

## VAMOS Achievements over the past 10 years

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In its sixteen years of existence, VAMOS organized the successful **SALLJEX**, **VOCALS** and **NAME** projects with their field campaigns, each addressing important shortcomings in our understanding of regional climate dynamics. Other VAMOS projects like **IASCLIP** and **MESA**, while not including a field campaign, have been critical to rescue and collect historical climate information, cementing many activities that otherwise would be too small to have a significant impact. The La Plata Basin (**LPB**) project, endorsed by CLIVAR and GEWEX, had the added value of an interdisciplinary approach that addressed climate and hydrology with direct societal implications, garnering support from international agencies.

Coordinated research activities under the North American Monsoon Experiment (NAME) formally sunset during 2010, marking the programmatic end to the ten-year research program. (See Figure 1 for a timeline of NAME research activities). NAME was conceived and endorsed by CLIVAR and GEWEX to address fundamental shortcomings in the understanding of multi-scale processes controlling the behavior of the North American Monsoon (NAM) and its modes of variability that were thought to be limiting prediction skill of warm season precipitation.

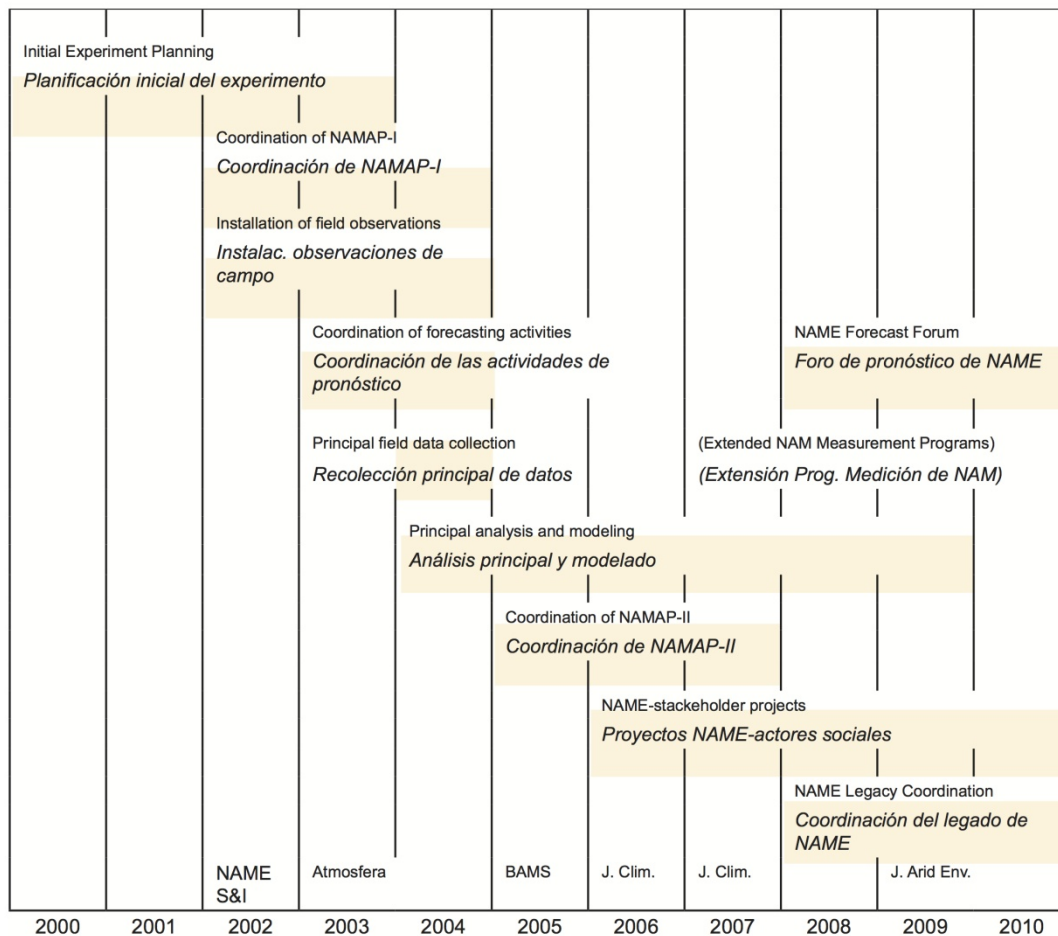
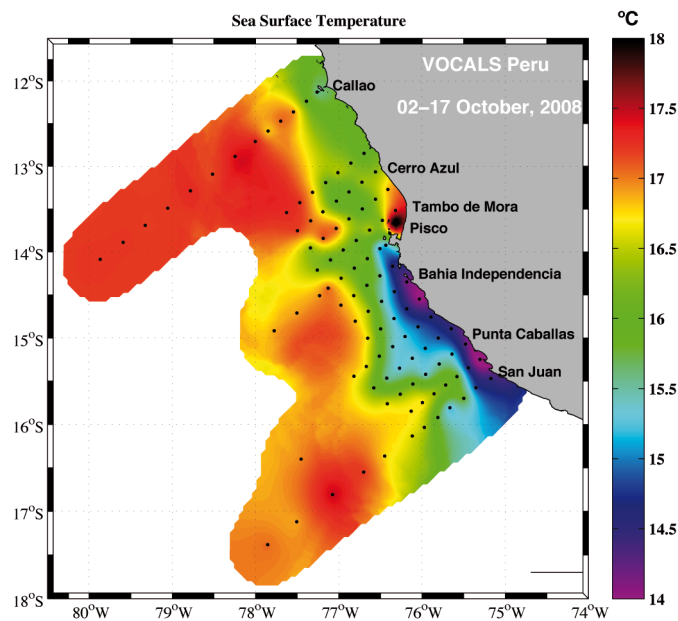


