

# 南九十九里浜の海岸侵食

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1

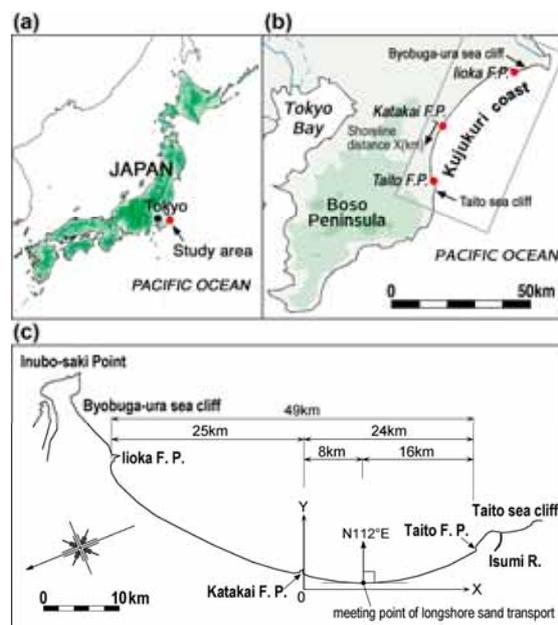


Figure 1. Location of south Kujukuri Beach.

2

1970年(昭和45年)頃



3

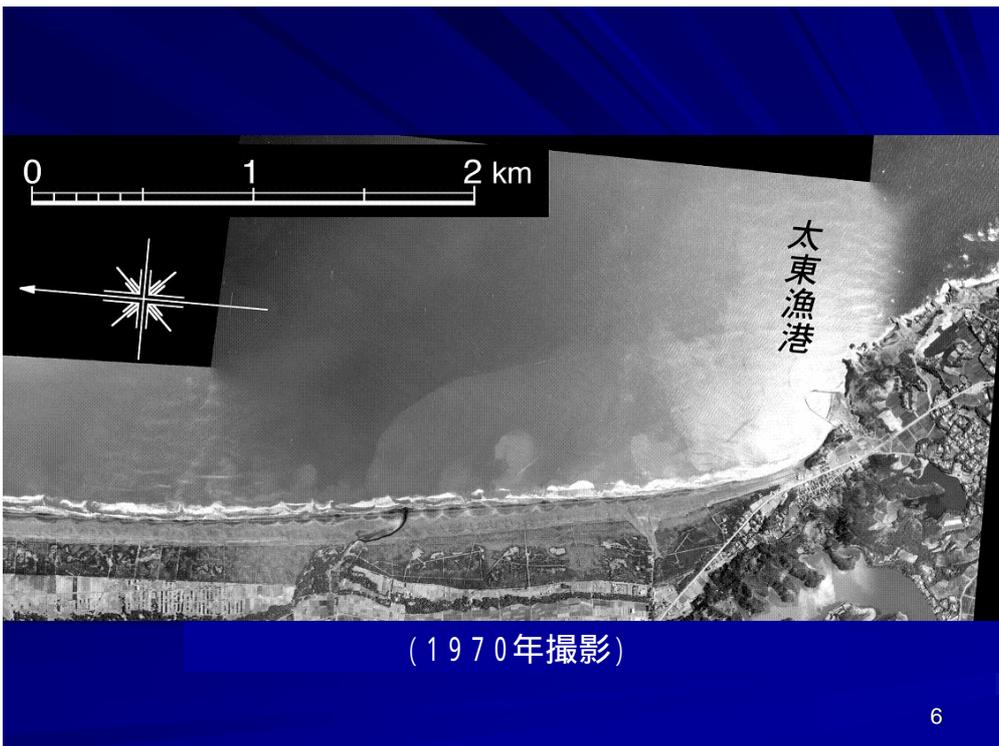
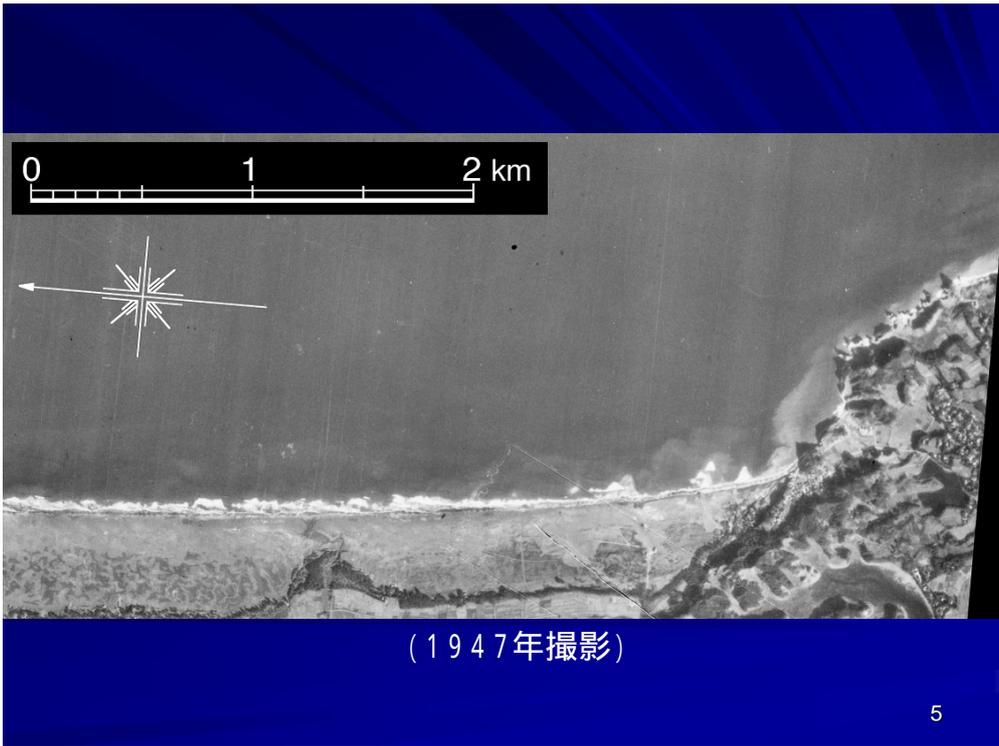


