

Anexa tehnica de trasabilitate

Inventar al artefactelor, traseului de calcul si controalelor de reproducibilitate.

Regula de reproducibilitate

Exportul public este permis numai daca manifestul de verificare are status passed, hash-urile artefactelor sunt neschimbate, iar tabelele SQL coincid cu fisierele CSV validate. Valorile sunt calculate la precizie completa si rotunjite numai la afisare.

Traseul datelor

Etapă	Artefact	RoI
Intrare	3 exporturi Excel mediu 2014-2024	Masuratori zilnice PM10, PM2.5, NO2
Intrare	Fisier medical anual 2014-2023	HOSP, FADM si MORT pe grupe
Referinta	analysis/reference/stations.csv	Metadate si coordonate disponibile
Intermediar	analysis/interim/env_station_year.csv	Medii anuale pe statie
Analiza	analysis/outputs/analysis_frame.csv	Cadru anual comun
Rezultat	analysis/outputs/results_by_scope.csv	684 perechi in patru selectii
Validare	analysis/verify/run_verify.py	41 controale independente de pipeline
Public	visual-site/dist/data.js	Date agregate pentru site

Selectii de statii

Cod	Utilizare	Definitie
bucharest_core6	Analiza principala	B-1 pana la B-6, Bucuresti; selectie fixata
bucharest_rnmca	Sensibilitate	B-1 pana la B-6 si B-9
bucharest_all	Sensibilitate	Toate statiile Bucuresti
all_stations	Sensibilitate	Reteaua Bucuresti-Illfov; teritorii neidentice cu medicalul

Controlul implementat

Verificatorul nu importa codul pipeline-ului. El compara Excelul brut, interogările SQL MySQL si tabelele pipeline-ului. Verifica toate cele 684 de perechi, anii comuni, valorile din tabelul raportului si 41 de conditii. Orice nepotrivire duce la cod de iesire diferit de zero.

Manifest curent

Camp	Valoare
Status	passed
Verificari trecute	41
Moment UTC	2026-09-17T19:07:19.660194+00:00

Camp	Valoare
Artefacte cu SHA-256	30

Hash-uri SHA-256

Fisier	SHA-256
Raport_20250325094707-2.xls	caba1def7415ee231b526b02bd45947e51de0839911947be1772d50bfd11088f
Raport_20250325094707-3.xls	6d62f17144cb22039113b8533ffc09aaa35849f03d0c7bb8e997c2b24e58a03c
Raport_20250325094707-4.xls	57ae6a1e39385777bc4bf05ad49dc09cbbf0db3c85691ca14bec245b0359db39
Bucuresti-Ilfov -date medicale oct 2024 final.xlsx	60e80769b8c9cb3a4672174b918a1d425afae986b4824539828a7c16038cebcc
analysis\01_read_environmental.py	b28c91b84e902d2ab534c56fec8073865d940b8dae7fb91c34b544c21fe0fb2f
analysis\02_read_medical.py	8b1ceface0ce86359745182e06a52928742ae6eaf296d1888499a7057d2bb975
analysis\03_load_mysql.py	bcc89a146eb9f725af1e2b4640b938900eecfa85eb3954f3af8c8531c5fa3e8a
analysis\04_covariance.py	6c8cf4fa7d35dda2a1a79b7a0447c663983994ec50c1a8733899f10ab400d35f
analysis\config.py	a9d74cb24c758cceed1b2bfe019dec4daccdbf7f5c198384f95113a3357b5523
analysis\run_all.py	346338978c8cc6256eb44692eed8c124e5b20d71a23582b1c08cc0ed34a87936
analysis\sql_inputs.py	a705e108efcb728b8c7c893f12bf08f80139063cf6ce6f001d2af89e7aaf0217
analysis\verify\run_verify.py	12d8fabde6cd97b22670893ec5df2be4e3b4c9ae9e2e0d989ab0e5767a3359f9
analysis\verify\verify_env_stats_report.py	03b6f58fccf2f805418f0a436c8f6d5b2a010528ce004c7fad8f7629106aacd
analysis\verify\verify_medical_sql.py	9df35b8a6e6a464a3d02a796526a7d93c167f1d949d2344d8b6f4b5912274e6a
analysis\reference\additional_data_request.md	a46ca18b0571e4059cf00967adb276f1722cb8ff812aae10909a8be529b9b03a
analysis\reference\stations.csv	38e1c4e57f85917bc706e437c58d37d29bc5b977f8aa4cd8ec1b9a64ce158b99
analysis\reference\stations_SOURCE.md	71f5324d3036e8cbf001de15c236e3f584dcc74679b600d50763ac17b441bed6
analysis\outputs\analysis_frame.csv	7d03e648245eeb4200d0e11818ed500baa2a0ba686f76a027028e68c8d5d5d0e
analysis\outputs\correlation_heatmap.png	8708d606f5db955641def44911d6475f5e355764fb69b03cf3ee8a9039b6b3b1
analysis\outputs\correlation_matrix.csv	4d69d2161efc02824d80e89fd894af91c883c8b2ee8bfd917583f9a892c83c63
analysis\outputs\covariance_matrix.csv	bac7ff5058366d060d031c92ef1ace08aabc2e32ff61c543083dd9d2f2e196de
analysis\outputs\cross_matrix.xlsx	6d3841501115fd8ce6ed21d183e2e94f87b480a7937d5b7579c77ef1f3c2197a
analysis\outputs\detrended_r_matrix.csv	a5b344771e21296468cbb47afe995a97f6cb55d5e4a7b33e0c9181518fa2f63a
analysis\outputs\ln_matrix.csv	5679addb5b713d392afaafab75f4017e105f421be5e3dfc70a1eba55ff97a2b
analysis\outputs\pvalue_matrix.csv	69f3f4208de593130bb0f7b0a3bef5595b4aacbe474612272fc20f40bf8fdac7
analysis\outputs\qvalue_bh_matrix.csv	74f9b35a4180fd8a1660917f13371c924289321cd9e0df12f3741b2ef5a8b29b
analysis\outputs\REPORT.md	a01b7aed1565f3eceed3a883ce1aac09b88ec176a19894b7d0562eb079116a8c
analysis\outputs\results_by_scope.csv	4a4642c843db2f3984c722d784eab7ff2ba102358a1c5f3949c5456747a13e26
analysis\outputs\results_long.csv	d40675cef28102d1ec72a96e2dff43a38347adf85269b598e8591c54536a0165
analysis\outputs\spearman_matrix.csv	cc63418215a1f0ebfc01463dc0cb84ed38a8a1604a420c0eb943bea97cde5322