HLC Operational Framework — Common Front Matter

Version: *8.2.1 — 2026-11-15*

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Scope of this document: *One shared preface for codehu, codehl, codehy, codehw*

Distribution: *the original work files (docx & xlsx) will not be published, but the main HLC documents and the branch FAO+, DIAM+, SDMX+ and CWWN+ versions will be provided in machine readable formats (pdf & txt) under https://weynans.info/hlc/?C=D;O=A : the .txt files with less columns uses the TSV format (tab separator) and the .txt files with many columns uses the SSV format (semicolon separator), because semicolons are not used/allowed in the xlsx files. These files also include more details and background information about the current scheme. Note: not every framework part will be updated in every version.*

Change History *(little number and/or code changes will not be mentioned.)*

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codehl  8.2 (11/2026):  Enhanced: TU, SDMX+, TIC. Started: FAOSTAT and IMF integration
        8.1 (10/2026):  added some missing IATs documentation, more SDMX+ entries, refined "WGS-RPD" entries
        7.9 (09/2026):  integration of SDMX+ (organizations) and moved "types" sheet from codehl to codehu
        7.8 (08/2026):  split off "Operational Framework - Common Front Matter" document
        7.7 (07/2026):  integration of "WAC"
        7.6 (06/2026):  integration of tectonic plates
        7.0 (01/2026):  integration of "IT+", "ISTAT", "MIN" and "ILO" completed
        6.8 (03/2025):  added missing items for "ITU", "NATO" and "CAO"
        6.7 (02/2025):  completed "CIA-FACTS", started "ILO" integration and inline attribute tags (IATs)
        6.6 (01/2025):  integration of "COW" completed
6.2  -  6.3 (11/2024):  extension of history codes
        6.0 (04/2024):  integration of "CIA-FACTS" items started
        5.4 (09/2023):  integration of "WGS-RPD" completed
        5.2 (08/2023):  started "COW" integration
5.0  -  5.1 (07/2023):  added "NO", introduced four digits subcodes
4.6  -  4.7 (06/2023):  added "NZ", "ZA" and "JP"
        3.6 (03/2023):  added classification chart
        3.2 (02/2023):  added "FAO"
        2.5 (12/2022):  added WID-TIC" and the type-table
        2.4 (09/2022):  added "AU", "ITU+" and "ESSD"
2.1  -  2.2 (08/2022):  added "AR", the info-page and started "WGS-RPD" integration
1.3  -  1.6 (07/2022):  added "CH", "CA", "EU" and "FR"
        1.0 (07/2022):  first release with tree and some "DIAMs"
        0.8 (04/2021):  pre-release with "ISO-2", "ISO-3" and "UNO"
0.3  -  0.7 (2013-21):  studies: 2/3-gram alpha for countries and 3-gram alpha for continents and regions

codehu  8.2 (11/2026):  side effect changes from the other framework parts
        7.9 (09/2026):  takeover "types" sheet from codehl, changed scheme for logical entries
        7.8 (08/2026):  split off "Operational Framework - Common Front Matter" document
7.2  -  7.4 (03/2026):  added info-page and copied data sheet from codehy (HD)
        7.0 (01/2026):  added additional "HLC-X" content options
        3.5 (03/2023):  first release with "A2", "A3", "HLC-M", "Type" and "HLC-X"

codehy  8.2 (11/2026):  side effect changes from the other framework parts
        7.9 (09/2026):  special "CWWN+" and "FAO+" sheets
        7.8 (08/2026):  split off "Operational Framework - Common Front Matter" document
        7.2 (03/2026):  additional code numbers creation possibility derived from CWWN codes
        7.1 (02/2026):  restored mostly original CWWN codes and some FAO+ shifts (13,16,53,54,73,83,84,86)
        7.0 (01/2026):  integration of "NAFO", "NEAFC" and "GCFM"
        5.9 (03/2024):  added "WGS84" and much more items
        5.7 (02/2024):  added combined "IHO"s and "ACIC" with parts of "DIAM+" as "IHO+"
        5.6 (01/2024):  introduced four digits subcodes
        4.6 (06/2023):  first release with "DIAM+", "CWWN+" and "FAO+"
        4.0 (04/2023):  pre-release with "DIAM+", "CWWN" and "FAO"

codehw  8.1 (10/2026):  Enhanced: "EUNIS, BPOW, FEOW" – New: "BYES, EOW/SEOW, GET", derivation column "HLC-D"
        7.9 (09/2026):  some changes in "GEZ", "PAME" and "GOODS" and splits off "BPOW"
        7.8 (08/2026):  split off "Operational Framework - Common Front Matter". Added "AMAs"
        7.7 (07/2026):  integration of "EUNIS" (2021/22)
        7.6 (06/2026):  integration of "GOODS" and "GEZ"
        7.5 (05/2026):  integration of "PPOW"
7.2  -  7.4 (03/2026):  integration of "GIWA", MEOW", "FEOW", "TEOW", "PAME" and "LMEs"
        6.4 (12/2024):  pre-release with integration of "BEOW"
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1. What the HLC Framework Is

