**"Wireless Sensor Networks for Environmental Applications"  
  
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Wireless Sensor Networks (WSN) have been proposed as a solution to obtain soil and environment information in large distributed areas. The  main economic activity of the São Francisco Valley, a region in the Northeast of Brazil, is the irrigated fruit production. The region is one of the major agricultural areas of the country, where grape plantations receive large investments and provide good financial return.  The region is slowly investing in electronic sensing systems to extract adequate information from the environment to improve the plantations.  This talk discusses the principles of WSN, and their application to precision agriculture. Diffraction and reflection effects over the grape trees have been discovered to be the main propagation mechanisms, to determine the position of the sensor nodes. The talk presents various environmental factors that influence the intensity of the received signal.**