Supplementary Materials File S2

Table S1. Co-cited Cluster Labels.

Cluster-ID	Tags	Top Terms (Latent Semantic Analysis)	Top Terms (Log-Likelihood Ratio)	Top Terms (Mutual Information)
#0	urban expansion	ecosystem services; land use simulation; logistic-ca model; ecosystem services modeling; interaction effects|urban agglomeration; ecological environment; Yangtze river delta; economic development; gray correlation	**urban expansion** (152.08); ecological security pattern (142.25); habitat quality (128.87); invest model (127.49); plus model (111.56)	jing-jin-ji urban agglomeration; Chengdu world modern garden; city; human exercise physiology; biotic integrity; civic networks
#1	housing density	urban ecology; land cover change; multinomial logit; urban development; land cover modeling|ecosystem services; land-use planning; urban region; urban green areas; target species	**housing density** (34.45); urban ecology (31.38); rural residential development (27.55); wildland-urban interface (27.55); exurban (20.66)	community composition; Acer negundo; correlation; favorite place prescriptions; balance of carbon-oxygen
#2	COVID-19	green space; urban blue-green space; health geographies; urban fabric; inclusive urban planning|urban planning; urban green spaces; climate change mitigation; multidisciplinary approach; stakeholder engagement	**COVID-19** (160.46); mental health (137.49); accessibility (114.88); green space (112.99); environmental justice (70.63)	jing-jin-ji urban agglomeration; Chengdu world modern garden city; human exercise physiology; biotic integrity; civic networks
#3	urban heat island	urban heat island; mitigation strategies; building energy consumption; research method; in-situ measurement|land surface temperature; cooling effect; urban parks; natural cooling strategies; accessibility evaluation	**urban heat island** (541.14); land surface temperature (261.65); envi-met (215.61); thermal comfort (173.33); cooling effect (145.66)	jing-jin-ji urban agglomeration ; Chengdu world modern garden city; human exercise physiology; biotic integrity; civic networks
#4	ecosystem services	ecosystem services; land use simulation; logistic-ca model; practice theory; flood regulation|green infrastructure; green space; urban wilderness; interdisciplinary design; human ecological demand	**ecosystem services** (98.93); social-ecological systems (61.51); urban ecosystem services (54.26); cultural ecosystem services (53.25); mapping (37.1)	jing-jin-ji urban agglomeration; Chengdu world modern garden city; human exercise physiology; biotic integrity; civic networks
#5	nature-based solutions	nature-based solutions; ecosystem services; green space; systematic review; ecosystem disservices|green infrastructure; climate change; provisioning services; urban sustainability; sensitivity analysis	**nature-based solutions** (305.46); green infrastructure (139); sponge city (125.73); stormwater management (61.77); environmental justice (53.64)	jing-jin-ji urban agglomeration; Chengdu world modern garden city; human exercise physiology; biotic integrity; civic networks
#6	urban ecology	urban ecology; green infrastructure; urban gradient; urban forestry; nature perception|ecosystem services; urban regions; spatial data infrastructures; Wuhan urban agglomeration; nitrogen management	**urban ecology** (49.36); stream restoration (31.31); emergy synthesis (25.04); nature-based solutions (23.22); resilience (21.19)	biotic integrity; cooperative; aquatic invertebrates; designer ecosystems; competitiveness
#7	**physical activity**	ecosystem services; spatial planning; Delphi survey; strategic environmental assessment; environmental impact assessment|green infrastructure; social-ecological systems; land use history; health risk assessment; urban sustainability	**walking** (25.62); nature-based solutions (21.56); built environment (19.94); overweight (19.21); physical activity (18.08)	civic networks; economic stratification; enabling place; conversion of land use and its effects (clue-s) model; built infrastructure
#8	urban biodiversity	ecosystem services; green space; nature-based solutions; urban vegetation; ecosystem disservices|urban ecology; ecological restoration; invasive species; new york city; vegetation dynamics	**urban biodiversity** (105.36); biodiversity (100.42); species richness (49.41); urban ecology (46.7); pollinators (41.84)	jing-jin-ji urban agglomeration; Chengdu world modern garden city; human exercise

