

EXPEDITION ATAHUALPA'2000

Lorenzo Epis¹ Soraya Ayub²

AKAKOR GEOGRAPHICAL EXPLORING Onlus
Via Roma, 11 23827 Lierna (LC) Italy, akakor@tin.it, www.akakor.com

ABSTRACT

The **Project Atahualpa** is the result of three years of research in which many data were collected and continuous exchange of scientific publications took place. The target was the Sole and Koa Island situated at e Titicaca Lake. The main objectives were first the choice of a selected bibliography and documents, then the personal meeting with the local staff and finally the geographic exploration. During the research many disciplines such as Geology, Hydrogeology, Archeology and Hyperbaric Medicine were employed.

The **EXPEDITION ATAHUALPA 2000** was very successful and the staff from **AKAKOR GEOGRAPHICAL EXPLORING SOCIETY** had synthesized modern concept of exploration involving 26 researchers and technicians from three different countries: Italy (10) Brazil (10), Bolivia (6) who during the twenty working days did 250 scientific dives, bottom measurement, physical and chemical water analyses, topography, archaeology survey, geography, geology, underwater and land chemistry, forty five hours of film and four thousands of photos. It was also realized medical studies related to the divers behavior in relation to the high altitudes. It was discovered in a broad area at the depth from ten to thirty meters deep the remains of a temple, a road and some terrace provably related to each other. During the exploration was recuperated from the lake three vases, ceramics and many handworks from the Inca period showing that the theory we based was

right, the level of the lake was much higher and the coast line quite different.

THE AKAKOR GEOGRAPHICAL EXPLORING ASSOCIATION

The **AKAKOR GEOGRAPHICAL EXPLORING** Cultural Association is a research team born in 1992 with the purpose of carrying out technical-scientific expeditions, developing projects and cultural exchanges within many accomplishment areas. The old exploration concept searching to discover new lands, now on the verge of the third millennium, takes a new global form doing depth analysis and multipurpose developments.

There's a lot still to discover. In the more remote regions of the earth there are unexplored places that keep extraordinary secrets and offer the opportunity to write new pages of human and natural history allowing important experiences relating at numerous possible interactions between well-known sciences.

WHY CARRY OUT STUDIES ON TITICACA LAKE

The *Atahualpa Project* takes its starting point from data collected during three years of search and reconnaissance. The constant exchange of scientific publications provoked considerable interest in our staff to undertake several systematic research. The area in this Expedition is the Sun and Koa Islands situated in Titicaca Lake at the foot of the Real Cordigliera and connected to a series of mystic events. There are also the hypothesis of a lost city in the depths of the lake.

¹ President of AKAKOR GEOGRAPHICAL EXPLORING Onlus

² Director for Technical and Scientific Projects of AKAKOR GEOGRAPHICAL EXPLORING Onlus

Now the Titicaca lake is what remains of the ancient inland sea known as Ballivan lake. A long time ago this lake covered most of Altopiano before the lowering water level which was provoked by thrusts and evaporations. The principal objectives were chosen first among selected bibliographies and documentations and then to the direct and personal meeting with the local people and the geographical reconnaissance. The results obtained were satisfactory thanks to collaboration of Italian Consulate in Bolivia and Bolivian Cultural Department that put at our disposition three archaeologists from National Archaeology and Anthropology Institute- areas which had been identified and were object of our search. The collected data were compared and processed with synergic viewpoint to produce a global completely integrated target. Division of labour was an operative approach that allowed the choice of the participants, the citizen contact, the requests and permits, the partnership and the structural logistic.

ATAHUALLPA PROJECT – PIANIFICATION

The previous research and contacts had a positive outcome then the possibility of undertaking the expedition of *Atahualpa Project* became reality. In the first phase had been planned five expeditions to be realized in a period of 4 years. The waiting time between each phase would depend on the results of each one.

- 1 .December 1995 Duration: 30 days
Objective: territory understanding – physiographic investigation, contact with local entity and authority.
- 2 .December 1997 Duration: 16 days
Objective: advanced reconnaissance – First logistic planning, territory investigation
- 3 .August 1998 Duration: 6 days
Objective: to collect rock specimens for geological studies - Hydro-geology investigation.
- 4 .July 1999 Duration: 10 days
Objective: underwater reconnaissance, territory understanding, agreements with entity and authority.
- 5 .Decembre 1999 and January 2000
Duration: 25 days
Objective: final check for organization and determination of logistic planning.

