AT6FUI – FOSS4G 2016

Abstract for video-presentation

GIS-based map of malaria risk in El Salvador

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Malaria is an endemic problem in El Salvador. It caused a high mortality during first half of twentieth century. Today, it is almost eradicated in El Salvador but remains a problem in neighboring countries like Guatemala and Honduras. The proximity of these problem areas together with the possible contribution of climate change in its expansion make it necessary a constant vigilance to prevent proliferation of malaria in El Salvador. Geographic Information Systems [GIS] are a useful tool to generate interactive malaria risk maps allowing the management and analysis of multiple databases taking into account the geographical component of the different risk factors. Risk maps are an essential tool to design prevention measures.

The aim of present work is identifying, at national level, areas of potential risk of proliferation of *Anopheles* mosquitoes and therefore malaria. Following a multidisciplinary approach *One Health* we used a multi-criteria methodology together with GIS tools to create risk maps. Multi-criteria approach is a basic issue because malaria depends on many causes, most of them with geographical dimension. We used available public information in GIS layers about environmental and socio-demographic parameters. The firsts served to delineate potential mosquito habitats and seconds were used as indicators of vulnerability. A weight was given to each factor through hierarchical analytical process. Finally, the weighted sum of the factors of mosquito threat and population vulnerability factors allowed to obtain maps of risk of malaria. Final results are a set of risk maps proliferation of mosquitoes and malaria. Obtained these risk maps are a first order approach useful for decision makers. These maps allow to identify which areas should to have an especial monitoring of malaria transmission in El Salvador.