

## Estimation of soil loss using the USLE model and GIS tools in the Chillón river basin, Lima, Peru

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### Supplementary information

**Supplementary Table 1.** Type of current soil use in the Chillón river basin (Peru- MML-IMP, 2013).

Nº Order	Current use and plant cover
1	Settlement
2	Hillside farming
3	Chicken farm
4	Marsh
5	Beach
6	Uncultivated hills
7	Uncultivated mountains
8	Seasonal vegetation on hills
9	La Pampilla industrial area
10	Urban area
11	«Bofedal» (highland wetlands)
12	Natural grass
13	Riverbed
14	Terraced cultivation
15	Mountains with seasonal grass
16	Uncultivated mountain peaks
17	Maritime coastal area

**Supplementary Table 2.** Estimated C factor values, according to Wischmeier (1978)

Cultivation and use - Chillón basin	C factor
Farming terraces (Yellow chili pepper, alfalfa, cotton, beetroot, fruit trees, etc.)	0.087 to 0.56
Recreational area	0.15
Urban area	0.011
«Bofedal» (highland wetlands)	0.02
Riverbed	0
Cemetery	0.24
Settlement	0.011
Uncultivated mountain peaks	0.45
Uncultivated hills	0.45
Corrals	0.15
Agriculture on platforms	0.25
Agriculture on platforms and flat land	0.25
Agriculture on platforms and terraces	0.25
Agriculture on hillsides	0.27
Agriculture on hillsides - platforms	0.27
Agriculture on hillsides -terraces	0.27

Agriculture on terraces	0.25
Agriculture on terraces and platforms	0.25
Grass on hillsides	0.11
Barn	0.24
Factory	0.1
Forestry	0.012
Pascal country estate	0.15
Farm	0.15
Mountains with seasonal grass	0.16
Uncultivated mountains	0.45
Uncultivated pampa	0.45
Marshland	0.45
Grass	0.18
Natural grass	0.15
Cultivated pasture (Ray grass)	0.15
Natural grass (Kikuyu grass)	0.15
Seasonal grass	0.15
Pasture and forestry	0.04
Chicken farm	0.15
Sedapal (water company)	0.15
Prepared land	1
Fallow land	1
Fallow and prepared land	1
Seasonal vegetation on coastal hills	0.2
Houses	0.1
Pampilla industrial area	0.011
Rock outcrops	0.091

**Supplementary Table 3.** P factor for soil conservation techniques. Adapted from Tables 13 and 15 in Wischmeier & Smith (1978)

Use	P factor
Recreational areas	0
Forestry areas (Protection in middle section of the river basin)	0.1
Agricultural areas	0.14
Seasonal grass on mountains	0.4
Uncultivated hills	0.45

**Supplementary Table 4.** Tolerances established by FAO-PNUMA/UNESCO

Erosion type	Soil loss (t ha <sup>-1</sup> year <sup>-1</sup> )
None or light	Less than 10
Moderate	10 - 50
High	50 - 200
Very high	Greater than 200