DEVELOPMENT

The research work of the expeditions involved different disciplines to achieve targets in the following fields:

- Geology
- Hydro-geology
- Archaeology
- Hyperbaric medicine

A series of activities was planned keeping in mind the principal areas of difficulty, namely the inaccessibility of the area, the difficulty of travelling and moving within the territory itself, the vast area of research, the problems of diving at high altitudes, etc. Work groups were formed based on the research programmes decided upon, which would operate separately in the first phase, coming together in a global multidisciplinary structure afterwards.

first phase, coming together in a global multidisciplinary structure afterwards.

TARGETS

The objectives of the *Atahualpa 2000* Expedition are the following:

- To locate and to study sites of archeological interest, using land-based and underwater research
- To study the geology and hydro-geology of the area in question
- To collect rock specimens for geological studies following predetermined technical indications
- To realize medical studies related to the dives at high quota
- To realize film and photographs of a documentary nature
- To realize documentative publications
- To effect communications using underwater apparatus linked to a satellite system able to transfer data live directly on-line
- To realize three stages of technical dives - underwater archeology, dives at high altitude and scientific dives
- To collect data to aid the development of 'green tourism' in the area
- To compare the technical and cultural experiences of the team members from the different participating countries during the various activities of the expedition.

LOCATION

The *Atahualpa 2000* Expedition took place in Bolivia on the shores of Lake Titicaca, roughly 150 kms from La Paz, in the region of Copacabana in the Islands of the Sun and the Moon and the Straits of Tiquina. Three base camps were planned:

Principal Base Camp: Copacabana
First Advanced Camp: Island of the Sun
Second Advanced Camp: Island of the Khoa
Third Advanced Camp: Island of Pallalla
Fourth Advanced Camp: Peninsula of Yampupata

Titicaca Lake	
Altitude	3812 metri
Surface Area	8400 km ²
Maximum Depth	283 metri
Maximum Length	176 km
Maximum Width	70 km

LOGISTICS

- Documentation: team responsible for the organisation, filing and use of all the documentation relative to the expedition (maps, aerial photos, satellite pictures, books, magazines, Web sites, etc.), from the preparatory phase to the publication of the results.
- Nutrition: a nutritional programme has been studied exclusively for the team members for the time spent at the camps, based on the need for vitamins and energy .
- Materials: team responsible for the availability, maintenance and distribution of the collective resources in use during the expedition (climbing equipment, underwater equipment, instruments for geographical locating - GPS, topography, etc.)
- Communications: team responsible for the setting-up of communication channels between base camp and the external teams, and the maintenance of international connections both vocal and of data (portable receiver/transmitters [walkie-talkies] and radio-telephone links, both land-lines and satellite, specific systems for use in caves and experimental underwater communicators, use of Web pages).
- Didactics: team responsible for the specialised underwater training stages.
- Topography: team responsible for topography and the surveys of the areas and sites explored and studied.- Exploration: team responsible for the job of carrying out explorations and precise geographical identifications, submitting daily reports to transmit to the topography and underwater exploration teams, and for specific studies.
- Subaqua: team responsible for underwater exploration, topography, archeology, realization of images and collection of targeted samples.-

- Geology and Hydrogeology: team responsible for geological surveys of the caves and the area.
- Archeology and Anthropology: team responsible for surveys and studies of the sites.
- Medicine: team responsible for the study of the physiological reactions of the team members and medical assistance to the members of the expedition.

PRELIMINARY RELATION

THE AKAKOR GEOGRAPHICAL EXPLORING Onlus with the Expedition Atahualpa 2000 resumed the modern exploration idea, involving 26 researchers and technicians coming from different nations (10 from Italy, 10 from Brazil, 6 from Bolivia), that have produced very important geographical and scientific ideas about one of the unknown areas of our Planet, especially related to the lakebed of Titicaca Lake, Bolivia.

The **AKAKOR GEOGRAPHICAL EXPLORING** team, composed of explorors and researchers with several specializations, realized many of the proposed objectives Project by the way of explorations and high-tech researches, experimenting new methods and unconventional technologies, carried out by long multidisciplinary experiences, aerial recognitions, immersions in rarified atmosphere, travelling on tableland and unknown land exploration.

During the 20 operative days, 250 explorative dives have been made, seabed survey, chemical-physical water analysis, topography, archaeological geographic and geological relief (underwater and terrestrial), carrying out movies and more than 4000 photographs.

