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AppTitude: Integration of different ecosystem services in forest optimization approaches

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Forests provide many goods and services supported by different functions and involving different stakeholders. For example, the actual social context favours recreational uses of forests but, at the same time, forest managers and owners aim the highest production of wood products. It means that depending on the point of view of person that is seeing the forest, this has different value. Or, in other words, the value of forest is subjective depending on the demand of services and productions. In this case the human factor appears, and psychology should be taken into account in the decision-making process. In these terms, expert opinion is characterized by a large experience in the forest sector and can provide enough information to evaluate suitability of forests according to different objectives, products, services, and uses. In this context, the forest management has to integrate many disciplines and the trend in decision making is to use a multi-actor approach, overall in mountains region, where several ecosystem services and products could be necessary evaluated in decision making to identify conflicts among uses/objectives. The combination of: i) expert opinion, by analysis judgments methods like Analytic Hierarchy Process (AHP) or Multi-Attribute Utility Theory (MAUT), ii) growth forest dynamic models, iii) different spatial information and iv) Multi-criteria Decision Making methods like linear programming (LP), we have the capability of simulate different and complex scenarios in temporal and spatial scales. This combination of methods is not easy because require of the use of too large data and calculation process. To solve it we developed AppTitude[®] to automatize the hierarchy of methods to evaluate the suitability of the Nordeste region for different forest management objectives and will compare it with the actual distribution forests and their uses/objectives.

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