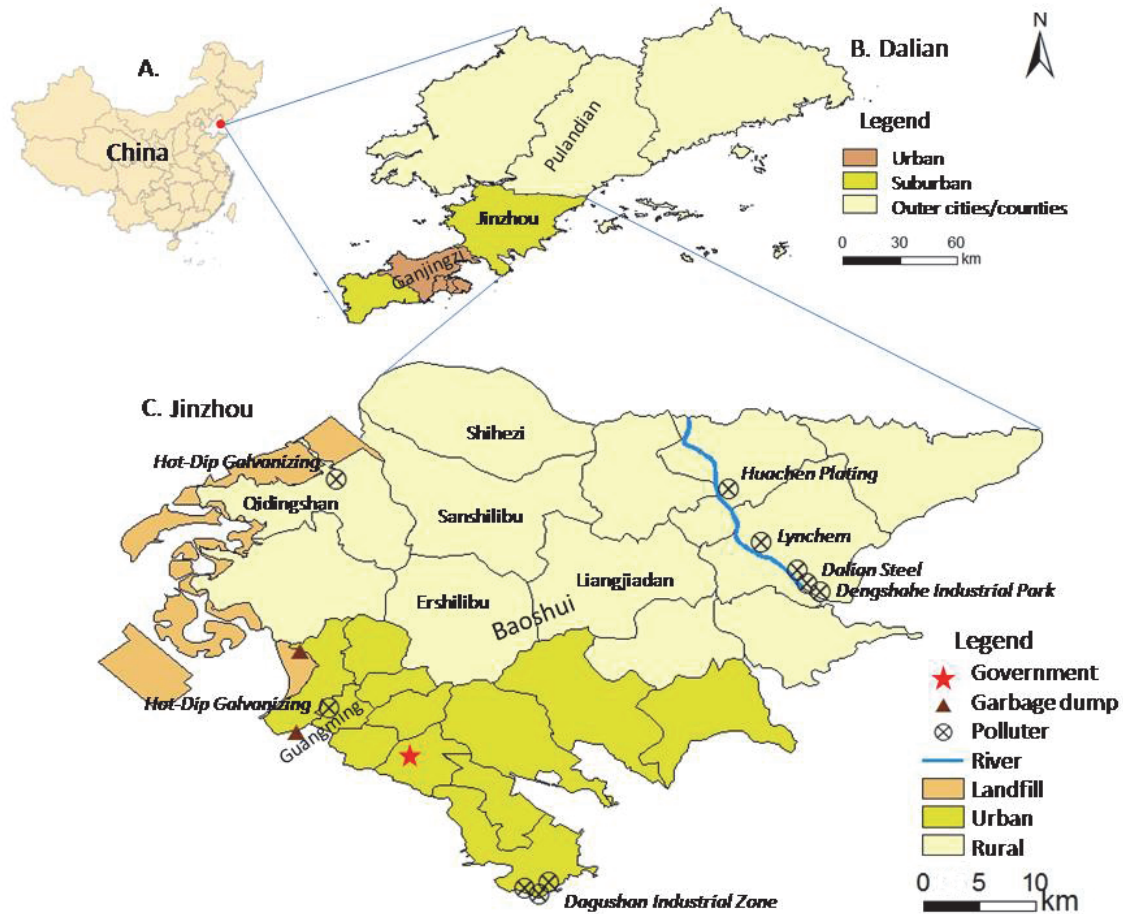


Supplemental Figures



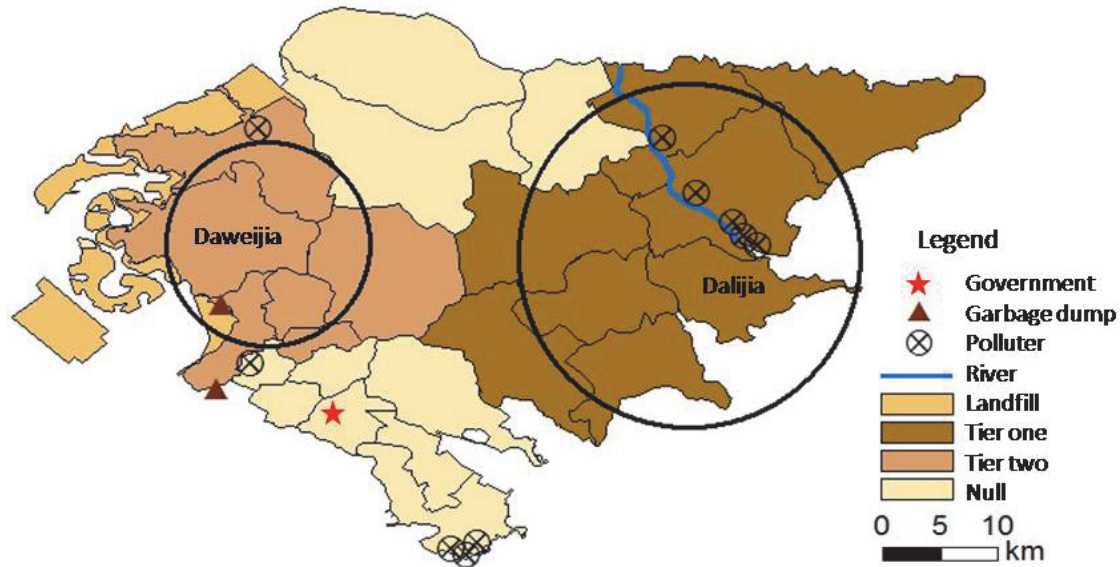
Supplemental Figure 1

Dalian's location in China (A), Dalian's administrative division (B), and former Jinzhou's administrative division (C) including 24 townships, major polluters, the Dengshahe River, landfill areas, garbage dumps, and rural-urban divisions, based on a map compiled by Jinzhou New District Bureau of Development and Reform (unpublished data).

The construction of Dengshahe Industrial Park started in 2006 when a major polluter, Dalian Steel, relocated from the Ganjingzi District and expanded at the new site. Smaller polluters associated with steel production followed, including Air Liquide (Dalian) Co., Ltd. and Dalian Huicheng Aluminum Co., Ltd. Jinzhou Hot-Dip Galvanizing, Ltd. relocated its more polluting production to the new site in Qidingshan Township in 2009 while keeping its less polluting production in Guangming Township.

Dagushan Industrial Zone was established in the late 1990s and currently houses Western Pacific Petrochemicals, Fujia Dalian Chemicals, and Dalian Trico Chemical Co., Ltd. The

western coast of Jinzhou has been the site of garbage dumps and landfills with solid waste from urban Dalian and urban Jinzhou.



Supplemental Figure 2

Results of space-time cluster analyses on cancer mortality in Jinzhou, Dalian, 2006–2013. The tier-one cluster is centered on Dalijia and includes eight townships within a radius of 17 kilometers (see also Table 5). The hot spots clustered in the period of 2009–2012. The cancer mortality rate was 223 per 100,000, 35% higher than the expected rate with a relative risk factor of 1.42. The tier-two cluster was centered on Daweijia and includes six townships. The cluster period was 2010–2013. The cancer mortality rate was 200 per 100,000, 21% higher than expected with a relative risk factor of 1.24.