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### Map and shapefile of the biogeographic provinces of Argentina

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We provide a map of the 15 biogeographic provinces of Argentina based on the ecoregions recognized for the country, combining climatic, geological and biotic criteria. Argentinean provinces belong to the Neotropical region (Yungas, Paraná Forest, Araucaria Forest, Chaco and Pampean provinces), the South American transition zone (Puna, Monte, Comechingones and Cuyan High Andean provinces) and the Andean region (Patagonian, Maule, Valdivian Forest, Magellanic Forest, Falkland Islands and Magellanic Moorland provinces). In order to facilitate future biogeographic analyses, we provide a file of this biogeographical regionalisation in vector format using the World Geodetic Survey 1984.

**Key words:** Andean region, Argentina, biogeographic regionalization, ecoregions, Neotropical region, South American transition zone

Both ecological and historical factors operating at different spatial and temporal scales determine which species are able to colonise and persist in local habitats. The existence of non-random patterns in species distributions implies the operation of some general causal processes of the history of life that can explain the present-day distribution of species. Biogeography studies the distribution of organisms in time and space, analysing the processes that have shaped it, and the close relationship that organisms maintain with their environment, and provide a system of biotic regionalization, with hierarchically ordered categories (Escalante 2009). The recognition of areas of endemism and their endemic taxa has been the basis of biogeographic regionalizations since the eighteenth century (Ebach 2015). There have been several attempts of biogeographical regionalization for Latin America, and especially Argentina, that tried to provide systems classifying natural areas. We may mention the phytogeographic provinces delimited by Cabrera (1971), the ecoregions of Burkart *et al.* (1999) and Olson *et al.* (2001), and the Neotropical and Andean regionalization proposed by Morrone (2014, 2015), among others. These studies differ in their classified areas and have differences in their categorization, so different boundaries, names, or levels occur among the biogeographic areas recognized.

Argentina is the second largest country of South America after Brazil, with a total area of approximately 2.7 million km<sup>2</sup>, and comprises a large variety of continental and marine ecosystems. The country is made up mostly of low or flatlands, although it also features some major mountain ranges and tablelands. From a biogeographical point of view, Argentina spans over both the Andean and Neotropical regions, including part of the South American transition zone. In the most recent biogeographic regionalization analyses (Roig *et al.* 2009; Morrone 2015, 2017; Morrone & Ezcurra 2016; Martínez *et al.* 2017), 15 provinces have been recognized: six assigned to the Andean region, five to the Neotropical region and four in the South American transition zone (Fig. 1).

The integration of ecological processes into the reconstruction of biogeographic scenarios has been a long-term aim in historical biogeography (Sanmartín 2012). In order to unify the different biogeographic schemes into a single system that could serve as reference, as suggested by Morrone *et al.* (2017), we consider that the biogeographic regionalisations of Roig *et al.* (2009), Morrone (2014, 2015), Morrone & Ezcurra (2016), and Martínez *et al.* (2017) may be unified with the ecoregions of Olson *et al.* (2001) to provide areas that combine biotic, climatic and geological criteria. As biogeographical analyses are an efficient approach to complement classic ecological and conservation studies, we provide herein a map of the biogeographic provinces of Argentina and the corresponding files for their use in Geographic

Information Systems. Although all the provinces in the geopolitical borderlines continue naturally north and west of the country, we only consider the geopolitical limits of Argentina, because our main aim is to strengthen and uniform their use in national scenario, especially in education, ecological studies and conservation initiatives.