Figure 1: NAME Program Timeline // Figura 1: Cronograma del Programa NAME

The VAMOS Ocean-Cloud-Atmosphere-Land Study (VOCALS) program was a

component of the international CLIVAR/VAMOS focused on the southeastern Pacific (SEP) climate on diurnal to interannual timescales. The SEP is a region dominated by strong coastal upwelling (Fig. 2), extensive cold SSTs, and home to the largest and most poorly-observed subtropical stratocumulus deck on Earth. VAMOS Ocean-Cloud-Atmosphere-Land Study (VOCALS) continues to generate new scientific results on the topics of cloud-climate interactions, small-scale upper ocean dynamics and aerosol indirect effects.



*Fig 2 - Sea Surface Temperature (shading colors in °C) observed during the VOCALS-Peru cruise experiment. Black dots correspond to CTD station locations”*

The Monsoon Experiment South America (MESA) made considerable progress in integrating the different projects in South America into a unified program in order to facilitate the understanding, simulation and prediction of the South American Monsoon System (SAMS).

In addition, CLIVAR/VAMOS and GEWEX/GHP have recognized the La Plata Basin in southern South America as a system sensitive to climate variability and change, with potential consequences for water resources and agricultural activities of the region. Accordingly, both CLIVAR and GEWEX have endorsed the La Plata Basin Regional Hydroclimate Project (LPB) and its objectives of enhancing the scientific infrastructure in the basin, working with operational centers and communicating with producers and other users of climate information.



*Fig 3 – Cover Page of the CLIVAR Exchanges special issue dedicated to the La Plata Basin Regional Hydroclimate Project (LPB)*

IASCLiP is an integrated ocean-atmosphere research program focusing on the prediction of weather and climate impacts of the warm water pool of the Intra Americas Seas. The program seeks to improve operational and research modeling efforts across the Americas through a better understanding of the climate processes within the region. Research emphasis is placed on the structural development of the warm water pool and associated impacts on the development and transition of the monsoon systems in South and North America.

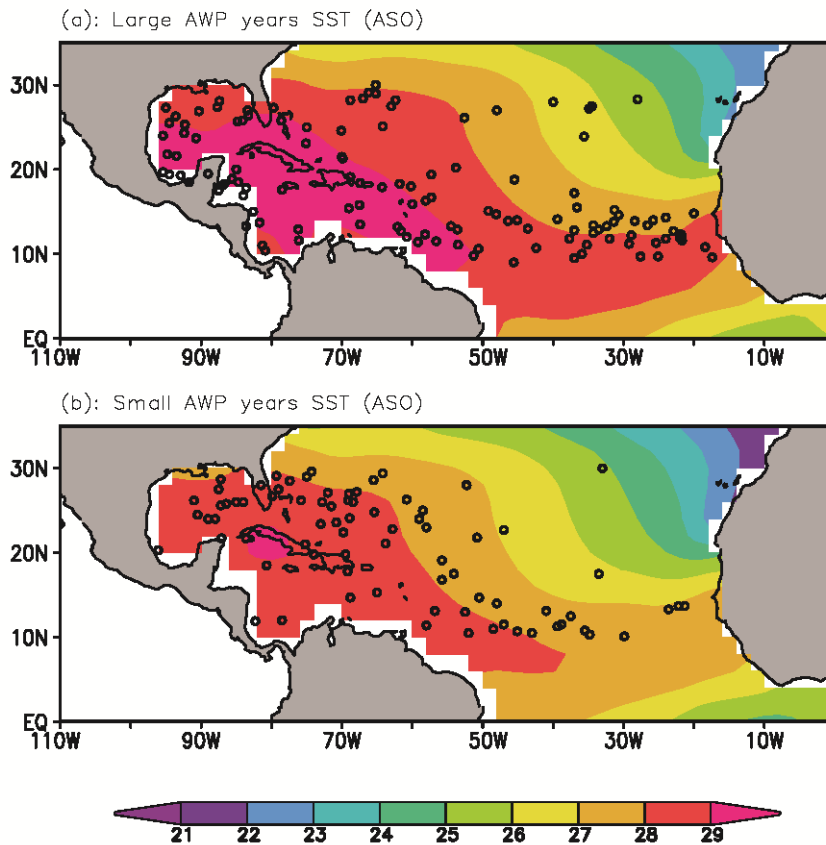


Figure 4. Tropical cyclone (TC) genesis location and Atlantic warm pool (AWP) variability. Shown are the TC genesis location (dots) and SST (color shading) for ten (a) large and (b) small AWP years

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