

Projecting global drought risk under various SSP-RCP scenarios

Zhiling Zhou¹, Liping Zhang^{1,2*}, Jie Chen¹, Dunxian She^{1,2}, Gangsheng Wang^{1,2}, Qin Zhang¹, Jun Xia^{1,2}, Yanjun Zhang^{1,2}

¹State Key Laboratory of Water Resources and Hydropower Engineering Science, Wuhan University,
Wuhan 430072, China.

²Institute for Water-Carbon Cycles and Carbon Neutrality, Wuhan University, Wuhan 430072, China.

Contents of this file

Figures S1 to S14

Introduction

The supporting information includes 14 supplementary figures to support our results and discussion (Figures S1-S14).

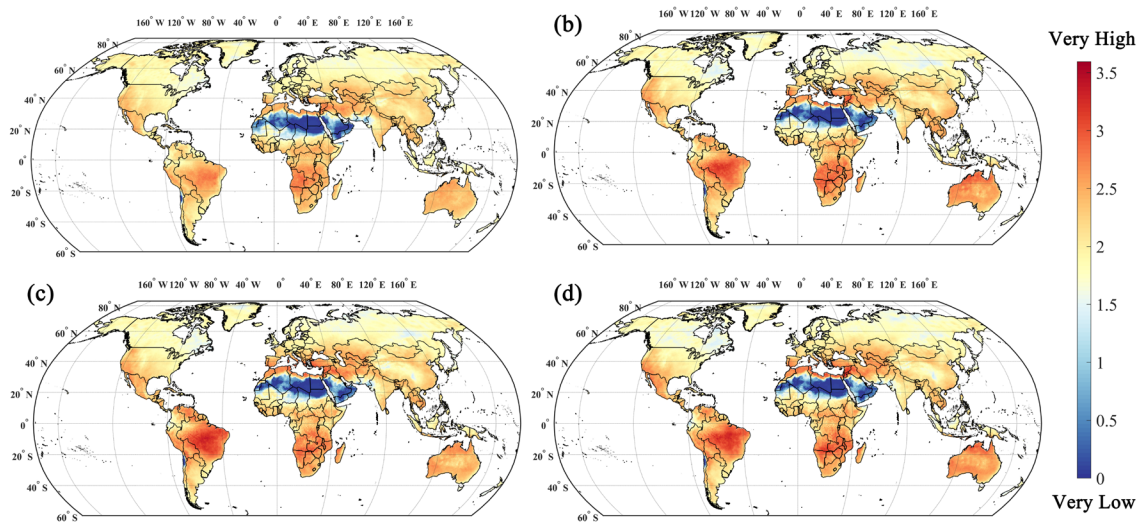


Figure S1. Distribution of the global drought hazard in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP1-2.6. SSP, shared socioeconomic pathway.

