Supplemental Data

Table S1 - Data treatment and analysis protocol

Step	Analyzed element	Purpose
Overview	Articles by year	Evaluate productivity over time.
Authors	Number of publications	Identify the most productive authors.
	Citations	Identify the most cited authors.
	Co-authorship	Identify groups of authors/research with great interaction
	Countries	Identify the most productive, most cited countries
	Cross-country collaboration	Identify partnerships between more productive countries
	Institutions	Identify the most productive institutions according to the affiliation of each author
	Collaboration between institutions	Identify partnerships between more productive institutions
Journals	Number of publications and citations	Identify the most relevant journals
Publications	Keywords	Identify the main themes and research subjects
	Citations	Identify publications with the greatest impact
	Thematic areas	Classification of publications according to the subject, with reference to the Divisions and Commissions of the Scientific Structure of the Brazilian Society of Soil Science.

Table S2 - Synthesis of location data grouped by time periods

Period	Pub.	Pub. w/ loc.	Points	Region (points/pub.)	Subject (frequency)	AD pt. – infra.
1916 - 1973	24	20	28	TM (25/17); EL (3/3)	SSC (10); GSM (6); Biology (5) Chemistry (4); Pedometrics (2); Mineralogy (2); Pedogeomorphology (1); Soil Ecology (1)	115,09 km
1974 - 1991	31	26	67	TM (32/12); EW (14/2); QM (11/3); PA (4/3); MR (1/1); WL (4/2); PM (1/1);	Chemistry (13); GSM (11); Biology (5); SSC (5); Mineralogy (3); Review (2); Pedogeomorphology (1); Physics (1); Pedometrics (1); PRR (1)	100,63 km
1992 - 2006	115	103	222	TM (145/53); PA (28/23); WL (21/18); MR (11/7); QM (7/7); EL (2/1); NR (2/2)	Chemistry (43); Biology (24); PRR (24); GSM (10); Pedometrics (10); Soil Ecology (10); Physics (10); SSC (7); Mineralogy (4); Biogeography (2); Paleopedology (2); Pedogeomorphology (2); FPN (1); Review (1); MCSW (1)	62,74 km
2007 - 2014	162	141	668	TM (315/62); PA (257/67); MR (26/10; WL (21/10); QM (19/4); MB (13/6) EL (3/2); NR (16/5)	Biology (48); Chemistry (32); Pedometrics (30); GSM (15); PRR (14) Pedogeomorphology (13); Physics (11); Soil Ecology (10); SSC (8); Mapping (8); Biogeography (5); Review (4); Mineralogy (3); MCSW (3); RSM (2); FPN (1); Paleopedology (1); SEPP (1)	64,44 km
2015 - 2021	221	203	899	PA (510/128); TM (172/45) QM (91/10); MR (56/15); WL (31/12); EL (25/8); EW (6/4); MB (3/3); NR (6/2)	Chemistry (50); Biology (48); Pedometrics (45); PRR (36); Soil Ecology (26); GSM (21); Physics (21); SSC (14); Pedogeomorphology (8); Mineralogy (6); Biogeography (6); Paleopedology (4); FNP (3); Mapping (3); Review (2); LUP (1); MCSW (1); RSM (1).	23,49 km
TOTAL	553	493	1884	-	-	46,72 km

Legend: AD pt-infra = Average Distance from a point to some infrastructure; TM = Transantarctic Mountains; EL = Enderby Land; PA = Peninsula Antarctica; QM = Queen Maud Land; MR = Mac Robertson Land; WL = Wilkes Land; EW = Ellsworth Land; PM = Pensacola Mountains; MB = Marie Byrd Land; NR = No Region; SSC = Soil Survey and Classification; GSM = Genesis and Soil Morphology; PRR = Pollution, Soil Remediation and Recovery of Degraded Areas; FPN = Soil Fertility and Plant Nutrition; MCSW = Management and Conservation of Soil and Water; RSM = Remote Sensing and Modeling; SEPP = Soil Education and Public Perception of Soil; LUP = Land Use Planning.

Table S3 - Information by ice-free region

Region		MB	EW	EL	WL	MR	QM	TM	PA
Total area (km²)		715.455,01	130.855,13	195.676,26	1.273.818,19	562.534,44	834.987,85	1.296.265,27	408.571,08
Ice free area (km²)		700	2.095	1.500	700	5.400	3.400	24.200	10.000
Infrastructure	Stations	1	0	3	5	8	12	6	40
	Camps	0	1	0	1	1	1	2	2
	Laboratories	0	0	0	0	0	0	0	2
No. of points (% of total)		16 (0,85%)	20 (1,06%)	33 (1,76%)	77 (4,08%)	93 (4,93%)	128 (6,79%)	689 (36,55%)	804 (42,65%)
No. publications (% of total)		9 (1,63%)	6 (1,09%)	14 (2,54%)	42 (7,61%)	33 (5,98%)	24 (4,35%)	191 (34,60%)	224 (40,40%)
Points per publication		1,77	3,33	2,357	1,83	2,81	5,33	3,6	3,57
Citations by publication		28,33	16,33	20,28	27,07	23,37	20,08	40,99	23,22
Average distance to an infrastructure (km)		368	55,28	12,24	5,45	9,09	23,08	98,28	8,98
Average year of publication		2013	1991	2013	2009	2015	2012	2008	2015
Country with the most exclusive points (% of local points)		Russia (93,75%)	USA (75%)	Australia (54,54%)	Australia (48,05%)	Australia (48,38%)	Japão (9,37%)	USA (44,55%)	Brazil (18,84%)
Countries with most publications		Russia (9)	USA (4); Brazil (3)	Russia (8); USA (5)	Australia (19); Alemanha (13); Russia (9)	Russia (14); Australia (9); China (6)	Russia (7); Japão (6); Índia (5); Bélgica (4); África do Sul (4)	USA (112); Nova Zelândia (72); Canadá (20); Itália (19)	Brazil (66); Espanha (37); China (24); Portugal (23); USA (23)
Country with the highest n. of infrastructures		Russia (1)	Chile (1)	Australia (1); Belarus (1); Russia (1)	Australia (2); França (2); Russia (2)	Russia (4)	Japão (3)	USA (2); Itália (2)	Argentina (11); Chile (11)

