

Temporary Ponds of Peninsular Spain (TemPoPS): An Integrative Dataset Supporting Research and Conservation of an Endangered Habitat

Abstract

This dataset integrates georeferenced records of temporary ponds derived from multiple sources. It harmonizes nomenclature, coordinates, protected-area codes, and source provenance, providing a consolidated reference for ecological, conservation, and biogeographical analyses.

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Keywords

Temporary ponds, Mediterranean wetlands, Habitat inventory, Geospatial dataset, Freshwater ecosystems

Coverage

- Geographic: Geographical extent of all temporary ponds included in the dataset (peninsular Spain)
- Bounding box: West=-9.12, East=3.3, South=36, North=43.7
- Temporal: 1976-01-01 to 2025-12-27

Methods

The dataset was developed through the integration of multiple sources documenting temporary ponds, including bibliographic references, administrative datasets, expert-contributed databases obtained through direct consultation, citizen science platforms and visual interpretation. To ensure consistency, all sources were harmonized using a standardized workflow, implemented either manually or through R processing. Initially, a subset of sources was manually processed to establish a foundational dataset. Subsequently, the R-based workflow was applied to expand and refine the dataset by consolidating duplicate records into unique entries. Each pond was assigned synthetic identifiers and coordinates, while original descriptive information available from the sources (NAME, ID, coordinates) was preserved to maintain data integrity. Polygons corresponding to polygon-based sources were compiled into a synthetic GeoPackage file included with the dataset, with each pond linked to its associated polygon(s) via newly created identifiers. Information about Protected Areas associated to each pond is provided, for both Natura 2000 and other Protected Areas. Detailed methods can be consulted in the original data paper

Intellectual Rights

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Project

Towards the conservation perspective of temporary ponds to face climate change and alien species invasions (ClimaRiskinPond)

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Attributes

| Name | Definition |
|----------|--|
| Name | Synthetic name assigned to each temporary pond based on original source information, if available (not unique). |
| ID | Unique identifier for each pond, combining an abbreviation for province names with a numeric value ranging from 0 to 1000. |
| X_4326 | Longitude coordinate in EPSG:4326. |
| Y_4326 | Latitude coordinate in EPSG:4326. |
| N2K_CODE | Code identifying the Natura 2000 site(s). If multiple codes are provided, they are separated by semicolons (;). |
| N2K_NAME | Official name of the Natura 2000 site(s). If multiple names are provided, they are separated by semicolons (;). |

| Name | Definition |
|----------------------------|--|
| OTHER_PAs_site_designation | Designation for other Protected Area categories(s). If multiple designations are provided, they are separated by semicolons (;). |
| OTHER_PAs_site_name | Site name for other Protected Areas(s). If multiple names are provided, they are separated by semicolons (;). |
| OTHER_PAs_max_protection | Designation corresponding to the highest level of protection for the site, considering other Protected Areas, based on IUCN protected area categories |
| NAME_SOURCE_1 | Toponym of the temporary pond as reported in source 1, when available. ¹ |
| ID_SOURCE_1 | Identifier or code of the temporary pond as reported in source 1, when available |
| SOURCE_1 | Short citation identifying information source 1 from which the associated pond data were derived. |
| X_4326_SOURCE_1 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 1, when available. |
| Y_4326_SOURCE_1 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 1, when available. |
| ID_POLYGON_SOURCE_1 | Identifier of the polygon associated with the pond in source 1, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_1 | Full reference corresponding to SOURCE_1, describing the original source of the pond information. |
| NAME_SOURCE_2 | Toponym of the temporary pond as reported in source 2, when available. ² |
| ID_SOURCE_2 | Identifier or code of the temporary pond as reported in source 2, when available |
| SOURCE_2 | Short citation identifying information source 2 from which the associated pond data were derived. |
| X_4326_SOURCE_2 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 2, when available. |
| Y_4326_SOURCE_2 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 2, when available. |
| ID_POLYGON_SOURCE_2 | Identifier of the polygon associated with the pond in source 2, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_2 | Full reference corresponding to SOURCE_2, describing the original source of the pond information. |
| NAME_SOURCE_3 | Toponym of the temporary pond as reported in source 3, when available. ³ |