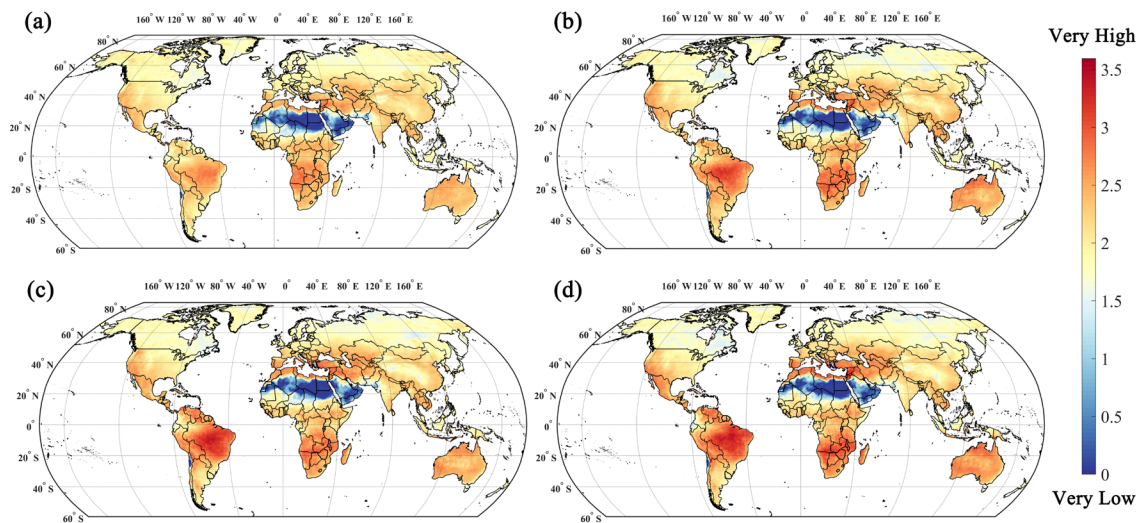


Figure S2. Distribution of the global drought hazard in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP3-7.0. SSP, shared socioeconomic pathway.

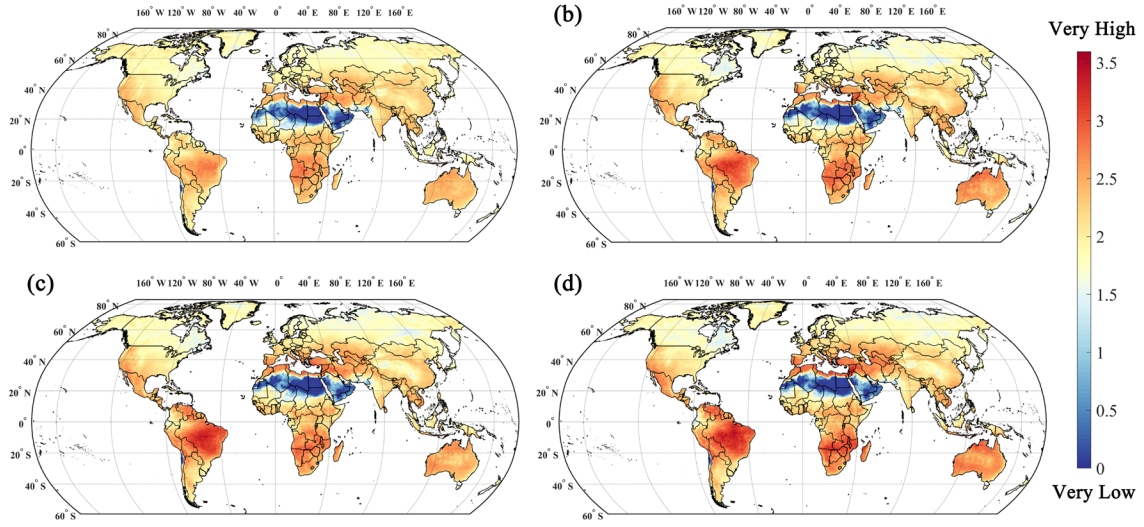


Figure S3. Distribution of the global drought hazard in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP5-8.5. SSP, shared socioeconomic pathway.