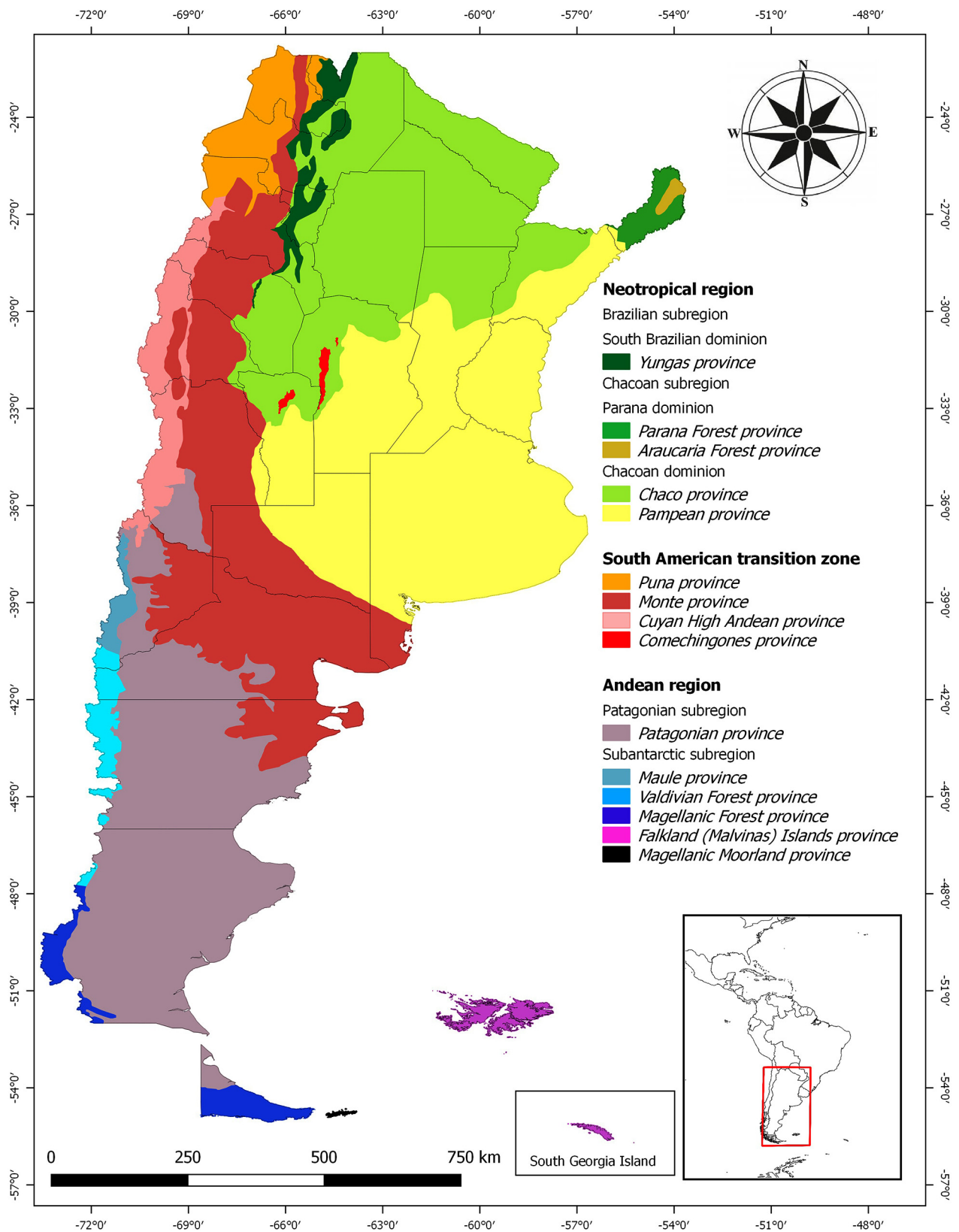


FIGURE 1. Biogeographic scheme of Argentina, including political provinces.

To identify accurately the limits of the biogeographic provinces within the Argentinean territory, we used information gathered in fieldwork in the provinces of Buenos Aires, Catamarca, Córdoba, Corrientes, Entre Ríos, Jujuy, La Rioja, Mendoza, Misiones, Río Negro, Salta, Santa Cruz, Santiago del Estero, Tierra del Fuego, Antártida and Islas del Atlántico Sur, and Tucumán. All data were used to modify the biogeographic provinces on the shapefiles of Olson *et al.* (2001), Löwenberg-Neto (2014, 2015) and Romano (2017), considering also further modifications by Morrone & Ezcurra (2016) and Martínez *et al.* (2017). The software QGIS 2.12.3- Lyon (GNU general public licence, see <http://qgis.org/es/site/>, accessed 23 May 2017) was used to build a database and generate maps containing all this information. This conversion occurred in four steps mainly following Morrone *et al.* (2017): (1) we defined the geographic location based on the georeferenced shapefile; (2) biogeographic units that were not found in shapefile format were digitized by georeferencing the image files in QGIS and then digitizing their limits; (3) we gathered all the created polygons in a final vector shapefile; and (4) we inserted the following fields in the database associated to the final vector shapefile: region, subregion, dominion and province names.

We generated the general shapefile in vector format using WGS 84 (World Geodetic Survey 1984), in order to be used for global and continental scale data. All the maps and metadata are freely available and may be downloaded as Supplementary files at the web page “Bosque Autóctono El Espinal” (<http://www.exa.unrc.edu.ar/page/?elEspinal>).

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