| Name | Definition |
|---------------------|--|
| ID_SOURCE_3 | Identifier or code of the temporary pond as reported in source 3, when available |
| SOURCE_3 | Short citation identifying information source 3 from which the associated pond data were derived. |
| X_4326_SOURCE_3 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 3, when available. |
| Y_4326_SOURCE_3 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 3, when available. |
| ID_POLYGON_SOURCE_3 | Identifier of the polygon associated with the pond in source 3, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_3 | Full reference corresponding to SOURCE_3, describing the original source of the pond information. |
| NAME_SOURCE_4 | Toponym of the temporary pond as reported in source 4, when available. ⁴ |
| ID_SOURCE_4 | Identifier or code of the temporary pond as reported in source 4, when available |
| SOURCE_4 | Short citation identifying information source 4 from which the associated pond data were derived. |
| X_4326_SOURCE_4 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 4, when available. |
| Y_4326_SOURCE_4 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 4, when available. |
| ID_POLYGON_SOURCE_4 | Identifier of the polygon associated with the pond in source 4, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_4 | Full reference corresponding to SOURCE_4, describing the original source of the pond information. |
| NAME_SOURCE_5 | Toponym of the temporary pond as reported in source 5, when available. ⁵ |
| ID_SOURCE_5 | Identifier or code of the temporary pond as reported in source 5, when available |
| SOURCE_5 | Short citation identifying information source 5 from which the associated pond data were derived. |
| X_4326_SOURCE_5 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 5, when available. |
| Y_4326_SOURCE_5 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 5, when available. |

| Name | Definition |
|---------------------|--|
| ID_POLYGON_SOURCE_5 | Identifier of the polygon associated with the pond in source 5, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_5 | Full reference corresponding to SOURCE_5, describing the original source of the pond information. |
| NAME_SOURCE_6 | Toponym of the temporary pond as reported in source 6, when available. ⁶ |
| ID_SOURCE_6 | Identifier or code of the temporary pond as reported in source 6, when available |
| SOURCE_6 | Short citation identifying information source 6 from which the associated pond data were derived. |
| X_4326_SOURCE_6 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 6, when available. |
| Y_4326_SOURCE_6 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 6, when available. |
| ID_POLYGON_SOURCE_6 | Identifier of the polygon associated with the pond in source 6, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_6 | Full reference corresponding to SOURCE_6, describing the original source of the pond information. |
| NAME_SOURCE_7 | Toponym of the temporary pond as reported in source 7, when available. ⁷ |
| ID_SOURCE_7 | Identifier or code of the temporary pond as reported in source 7, when available |
| SOURCE_7 | Short citation identifying information source 7 from which the associated pond data were derived. |
| X_4326_SOURCE_7 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 7, when available. |
| Y_4326_SOURCE_7 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 7, when available. |
| ID_POLYGON_SOURCE_7 | Identifier of the polygon associated with the pond in source 7, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_7 | Full reference corresponding to SOURCE_7, describing the original source of the pond information. |
| NAME_SOURCE_8 | Toponym of the temporary pond as reported in source 8, when available. ⁸ |
| ID_SOURCE_8 | Identifier or code of the temporary pond as reported in source 8, when available |