#9	urban tree	urban planning; sustainable development; urban ecosystem; urban hydrology; environmental targets|urban ecology; landscape ecology; land-use patterns; ecosytem function; ecological condition	**urban tree** (23.46); green infrastructure (23.4); birds (21.83); landscape (18.38); riparian forest (15.63)	physiology; biotic integrity; civic networks Xiamen island; ecosystem function; green network; complex systems modeling; disturbance sensitivity
#10	smart city	smart cities; sustainable cities; social justice; sustainable communities; environmental justice|urban resilience; Shenyang city; spatial-temporal characteristics; adaptive cycle; integrated urban planning	**smart city** (292.83); smart cities (128.87); eco-city (93.08); ecosystem services (70.24; urban resilience (68.14)	biophilic cities; causes and effects; business incubation; Addis Ababa; behavioral change
#11	green roof	green roofs; surface energy balance; plant communities; human exercise physiology; experimental measurements|green infrastructure; urban heat island; human thermal comfort; plant communities; human exercise physiology	**green roof** (51.41); green roofs (39.37); plant traits (22.92); living roof (22.84); ecological wisdom (22.84)	Chengdu World Modern Garden City; human exercise physiology; estuaries; sustainable built environment; sound propagation
#12	**air pollution**	green infrastructure; traffic emission; nanoparticle dispersion; permeable surfaces; biogenic volatile organic compound|air pollution; large-eddy simulation; permeable surfaces; biogenic volatile organic compound; indoor air quality	**particulate matter** (136.62); air pollution (130.04); air quality (91.66); urban air quality (87.64); deposition (31.25)	capitalization of urban green; 5; air pollution regulation; case study application; computational fluid dynamics (cfd) model
#13	public lands	alternative futures; stream flows; water rights; in-stream water rights; basin-level water-resource planning|spatial scale; species extinction; species invasion; floral homogenization; conservation planning	**public lands** (21.29); alternative futures (17.48); ruderals (10.63); amenity migration (10.63); North Carolina (10.63)	ecosystem services; green infrastructure; ruderals; amenity migration; North Carolina
#14	residential mobility	sustainable development; regional planning; greenhouse gases; urban heat island; landscape pattern|residential mobility; compact city policy; greenhouse gases; urban heat island; landscape pattern	**residential mobility** (27.24); compact city policy (27.24); Vancouver (18.15); building assessment system (18.15); political ecology (16.76)	place-based learning; subjectivity ; active citizenship; socionatures ; participatory planning
#15	urban metabolism	urban metabolism; urban ecology; ecological network analysis; material flow analysis; strong sustainability|industrial ecology; decision making; strong sustainability; urban planning system; parcel-scale analysis	**urban metabolism** (197.27); industrial ecology (73.56); ecological network analysis (46.57); ecosystem services (27.53); green infrastructure (24.18)	jing-jin-ji urban agglomeration; impact assessment; leakage effect ; triple bottom line; urban mining
#16	**green innovation**	digital economy; spatial spillover effect; energy efficiency; nonlinear effect; multi-period two-stage dea model|green innovation; quasi-natural experiment; sustainable development; green development; eco-industrial park	**digital economy** (151.83); green innovation (98.47); green total factor productivity (60.5); spatial spillover effect (52.92); carbon emissions (41.65)	policy effects; green and high-quality development; mediating effect analysis; temporal-spatial evolution; gpg
#19	urban environmental problems	sustainable development; urban environmental problems; post-socialist cities; ecological footprint; Czech republic|ecological footprint; urban design; green buildings; green building challenge; post-socialist cities	**urban environmental problems** (13.87); policies (13.87); post-socialist cities (13.87); tourism (13.87); Prague (13.87)	ecosystem services; green infrastructure; urban planning; urbanization; nature-based solutions
#24	**community planning**	local knowledge; environmental health; community planning	**local knowledge** (17.78); community planning (17.78); environmental health (12.04); ecosystem services (0.22); green infrastructure (0.19)	ecosystem services; green infrastructure; urban planning; urbanization; nature-based solutions
#25	conservation planning	conservation planning; future land use changes; biological invasions; spatial	**conservation planning** (16.23); vulnerability (14.06); reserve	ecosystem services; green infrastructure; urban

		modeling; exploratory data analysis|reserve selection; site ranking; species composition; anthropogenic factors; future land use changes	selection (13.46); threats (13.46); spatial logistic regression (13.46)	planning; urbanization; nature-based solutions
#33	simulation modeling	ecology; environmental assessment; planning; simulation modeling; sustainability; sustainability indicators; tools; united states; urban development	**simulation modeling** (15.32); United States (15.32); tools (15.32); sustainability indicators (10.83); environmental assessment (10.32)	ecosystem services; green infrastructure; urban planning; urbanization; nature-based solutions
#35	**Canada sustainable development**	sustainable development; urban sustainability; william james; urban policy; urban planning|ideology; sustainability; regulation; legitimacy; injustice	**Canada** (22.06); injustice (12.9); uncelebrated communities (12.9); pragmatism (12.9); world urban forum (12.9)	ecosystem services; green infrastructure; urban planning; urbanization; nature-based solutions

The terms highlighted in bold indicate the labels for clusters derived from the initial annotations.