

Invited Paper



Tourist influence on nightlife noise

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Abstract

Although environmental noise from entertainment and leisure activities is causing a growing number of complaints from EU population, this noise issue is not covered by the current EU initiatives on environmental noise management. This noise problem is difficult to tackle strategically and technically – no specific standards have yet been established for measurements, methods and indicators, and the practical remedies are still limited.

This paper reviews nightlife noise and more specifically how the presence of tourists influences the variation of the noise. Several case studies were conducted in some Spanish locations by the seasonal tourist incursion, mainly in the summer months. Variations in the nightlife noise in recreational zones during the weekends and “working days” are compared.

This research also discusses data from different years and seasonal periods and reinforced with data obtained through surveys specifically designed for foreign tourists. These surveys reveal practical information about how tourists perceive noise, and their behaviour and reactions to it.

Those data could be useful for Environmental Noise Authorities to develop noise action plans, as recreational noise is a source not considered when noise mapping by means of using simulation techniques.

Keywords: nightlife noise, tourist influence, recreational noise.

1 Introduction

The aim of this paper is to relate the seasonal population growth during high season with the growth of noise levels in different tourist places, more specifically to relate it with the increase of noise levels during the nighttime. Some examples of the acoustic environment in different tourist localities and surveys carried out to resident population and tourist population, are shown.

Spain is an international tourist destination of the first magnitude, being the second international tourist destination behind France. In 2007 Spain was visited by 59,2 millions of tourist [1]. Figure 1 shows an evolution of the number of tourists arrived to Spain from 2000 to 2007.



Figure 1. Tourism in Spain from 2000 to 2007 [1].

The foreign tourist expense was around of 48,227 thousand million € in 2006. This amount is equivalent to 10.8% of the gross domestic product (GDP) of the Spanish economy [1].

The domestic tourism is also very important, talking about movement terms and also in economic terms. During 2006 around 134 million of journeys were done. The main tourist destinations chosen by the foreign and domestic tourists are shown in table 1.

Table 1 – Main tourist destinations (Regions) [1].

Destination	Foreign Tourism	Destination	Domestic tourism
Cataluña	15,003,317	Andalucía	24,000,000
Baleares	10,107,291	Cataluña	19,200,000
Canarias	9,608,180	Comunidad Valenciana	15,000,000
Andalucía	8,547,466	Castilla y León	13,800,000
Comunidad Valenciana	5,484,966	Castilla-La Mancha	11,700,000
Comunidad de Madrid	3,920,703	Madrid	9,100,000

The main origin countries of the tourist who choose Spain are United Kingdom (16,200,000 visitors, 27.7%), Germany (10,150,000 visitors, 17.4%) and France (9,150,000 visitors, 15.7%).

Due to the importance of tourist industry for the Spanish economy, it seems to be convenient to know the preferences of the tourists when choosing a destination and quality of the services offered.

On the other hand, the massive influx of tourists causes a significant increase of noise levels because one of the main appeals offered by some Spanish tourist destinations is the possibility to enjoy the nightlife attractions.

2 Seasonal noise.

To show how the influx of tourists have an effect making grow noise levels, firstly an approach to the seasonal noise levels during a full-year period will be done, taking as an example the locality of Benidorm.

In outline, Benidorm shows hotel occupancy and tourist apartment occupancy pattern in which 50% of visitors are foreign and 50% are from Spain. In certain periods, like Easter, the distribution is 40% foreign tourism and 60% domestic tourism. In the next four graphs the noise level time series during a full-year period (or longer) are shown (fig. 2 to 5). It can be observed that in summertime the L_{90} (green line) grow until get the maximum levels around the middle of August, coinciding with high season and high tourist occupancy, and later decreases gradually. It occurs in various areas (main streets, residential areas, old town, etc).