| Name | Definition |
|---------------------|--|
| SOURCE_8 | Short citation identifying information source 8 from which the associated pond data were derived. |
| X_4326_SOURCE_8 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 8, when available. |
| Y_4326_SOURCE_8 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 8, when available. |
| ID_POLYGON_SOURCE_8 | Identifier of the polygon associated with the pond in source 8, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_8 | Full reference corresponding to SOURCE_8, describing the original source of the pond information. |
| NAME_SOURCE_9 | Toponym of the temporary pond as reported in source 9, when available. ⁹ |
| ID_SOURCE_9 | Identifier or code of the temporary pond as reported in source 9, when available |
| SOURCE_9 | Short citation identifying information source 9 from which the associated pond data were derived. |
| X_4326_SOURCE_9 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 9, when available. |
| Y_4326_SOURCE_9 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 9, when available. |
| ID_POLYGON_SOURCE_9 | Identifier of the polygon associated with the pond in source 9, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_9 | Full reference corresponding to SOURCE_9, describing the original source of the pond information. |
| NAME_SOURCE_10 | Toponym of the temporary pond as reported in source 10, when available. ¹⁰ |
| ID_SOURCE_10 | Identifier or code of the temporary pond as reported in source 10, when available |
| SOURCE_10 | Short citation identifying information source 10 from which the associated pond data were derived. |
| X_4326_SOURCE_10 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 10, when available. |
| Y_4326_SOURCE_10 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 10, when available. |

| Name | Definition |
|----------------------|---|
| ID_POLYGON_SOURCE_10 | Identifier of the polygon associated with the pond in source 10, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_10 | Full reference corresponding to SOURCE_10, describing the original source of the pond information. |
| NAME_SOURCE_11 | Toponym of the temporary pond as reported in source 11, when available. ¹¹ |
| ID_SOURCE_11 | Identifier or code of the temporary pond as reported in source 11, when available |
| SOURCE_11 | Short citation identifying information source 11 from which the associated pond data were derived. |
| X_4326_SOURCE_11 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 11, when available. |
| Y_4326_SOURCE_11 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 11, when available. |
| ID_POLYGON_SOURCE_11 | Identifier of the polygon associated with the pond in source 11, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_11 | Full reference corresponding to SOURCE_11, describing the original source of the pond information. |
| NAME_SOURCE_12 | Toponym of the temporary pond as reported in source 12, when available. ¹² |
| ID_SOURCE_12 | Identifier or code of the temporary pond as reported in source 12, when available |
| SOURCE_12 | Short citation identifying information source 12 from which the associated pond data were derived. |
| X_4326_SOURCE_12 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 12, when available. |
| Y_4326_SOURCE_12 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 12, when available. |
| ID_POLYGON_SOURCE_12 | Identifier of the polygon associated with the pond in source 12, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_12 | Full reference corresponding to SOURCE_12, describing the original source of the pond information. |
| NAME_SOURCE_13 | Toponym of the temporary pond as reported in source 13, when available. ¹³ |
| ID_SOURCE_13 | Identifier or code of the temporary pond as reported in source 13, when available |

| Name | Definition |
|----------------------|---|
| SOURCE_13 | Short citation identifying information source 13 from which the associated pond data were derived. |
| X_4326_SOURCE_13 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 13, when available. |
| Y_4326_SOURCE_13 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 13, when available. |
| ID_POLYGON_SOURCE_13 | Identifier of the polygon associated with the pond in source 13, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_13 | Full reference corresponding to SOURCE_13, describing the original source of the pond information. |
| NAME_SOURCE_14 | Toponym of the temporary pond as reported in source 14, when available. ¹⁴ |
| ID_SOURCE_14 | Identifier or code of the temporary pond as reported in source 14, when available |
| SOURCE_14 | Short citation identifying information source 14 from which the associated pond data were derived. |
| X_4326_SOURCE_14 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 14, when available. |
| Y_4326_SOURCE_14 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 14, when available. |
| ID_POLYGON_SOURCE_14 | Identifier of the polygon associated with the pond in source 14, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_14 | Full reference corresponding to SOURCE_14, describing the original source of the pond information. |
| NAME_SOURCE_15 | Toponym of the temporary pond as reported in source 15, when available. ¹⁵ |
| ID_SOURCE_15 | Identifier or code of the temporary pond as reported in source 15, when available |
| SOURCE_15 | Short citation identifying information source 15 from which the associated pond data were derived. |
| X_4326_SOURCE_15 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 15, when available. |
| Y_4326_SOURCE_15 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 15, when available. |

