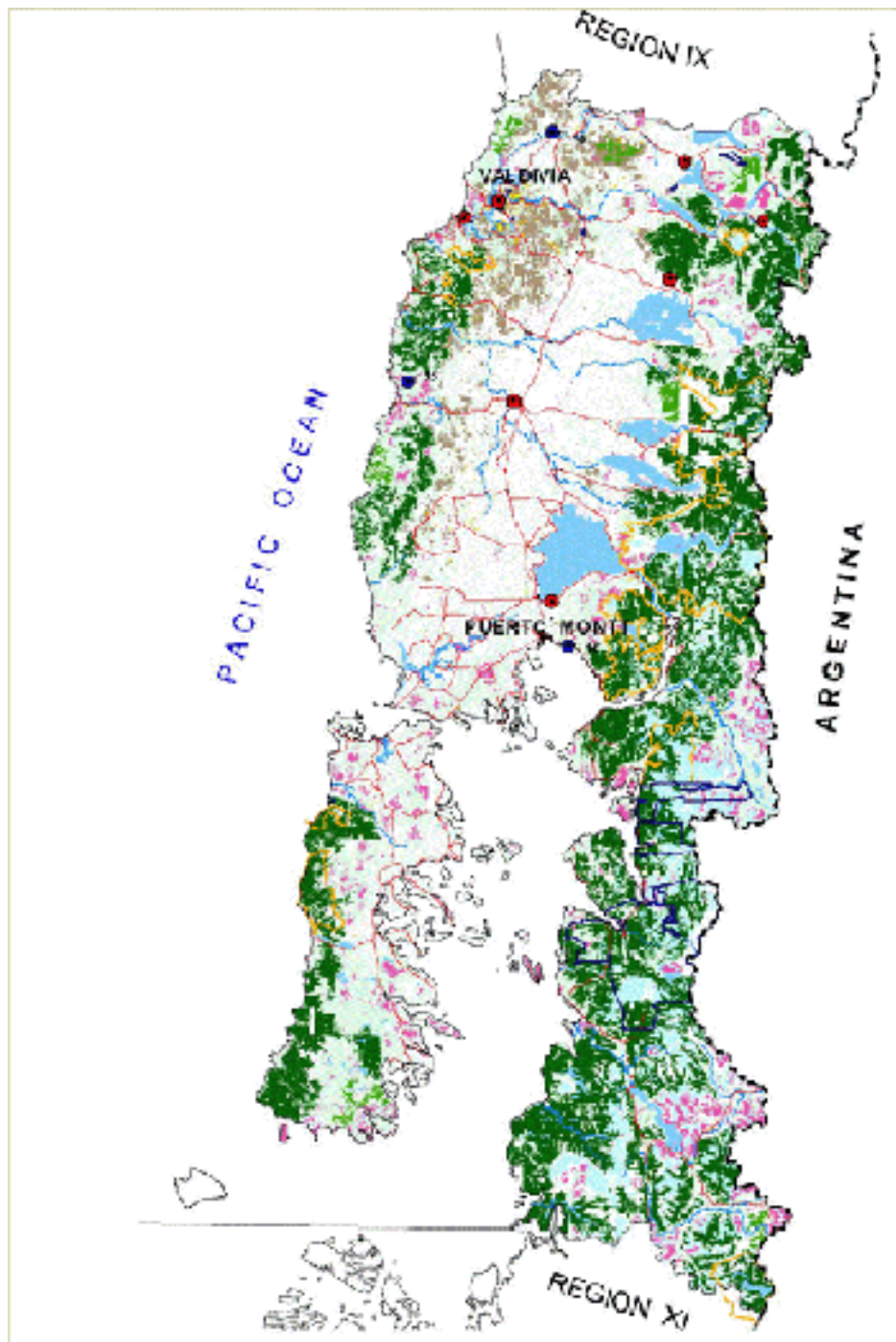


Chile's Frontier Forests: Frontier Forests, Other Vegetative Cover, Protected Areas, and Forest Activities in Administrative Regions X



Map Projection:
Transverse Mercator

Citation:

Neira, E., H. Verschure and C. Revenga. 2002. Chile's Frontier Forest: Conserving a Global Treasure. WRI, CODEFF and UACH, Washington DC.