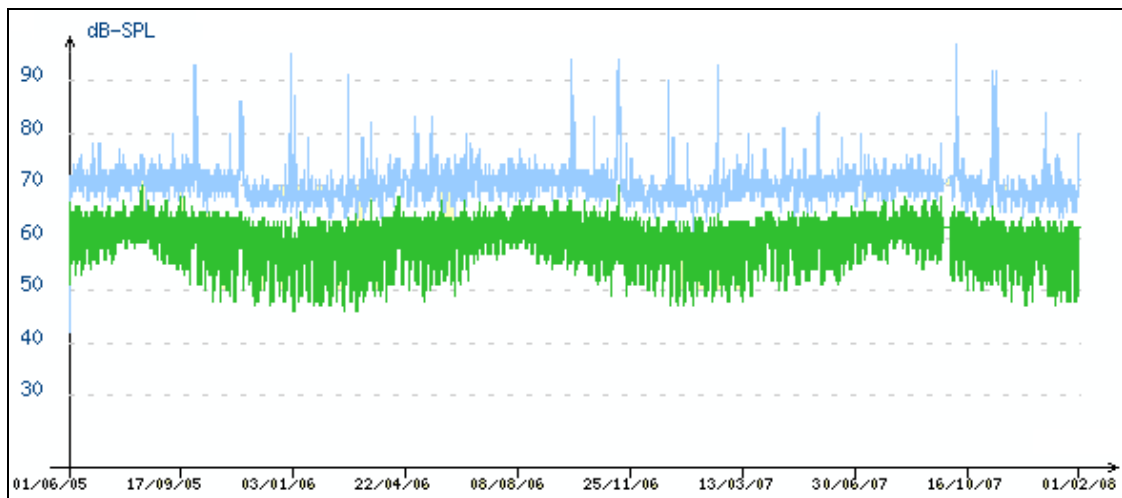


Figure 2 – L_{90} (green) and L_5 (blue) time series during 3 years [3]. Plaza de la Hispanidad, Benidorm. (Main Square).

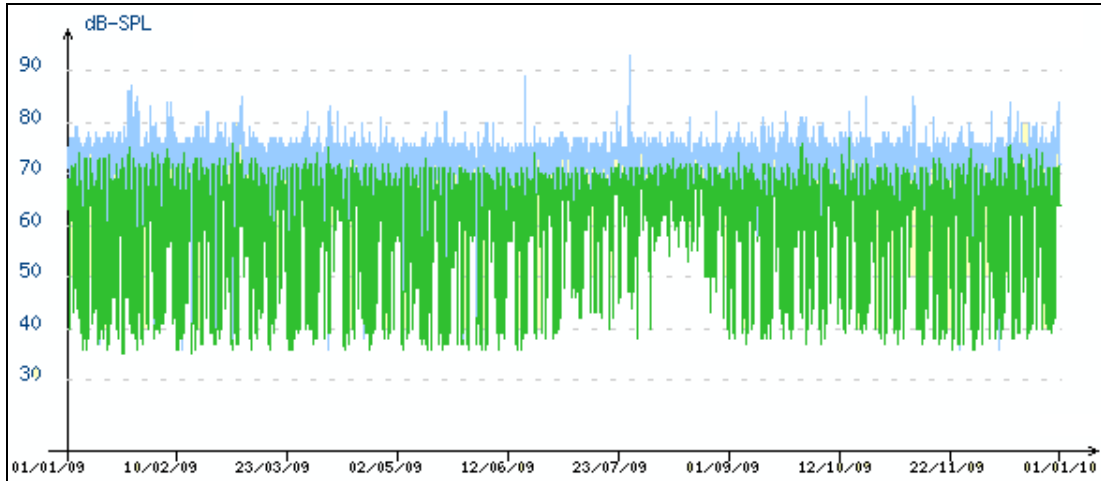


Figure 3 – L_{90} (green) and L_5 (blue) time series from 01/01/2009 to 01/01/2010 [3]. Avenida del Pinar. Benidorm. Quiet residential area.

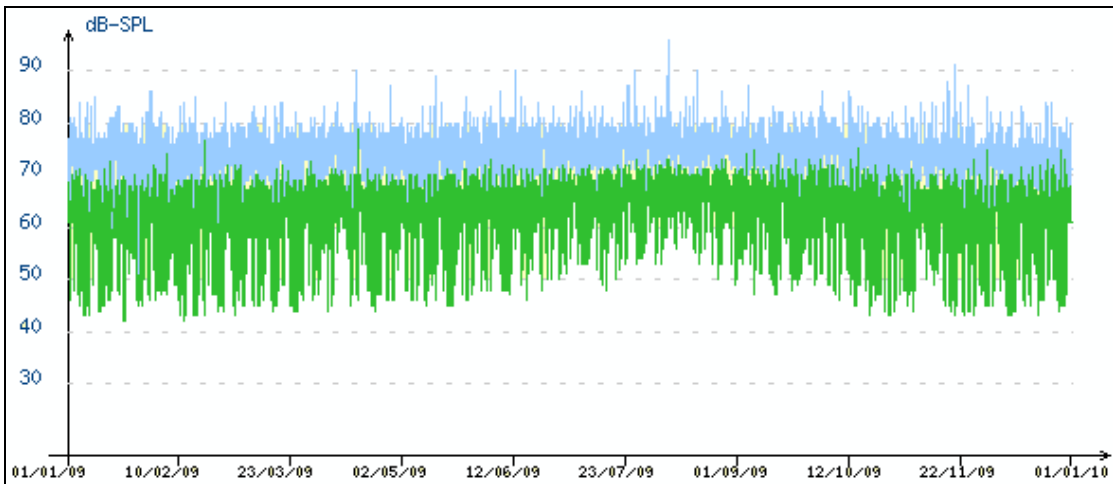


Figure 4 – L_{90} (green) and L_5 (blue) time series from 01/01/2009 to 01/01/2010 [3]. Avenida del Mediterráneo. Benidorm. Main Street.

