

# Managing the world's rivers wisely: *starting at the source*

**Esther Blom**  
**Leader Freshwater Programme**  
**WWF Netherlands**  
**1 October 2010**



# *WWF Freshwater programme*

- **Protection**

Wetlands (Ramsar convention)

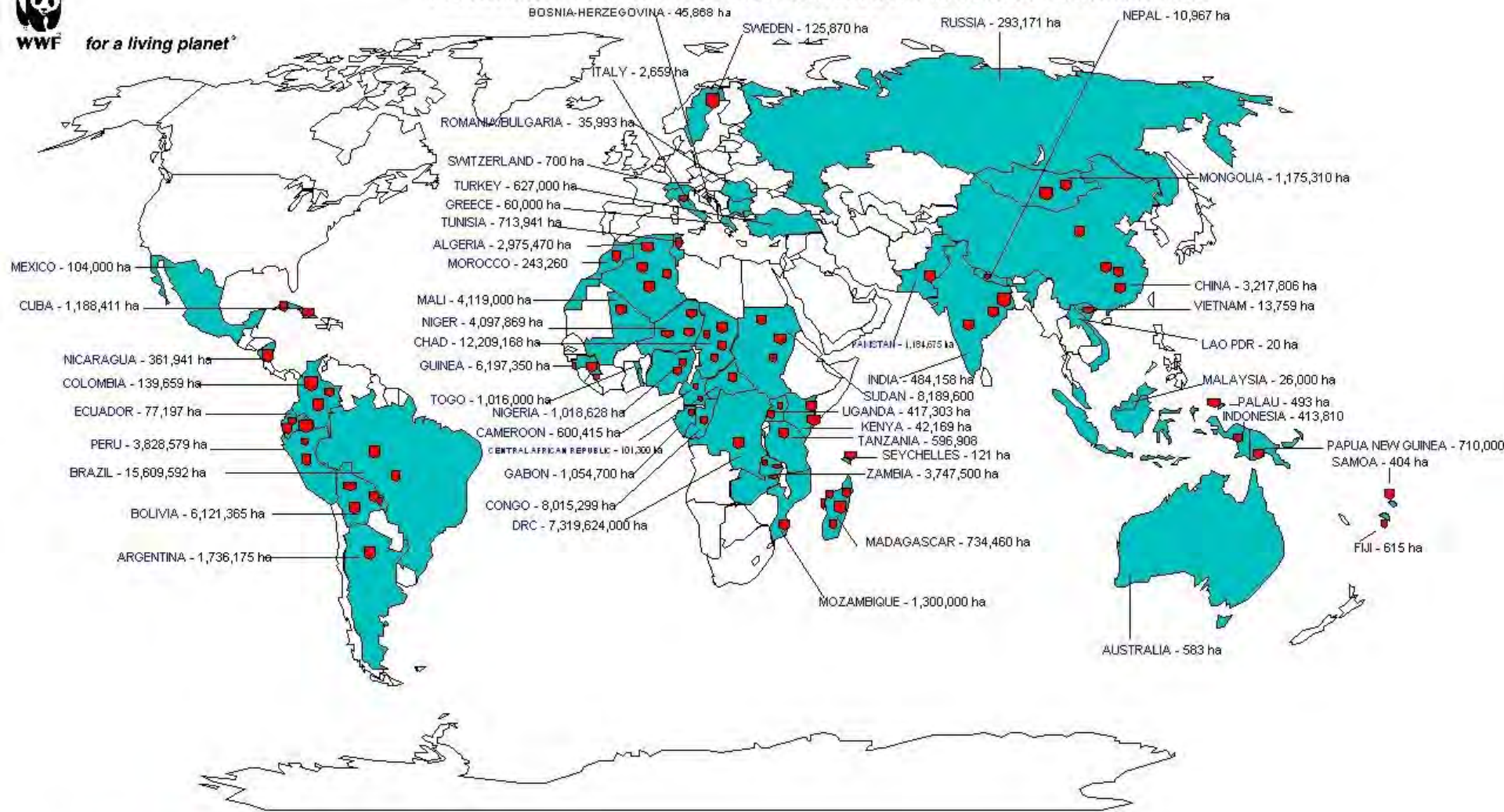
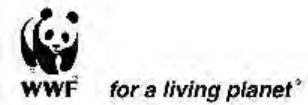
Free flowing rivers