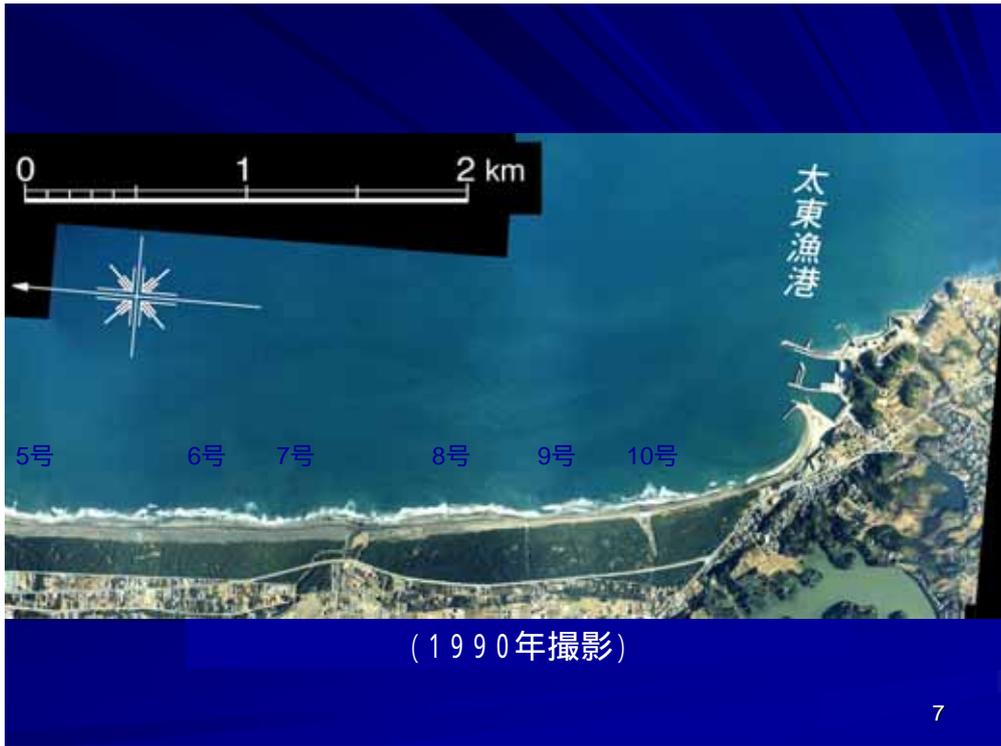
現在の太東岬



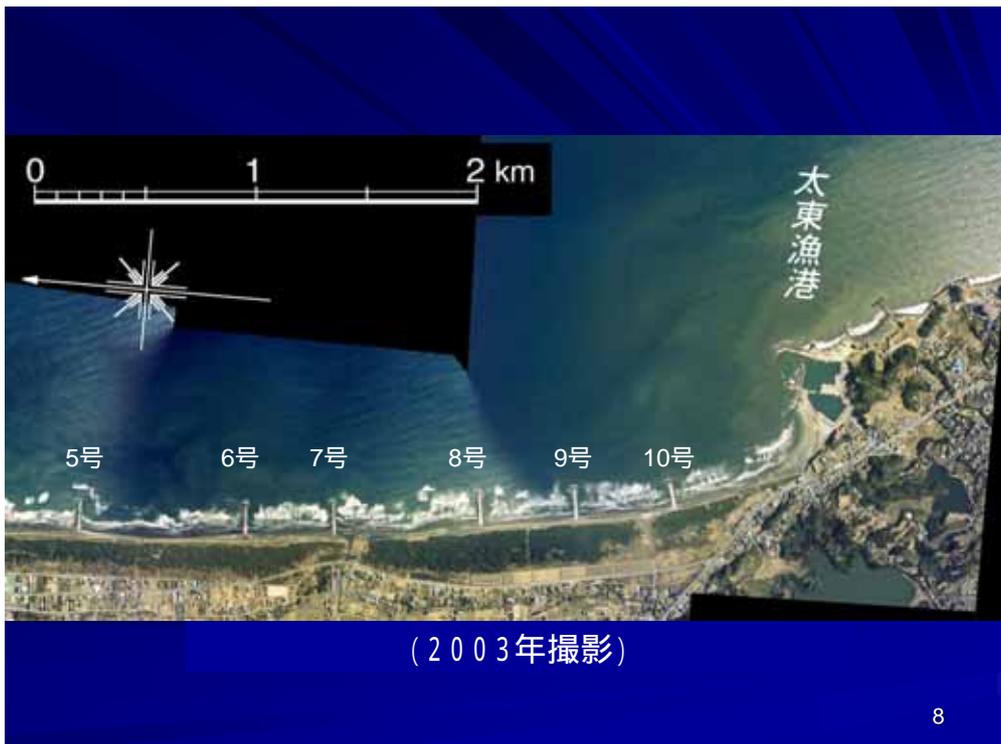
約30年前