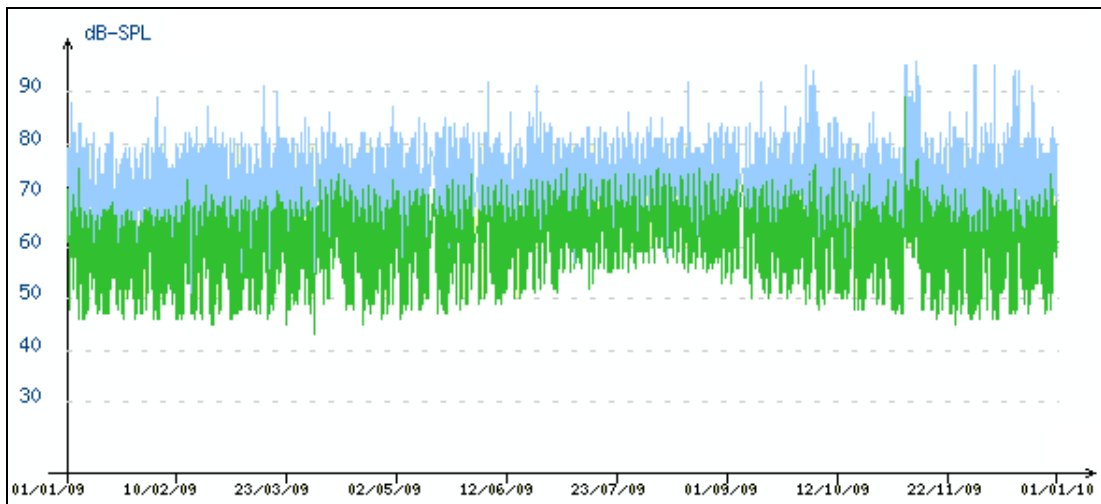


Figure 5 – L_{90} (green) and L_5 (blue) time series from 01/01/2009 to 01/01/2010 [3]. Plaça de la Creu. Benidorm. Pedestrian zone. Old town.

2.1 Increase of noise levels at nighttime in tourist influx periods.

In the next graph (fig. 6), an analysis of noise levels ($L_{Aeq,1h}$) registered before, during and after 2009 Easter period in the Town of Benidorm is shown. It can be identified how noise levels during nighttime increasing within the Easter. It coincides with a rise on the tourist occupancy, mainly domestic tourism.

