

## Unusually High Mean Sea Level in September 1971

### Along the South Coast of Japan

—An Introductory Note—

by

**Masamori Miyazaki**

*Meteorological Research Institute, Tokyo*

(Received July 28, 1972)

#### Abstract

This is the introductory note to the three successive papers on the unusual rise of sea level in September, 1971. They form a sequel to the cooperative study on the physical mechanism of the unusual sea level variations (December 1971–March 1972, Representative: Prof. K. YOSHIDA).

The first report of the unusually high sea level in question came on 3 September from Shimizu, Shizuoka Prefecture.

The sea level is generally high in this period at high water along the coast of Suruga Bay because of the autumn springs. Still it is unusual that about thirty houses should be flooded up to the floors without any remarkable atmospheric disturbances. The daily mean sea level was 31 cm higher than normal at Shimizu on that day.

Soon after this, similar damage was reported from various locations along the south coast of Japan—Toba, Funabashi, Chiba, Sumoto, Saga, and others. These unusual rises of sea level continued for almost two weeks, and raised severe social concerns, although the damage itself was not so large.

The Ministry of Transportation consequently organized a Research Committee on these unusual rises of sea level. The Committee was headed by Dr. K. Kawakami, Director of the Hydrographic Department, and members were chosen from the Meteorological Agency, Hydrographic Department, Tokyo University and Fisheries Agency.

After four months of research, the Committee made tentative conclusions on the mechanism of the unusual sea level rise as follows (January 1972):

- (1) The unusual rise of sea level in last September is supposed to be related with the unusual approach of the Kuroshio to the south coast of Japan.

- (2) The passage of Typhoon 7123 at the end of August presumably drove the Kuroshio close to the coast. The typhoon heaved the sea level along the Boso Peninsula directly after its passage accompanying the approach of warm water. After the main disturbances of the typhoon were gone, the peaks of the mean sea level slowly moved west along the south coast of Japan. The unusual rise of sea level seems to be induced by the combination of these phenomena.

Another research group on the physical mechanism of the unusual sea level (Representative: Prof. K. YOSHIDA, Tokyo University) was organized in December, 1971, and was subsidized by the Ministry of Education. This group made a cooperative study for about three months and powerful theoretical and analytical proofs were furnished in this cooperative study for the tentative conclusions of the Research Committee. However, the period allotted was too short (until March, 1972), and many important problems were left unsolved.

The authors of next three papers (ISOZAKI, I., KURASHIGE, K. and MIYAZAKI, M.) were all members of this group. These papers include the individual results in this cooperative study together with some later findings.

---

## 1971年9月の本州南岸の異常潮位について

—序 論—

宮 崎 正 衛

1971年9月、台風23号の来襲を機として起こった異常潮位はほぼ半月にわたって本州南岸に被害をもたらした。これに関して、文部省科研費による研究班(期間:1971年12月—72年3月、代表者:吉田耕造東大教授)ができ、その物理機構を研究した。以下の3論文は気象研究所からこの研究班に参加した3名の研究成果であるが、班解散後の最新の成果も含まれている。