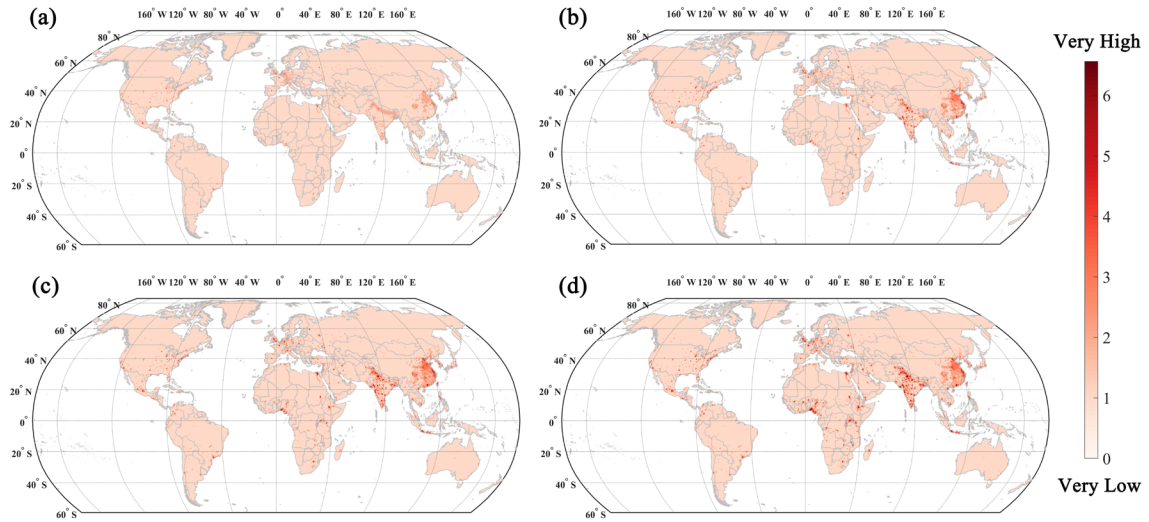


Figure S4. Distribution of the global drought exposure in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP1-2.6. SSP, shared socioeconomic pathway.

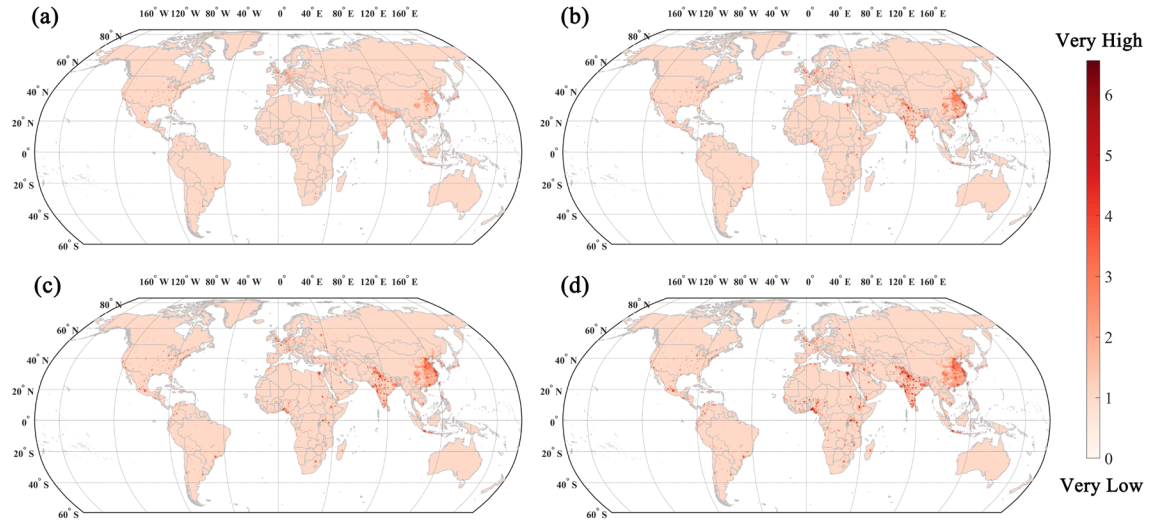


Figure S5. Distribution of the global drought exposure in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP3-7.0. SSP, shared socioeconomic pathway.