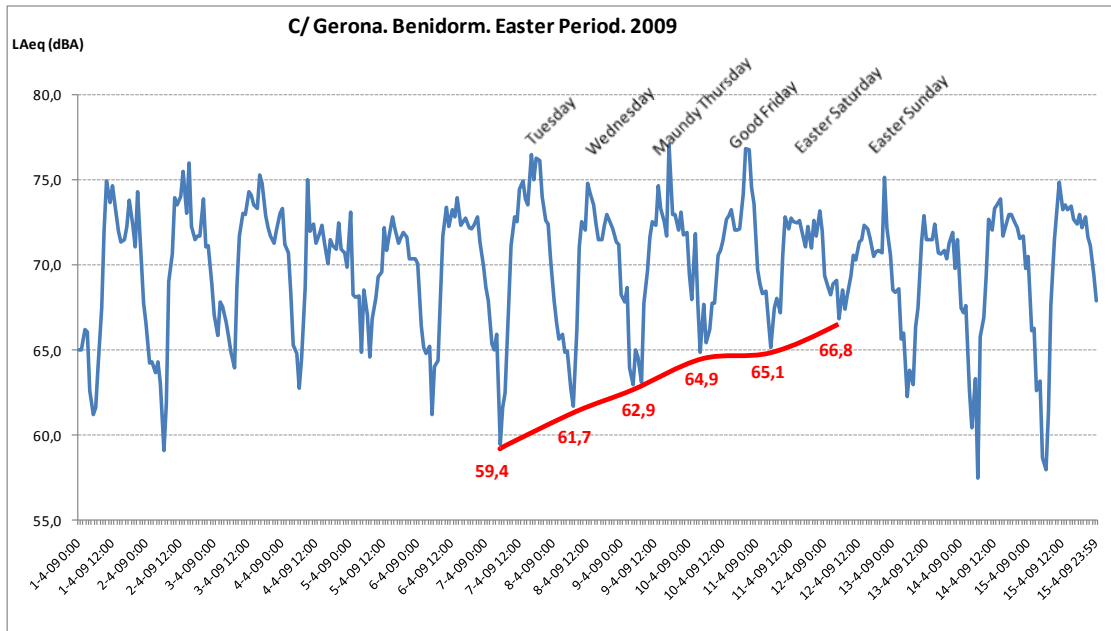


Figure 6 – $L_{Aeq,1h}$ time series from 01/04/2009 to 15/04/2009, before, during and after Easter period [3]. C/ Gerona. Benidorm.

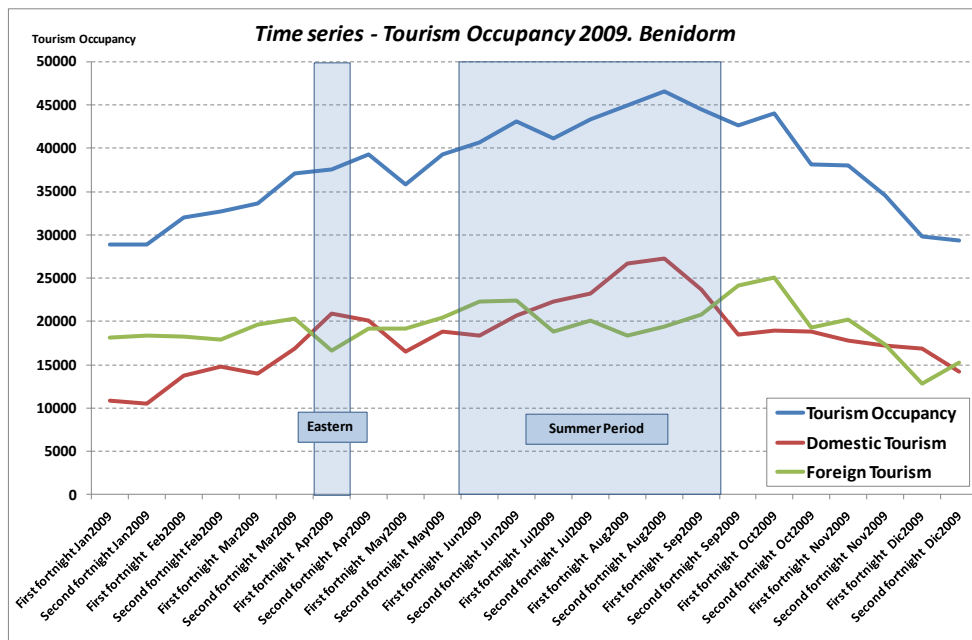


Figure 7 – Tourism Occupancy during 2009. Benidorm [4].

Following, the next graphs (fig. 8 and 9) show the noise level time series during a typical week (month of June) in two different tourist areas of Madrid: Plaza de España and Plaza del Carmen. The noise level evolution in both areas is compared with a quiet area of the city (Campo de las Naciones). It can be observed in figure 8 night period noise level increases gradually during the week until it gets a maximum value at Friday night. In figure 9, it is very difficult to distinguish differences between noise levels during day and night periods at weekend.