| Name | Definition |
|----------------------|---|
| ID_POLYGON_SOURCE_15 | Identifier of the polygon associated with the pond in source 15, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_15 | Full reference corresponding to SOURCE_15, describing the original source of the pond information. |
| NAME_SOURCE_16 | Toponym of the temporary pond as reported in source 16, when available. ¹⁶ |
| ID_SOURCE_16 | Identifier or code of the temporary pond as reported in source 16, when available |
| SOURCE_16 | Short citation identifying information source 16 from which the associated pond data were derived. |
| X_4326_SOURCE_16 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 16, when available. |
| Y_4326_SOURCE_16 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 16, when available. |
| ID_POLYGON_SOURCE_16 | Identifier of the polygon associated with the pond in source 16, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_16 | Full reference corresponding to SOURCE_16, describing the original source of the pond information. |
| NAME_SOURCE_17 | Toponym of the temporary pond as reported in source 17, when available. ¹⁷ |
| ID_SOURCE_17 | Identifier or code of the temporary pond as reported in source 17, when available |
| SOURCE_17 | Short citation identifying information source 17 from which the associated pond data were derived. |
| X_4326_SOURCE_17 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 17, when available. |
| Y_4326_SOURCE_17 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 17, when available. |
| ID_POLYGON_SOURCE_17 | Identifier of the polygon associated with the pond in source 17, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_17 | Full reference corresponding to SOURCE_17, describing the original source of the pond information. |
| NAME_SOURCE_18 | Toponym of the temporary pond as reported in source 18, when available. ¹⁸ |
| ID_SOURCE_18 | Identifier or code of the temporary pond as reported in source 18, when available |

| Name | Definition |
|----------------------|---|
| SOURCE_18 | Short citation identifying information source 18 from which the associated pond data were derived. |
| X_4326_SOURCE_18 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 18, when available. |
| Y_4326_SOURCE_18 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 18, when available. |
| ID_POLYGON_SOURCE_18 | Identifier of the polygon associated with the pond in source 18, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_18 | Full reference corresponding to SOURCE_18, describing the original source of the pond information. |
| NAME_SOURCE_19 | Toponym of the temporary pond as reported in source 19, when available. |
| ID_SOURCE_19 | Identifier or code of the temporary pond as reported in source 19, when available |
| SOURCE_19 | Short citation identifying information source 19 from which the associated pond data were derived. |
| X_4326_SOURCE_19 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 19, when available. |
| Y_4326_SOURCE_19 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 19, when available. |
| ID_POLYGON_SOURCE_19 | Identifier of the polygon associated with the pond in source 19, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_19 | Full reference corresponding to SOURCE_19, describing the original source of the pond information. |
| NAME_SOURCE_20 | Toponym of the temporary pond as reported in source 20, when available. |
| ID_SOURCE_20 | Identifier or code of the temporary pond as reported in source 20, when available |
| SOURCE_20 | Short citation identifying information source 20 from which the associated pond data were derived. |
| X_4326_SOURCE_20 | Longitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 20, when available. |
| Y_4326_SOURCE_20 | Latitude coordinate (reprojected to EPSG:4326) of the temporary pond as reported in source 20, when available. |

| Name | Definition |
|----------------------|---|
| ID_POLYGON_SOURCE_20 | Identifier of the polygon associated with the pond in source 20, when available. The polygon can be found in the associated spatial layer ‘Associated_polygons_Temporary_ponds_database_V0.gpkg’, matching with field ‘ID_POLYGON’. |
| REFERENCE_SOURCE_20 | Full reference corresponding to SOURCE_20, describing the original source of the pond information. |