

ForSite Deposition Map Specification

Volume-weighted annual mean concentrations of ions and elements in bulk (open-land) precipitation were obtained for stations in Ireland monitoring over a minimum of three years, during the period 1995–2015.

For SO₄_S the window was restricted to the period 2010-2015 inclusive, representing recent conditions, in recognition of the long-term decreasing trend in deposition sulphate.

Phosphorus values are from 2016 only.

Station details for deposition mapping.

Station	Network	Latitude	Longitude	Easting	Northing	Altitude	Years
Ballyhooly	ICP Forests	52.133	-8.416	172300	98000	75	5
Brackloon	ICP For. & IM	53.751	-9.560	97300	279900	75	21
Cloosh	ICP Forests	53.334	-9.335	111044	232358	102	17
Lough Navar	EMEP	54.434	-7.867	208633	353976	126	20
Hillsborough	EMEP	54.452	-6.083	324323	357645	150	21
Valentia	EMEP	51.934	-10.234	46341	78097	9	20
Turlough Hill	EMEP	53.034	-6.400	307322	199297	420	8
The Burren	EMEP	53.000	-9.100	126158	194926	90	6
Capard Ridge	EMEP	53.117	-7.450	236822	207483	340	5
Oak Park	EMEP	52.867	-6.917	272910	180072	59	10
Glenveagh	EMEP	55.050	-7.934	204225	422517	44	7
Johnstown Castle	EMEP	52.285	-6.501	302292	115830	62	9
Roundwood/Ballinastoe	ICP Forests	53.113	-6.220	319204	208408	302	21

[Site descriptions for EMEP sites.](#) [Site descriptions for ICP Forests & IM sites.](#)

The projection used was Irish Grid (TM65), to follow that used for rainfall data.

Precipitation amounts were 1980–2010 mean annual precipitation amounts, from Met Éireann.

Concentrations were interpolated using kriging. Default ArcGIS kriging settings (spherical, etc.) were used.

Annual mean precipitation amounts were interpolated using [kriging with] inverse distance weighting.

The raster layer for deposition was calculated as the product of concentrations, annual mean precipitation depth, and a dry-deposition factor of 2 for Ca, Mg, K and S. [Other methods were used for N and P.]

$$\text{Ca_dep (kg/ha)} = \text{Ca_concn (mg/l)} \times \text{ppt_vol (mm)} \times 2 \text{ (dry dep factor for Ca, Mg, K, S)}/100$$

Files

[ForSite Ireland Precipitation Chemistry .csv](#)

[ForSite Ireland Precipitation Chemistry S SO4.csv](#)

[ForSite Ireland Precipitation Chemistry P.csv](#)

Met Éireann 1981–2010 rainfall 1 km grids, [IE_RR_8110_V1.zip](#)

Links to deposition mapping web pages, images, data files, and database queries.

Species	Web page	Map .jpg	Mapped data	database
N	http://forsite.ucd.ie/page.php?page=n_dep	n_dep.jpg		N
NH3	http://forsite.ucd.ie/page.php?page=nh3_dep	nh3_dep.jpg		
NH4+	http://forsite.ucd.ie/page.php?page=nh4_dep	nh4_dep.jpg		
P	http://forsite.ucd.ie/page.php?page=p_dep	p_dep.jpg		P
Phosphate	http://forsite.ucd.ie/page.php?page=po4_dep	po4_dep.jpg		
K	http://forsite.ucd.ie/page.php?page=k_dep	k_dep.jpg	k_dep.csv	K
Ca	http://forsite.ucd.ie/page.php?page=ca_dep	ca_dep.jpg		Ca
Mg	http://forsite.ucd.ie/page.php?page=mg_dep	mg_dep.jpg		Mg
S_SO4	http://forsite.ucd.ie/page.php?page=so4_dep	so4_dep.jpg		

Column descriptions for precipitation chemistry files.

Column	Description and/or units
SO4_S mg_S/l	mg S L ⁻¹ (total sulphate)
xSO4_S mg_S/l	mg S L ⁻¹ (non-seasalt sulphate)
NH4_N mg_N/l	mg N L ⁻¹ (ammonium-nitrogen)
NO3_N mg_N/L	mg N L ⁻¹ (nitrate-nitrogen)
Na mg/l	mg Na ⁺ L ⁻¹ (sodium)
Mg mg/l	mg Mg ²⁺ L ⁻¹ (magnesium)
Cl mg/l	mg Cl ⁻ L ⁻¹ (chloride)
Ca mg/l	mg Ca ²⁺ L ⁻¹ (calcium)
K mg/l	mg K ⁺ L ⁻¹ (potassium)
cond	μS/cm (conductivity)
note	text comment
tot_P mg/l	mg P L ⁻¹ (total phosphorus)
PO4_P mg/l	mg P L ⁻¹ (phosphate)

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