

WR-1 Water for Food

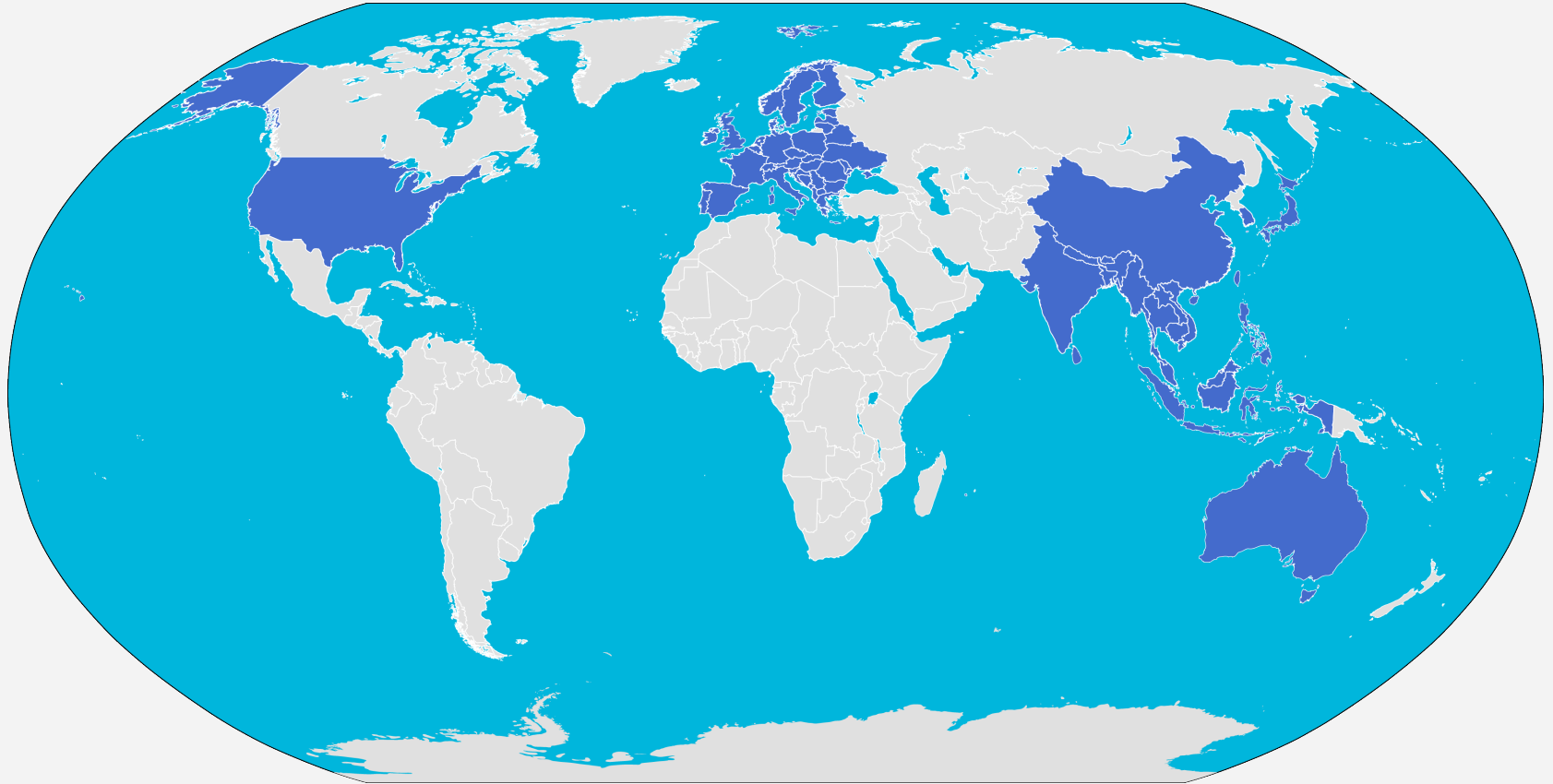
CTB3300WCx: Introduction to Water and Climate

