

THE TALOS DOME – DOME A SCIENTIFIC TRAVERSE IN ANTARCTICA: AN ITALIAN-FRENCH-RUSSIAN INITIATIVE

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In the frame of the IPY international traverses (TASTE-IDEA project), Italy, France and Russia are planning a traverse in an unexplored region of East Antarctica for 2007-2009 to obtain synoptic measurements for studying large scale processes crossing the East Antarctica Ice Sheet. The proposed route is from Talos Dome to Dome C and then to Dome A which elevation is more than 4000 m at the summit of the East Antarctic Plateau. On the way back, new opportunities of intermediate drillings will be exploited in sites of interest such as Komsomolskaya.

The main goals of the Talos Dome - Dome A traverse are the following topics:

- Study how the signals of regional and global climate variability reach the coring site and are locked into the ice record through the load and composition of atmospheric aerosol and gases and the processes occurring at the atmosphere/snow interface.
- Survey the present-day variability in climate-meteorological condition between the main deep ice drill sites (TD-old Dome C, EPICA Dome C, Vostok, Vostok flow line, Ridge B, Dome A).
- Study the effect of the ice divide on the present climatic conditions and determine the past variations of ice divide and dome location.
- Geophysical and glaciological surveys for location of the longest coherent climate record in Antarctic ice (Vostok –Ridge B area, North Vostok lake area)
- Provide new information for surface mass balance and ice sheet elevation change: wind-crust megadune area (re-emission and diffusion process, grain size study)
- Geophysical and glaciological surveys of Vostok and Concordia subglacial lake
- Survey the ice dynamics and geologic setting of important earth crustal structures of East Antarctica Precambrian craton and at subglacial lake site (Aurora, Adventure, Wilkes Subglacial Basin, Vostok and Concordia lakes area, Gamburtsev Mountains).