4





7



8

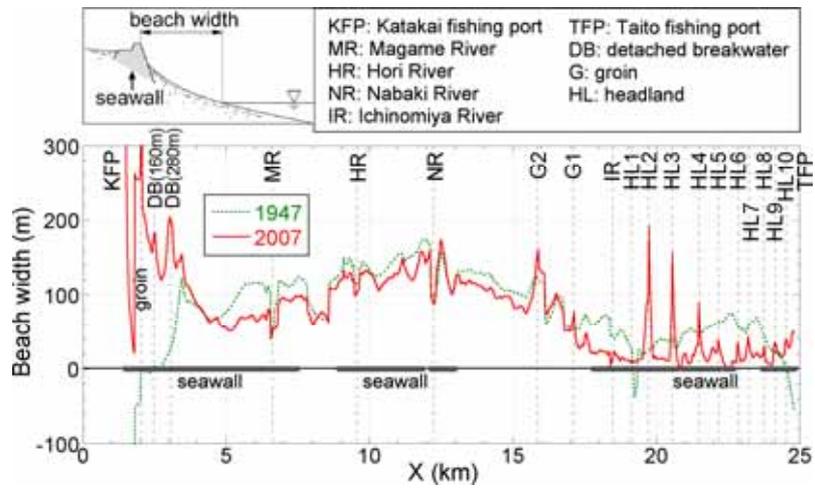
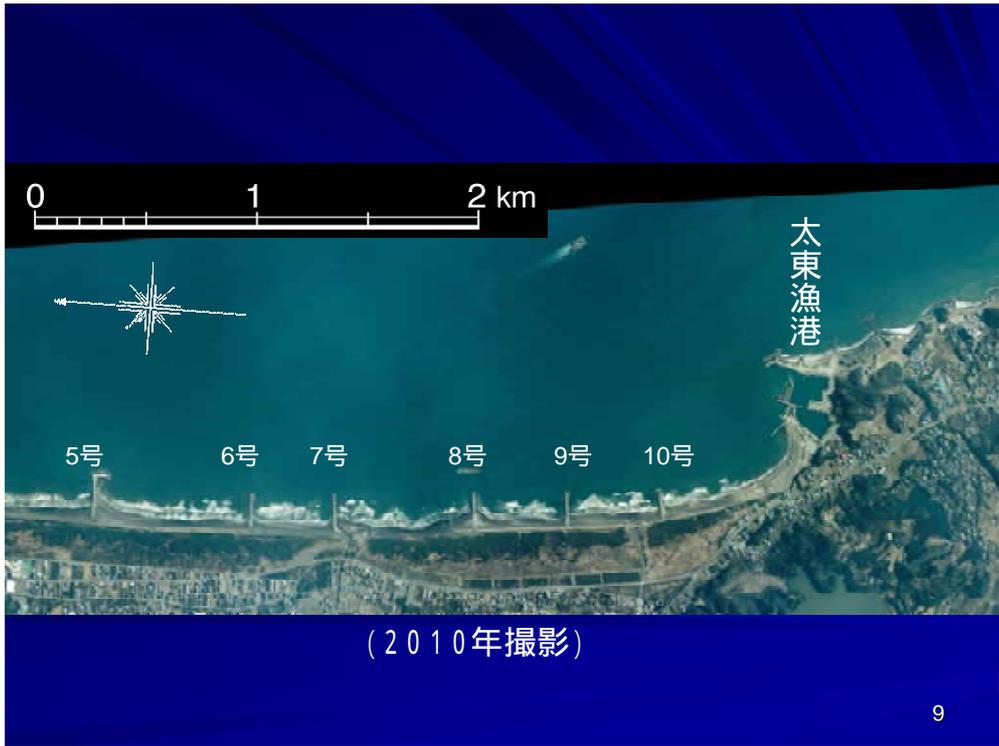


