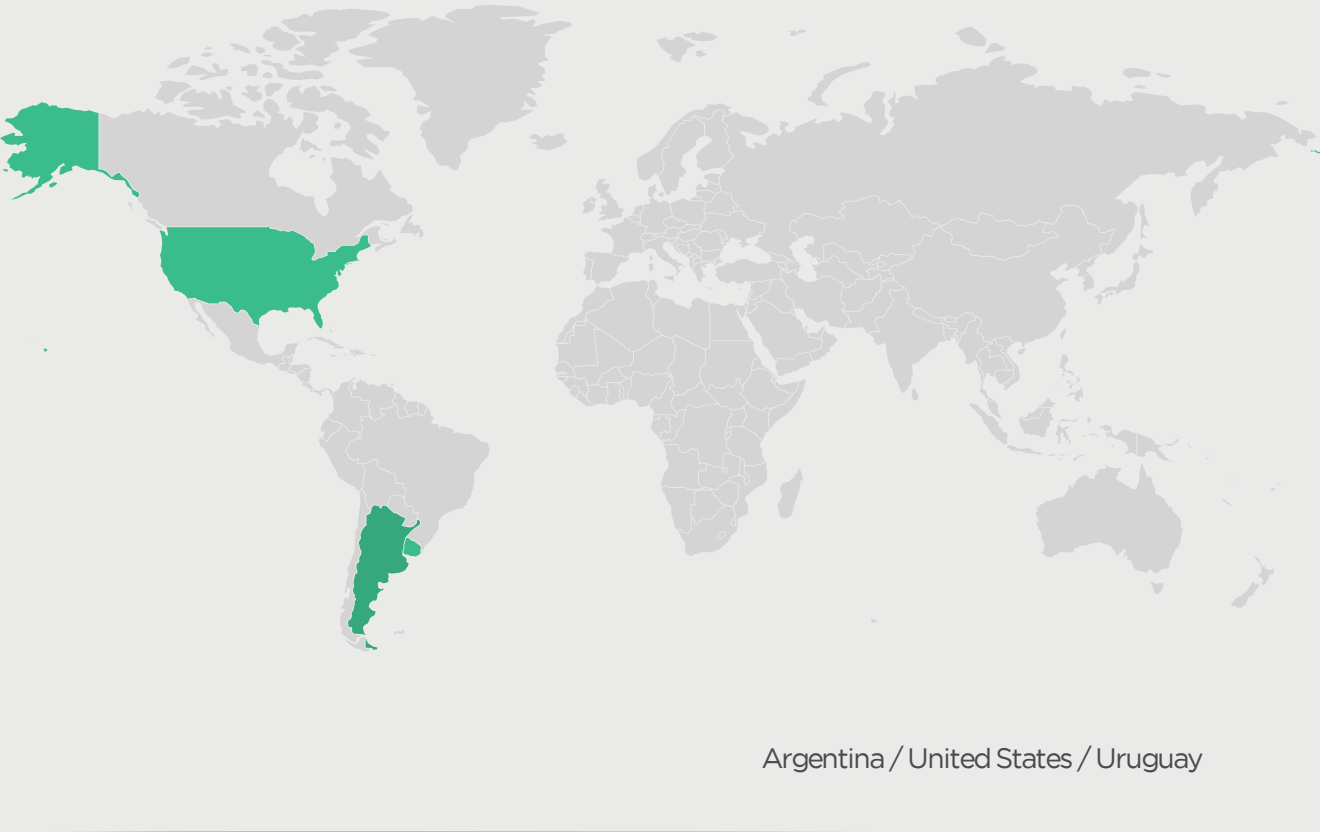


Regional characterization and establishment of forage resources

Grasslands of the Río de la Plata and Patagonia



10000000ha
Intervened area



10
Scientific Publications



Characterization of forage resources

The implemented initiative

The objective of the project was to characterize the forage resources in the grasslands of the Río de la Plata and Patagonia on a regional scale and to develop forecasting systems for primary productivity that are easily accessible to the producer. For this, prospecting systems (based on the historical behavior of the NDVI and climatic variables for the period 1981-2000) and

forecasting systems (based on the same previous information but using artificial neural networks) were developed. In addition, training talks were held for technicians and producers and web tools to support producers were generated, in order to spread these technologies.

The technological solution

To achieve the objective, the use of information provided by remote sensors was combined with field data and simulation models. Calibrations of the relationship between the Normalized Difference Vegetation Index (NDVI) and the Above-ground Net Primary Productivity (ANPP) were performed for different forage resources and environments. The type of land use was determined and mapped throughout the study region, and the mean ANPP and its seasonal and inter annual variation were characterized. In rural

establishments in different regions and production systems, management strategies were implemented that optimized the use of the information acquired in economic, social and environmental terms. The results obtained were evaluated and the variations that can be made were analyzed using simulation models. Finally, an internet site was implemented, CDs and newsletters were produced, and talks were given to disseminate the results of the project.

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Results

ANPP regional estimation algorithms were generated from satellite data for two of the most important areas, the NW portion of Patagonia and the Pampa Inundable. One of the most important aspects in the generation of algorithms for estimating primary productivity from satellite data was to understand the biophysical bases of the relationship between spectral indices and the different processes or variables determining productivity. A classification algorithm for the land

cover types of the region was developed and regional land use maps were published at three spatial resolutions, according to the satellite data source (AVHRR / NOAA, SAC-C, LANDSAT TM). From the equations generated and with a composition of 4 Landsat TM images, maps of the above-ground net primary productivity (ANPP) of the grasslands and shrubs of the NW of Patagonia were generated.

Main donors

Participating Organizations

