



CAP CONTEXT INDICATORS

2014-2020

42. SOIL EROSION BY WATER

2017 update

CONTEXT INDICATOR 42: SOIL EROSION BY WATER

Soil erosion by water is one of the most widespread forms of soil degradation in Europe. In 2012, the estimated average rate of soil loss by water erosion in the EU-28 amounted to 2.4 t/ha/year and was higher in the EU-15 (2.7 t/ha/year) than in the EU-N13 (1.7 t/ha/year).

Every year
2.4 tonnes of
soil per ha are
lost due to
water erosion
in the EU-28

Soil degradation by water erosion is particularly significant in some countries of southern Europe, namely in Italy (8.3 t/ha/year), Greece (4.2 t/ha/year), Malta (6 t/ha/year) and Spain (3.7), but also in mountainous countries such as Slovenia (7.4 t/ha/year) and Austria (7.3 t/ha/year). Low levels (below 1 t/ha/year) were registered Denmark, Estonia, Latvia, Lithuania, the Netherlands, Poland, Finland and Sweden¹.

Soil erosion trends resulting from changes in land cover and application of Good Agricultural Environmental Conditions (GAEC) of the Common Agricultural Policy (CAP) show a moderate decrease at EU-28 level between 2000 and 2012 (-0.31 t/ha/year)² with a slight difference between the EU-15 (-0.31) and the EU-N13 (-0.23 t/ha/year).

The erosion has decreased between 2000 and 2012 mainly due to the application of GAEC and agricultural practices (reduced tillage, plant residues, cover crops, stone walls, contouring and grass margins).

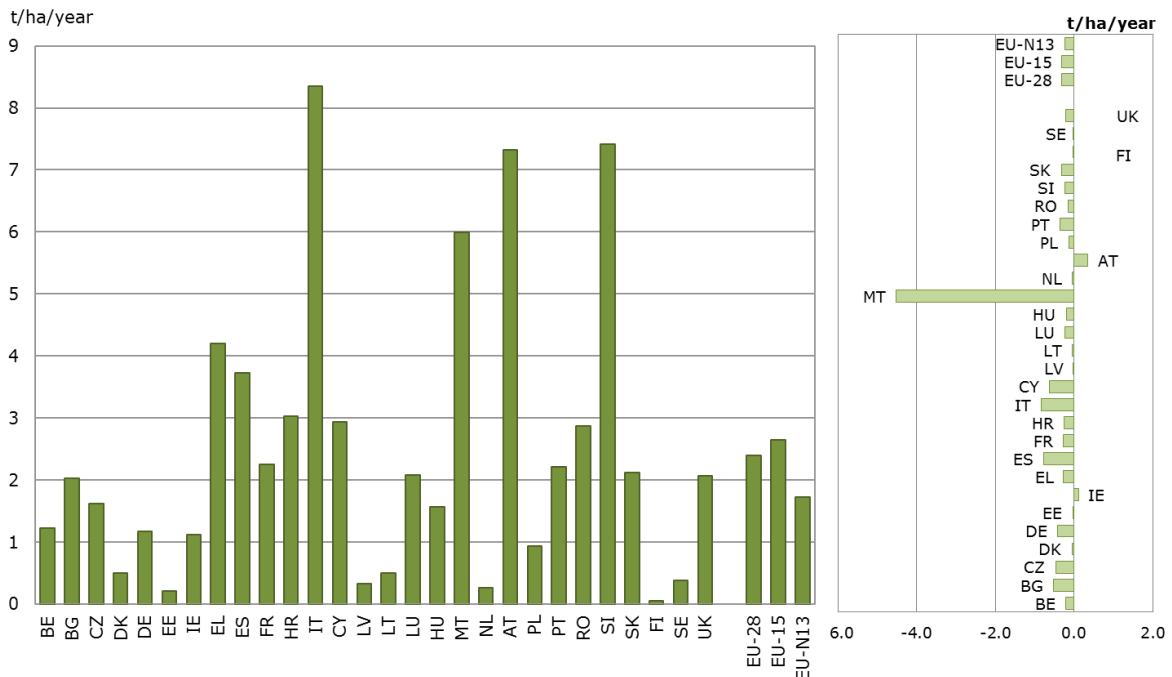
At Member State level the scenario is more varied and the biggest decrease is registered in Malta (-4.5), while only Austria and Ireland show a moderate increase of soil erosion³.