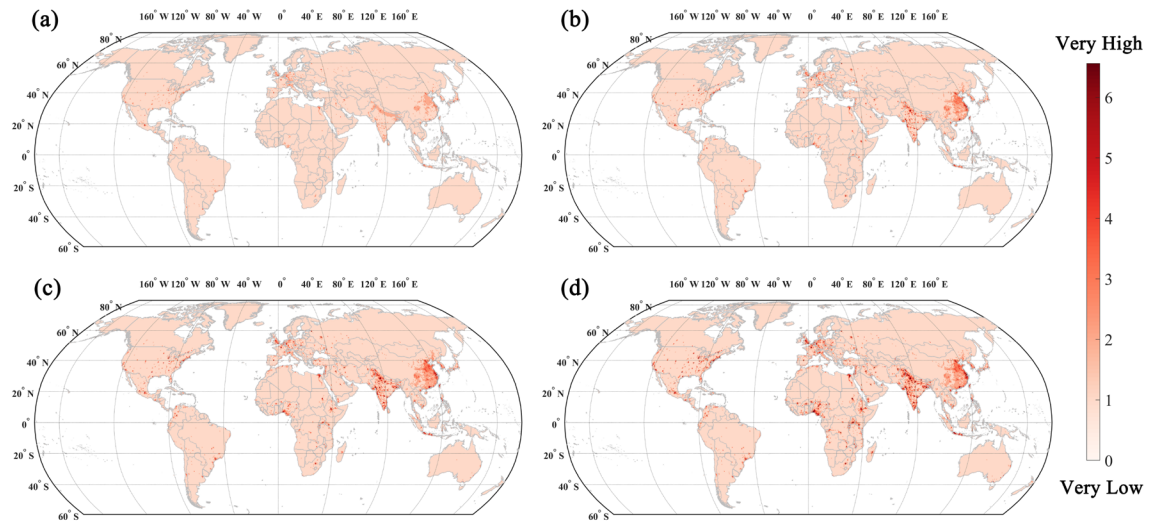


Figure S6. Distribution of the global drought exposure in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP5-8.5. SSP, shared socioeconomic pathway.

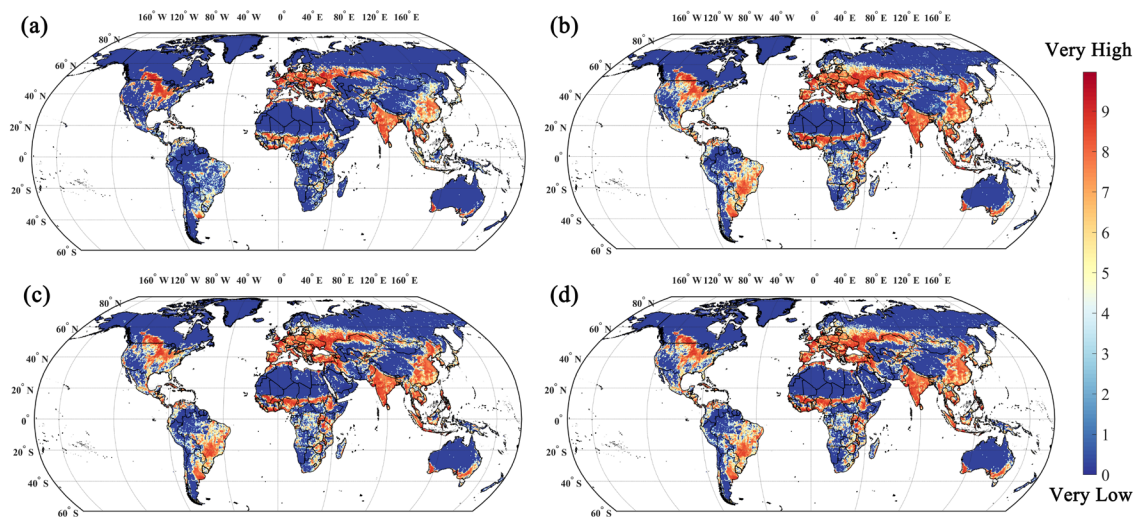


Figure S7. Distribution of the global drought vulnerability in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP1-2.6. SSP, shared socioeconomic pathway.