Prof.dr.ir. N.C. van de Giesen

Main water challenges

- *Sanitation*
- *Ecosystems*
- *Cities*
- *Food*

Population and food



In a nutshell

In 2050

- *40% - 80% more food*
- *With 10% less water*

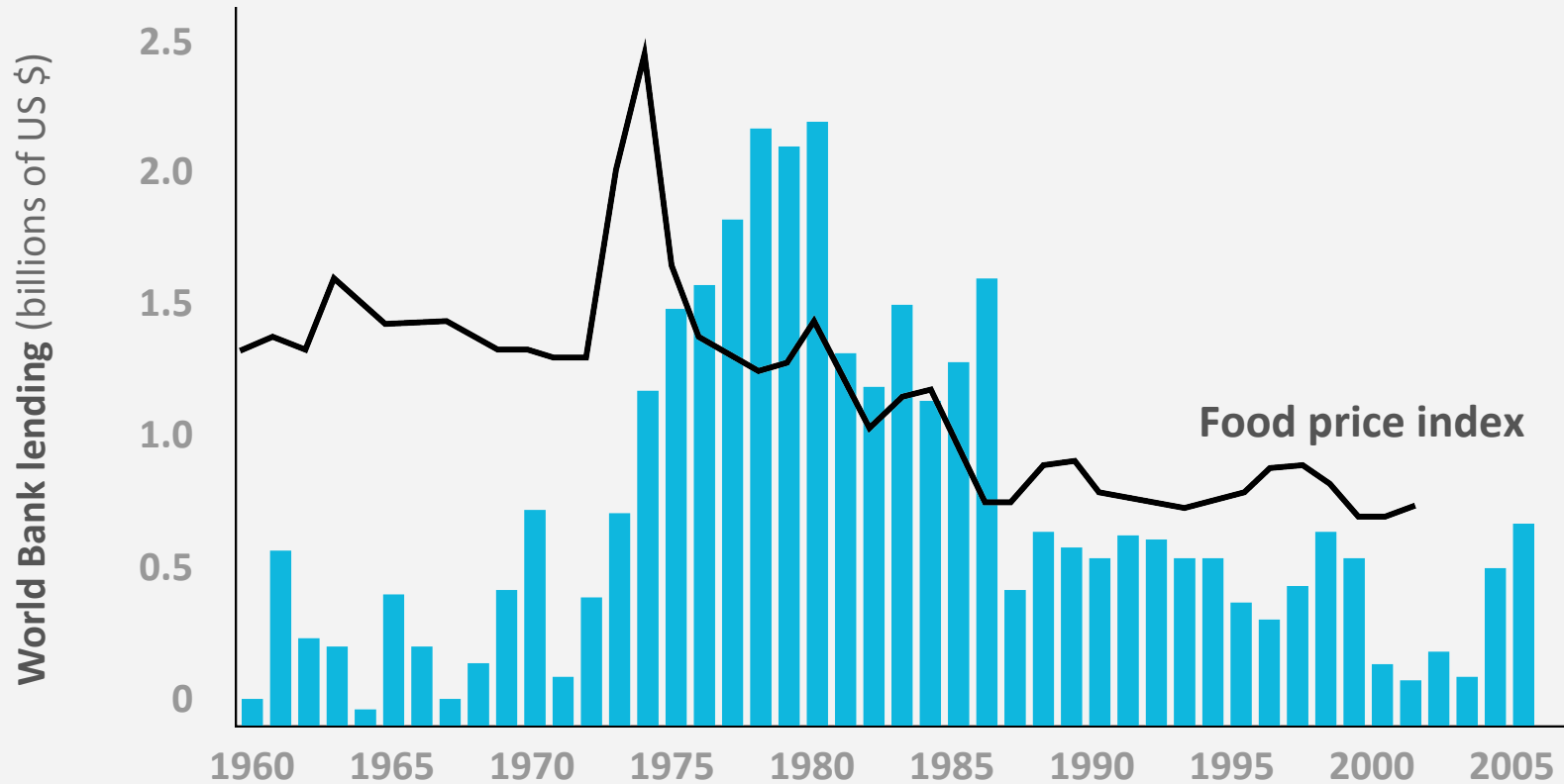
Individual water needs (modest lifestyle)