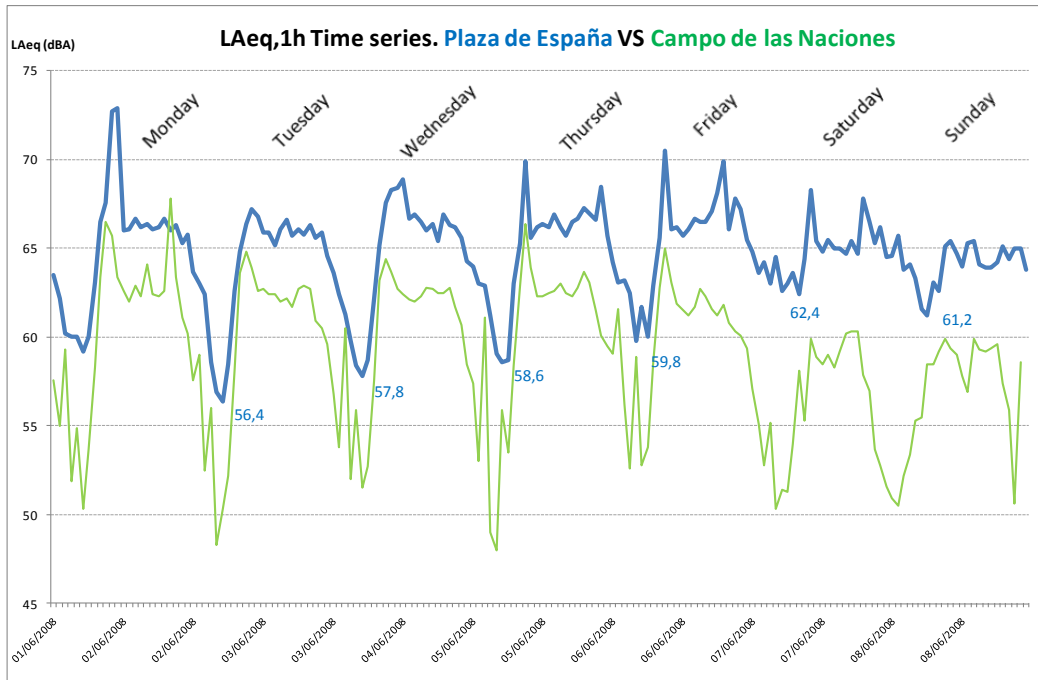


Figure 8 – $L_{Aeq,1h}$ time series during a week. Plaza de España. Madrid. [5].

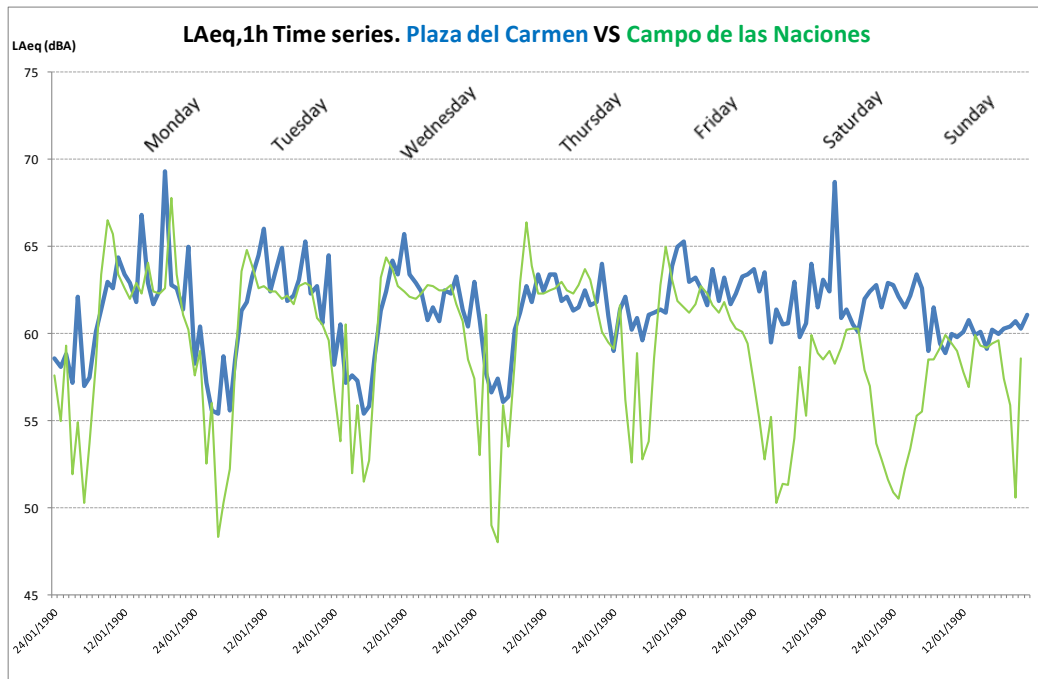


Figure 9 – $L_{Aeq,1h}$ time series during a week. Plaza del Carmen. Madrid. [5].

Between 2001 and 2002 an acoustic research on the island of Menorca was done. The island of Menorca is characterized as a family destination, where tourist attractions are the tranquility, beaches, nature and countryside. The island of Menorca is not usually identified as a destination related to nightlife activities, as happens with the island of Ibiza or certain areas of Mallorca. However there are different nightlife areas in Menorca. The research assessed noise impact by means noise maps in major cities and tourist resorts of Menorca (Maó, Ciutadella, Cala Galdana, Cala'n Bosc and Binibèquer). The study was carried out in winter and it was repeated in the summer season. The research included surveys the resident population and tourist population. (To get an idea of the evolution of tourist influx for the period from 1977 to 2002 see figure 9).

