Galeras volcano is an Andesitic strato-volcano whose explosions can produce several products. It is the most active volcano in Colombia, its current activity period began in 2004. Ash dispersion and ash fall are among the phenomena that can disrupt the normal life of more than 500,000 inhabitants of the surroundings of the volcano. The city airport and the international flight corridor can also be affected. In this paper, we propose a probabilistic approach for the ash dispersion that accounts for the wind direction in different periods of the year. A Markovian waiting lines statistical model is used to forecast the wind directions and velocities in the future, based on the average wind direction and velocities measured in last the thirty years. From these data we deduce the compass rose and probabilities for each month of the year. We found the same pattern for periods of three months. Then for every quarter the average wind data is extrapolated to the eruptive column height using the WM1 wind model. For the eruptive column, we estimate the initial radii at the top of it together with its radial dispersive velocity, assuming an initial volumetric fraction of solids of 0.5. Then, using the wind velocity as boundary condition, we simulate the ash dispersion for each period of three months. As we know the probability of the wind direction and velocity, thus we have an approach for the probabilities of the different isopach shown by the numerical convection-diffusion model.