Figure 3. Change in beach width between 1947 and 2007 measured from seawall line in 2007.

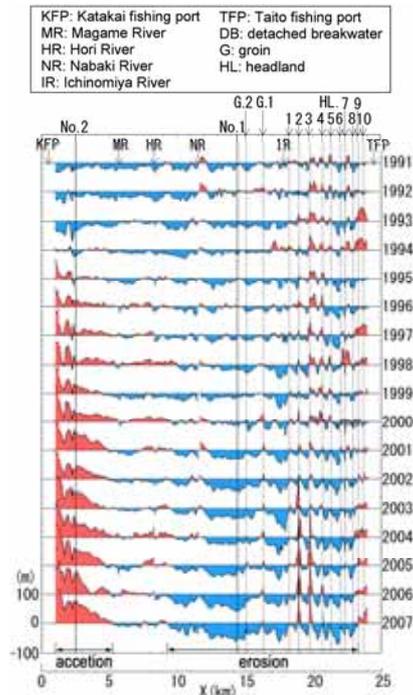


Figure 4. Shoreline changes of south Kujukuri Beach between 1990 and 2007.<sup>11</sup>

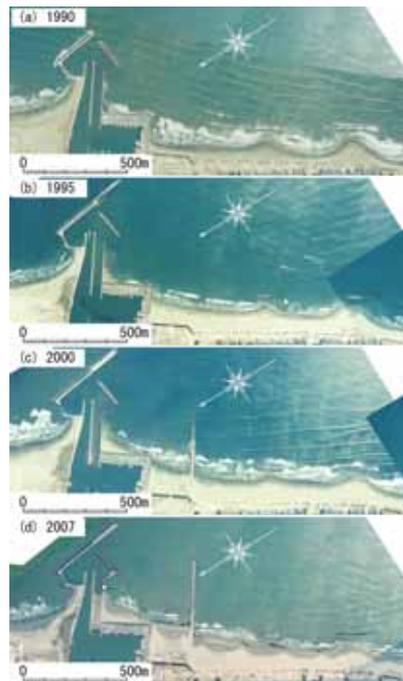


Figure 5. Aerial photographs of Katakai fishing port.