Environmental flows



# GLOBAL FRESHWATER PROGRAMME

## Freshwater Protected Areas established from 1999 to 30 December 2009

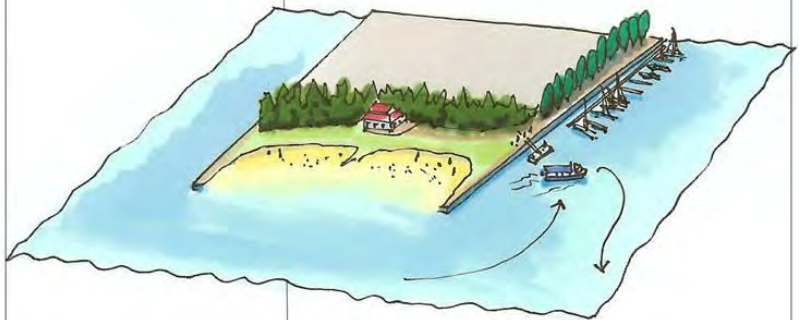
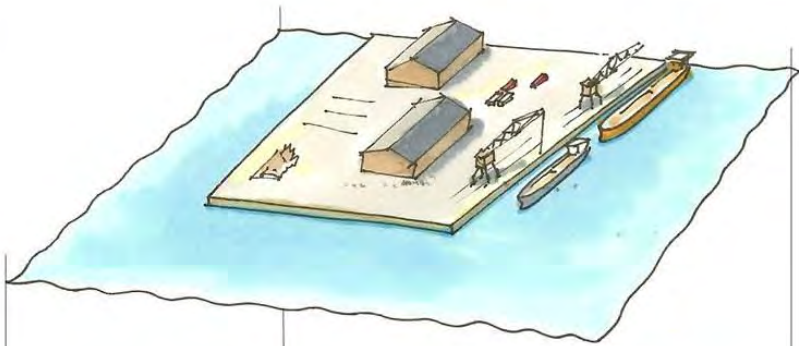


