

# ENSO AND ITS RELATIONSHIP WITH WINTER-SPRING TEMPERATURE AND RICE PRODUCTIVITY IN THE NORTH OF VIETNAM

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Based on series of data of ENSO, monthly temperature in Hanoi for period 1949-1998 and Winter-Spring rice productivity in the North of Viet Nam for period 1956-1998, this paper addresses the variation of Winter-Spring temperature and rice productivity in the North of Viet Nam and its relationship with ENSO.

The results of the analysis showed that, in the warm ENSO years (El Niño years), the Winter-Spring temperature varied strongly in both directions: positive (warmer) and negative (colder) than usual, where the probability of positive abnormal was two times higher than negative. In cold ENSO years (La Niña years), the Winter-Spring temperature varied slightly and mainly into negative direction.

The results of the analysis of Winter-Spring rice productivity showed that, in the years of big temperature abnormal, the rice productivity dropped and it was lower in the years of big positive.

**Key words:** *El Niño, agriculture impacts*