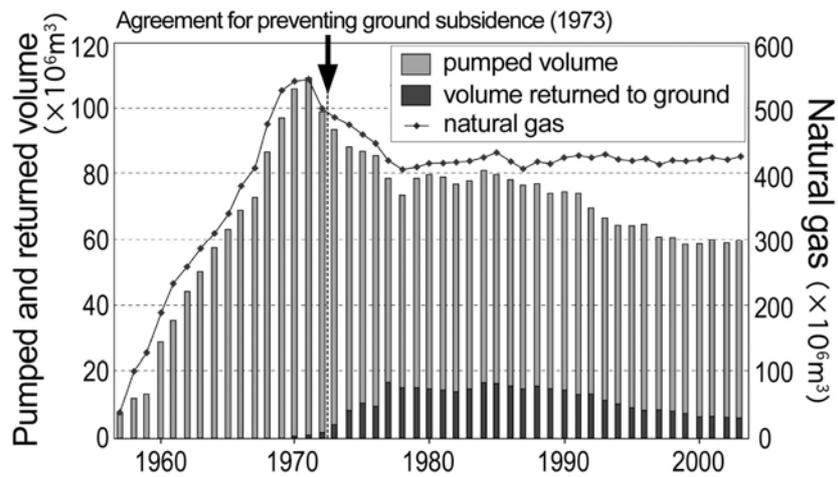


Figure 7. Volume changes in underground water that was pumped-up and returned to layer, and changes in production of water-soluble gas.

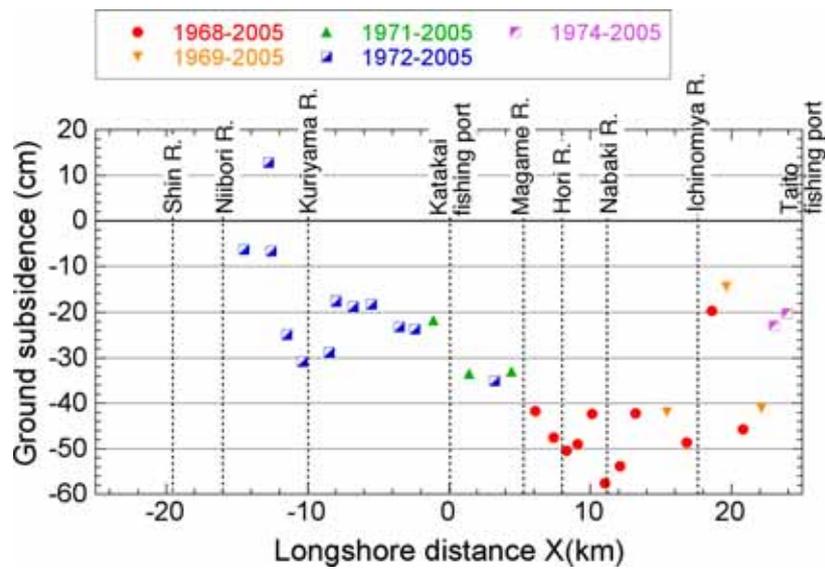


Figure 8. Cumulative subsidence of ground level at bench marks near shoreline.

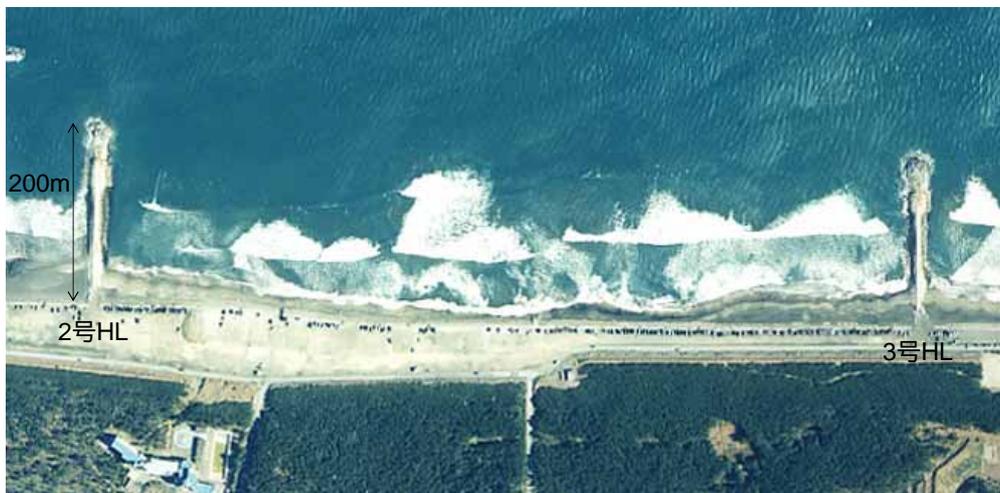
## 2,3号HLの形状と汀線変化

2000年1月



15

2002年1月



16

2003年5月



17

2006年2月



18

2010年2月

