

IVC (International Vegetation Classification) upper hierarchy revisions in Biotics

On Jan. 23, 2024, NatureServe Ecology implemented **revisions to the IVC (International Vegetation Classification) upper hierarchy (Levels 1 - 3)** in Central Biotics. All Biotics instances with ongoing Central-to-Local data exchange* received these updates sometime Jan. 25 - 30, 2024. Please submit a Biotics help desk ticket (Biotics@natureserve.org) with any questions or concerns.

You may view the **Network Topic Call** where we announced the changes here: [Update on the International Vegetation Classification and Introduction to USNVG Group Map Review](#); after a conceptual explanation of the changes, the brief Explorer and Biotics demo starts at [17:17](#).

The changes are also available on [NatureServe Explorer](#), but this was a soft release of the revised hierarchy, and all data and the information below are subject to change. We've only announced the change to the Network.

Changes you may notice if you look at IVC records (including a heads up for domain changes that will be applied in February, March, or April):

1. The elements at the **top 3 levels** of the hierarchy (Class, Subclass, Formation) are **all replaced**, and the old elements at those levels inactivated. Lower level elements remain as is except that they are "reparented" to the new Formations. (A small number of Divisions and Macrogroups were also replaced.) The relationships to [Global Ecosystem Typology \(GET\) types](#) are available in Related Concepts, and lineage data will be added soon.
2. There are revised **concatenated (classification) codes** at all levels. E.g., TT2.a4.Na instead of 1.B.2.Na.
3. Concatenated codes can't be used for **sorting by hierarchy** anymore because the realm (biome grouping) sort order is TT, TP, MB, MS, MM. Instead you need to use a sort field. I've provided SQL below**, or submit a Biotics help desk ticket (Biotics@natureserve.org) and I can provide you with a view that contains a sort field.
4. The **Class** and **Subclass** (Level 1-2) levels of the IVC hierarchy are now called "**Biome**" and "**Subbiome**", respectively, so the Level 1 and Level 2 scientific names end in "Biome" and "Subbiome". But we're unable to immediately update the values in the classification level domain, so for a while the classification levels will still show up as "Class" and "Subclass". See [Table 1](#). A **classification level domain update** will be applied to your database in February, March, or April.
5. **Biome (Level 1) elcodes** now begin with "B". This elcode prefix is also used for Bacteria, just as "A" is used for "Alliance" and "Animal". The IVC elcodes at these levels are shorter than 10 characters, and of course they have a different name category than species records.
6. We have recombined the **IVC-Natural and IVC-Cultural** hierarchies, since cultural types are split among 3 Biomes (in different realms) in the revised hierarchy.
 - a. A **name category domain update** of "International Vegetation Classification - Natural" to "International Vegetation Classification" will be applied to your database in February, March, or April, so that both Natural and Cultural types have name category "International Vegetation Classification". But in the meantime Cultural types will (incorrectly) appear with name category= "International Vegetation Classification - Natural".
 - b. Cultural types no longer have cultural-specific **classification levels**; the natural levels are used instead, even though the natural level names, particularly "Alliance" and "Association", technically include only natural vegetation. See [Table 1](#).
 - c. The **suffixes of cultural type names** have changed. The suffix is a modification of the level name. See [Table 1](#).

* To see when your weekly ongoing Central-to-Local exchange occurs, see [Biotics 5 Status & Data Exchange Map](#) and click on your state or province.

Table 1 Recombination of IVC-Natural and IVC-Cultural hierarchies

Note: this table shows Scientific Names only. For levels 1-6 we almost always report Common Name, which does not contain a level suffix. Information in this table is likely to change somewhat.

IVC Classification Level				Scientific Name suffix			Note
	<i>old</i> Natural	<i>old</i> Cultural	<i>new</i> Natural + Cultural	new Cultural sciname suffix	Natural example	Cultural example	
1	Class	Cultural Class	Biome	Biome	Temperate-Boreal Forest & Woodland Biome	Intensive Land Use Biome	Level still displays as “Class” for now, but scientific names end in "Biome".
2	Subclass	Cultural Subclass	Subbiome	Subbiome	Boreal Forest & Woodland Subbiome	Agricultural Land Subbiome	Level still displays as “Subclass” for now, but scientific names end in "Subbiome".
3	Formation	Cultural Formation	Formation	Formation	Boreal Forest & Woodland Formation	Plantation Formation	
4	Division	Cultural Subformation	Division	Anthro-division	Picea glauca - Picea mariana - Abies balsamea Forest & Woodland Division	Forest Plantation Anthro-division	
5	Macrogroup	Cultural Group	Macrogroup	Anthro-macrogroup	North American Northern Boreal Woodland Macrogroup	Temperate & Boreal Plantation Anthro-macrogroup	
6	Group	Cultural Subgroup	Group	Anthro-group	Eastern Canadian Subarctic Woodland Group	Eastern North American Temperate Forest Plantation Anthro-group	
7	Alliance	Cultural Type	Alliance	Anthro-type	Picea mariana Eastern Subarctic Woodland Alliance	Exotic Northern Conifer Plantation Anthro-type	“Alliance” is technically not a proper term for cultural types at this level.
8	Association	Cultural Subtype	Association	n/a	Picea mariana / Lichens Nonvascular Vegetation	Pinus spp. Forest Plantation	Scientific names do not have level name at end. “Association” is technically not a proper term for cultural types at this level.

****SQL for a sort field for IVC elements:**

```
case when sn.d_classification_level_id in(101,111) then eg.concatenated_cd
  when substr(eg.concatenated_cd,1,2)='TT' then 'a-' || eg.concatenated_cd
  when substr(eg.concatenated_cd,1,2)='TP' then 'b-' || eg.concatenated_cd
  when substr(eg.concatenated_cd,1,2)='MB' then 'c-' || eg.concatenated_cd
  when substr(eg.concatenated_cd,1,2)='MS' then 'd-' || eg.concatenated_cd
  when substr(eg.concatenated_cd,1,2)='MM' then 'e-' || eg.concatenated_cd
  else eg.concatenated_cd end sort_cd,
```