SOME RESULTS

The results broadly superated all the expectatives and the most striking results took place.

The discoveries which certainly comprise the ruins of a vast cerimonial area are at ten to thirty meters deep.

It was also found a 700 meters long road, some terraces and protection walls, probably related each other, ceramics and lhama bones which were used for religious purposes.

CONCLUSIONS

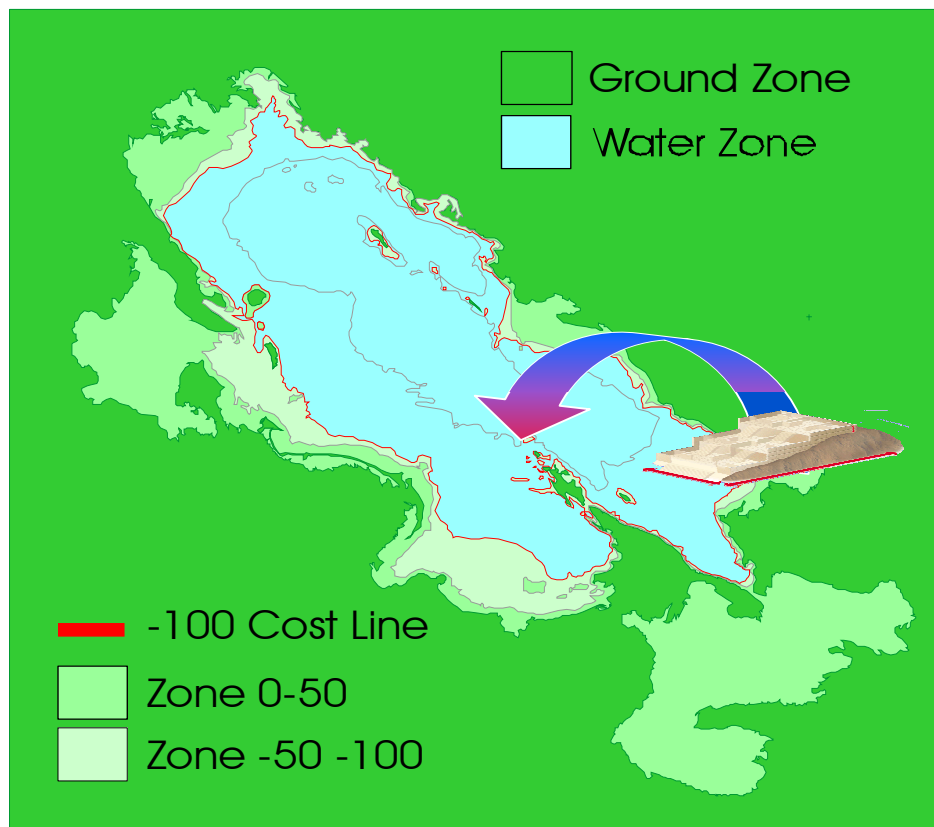
The interaction developed during the expedition showed that we fulfil the main objectives of the expedition, which were not only the use of the most advanced exploration and research among the most developed in the

world employing methods and non-conventional technics but also the social objectives using the different experiences of its members in the multi-disciplinary fields due also to a broad differences in ages.

AKNOWLEDGMENTS

Atahualpa 2000 Expedition's collaborators are: Italian consulate in Bolivia, **SBE** - Brazilian Speleological Society, **SOBESP** - Bolivian Speleological Society, **SSI** - Italian Speleological Society, **FEALC** - Latin America and Caribbean Speleological Federation, **CIRSS** - Italian Committee for Underwater Studying and Research,

CMAS - Confederation Mondiale des Activites Subaquatique, **IBAMA/CECAV/DIREC** - Instituto Brasileiro do Meio Ambiente, **DINAAR** - National Archaeology and Anthropology Institut, Bolivia, **ALT** - Titikaka Lake Binational Authority (Perù and Bolivia), **Bolivian Naval Force by Naval Command in Tiquina**, **ACT** - Torotoro Preservation Association; **TESTO**; **EBM**; **ARISTON**; **ENTEL**; **SCUBASUL**; **LLOYD AEREO BOLIVIANO**; **ICEMEN**; **WINTER & SUMMER**; **BIOTRIP**; **NUTRIMENTAL**; **PRAXAIR**; **VIAGGI MENTASTI**; **MEDILAND**; **MARES**; **OCEAN REEF** and all the bolivian friends who helped us to realize this research.



Water Level Variation at TITICACA Lake