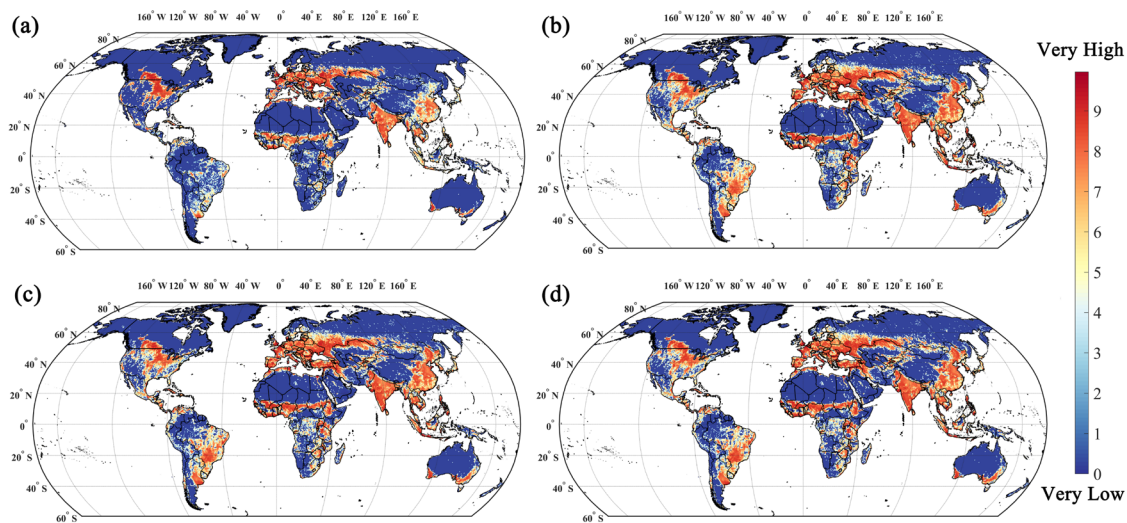


Figure S8. Distribution of the global drought vulnerability in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP3-7.0. SSP, shared socioeconomic pathway.

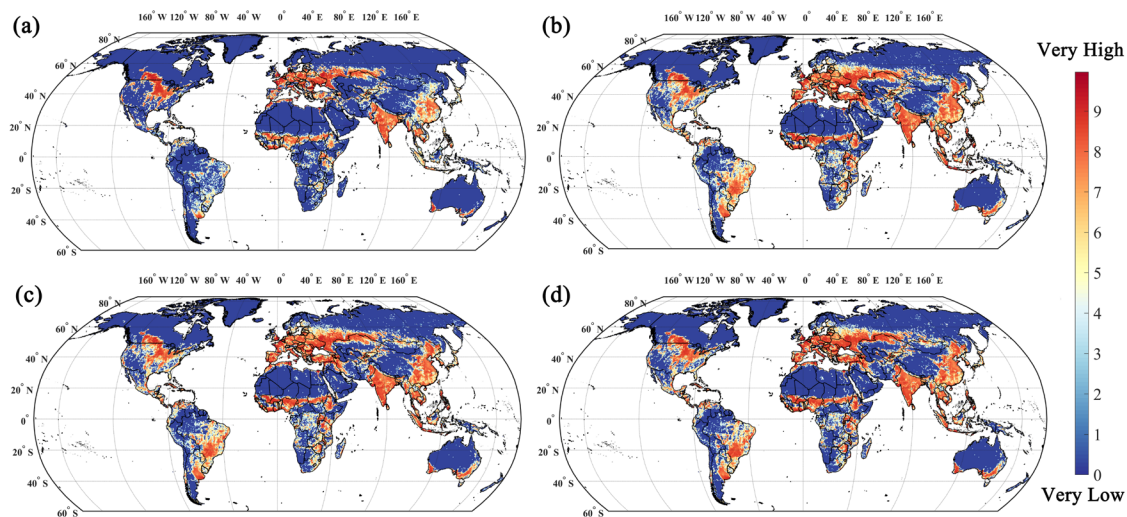


Figure S9. Distribution of the global drought vulnerability in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP5-8.5. SSP, shared socioeconomic pathway.

