

Canadian Terrestrial Ecological Framework (CTEF)

Methodological Approach and Outcomes



1. METHODOLOGY ADOPTED FOR DATA COMPILATION

The Canadian Terrestrial Ecological Framework (CTEF) contains the most up-to-date spatial and attribute data on ecozones and ecoregions in Canada. It is compiled and managed by Environment and Climate Change Canada (ECCC), in collaboration with provincial and territorial jurisdictions. The purpose of the 2019 update was to allow the Pathway initiative to be able to report nationally on ecological representation; it does not represent an official update to the 1995 national ecological framework.

1.1 Definitions

The National Ecological Framework for Canada report developed in 1995 defines ecozones and ecoregions as follows:

- An ecozone is an area of the earth's surface representative of large and very generalized ecological units characterized by interactive and adjusting abiotic and biotic factors.
- An ecoregion is a subdivision of ecozones and is characterized by distinctive regional ecological factors, including climatic, physiography, vegetation, soil, water, fauna and land use.

Provinces and territories considered these features when determining ecoregions and ecozones, although the relative importance of each may vary.

1.2 Data assembly

The datasets were gathered following a step-by-step procedure:

- a. Acquire the most up-to-date ecoregion geodatabases from each province and territory.
- b. Assemble the geographic and attribute data into a preliminary single national coverage.
- c. Reach consensus on the nomenclature and geographic alignment of ecoregions and ecozones that cross-shared administrative boundaries and incorporate the agreed-upon linework to generate the revised ecoregion and ecozone layers.
- d. Prepare mapping products and statistical analysis related to the Ecological Framework.

1.3 Data standards

The CTEF is an ESRI™ geodatabase with a Canada Albers Equal Area Conic geographic projection. In addition, the geodatabase has been aligned to Canada's coastlines as defined by the [Topographic Data of Canada - CanVec Series](#) at a scale of 1: 1,000,000.



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1.4 Challenges

Provinces and territories use the same general methodological approach and information types to delineate ecoregions and ecozones, but use different spatial scales and base datasets for defining their ecoregions and ecozones. As a result, cross-boundary alignment was often difficult to achieve because of the disparity between methodologies. In collaboration with jurisdictions, adjustments were made to ecoregion boundaries to create a consistent national coverage that minimizes artefacts at political boundaries. This required discussion and compromise among jurisdictions, as the ecoregions are used for a range of purposes at the provincial and territorial level. The resulting data layer represents the working group's consensus on the distribution and characteristics of the ecozones and ecoregions. The resulting ecozone and ecoregion feature classes do not represent an official update to the 1995 national ecological framework.

1.5 Caveat

While this coverage contains the most up-to-date information from jurisdictions, all parties interested in using this layer for analysis purposes should note that a different methodology was used by each data provider to determine the boundaries of the ecozones and ecoregions, and that this national layer may differ from the provincial and territorial layers. In a second phase under consideration, a national methodology may be developed in collaboration with federal, provincial and territorial jurisdictions to allow more consistent and standardized results.

2. OUTCOMES

The major outcomes of this work include:

- The 2019 Canadian Ecological Framework (a map including 18 ecozones & 215 ecoregions).
- The Ecological Database made of the most up-to-date data layers from all provinces/territories.
- The User Guide (upcoming).
- Various mapping products and statistical analysis.