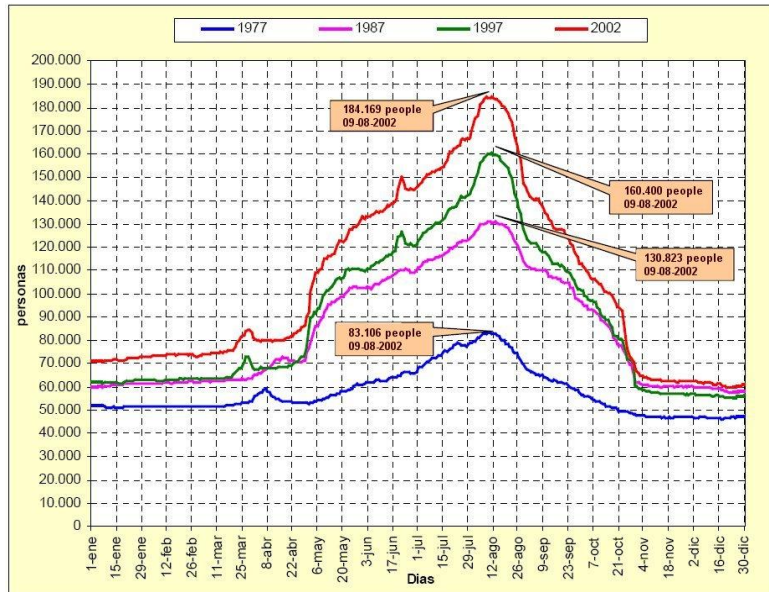


Figure 9 – Tourist influx for the period from 1977 to 2002 [6].

In the next figures it can be observed two different examples of noise maps using measurement methods. In this case, noise maps for the period between 02 to 04 a.m. during Saturday night for summertime and wintertime are shown. The receiver locations 18 to 20 were located in a nightlife activity area.

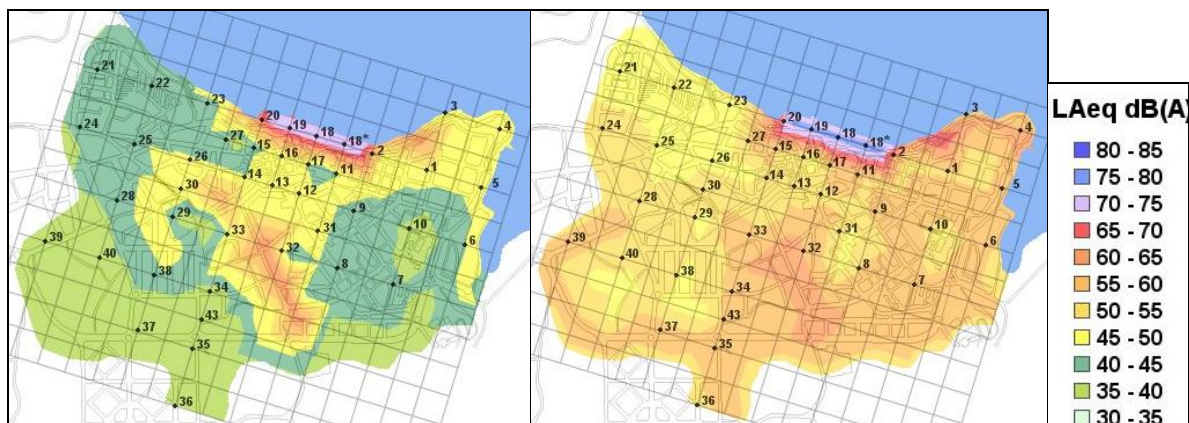


Figure 10 – Left map show noise map in wintertime and right in summertime. [7].

In these noise maps there are significant increase of summertime noise level in comparison with winter season.

During the realization of the noise maps, personal surveys of tourists and residents were carried out [8]. The questionnaires included sociological information and questions about noise perception, both for inhabitants and for tourists. The questions about noise perception were the following:

- What is the noisiest season, winter or summer?
- What is your annoyance perception about nightlife noise?