click on the red dot to open a webpage with more information

# *WWF Freshwater Programme*

- Ecosystem based („green’) adaptation to climate change







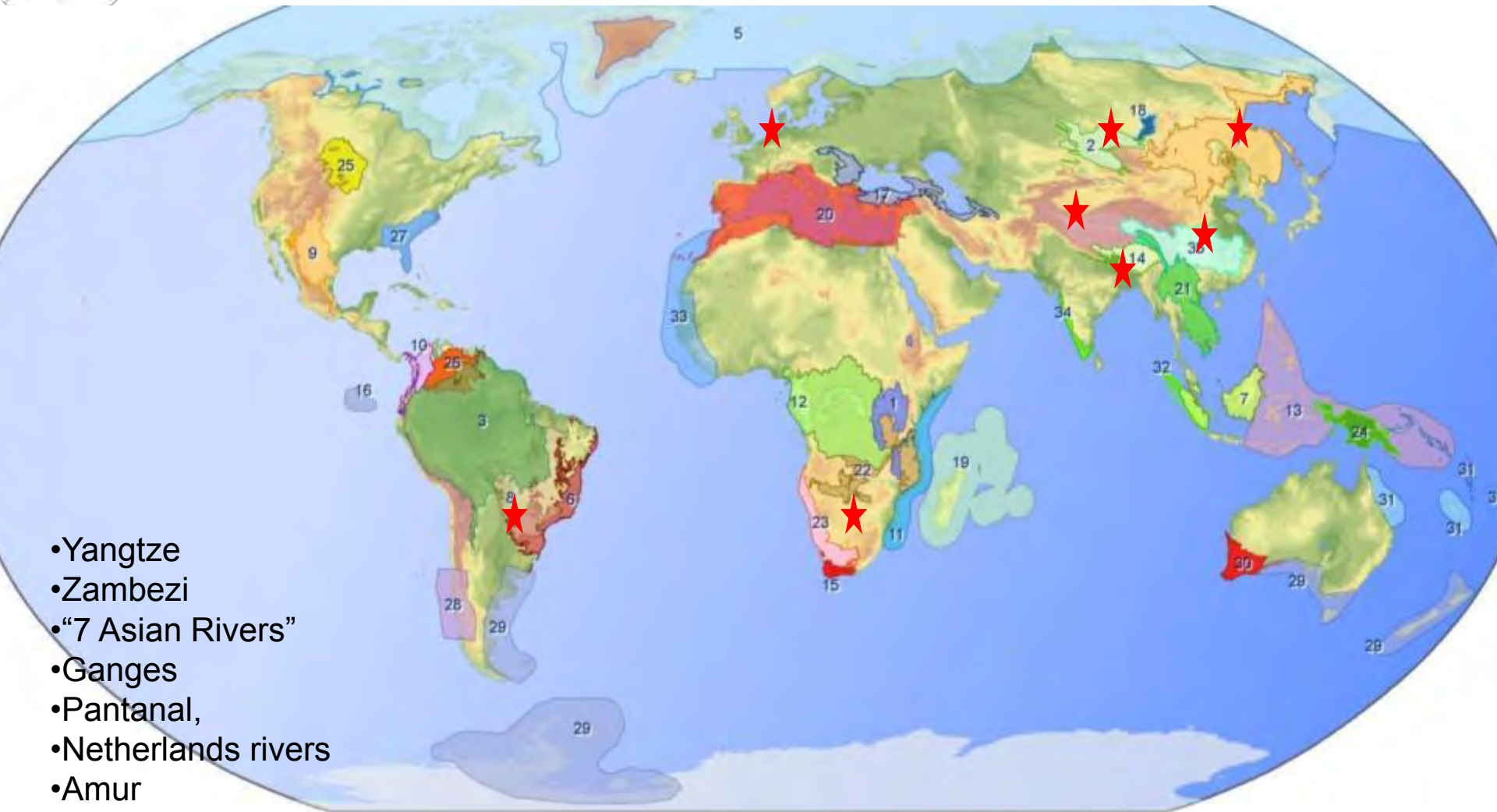


## ***WWF Freshwater programme***

- Water Footprint

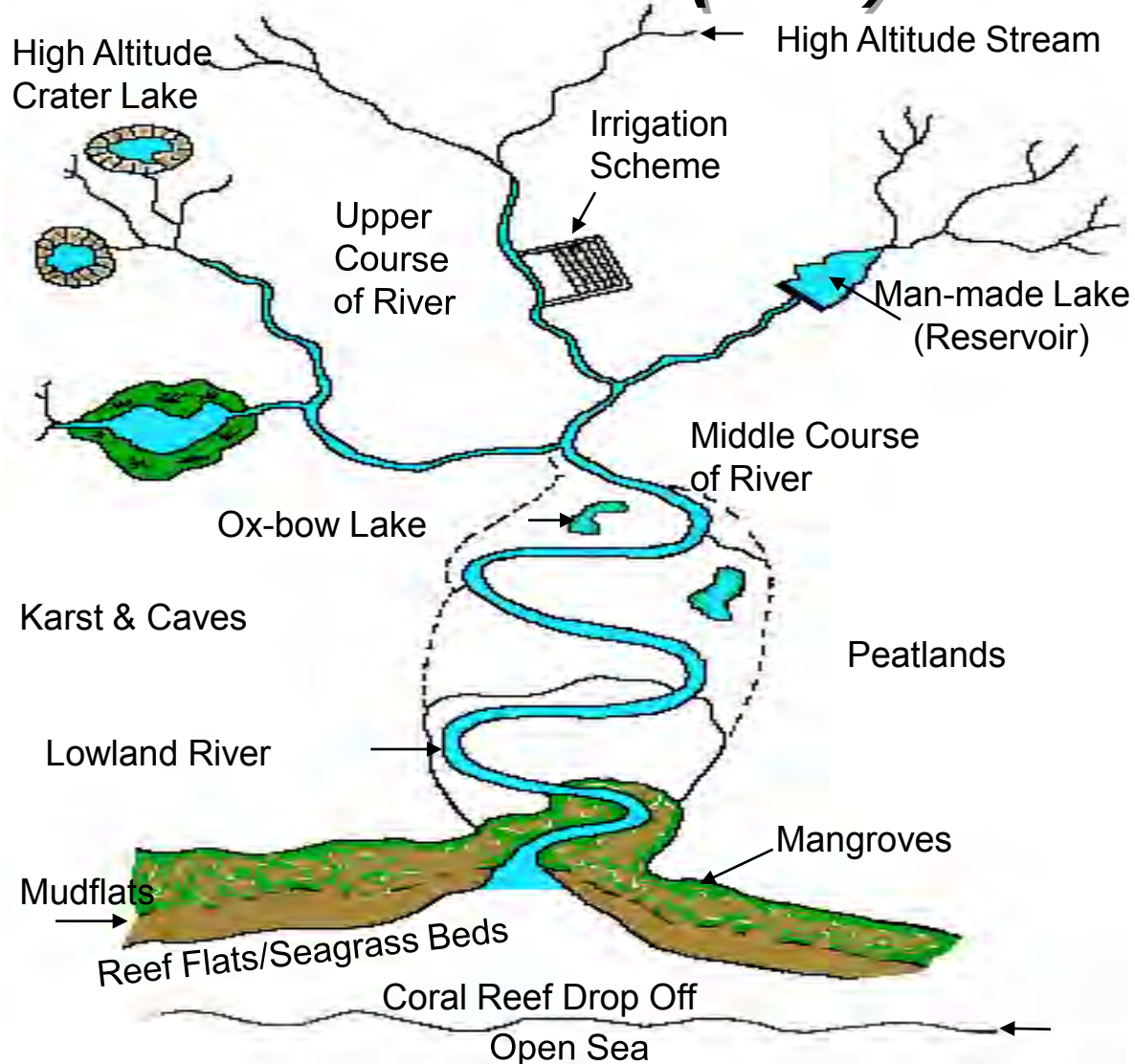
*“Virtual water” embedded in  
your average hamburger  
= 2400 litres*





- Yangtze
- Zambezi
- “7 Asian Rivers”
- Ganges
- Pantanal,
- Netherlands rivers
- Amur
- Khovd River

# Basic philosophy: work from Hilltop to Ocean (H<sub>2</sub>O)





## ***Upstream - downstream***

- Examples:
  1. Shanghai (delta) influences the management of the Three Gorges Dam
  2. Dongting Lake along the Yangtze serves as kidney for water quality
  3. River Basin Committee along the Khovd River
  4. Ramsar sites in the source of the Zambezi (Barotse plains)




