



Applications of meteorology to society: using numerical weather prediction in pigeon racing competitions

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The use of a limited area numerical weather prediction model (Weather Research and Forecasting [WRF], version 2.2.) to produce detailed five-day forecasts to help the preparation of pigeon racing competitions is discussed. The racing pigeon sport has, in Portugal, a high number of affiliates (nearly 20000), distributed across 763 local clubs and 14 Regional Associations, summing up a total of nearly 4,5 million homing pigeons. The competitions (divided across four types of races) are performed in the period between February and July, mainly during weekends, in which the distance travelled by the homing pigeons varies from 220 to 1100 km. Since March 2007, the Physics Department of the University of Aveiro is issuing specialised pigeon racing forecasts, emphasising 10-m wind speed and direction, 2-m temperature, precipitation tendency and cloud-cover over the courses. These forecasts are made available every Wednesday on the Portuguese Racing Pigeon Federation homepage (<http://www.fpcolumbofilia.pt>), in order to guide its affiliates on what concerns the homing pigeon selection, diet and preparation for the forecasted weather conditions during the race. The webpage reaches an average daily number of 4900 visits, but this number increases up to 6500 for the days preceding the race. This pageload activity shows, per se, the important contribution of numerical weather forecasting to this high competition sport.