*The **Hierarchical Location Codes (HLC)** framework is a reference and crosswalk system for classifying and connecting geopolitical entities, regions, subregions, countries, historical entities, waterbodies, ecological regions, and related structures.*

*Its purpose is **harmonization, not replacement**. HLC integrates internationally recognized standards — including ISO 3166 alpha-2/alpha-3 country codes, UN M49 numeric codes, US GENC codes, SDMX+ organization codes, DIAM+, CWWN+, and major ecological classification systems — and adds hierarchical HLC extensions where existing standards are insufficient (pseudo-regions, dependencies, technical identifiers, historical entities, and waterbody naming).*

*The framework preserves **multiple coding schemes, versions, and hierarchical interpretations in parallel**. Where standards disagree or do not correspond cleanly, that condition is represented explicitly rather than resolved into a single forced answer. The framework is designed to be **extensible over time** while maintaining **stable internal identifiers** for longitudinal consistency, but as part of a continuous improvement and adaptation process sometimes changes or consolidation of the number ranges are unavoidable.*

2. The Framework Files

The HLC framework consists of one front-matter document and four data files. The table below is the authoritative description of each file's role; the FILE ROLE entries on the INFO sheets of codehu, codehl, codehy and codehw refer to this section.

File	***Role***	***Owns***	***Key sheets***
codehv	*Common front matter: system philosophy, shared notation, limitations and governance for all framework files.*	*Cross-file rules*	*—*
codehu	*Namespace control layer: register of the 2-gram base codes in use and their 3-gram counterparts, with the owning system of each code (ISO 3166, HLC, SDMX+, DIAM+, GENC, CWWN+, HLC technical codes). Also the register of IAT keys and entry types.*	*HLC-2, HLC-3, HLC-X, types, IAT keys*	*INFO, TYPES, DATA (HU), COPY (HD)*
codehl	*Master integrator and land-based hierarchy: continents → regions → countries → divisions/units, dependencies, historical and disputed entities, organizations, climate and biogeographic zones, plus the top-level water and marine-ecosystem nodes. Crosswalks to about 40 classifications via IATs. Assigns the HLC-M number ranges for all files.*	*HLC-M range assignment; land HLC-M codes*	*INFO, HLC-M, DATA (HL), CHART (HL)*
codehy	*Water and hydrographic hierarchy: oceans, seas, straits, currents, gyres, rivers, lakes and undersea features, with parallel crosswalks to DIAM+, CWWN+, FAO+/NAFO/ICES, IHO/ACIC and marine ecoregion schemes.*	*DIAM+ (nx), CWWN+ extensions, FAO+ numbering*	*INFO, DATA (HY), CWWN+, DIAM+, FAO+, IHO+*
codehw	*Ecoregions and ecosystems: terrestrial, freshwater, marine and subterranean classification schemes held as sibling views. Derives HLC-D codes where no HL/HY code exists.*	*HLC-S / REF-CODE → HLC-D*	*INFO, HLC-M (HW), one sheet per scheme, CHART*

The files are coordinated but not merged. Each uses classification logic appropriate to its domain, and they cross-reference one another through shared codes and inline attribute tags (IATs). File-specific rules (e.g. the sort-level conventions in codehw or the DIAM+/SDMX+ (nx) code overlap in codehy) remain documented on the INFO sheet of the respective file.

3. Shared Notation

*The following notation applies to **all four files**:*

- *a = alpha (A–Z) n = numeric (0–9) ·x, y, z = alphanumeric (A–Z, 0–9)*
- *'..' = exact phrase*
- *| = alternatives (equally valid codes or names for the same entity)*
- *: = used for logical, institutional, or organizational entries; the letters before ':' are a mnemonic prefix and IAT key, never an ISO 3166 country code (e.g. AE:2P = APEC). The code after ':' keeps its original SDMX meaning (e.g. 5B = BIS) unless it lies in an HLC extension range — see codehu INFO.*
- *> = redirect (points to the canonical or successor entry)*
- ** = duplicate entry representing a **legitimate alternative hierarchy**, not data redundancy*
- *~, +, - = inherited / encroached / extended values from adjacent entries*
- *!- = number range extension*
- *( ) = optional extension or annotation*
- *! = after country codes in connection with territorial claims marks the administering party*