# *Greater Himalayan Region*



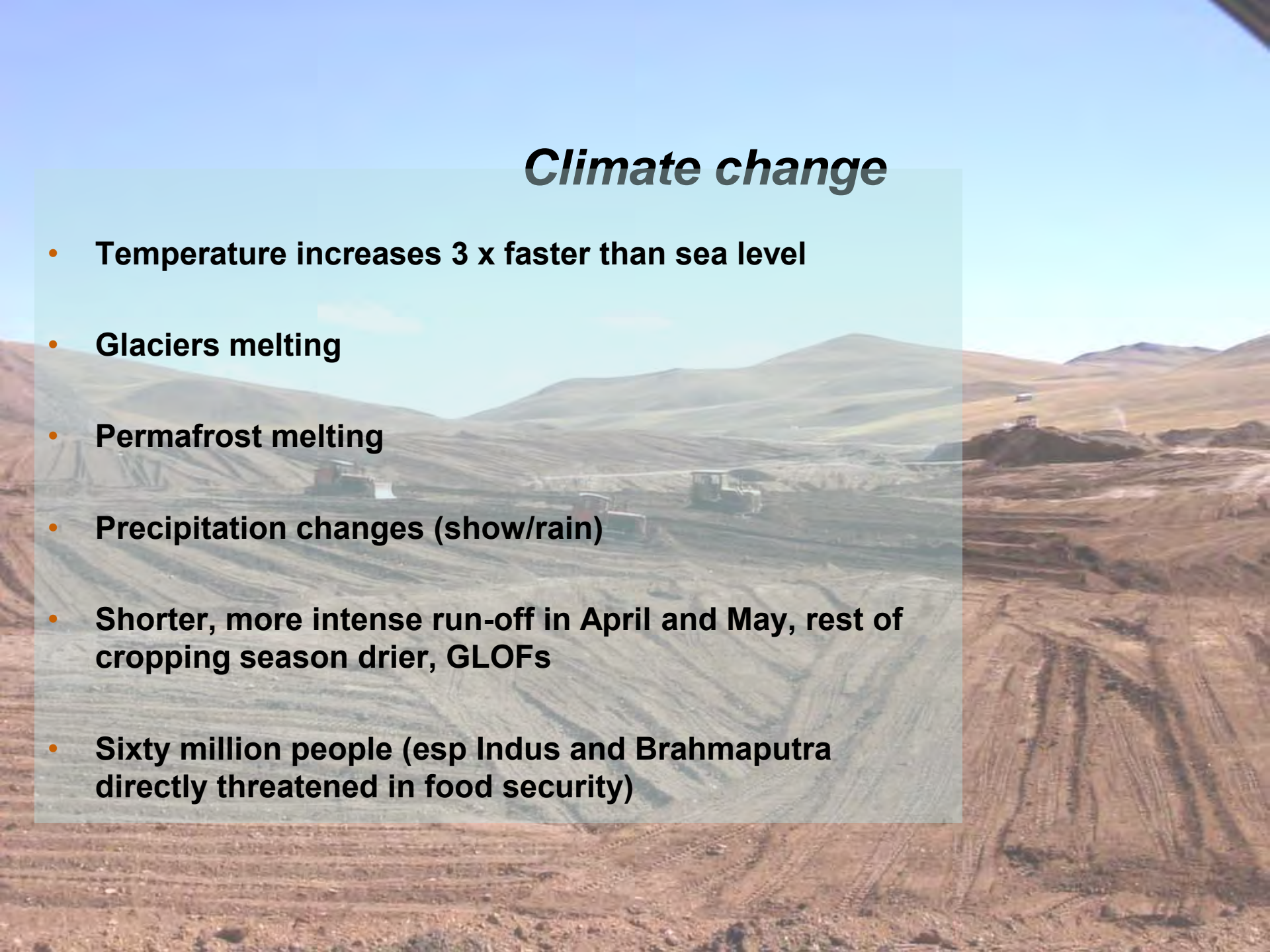


## ***Water towers of Asia***

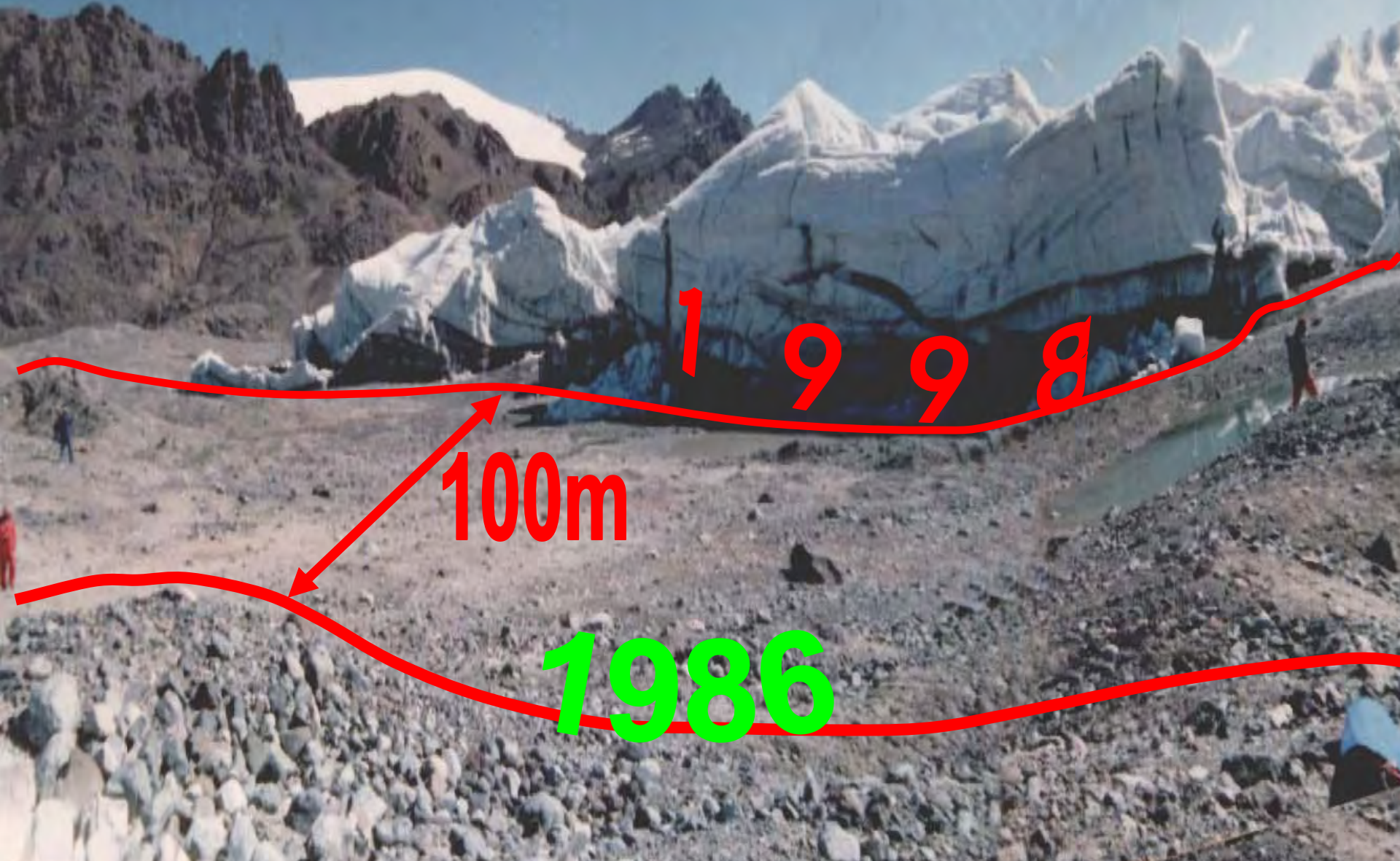
- 1,4 billion people depend on the water
  - 7 large rivers in Asia
  - Largest ice mass outside Polar region
  - Huge water storage capacity
- 
- A wide-angle landscape photograph showing a vast, flat plain with a river winding through it. The terrain is covered in green grass and patches of brown earth. In the distance, there are rolling hills and mountains under a cloudy sky. A person and a cow are visible in the foreground, providing a sense of scale to the vastness of the landscape.

# *Climate change*

- **Temperature increases 3 x faster than sea level**
- **Glaciers melting**
- **Permafrost melting**
- **Precipitation changes (snow/rain)**
- **Shorter, more intense run-off in April and May, rest of cropping season drier, GLOFs**
- **Sixty million people (esp Indus and Brahmaputra directly threatened in food security)**



# Glacial Meltoff, Nyinchi Prefecture



1998

100m

1986