■ <i>Drinking water</i>	<i>1</i>	<i>m³/year</i>
■ <i>Kitchen</i>	<i>5</i>	<i>m³/year</i>
■ <i>Laundry</i>	<i>10</i>	<i>m³/year</i>
■ <i>Toilet</i>	<i>20</i>	<i>m³/year</i>
■ <i>Industry</i>	<i>200</i>	<i>m³/year</i>
■ <i>Food (vegetarian)</i>	<i>500</i>	<i>m³/year</i>

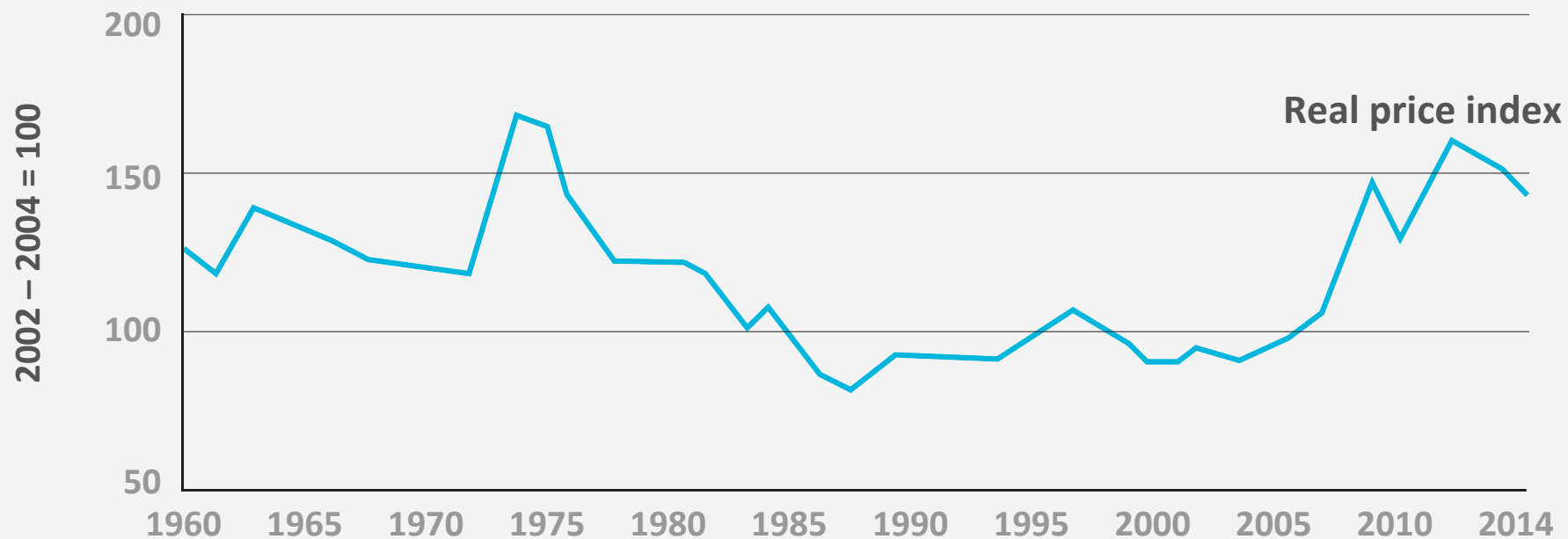
Individual water needs (demanding lifestyle)

- *Drinking water* **1** **m^3/year**
- *Kitchen* **5** **m^3/year**
- *Laundry* **10** **m^3/year**
- *Toilet* **20** **m^3/year**
- *Industry* **200** **m^3/year**
- *Food (vegetarian)* **500** **m^3/year**
- *Meat (extra)* **500 – 1000** **m^3/year**
- *Biofuels (1000 l)* **1000** **m^3/year**

