

# LIVESAY EXPEDITIONS & ADVENTURES

## Cuzco–Machu Picchu, Peru

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### Destination Background

Peru is about twice the size of the state of Texas, with a population of almost 30 million people. Thousands of tourists are drawn to Peru every year to enjoy the magnificent geographic, biologic, and cultural diversity. The primary destination for most travelers is the remarkable Incan ruins of Machu Picchu, recently named as one of the modern Seven Wonders of the World and a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage site. Machu Picchu stands in the middle of a tropical mountain forest, in an extraordinarily beautiful setting. It was probably the most amazing urban creation of the Inca Empire at its height; its giant walls, terraces, and ramps seem as if they have been cut naturally in the continuous rock escarpments. The natural setting, on the eastern slopes of the Andes, is in the upper Amazon Basin, with its rich diversity of flora and fauna.

A typical visit to Peru includes arrival at the capital city of Lima, a large megacity the size of the state of Rhode Island, with about a third of Peru's population. Interestingly, many persons think Lima is a high-altitude Incan city, but it is actually located on the Pacific coast at sea level. After a few days in Lima, one takes an hour-long flight to Cuzco, the gateway to Machu Picchu and a worthwhile destination of its own. Tourists can visit multiple Inca-era ruins and Peruvian mountain villages and markets in the Vallee Sagrado before taking the train to Machu Picchu. Many individuals also wish to add a tropical rainforest experience to their Cuzco trip and take the 30-minute flight from Cuzco to Puerto Maldonado, 55 km west of the Bolivian border, on the confluence of the Rio Tambopata with the Madre de Dios River, a major tributary of the Amazon River. The majority of travelers take a boat up the Rio Tambopata to one of several rustic lodges. Visitors wanting to see the Amazon rainforest also may go to Manu National Park in the south, also reached via Cuzco, or the northern Amazon rainforest by visiting lodges around Iquitos or by the increasingly popular Amazon river cruises that go both up- and downstream from Iquitos. Ecotourism is a growing activity in Peru, as elsewhere. Peru is also home to the Cordillera Blanca, a several hundred-mile range of spectacular snow covered peaks that form the backbone of the Andes Mountains in Peru.

### Map 3-1. Destination map of Peru



### Health Issues

Important pre-travel information for Peru includes advice on preventing high-altitude illness, the risk for cutaneous leishmaniasis, appropriate use of yellow fever vaccine, and the risk for malaria for travelers visiting popular jungle lodges.

### Altitude and Acute Mountain Sickness (AMS)

All travelers to Machu Picchu will arrive and transit through Cuzco, 3,395 m (11,203 ft) above sea level. Many arriving travelers will find the near 3,500 m elevation leads to some degree of AMS, with the initial symptoms of headache, nausea, and loss of appetite beginning 4–8 hours after arrival. The hypoxemia of high altitude can also dramatically affect the quality of sleep in the first few nights in Cuzco, with restless sleep, frequent awakening, and Cheyne–Stokes breathing (periodic breathing), even in those who appear to be doing well during the day. A minority of travelers may progress to severe forms of altitude illness, to include high-altitude pulmonary edema and high-altitude cerebral edema. The symptoms of AMS can markedly impair the traveler and prevent enjoyment of the sights of Cuzco.

Surveys have shown that most travelers arrive in Cuzco with limited or no knowledge of AMS and its prevention with the prophylactic use of acetazolamide. **Every traveler to Cuzco should be counseled about AMS pre-travel and be prepared to prevent or self-treat AMS.** The use of acetazolamide (Diamox) can minimize or eliminate the symptoms of AMS. (More information about prevention and

treatment of altitude illness can be found in the Altitude Illness section in Chapter 2.) Locals refer to AMS as “soroche” and will almost always offer the new arrival a cup of hot coca tea (mate de coca) when checking in to the hotel. Although many believe mate de coca can prevent and treat soroche, no data support its use in the prevention or treatment of AMS. Perhaps of concern to some who may experience random drug screening as a condition of employment, individuals who drink a single cup of coca tea will test positive for cocaine metabolites in standard drug toxicology screens for several days. However, sitting quietly and resting while enjoying a cup of tea is a most civilized activity and a pleasant memory.

New arrivals may also find it helpful to transit directly to the Valle Sagrado (~2,800–3,000 m; 9,500 ft) of the Rio Urubamba to spend the first few days and nights at this somewhat lower altitude. One can board the train to Machu Picchu in Ollantaytambo, at the south end of the Valle Sagrado, and the not-to-be-missed visit to Cuzco can be made on return from Machu Picchu, when people are better acclimatized. The train follows the Rio Urubamba north (downstream) to Aguas Calientes (2,000 m; 6,600 ft). Machu Picchu (2,430 m; 7,970 ft) is located on a ridge above the town.

### **Cutaneous Leishmaniasis (CL)**

Many areas in the Pacific valleys of the Andes and the Amazon tropical rainforest are endemic for CL, a parasitic infection transmitted by bites of sand flies (see the Leishmaniasis, Cutaneous section in Chapter 5). While this disease is widespread in southeastern Peru, the highest risk for travelers seems to be the Manu Park area in Madre de Dios. In Manu, CL is most often caused by *Leishmania braziliensis*, and there is a risk of both simple CL and mucosal leishmaniasis. There is no visceral leishmaniasis in Peru. Travelers should be counseled to be meticulous about vector precautions, as there is no vaccine or chemoprophylaxis to prevent leishmaniasis. Any person with a skin lesion persisting more than a few weeks should be evaluated for CL.

### **Yellow Fever (YF)**

Proof of YF vaccination is not required for entry into Peru. Travelers who are limiting travel to the cities of Lima, Cuzco, and Machu Picchu do not need YF vaccination. Peru recommends vaccination for those who intend to visit any jungle areas of the country <2,300 m (<7,546 ft).

### **Malaria**

In general, the risk of malaria in travelers visiting Peru is relatively low. There are, on average, 5 cases reported in the United States each year that were acquired in Peru. Both *Plasmodium vivax* malaria and *P. falciparum* malaria are found in the Peruvian Amazon.

There is no malaria risk for travelers visiting only Lima and vicinity, coastal areas south of Lima, or the popular highland tourist areas (Cuzco, Machu Picchu, and Lake Titicaca).

The malaria risk areas for most tourists are the neotropical rainforests of the Amazon. There are two major destinations. The city of Iquitos in the northern rainforest is a frequent arrival destination for those traveling to jungle lodges around the city or for boarding river cruise boats for rainforest travel. Malaria transmission occurs in the areas in and around Iquitos. Chemoprophylaxis is recommended for most travelers.

The city of Puerto Maldonado is a thirty minute flight from Cuzco and a popular arrival destination for those visiting the rainforest lodges on the Rio Tambopata. Newly arrived travelers usually transit directly from the airport to the boats that take them up the river to numerous lodges. Peruvian Ministry of Health data document that malaria transmission occurs in Puerto Maldonado. Most cases reported in

the region occur in local loggers and gold miners in the forests. It is the opinion of this author that travelers transiting Puerto Maldonado for a short 2–3 day visit to lodges on the Rio Tambopata may not need chemoprophylaxis.

Risk for the traveler varies with itinerary, style of travel and location of accommodations. Malaria in the Peruvian Amazon is unpredictable from season to season, with *P. falciparum* epidemics occasionally occurring. When making a decision on whether to recommend chemoprophylaxis or simply mosquito precautions, all of these factors and data need to be taken into consideration.

## References

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