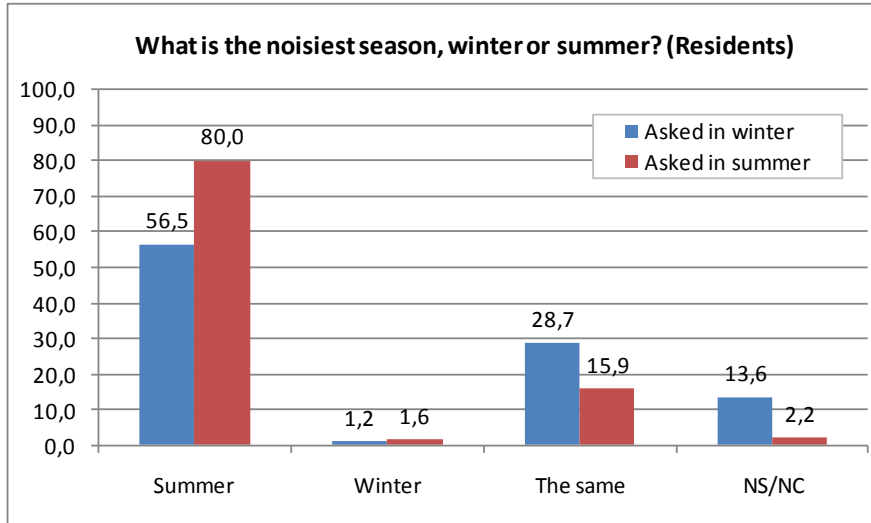


Figure 11 – Question about noise perception according to the season (%). [7].

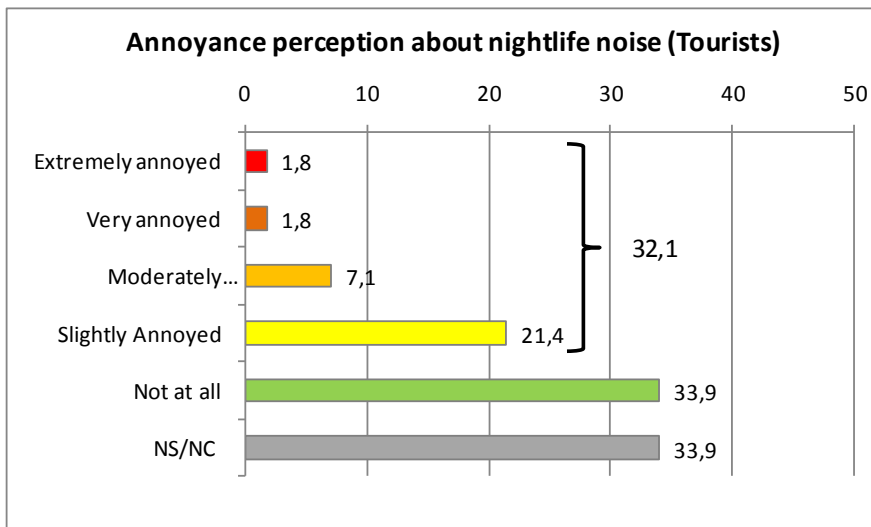


Figure 12 – Annoyance perception about nightlife noise (%). [7].

During 2007 the strategic noise map for Palma de Mallorca by means of simulation techniques was done, distinguishing among road traffic noise, railway noise and industrial noise [9]. Due to the impossibility to elaborate noise maps around nightlife areas using simulation techniques, an acoustic characterization in different nightlife areas during the summer 2007 was carried out. Some results obtained in two of the main nightlife areas in Mallorca Island are shown.

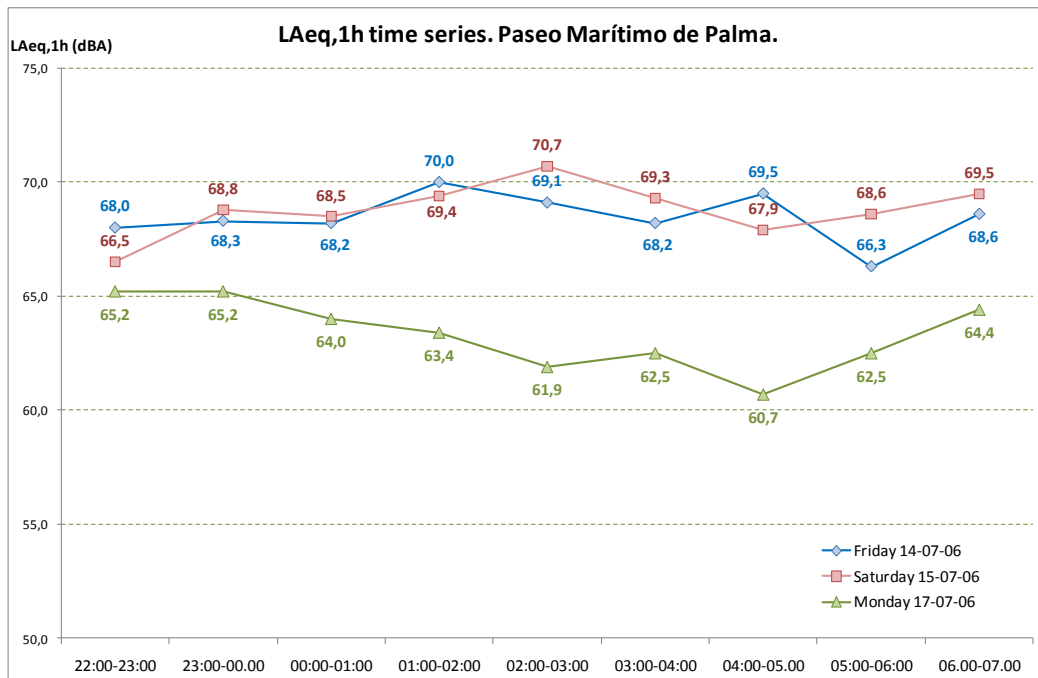


Figure 13 – Comparison among nightlife noise in nightlife areas (Paseo Marítimo, Palma) during the weekends and “working days”.

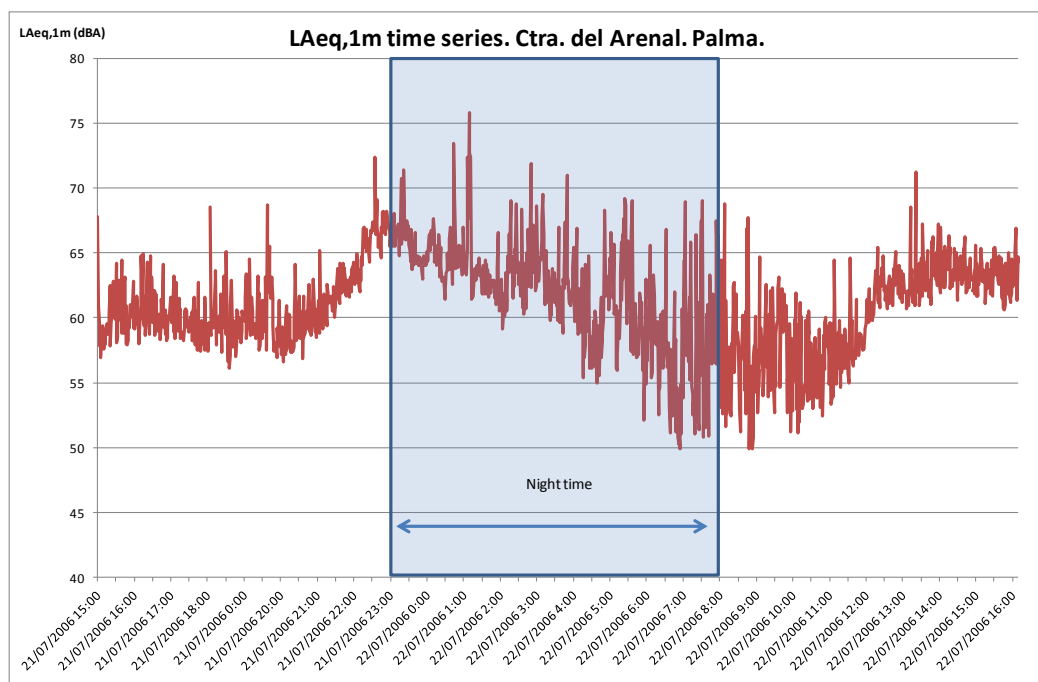


Figure 14 – $L_{Aeq,1m}$ time series during a July night in a recreational zone of Palma.

3 Conclusions

With the data presented it is possible to get an overview about the influence of the tourist occupancy seasonal variations on noise levels in nightlife areas. In coastal tourist towns this phenomenon occurs mainly in summer season but also at Easter and long weekends. In

other tourist areas, such as cities center, this phenomenon occurs daily and even more steeply during the weekends.

In surveys carried out in coastal tourist places, the resident population identifies the summer period as the noisiest of the year, especially when the survey is conducted in the same period. 32.1% of tourists are annoyed (extremely, very moderately or slightly annoyed) by the nightlife activities.

Nowadays, to include the noise from nightlife activity in the strategic noise maps it is necessary measurement campaigns since the simulation software does not provide this data. The main solutions adopted by the municipalities are in way to create “acoustic saturated areas”, preventing the establishment of new bars, pubs and clubs.

The annoyance that such high levels of noise produced by night leisure activities can affect to residents and tourist population requires a greater effort to study and seek solutions for this issue.

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