Analytical Overview:

The Official Land Register and Evaluation of the Native Vegetative Resources of Chile used topographic maps at a scale of 1:50,000 provided by the Military Geographic Institute of Chile (Instituto Geografico Militar).

The land register project produced 641 native vegetation maps. According to the objectives of the CONAF (Corporacion Nacional Forestal-- the Chilean government agency responsible for forest management) land register, the country was divided into zones which were mapped at different scales as follows:

Administrative Regions I, II, III, and IV = 1:250,000 scale

Administrative Regions V through X = 1:50,000 scale

Administrative Regions XI and XII = 1:100,000 scale

Region XII Fiords = 1:250,000 scale

The land register was based almost entirely on aerial photographs at varying scales depending on the region. Scales ranged between 1:20,000 and 1:70,000.

The extremes of the country, the desert areas to the North, and the canals and fiords to the south were mapped based on satellite images at a scale of 1:250,000 with a 79 meter resolution. Aerial photographs were also interpreted.

Nine land use categories were developed, with some forest sub-categories. In addition to classifying the different land use categories and the vegetation density for the different stands identified in the aerial photographs, other attributes also were measured in the field. All of the information was digitized and entered into a Geographic Information System (GIS).

This map was produced by Global Forest Watch partners Comit  Nacional Pro Defensa de la Fauna y Flora (CODEFF) and Universidad Austral de Chile.

Description:

This map shows the different vegetative land cover types in Chile's Administrative Region X. This region is one of the most biodiversity-rich areas in Chile and it contains the second largest expanse of native forests in the country, after Region XI. Region X has 3,610,228 hectares of native forests, of which 43.6 percent are considered frontier forests¹.

Frontier forests are defined as mature forests or dense timberline forests which are of at least 5,000 hectares, are made up of native species, and are intact or have been only slightly altered. After Region VIII, Region X has the greatest number of forestry plantations and industries in the country, putting many of these frontier forests at risk.

One of the most threatened forest areas in the country is found in this region. The coastal mountain range forests in administrative Region X, which house 7.5 percent of Chile's remaining frontier forests, are highly threatened and the least represented in the protected areas systems, even though they contain a rich and diverse range of species. The major threats to these coastal mountain range forests are non-native plantation developments, inadequate enforcement of regulations, and plans for a new coastal highway. This area of coastal temperate rainforests is the world's second-largest remaining area of this unique forest type, after the Pacific Northwest coastal rainforest that extends from Northern California to Southeast Alaska in the United States (Wilcox, 1996). Experts estimate that the original global extent of these forests was in the order of 30 to 40 million hectares (Weigand et al., 1992). The total area of remaining coastal temperate rainforest is unknown, but researchers believe that, as of 1992, 56 percent have been logged or converted to other land uses (Weigand et al., 1992). This fact makes it even more critical that the coastal forests in Region X be protected.

This map also shows the national (yellow outlines) and private (black outlines) protected areas in these regions, as well as the location of the main development projects² and forestry companies affecting native forests. As of 2001, there were three development projects in Region X that may negatively impact frontier forests. These include a cellulose plant in Mariquina owned by Celulosa Arauco y Constituci n (number 14 on map); the construction of the Bah a Mansa- Rio Choroy coastal highway by the government which will affect the remaining coastal temperate rainforests of Chile and one of the last remaining large tracts of this type of forests in the Southern hemisphere (number 15 on map); and the US-owned Boise-Cascade wood processing mill in Puerto Montt (number 16 on map).

FOOTNOTES:

¹The map contains two categories of frontier forests, according to the minimum block size (or the minimal surface area of forests that meets Global Forest Watch's definition and criteria for frontier forest)-- those that have a surface area of at least 5,000 hectares, and those with an area of at least 10,000 hectares. These block size thresholds were determined by the Global Forest Watch- Chile Technical Advisory Committee in consultation with Chilean foresters and biologists.

²The development projects included here are only industrial projects. Forest management projects are shown in the map, but are not listed individually.