¹ The rates of soil loss by water erosion at Member States level represent national average values and therefore may mask higher erosion rates in many areas even for those countries that have a low mean.

² For the calculation of the indicator the support practices were estimated for the first time at European level taking into consideration the Good Agricultural and Environmental Conditions (GAEC).

³ JRC - ISPRA, *Agri-environmental indicator draft factsheet – Soil water erosion (AEI 21)*, 2015

Graph 1 - Estimate rate of soil loss by water erosion, 2012 and change 2000-2012 (t/ha/year)



6.6% of the EU-28 agricultural area is affected by moderate to severe soil erosion

As regards the area affected, around 6.7% of the EU-28 total agricultural area was estimated to suffer from moderate to severe erosion (>11 t/ha/year) in 2012. This share is higher in the EU-15 (7.7%) than in the EU-N13 (4.4%). Cultivated land (arable and permanent cropland) is estimated to be more affected (7.5%) than permanent grasslands and pasture (4.2%).

The share of agricultural land estimated to suffer from moderate to severe erosion is highest in Slovenia (42.4%), Italy (32.7%) and Austria (21%)⁴.

⁴ Reference: JRC - ISPRA, Agri-environmental indicator draft factsheet – Soil water erosion (AEI 21), 2015.

Graph 2 - Agricultural area (arable and permanent crop area and permanent meadows and pasture area) affected by moderate to severe water erosion (>11 t/ha/year), 2012