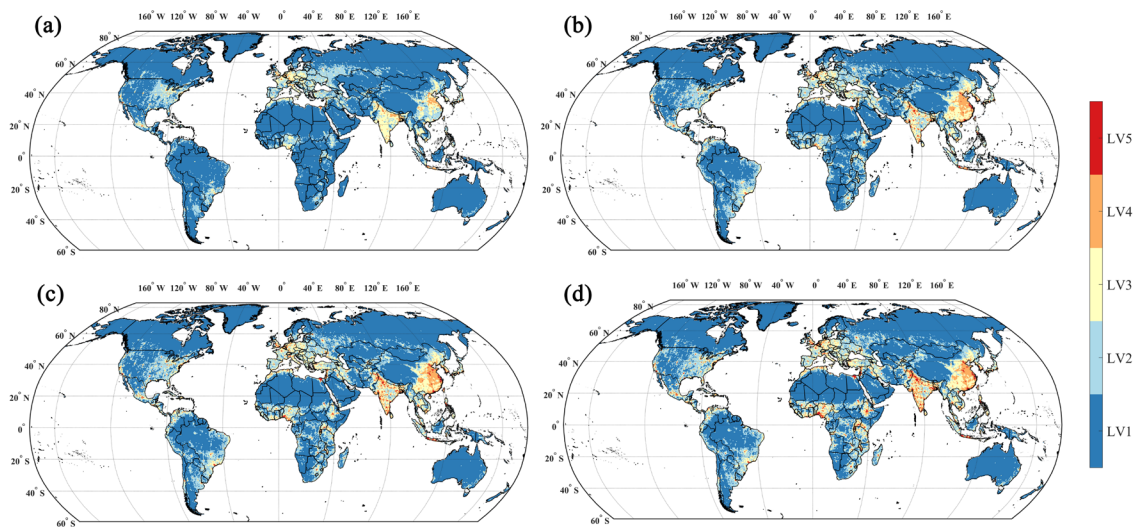


Figure S10. Distribution of the global drought risk in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP1-2.6. SSP, shared socioeconomic pathway; LV, level.

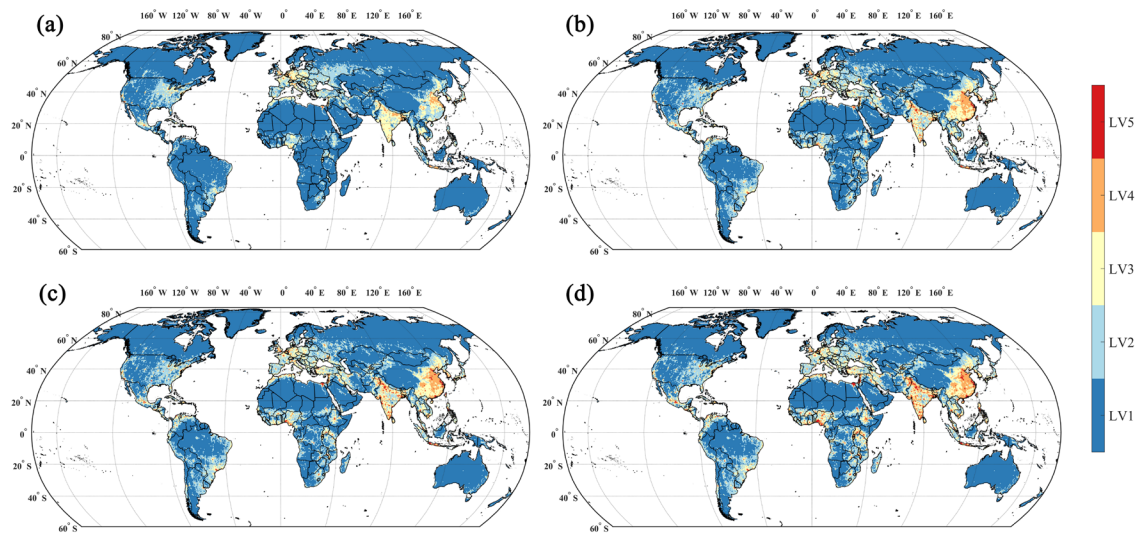


Figure S11. Distribution of the global drought risk in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP3-7.0. SSP, shared socioeconomic pathway; LV, level.

