

## South American Mapping of Temperature (SAMeT)

SAMeT (South American Mapping of Temperature) is a newly developed product and operationally available for South America through the National Institute for Space Research (CPTEC / INPE) Weather Forecast and Climate Studies website. This product combines the observed data with the ERA5 reanalysis, making a correction of the temperature field using an estimated lapse rate. The Lapse Rate was estimated for four regions located over South America, and for the four seasons of the year. The estimated values for the Lapse Rate were, in all situations, lower than the standard Lapse Rate ( $-6.5 \text{ }^{\circ}\text{C}\cdot\text{km}^{-1}$ ). The combination of reanalysis and observations, together with the correction of the Lapse Rate produced more accurate temperature fields than those provided by ERA5, especially in regions with more accentuated topography more details in [http://ftp.cptec.inpe.br/modelos/tempo/SAMeT/rozante\\_et\\_al\\_2021.pdf](http://ftp.cptec.inpe.br/modelos/tempo/SAMeT/rozante_et_al_2021.pdf).

Product description:

The product is operationally generated for maximum, minimum and average temperatures. The data are made available daily\* ( <http://ftp.cptec.inpe.br/modelos/tempo/SAMeT/DAILY> ) and climatological \*\* ( <http://ftp.cptec.inpe.br/modelos/tempo/SAMeT/CLIMATOLOGY/> ).

\*Because the reanalysis has a delay of 5 days, and the need to serve some users, the SAMeT is generated using 24-hour observations and predictions from numerical models. As reanalysis data becomes available, SAMeT is regenerated so that the available data history is entirely from ERA 5 combined with observations.

\*\* Data referring to SAMeT climatology were obtained using daily data from January 2000 to December 2020 for calculations.

Domain : South America

Resolution : 5 kilometers

format : netcdf