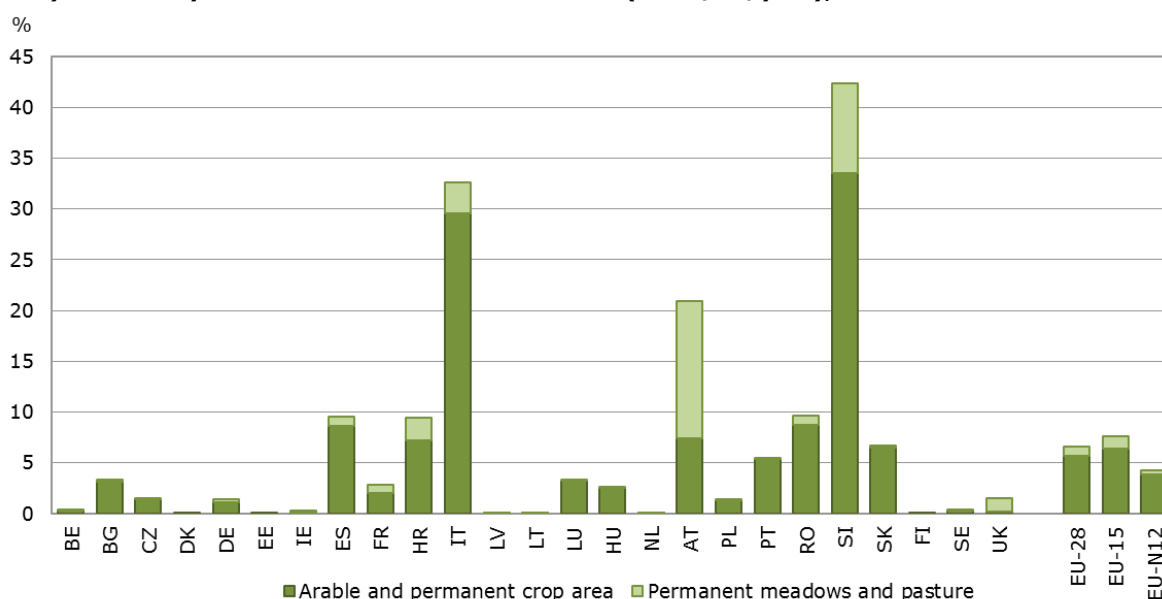


Table 1 – Soil erosion by water

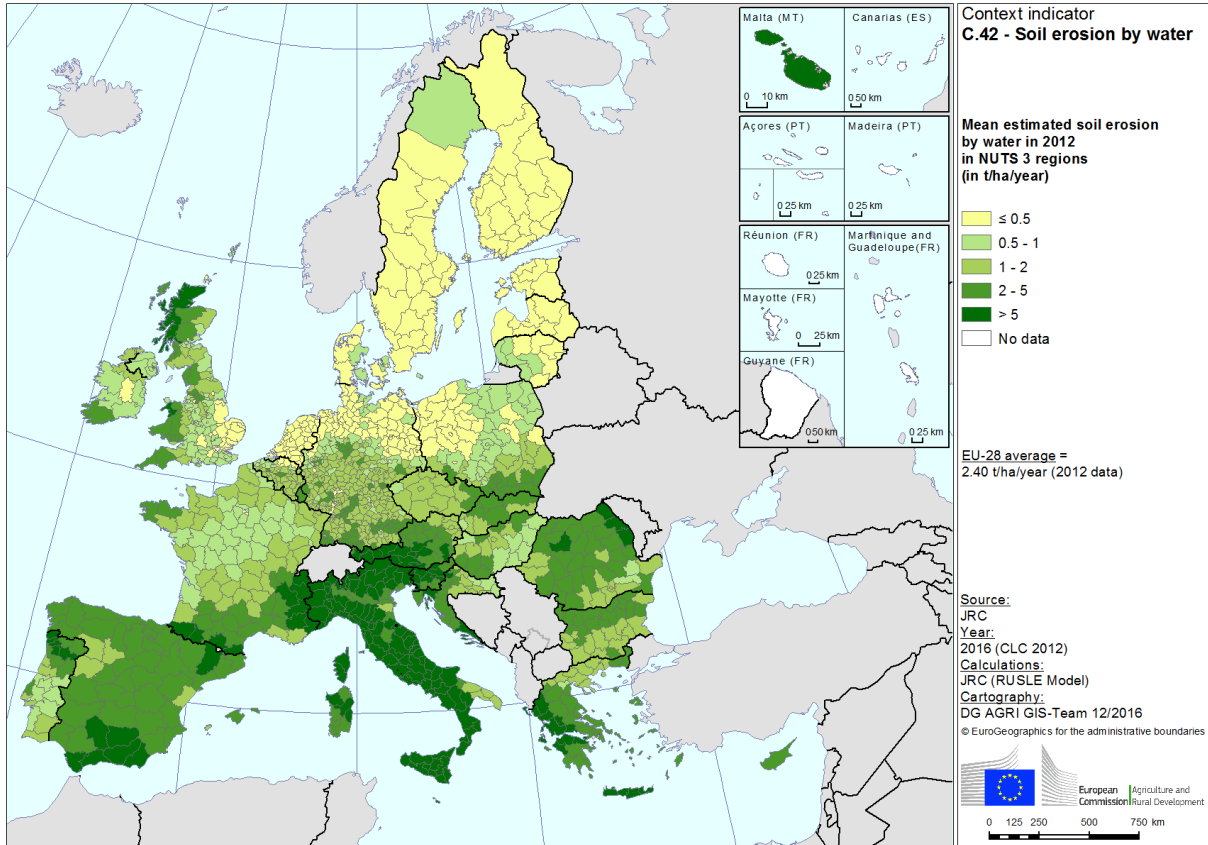
Indicator	C.42 - Soil erosion by water	Change in the rate of soil loss by water erosion
Measurement	Estimated rate of soil loss by water erosion	Change
Source	JRC (RUSLE Model)	JRC (RUSLE Model)
Year	2012	2000-2012
Unit	t/ha/yr	t/ha/yr
Country		
Belgium	1.22	-0.21
Bulgaria	2.03	-0.52
Czech Republic	1.62	-0.47
Denmark	0.50	-0.05
Germany	1.18	-0.42
Estonia	0.21	-0.03
Ireland	1.12	0.13
Greece	4.19	-0.27
Spain	3.73	-0.77
France	2.25	-0.27
Croatia	3.03	-0.25
Italy	8.35	-0.83
Cyprus	2.94	-0.63
Latvia	0.33	0.00
Lithuania	0.49	-0.05
Luxembourg	2.08	-0.23
Hungary	1.57	-0.20
Malta	6.00	-4.52
Netherlands	0.27	-0.04
Austria	7.32	0.35
Poland	0.93	-0.13
Portugal	2.21	-0.36
Romania	2.86	-0.15
Slovenia	7.41	-0.24
Slovakia	2.12	-0.32
Finland	0.05	-0.02
Sweden	0.39	-0.02
United Kingdom	2.07	-0.20
EU-28	2.40	-0.31
EU-15	2.65	-0.31
EU-N13	1.73	-0.23