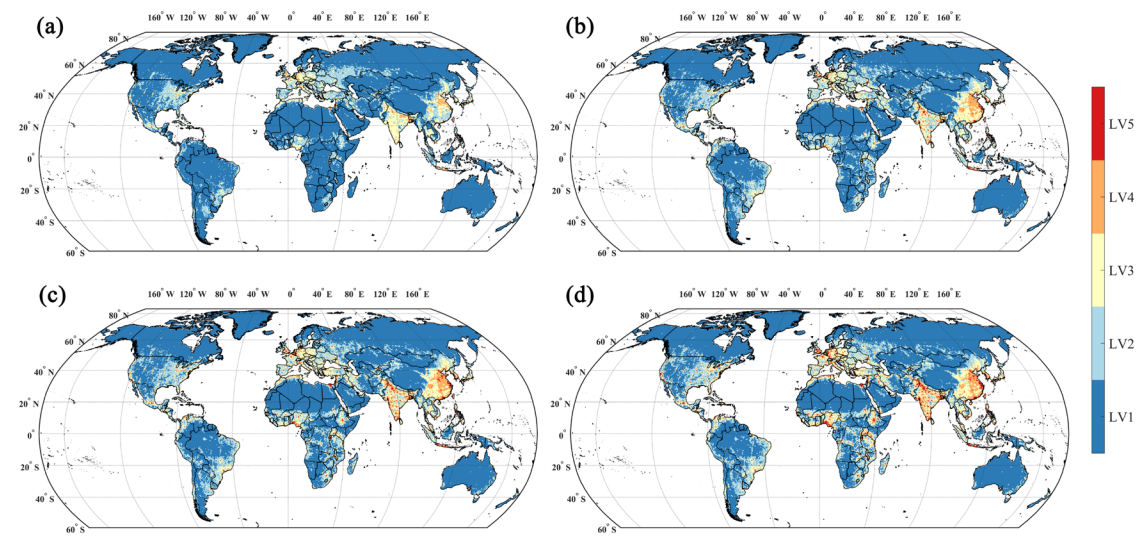


Figure S12. Distribution of the global drought risk in (a) baseline period (1991–2014) and three projected periods: (b) 2021–2040, (c) 2041–2060, and (d) 2080–2100 under SSP5-8.5. SSP, shared socioeconomic pathway; LV, level.

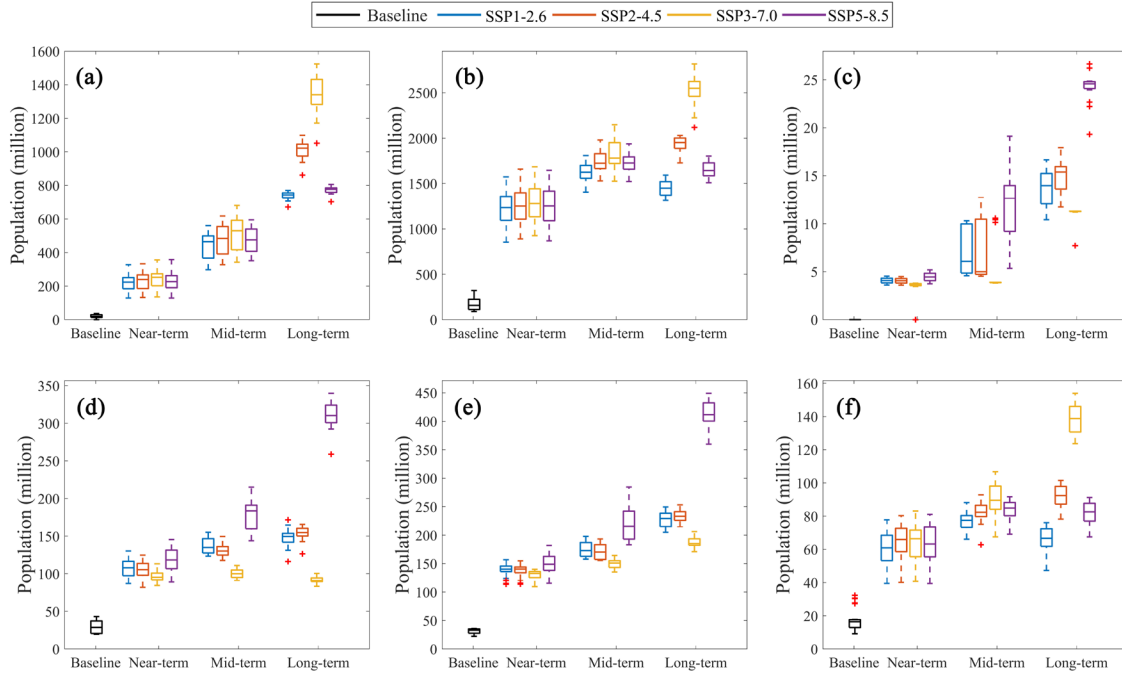


Figure S13. The total population under drought risk Level 5 for (a) Africa, (b) Asia, (c) Australia, (d) