

## FLOOD DISASTER INVESTIGATION REPORT IN EUROPEAN SIDE OF İSTANBUL (SEPTEMBER 2009)

### 1. INTRODUCTION

In this report; it is aimed to observe the flood areas as a result of the heavy rains on 08-09 September 2009 in the European Side of Istanbul and to determine the effective causes of the floods.

The streams of the European Side of Istanbul were examined under two groups as north flowing streams and south flowing streams. Streams flowing to the north empty into the Durusu Dam or the Black Sea. South-flowing streams empty into Sazlıdere dam, Büyükçekmece, Küçükçekmece or Marmara Sea. The streams are described in order from west to east under regional headings.

**North Flowing Streams;** It covers the creeks of Northern Çatalca Region, Durusu Region and Sarıyer Region.

- **Northern Çatalca Streams;** Çayır Stream, Ambar Stream and Karacaköy Stream and their branches (Trials: Binkılıç, Gümüşpınar, Çiftlikköy, Başakköy).

- **Durusu Zone;** It includes, Dedepınar, Tayakadin, Bervana, Aynalı and Yeniköy creeks.

- **Sarıyer Region Streams;** It covers Tatlısu, Kilyos, Uzunya, Marmancuk, Keten, Çürpuna and Gariççe streams.

**South Flowing Streams;** It covers the streams of Silivri-Selimpaşa Region, Çatalca Region and Hadımköy-Basakşehir-Küçükçekmece Region.

- **Silivri-Selimpaşa Region;** It includes Damlıca (Gümüşyaka), Plain (Çanta), Kula, Çamurlu, Fener, Boğluca Stream and its tributaries (Agil and Kayalı Streams), Koyundere, Selimpaşa Stream and its branches (Kömürlük, Kavaklı and Aşağı Streams).

- **Catalca District;** It consists of Çakıl, İnceğiz Stream and its branches (Karapınar, Karasu, Delice and Akalan Streams), Nakkaş Stream and its branches (Değirmendere, Kestanelik and Kızılcaali Streams).

- **Hadımköy-Basakşehir-Küçükçekmece Region;** It consists of Sazlıdere and its branches (Kazamtarla, Boyalık and Baklalı Streams), Eskinoz (Bahçeşehir), Hamamdere and Ayamama Streams.

All the streams listed above were examined and the flood boundaries were drawn on the existing maps. The causes of the floods, the slope of the valleys, the stability of the slopes, the areas where landslides-clips, rock slides-falls, if any, after flooding, structures built on the stream route (art structure, etc.), uncontrolled fillings on the stream route, the latest state of the streams were examined and reported.

### CONCLUSION AND RECOMMENDATIONS

Streams and flood-affected areas in Kilyos, Silivri, Çatalca, Selimpaşa, Bahçeşehir, Halkalı and İkitelli regions were examined by the technical staff of our Directorate and the causes of floods were tried to be determined by drawing the flood boundaries on the existing maps.

- According to the information obtained in the field studies, the causes of floods factors:
  - Excessive rainfall in a short time
  - Occupation of stream beds
  - Uncontrolled fillings on the edges of stream beds
  - Stacking of materials blocking channels and culverts near stream beds
  - Inadequate bridge and culvert openings
  - Errors in the improvement methods of some beds

- It can be listed as the periodic maintenance and cleaning of the beds and channels.
- Recommendations;
  - An effective early warning system that will predict precipitation amounts from the meteorological radars of our country is recommended.
  - Detailed with hydro-meteorological analysis and models in the zoning plans
  - Flooding areas should be determined in this way and no construction should be allowed in these areas.
  - In particular, people living in and around the flood-risk area should be educated and informed about what they should or should not do before, during and after the flood.
  - Stream bed edges should be protected and afforested.
  - Streams should be arranged and routine maintenance and cleaning should be done at the beginning of the rainy season every year.
  - Uncontrolled and unconscious fillings should not be allowed on the river sides.
  - The architectural design of bridges built over rivers or streams should be re-evaluated.