Tree damages in Lisbon during southern windstorms

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Abstract

Street trees can cause damages when they fall during windstorms. In the last years it was observed an increasing number of falling trees and branches during extreme windy events. In the city of Lisbon the most of the falls occurs from October to December. Strong wind is generally a trigger to put poorly adapted or weakened/sick trees down. Local authorities must consider the costs of damages versus urban forest maintenance. From the period of 1990- 2008 more than 32% of windstorms caused one or two falls and 16% damaged vehicles parked in the streets. It was estimated that the partial cost of damages in vehicles is about 100 000EUR per year in Lisbon. During southern windstorms, 56 % of the falls occurred in N/S oriented streets and only 23.4 % in W/E streets, revealing a good agreement between storm and street directions.