***Attribute-locality rule:** For duplicate (*) entries, the descriptive attributes reside only at the original (unmarked) entry in the same sheet. Duplicate copies carry the hierarchy placement only. This guarantees duplicates cannot contradict one another.*

***Inline Attribute Tags (IATs):** Cross-references to external standards are stored inline as {scheme:value}, (for example {UN:364}, {ISO:IR}, {MEOW:...}) to keep rows readable and editable. Known tag keys are documented in each file's column area.*

4. Coordinates: What They Mean

*WGS84 coordinates, where present, are provided **only as reference anchors** for orientation and best-fit regional assignment.*

*They are **not**:*

- *boundary definitions,*
- *polygon or shapeline geometry,*
- *precise spatial extents,*
- *inputs for GIS containment analysis.*

*There is **no plan to implement GIS shapelines**. Assignment of an entity to a region is based on best conceptual fit, not on spatial containment.*

5. How Conflicting Classifications Are Handled

*HLC treats classificatory disagreement as **information, not error**. Conflicts are preserved through the shared notation:*

- ***Alternative names/codes** → |*
- ***Deprecated or successor entities** → >*
- ***An entity legitimately under multiple parents** → **
- ***Parallel institutional classifications** → {scheme:value} tags*
- ***Territorial disputes** → recorded neutrally (e.g., "claimed by X, Y") with no sovereign parent assigned*

An entity may therefore appear in more than one hierarchy, hold more than one code, and be described from more than one standard's perspective simultaneously.

6. Limitations and Scope

These limitations apply to the framework as a whole and need not be repeated per file:

1. ***Single maintainer.** The framework is compiled and maintained by one single person (Jens Weynans) in their very limited spare time without any support or external influence. It has no institutional editorial board, formal review process, or redactional overhead. It should be evaluated as a specialist reference framework, not as an official standard.*
2. ***Not an authority.** HLC does not define authoritative boundaries and does not replace ISO, UN, IHO, FAO, or any ecological source standard. Those sources remain authoritative within their domains; HLC assignments are interpretive harmonizations.*
3. ***No GIS geometry.** The framework contains no polygons or shapelines and none are planned. Coordinates are best-fit anchors only (see §4).*
4. ***Not for legal or spatial use.** HLC is unsuitable for legal boundary determination, maritime delimitation, cadastral mapping, or polygon-based spatial analysis.*
5. ***Snapshot, not real-time.** External references are snapshots current as of the stated version. They do not auto-update. The framework is released in versioned batches, not continuously.*
6. ***Stable internal identifiers.** HLC codes are intended to remain stable across releases even when external standards change. Deprecated entities are retained with redirects rather than deleted.*
7. ***Uneven granularity.** Details follow the source systems. Some regions and domains are represented in fine detail; others are broad. This reflects the source standards, not inconsistency.*
8. ***Editorial judgment.** Which alternative hierarchies count as legitimate is a curatorial decision made by the maintainer. Reproducing an assignment independently may require that judgment.*

7. Sources Integrated (Reference List)

The framework references, among others: ISO 3166 (-1/-2/-3), ISO+, UN M49, US GENC, SDMX+, DIAM+, FAOSTAT, IMF, CWWN+, FAO+ / NAFO / ICES fishing areas, IHO+ Limits of Oceans and Seas, ACIC, Longhurst provinces, OSPAR, HELCOM, AMAS, PAME, USGS HUC, EOW/SEOW, GOODS, GET, GIWA, BYES, GEZ, TEOW, BEOW, BPOW, FEOW, EUNIS, MEOW, LMES, PPOW, WWF Global 200, and various national statistical classifications. Full per-domain source notes remain in the respective files.

8. Governance and Licence

Licence. *The published HLC files (PDF and TXT) are licensed under the Creative Commons Attribution 4.0 International licence (CC BY 4.0). You may copy, adapt and reuse them, including commercially (with prior information to the publisher), if you credit the source as follows: "Hierarchical Location Codes (HLC), Jens Weynans, version [x.y.z], weynans.info/hlc". The licence covers HLC's own contributions only, such as HLC codes, hierarchies, crosswalks and notes. External codes and names (ISO, UN, IHO, FAO, ecoregion schemes and others) remain subject to the terms of their respective owners.*

Feedback and corrections. *Errors, missing entries and suggestions can be sent to weynans@aol.com with the subject line "HLC issue". Please state the file, the code and the proposed change. Accepted corrections are included in the next release.*

Admission of alternative hierarchies. *An alternative hierarchy or classification is added only if:*

1. *it is defined in an identifiable published source,*
2. *it is used by an identifiable community, organisation or discipline, and*
3. *it cannot be derived from a hierarchy already included in HLC.*

Each admitted hierarchy is recorded with a short reason.