Irrigation investments in the 70's



FAO food price index

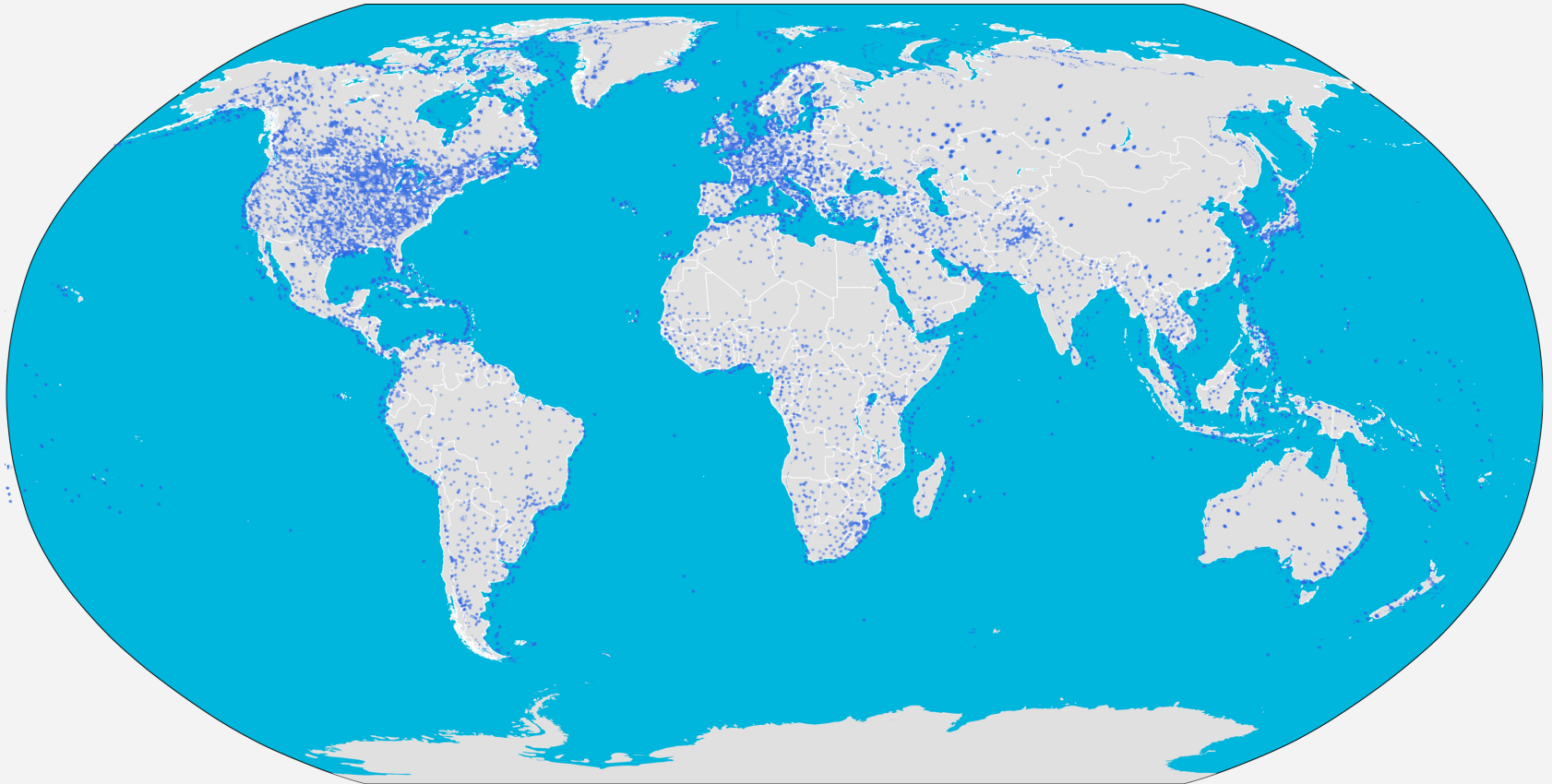


Where to grow food



GRAIN PRODUCTION DATA
INCLUDES BARLEY, CORN, MILLET,
OATS, RICE, SORGHUM, WHEAT,
RYE, AND MINOR GRAINS.

Global weather stations



Small scale irrigation



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