Note: The rates of soil loss by water erosion (t/ha/yr) at Member State level represent national average values and therefore may mask higher erosion rates in many areas even for those countries that have a low mean.

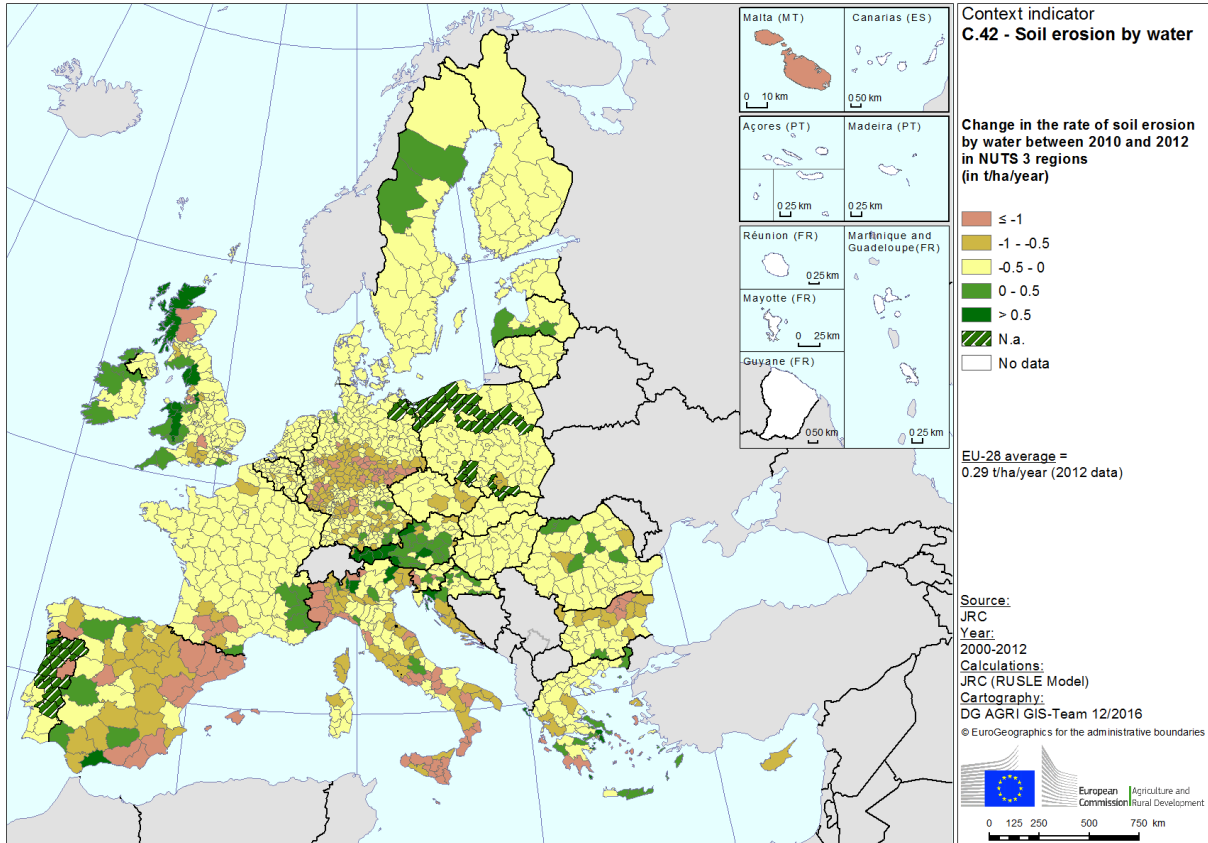
Table 2 – Soil erosion by water

Indicator	C.42 - Soil erosion by water					
Measurement	Estimated agricultural area affected by moderate to severe water erosion (>11 t/ha/yr)			Share of estimated agricultural area affected by moderate to severe water erosion (>11 t/ha/yr)		
Source	JRC (RUSLE Model)			JRC (RUSLE Model)		
Year	2012			2012		
Unit	1000 ha			%		
Subdivisions	Total agricultural area	Arable and permanent crop area	Permanent meadows and pasture	Total agricultural area	Arable and permanent crop area	Permanent meadows and pasture
Country						
Belgium	6.9	6.5	0.4	0.4	0.5	0.1
Bulgaria	204.7	191.6	13.1	3.3	3.6	1.6
Czech Republic	65.7	63.2	2.5	1.5	1.7	0.3
Denmark	0.1	0.1	0.0	0.0	0.0	0.0
Germany	286.9	242.7	44.2	1.4	1.7	0.7
Estonia	0.1	0.1	0.0	0.0	0.0	0.0
Ireland	14.7	6.7	8.0	0.3	0.8	0.2
Greece	657.9	607.4	50.5	10.7	12.1	4.4
Spain	2633.1	2381.2	251.9	9.6	10.5	5.3
France	973.3	679.5	293.8	2.9	2.8	3.0
Croatia	238.7	183.2	55.5	9.4	9.2	10.4
Italy	5574.1	5043.6	530.6	32.7	33.0	29.4
Cyprus	33.5	33.4	0.1	7.2	7.6	0.4
Latvia	0.2	0.2	0.0	0.0	0.0	0.0
Lithuania	0.6	0.6	0.0	0.0	0.0	0.0
Luxembourg	4.7	4.5	0.2	3.4	4.5	0.5
Hungary	166.3	162.4	3.9	2.6	3.0	0.4
Malta	1.5	1.5	0.0	9.6	9.6	0.0
Netherlands	0.1	0.1	0.0	0.0	0.0	0.0
Austria	690.6	243.7	446.9	21.0	12.2	34.3
Poland	258.0	257.0	1.0	1.4	1.6	0.0
Portugal	231.8	229.9	1.9	5.4	5.6	1.1
Romania	1373.2	1248.0	125.2	9.7	11.2	4.1
Slovenia	306.9	242.4	64.4	42.4	41.2	47.4
Slovakia	158.9	152.1	6.8	6.8	7.4	2.4
Finland	0.1	0.1	0.0	0.0	0.0	0.0
Sweden	13.2	12.3	0.9	0.3	0.3	0.2
United Kingdom	241.2	31.2	210.0	1.6	0.5	2.5
EU-28	14137.2	12025.5	2111.8	6.7	7.5	4.2
EU-15	11328.8	9489.5	1839.3	7.7	8.8	4.6
EU-N13	2808.4	2535.9	272.4	4.4	4.8	2.5

Map 1 - Estimated soil erosion by water, 2012



Map 2 - Estimated change in soil erosion by water, 2000-2012



Context indicator	42 - Soil erosion by water
Comments on methodology and data	<p>New data from CLC2012 available at NUTS level (see maps). For map 2, to be able to do the comparison for some areas for which the NUTS definition changed in the period 2000-2012 the average of the area was calculated.</p>