

Irrigation water demand under climate change

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Crop irrigation is responsible for 70% of humanity's water demand. Globally, the area equipped for irrigation grew six fold to nearly the size of India between 1900 and 2005. This expansion occurred rapidly at a rate of nearly 5% per year during the period 1950s–1980s, but it has slowed down since the late 1990s when the growth rate decreased to <1% per year. For the coming decades, the global area of irrigated land is not expected to expand dramatically due to limited land and water available.

For Europe, by the end of the century (2080s: mean of 2069–2099), compared to the present (2000s: mean of 1980–2010), irrigation water demand is projected to decrease for Eastern Europe under scenarios for moderate climate change. Under more severe climate change scenarios irrigation water demand in Europe is projected to increase substantially (>20%). Future irrigation water demand, however, will also be determined strongly by the growing world population and altering lifestyles and dietary habits.

Source: Wada et al., 2013. Geophysical Research Letters 40: 4626–4632.

Photo: Brewbooks (www.stckr.com)