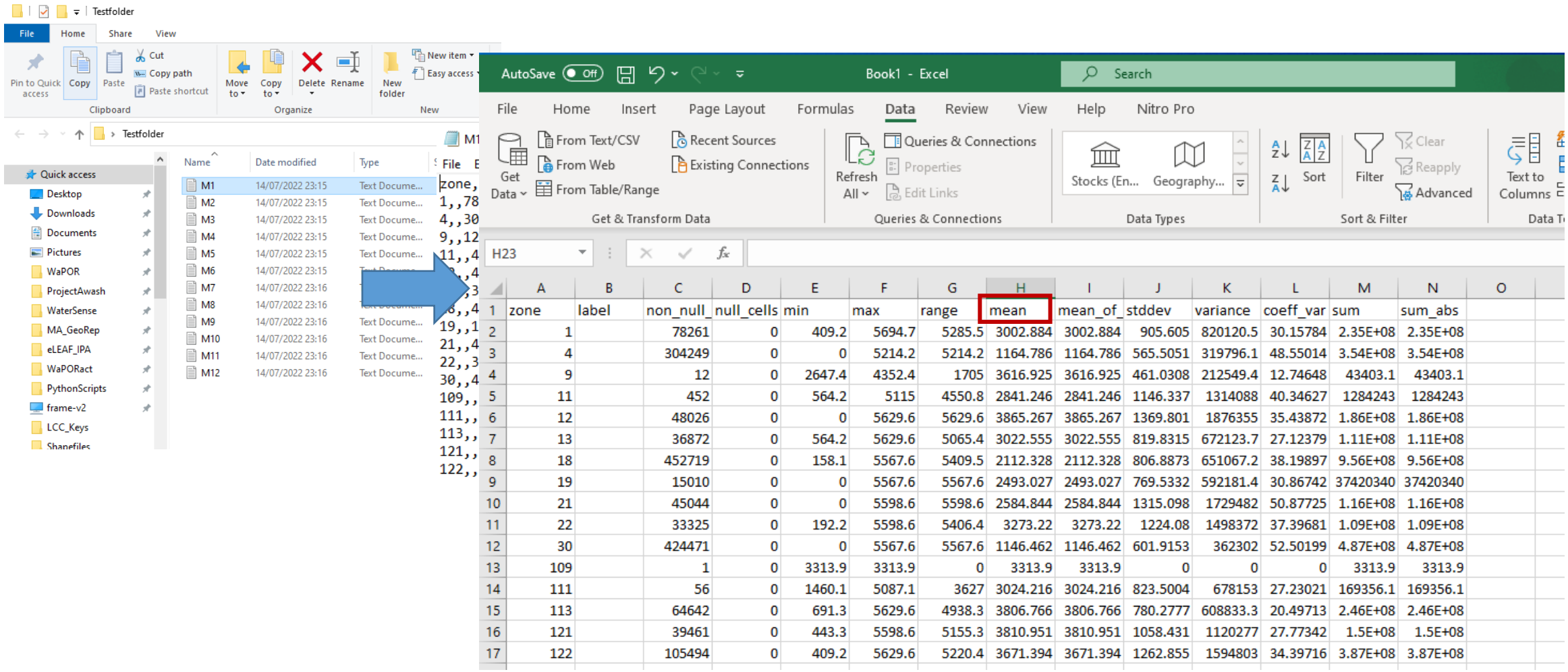


Convert text data to columns



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	zone	label	non_null_	null_cells	min	max	range	mean	mean_of_	stddev	variance	coeff_var	sum	sum_abs	
2	1		78261	0	409.2	5694.7	5285.5	3002.884	3002.884	905.605	820120.5	30.15784	2.35E+08	2.35E+08	
3	4		304249	0	0	5214.2	5214.2	1164.786	1164.786	565.5051	319796.1	48.55014	3.54E+08	3.54E+08	
4	9		12	0	2647.4	4352.4	1705	3616.925	3616.925	461.0308	212549.4	12.74648	43403.1	43403.1	
5	11		452	0	564.2	5115	4550.8	2841.246	2841.246	1146.337	1314088	40.34627	1284243	1284243	
6	12		48026	0	0	5629.6	5629.6	3865.267	3865.267	1369.801	1876355	35.43872	1.86E+08	1.86E+08	
7	13		36872	0	564.2	5629.6	5065.4	3022.555	3022.555	819.8315	672123.7	27.12379	1.11E+08	1.11E+08	
8	18		452719	0	158.1	5567.6	5409.5	2112.328	2112.328	806.8873	651067.2	38.19897	9.56E+08	9.56E+08	
9	19		15010	0	0	5567.6	5567.6	2493.027	2493.027	769.5332	592181.4	30.86742	37420340	37420340	
10	21		45044	0	0	5598.6	5598.6	2584.844	2584.844	1315.098	1729482	50.87725	1.16E+08	1.16E+08	
11	22		33325	0	192.2	5598.6	5406.4	3273.22	3273.22	1224.08	1498372	37.39681	1.09E+08	1.09E+08	
12	30		424471	0	0	5567.6	5567.6	1146.462	1146.462	601.9153	362302	52.50199	4.87E+08	4.87E+08	
13	109		1	0	3313.9	3313.9	0	3313.9	3313.9	0	0	0	3313.9	3313.9	
14	111		56	0	1460.1	5087.1	3627	3024.216	3024.216	823.5004	678153	27.23021	169356.1	169356.1	
15	113		64642	0	691.3	5629.6	4938.3	3806.766	3806.766	780.2777	608833.3	20.49713	2.46E+08	2.46E+08	
16	121		39461	0	443.3	5598.6	5155.3	3810.951	3810.951	1058.431	1120277	27.77342	1.5E+08	1.5E+08	
17	122		105494	0	409.2	5629.6	5220.4	3671.394	3671.394	1262.855	1594803	34.39716	3.87E+08	3.87E+08	

Convert text data to columns



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Plot ETa time series per landcover class

- What trends do you see and what could be the reason?
- What message is/can be conveyed by other statistical parameters (standard deviation, coefficient of variation)?
- Compare time series of ETa and NDVI over crop type/land cover map
- Reflection on the spatial and temporal distribution of ETa and Biomass.