Subject with the highest exclusive frequency (% of points)	GSM (56,25%)	GSM (65%)	PRR e Soil Chemistry (48,48%)	Soil Biology (22,07%)	PRR e Soil Chemistry (33,33%)	Soil Biology (63,28%)	Soil Ecology (21,91%)	Soil Chemistry (20,97%)
Subjects with the highest total frequency (No. of publications)	GSM (5)	Each publication was a different subject.	Soil Chemistry (5); Soil Biology (4); Pedometry (4)	Soil Biology (14); Soil Chemistry (12); PRR (9)	Soil Chemistry (11); Soil Biology (11); PRR (8)	Soil Biology (9); Soil Chemistry (7); GSM (4)	Soil Chemistry (41); Soil Biology (40); Pedometry (33); GSM (25)	Soil Chemistry (35); Soil Biology (20); Pedometry (13); GSM (11)

Legend: TM = Transantarctic Mountains; EL = Enderby Land; PA = Peninsula Antarctica; QM = Queen Maud Land; MR = Mac Robertson Land; WL = Wilkes Land; EW = Ellsworth Land; MB = Marie Byrd Land; GSM = Genesis and Soil Morphology; PRR = Pollution, Soil Remediation and Recovery of Degraded Areas.

Table S4 - Frequency of themes according to the classification of publications

Main Areas	**Themes of Research**	**Freq.**
Soil in space and time	Genesis and Soil Morphology	63
	Soil Survey and Classification	44
	Pedometry[1]	88
	Paleopedology	7
Soil processes and properties	Soil Biology	130
	Soil Physics	42
	Soil Chemistry	141
	Soil Mineralogy	18
Soil use and management	Soil Fertility and Plant Nutrition	5
	Correctives and Fertilizers	0
	Management and Conservation of Soil and Water	5
	Land Use Planning	1
	Pollution, Soil Remediation and Recovery of Degraded Areas	74
Soil, Environment and Society	Soil Education and Public Perception of Soil	1
	Soils and Food Security	0
	History, Epistemology and Sociology of Science	0
Other thematic classes added		
Soil Ecology		43
Pedogeomorphology		25
Soil Biogeography		12
Review Work		9
Soil Mapping		11
Remote Sensing and Modeling		3

[1] Soil monitoring analysis studies were included in Pedometry, with studies of the thermal regime of soils and their monitoring by sensors to assess global climate change were included. The authors chose to highlight this theme because it has been receiving prestige in recent years. In addition, many of these measurements are performed by orbital or physical sensors, which make these studies related to the tools applied by pedometrics (Carvalho Junior *et al.* 2020).

Table S5 - Synthesis of location data of publications on Antarctic soils

Description	Results
Total Documents	553
Documents with Location Information	493
Documents without Location Information	60
Total Location Points	1884
Average points per year	29.43
Average points per document	3.82
Average distance from a point to an infrastructure	46.72 km
Infrastructure	
Research Stations	84
Semi-permanent camps	11
Laboratories	2

Table S6 - Distribution of location points by publication

No. of sampling points	No. of publications	% of total pub. with location
1	250	50.7%
2	54	11.0%
3	53	10.8%
4	36	7.3%
5	24	4.9%
6	18	3.7%
7	7	1.4%
8	4	0.8%
9	6	1.2%
10	9	1.8%
11-20	20	4.1%
21-30	5	1.0%
31-50	4	0.8%
51-70	3	0.6%
1884	**493**	**100%**

Table S7 - Distance from sampling points to some infrastructure

Distance (km)	Points	% of total points	Intervals	% of total points
0.1	74	3.93	0.1-0.5	13.75
0.5	333	17.68	0.5-1	9.77
1	517	27.44	1-5	22.40
5	939	49.84	5-10	5.47
10	1042	55.31	10-50	12.31
50	1274	67.62	50-100	15.55
100	1567	83.17	100-200	14.12
200	1833	97.29	200-300	0.80
300	1848	98.09	300-400	1.11
400	1869	99.20	400-500	0.42
500	1877	99.63	500-600	0.00
600	1877	99.63	600-700	0.37
700	1884	100.00	>700	0.00

Reference

CARVALHO JUNIOR, W.D., PINHEIRO, H.S.K. & BARBOSA, T.R.P. 2020. Pedometria e mapeamento digital: contribuições na classificação e mapeamento de solos. *In Resultados Econômicos e de Sustentabilidade nos Sistemas nas Ciências Agrárias* 2. Ponta Grossa: Atena Editora, 43–60, 10.22533/at.ed.7512011125.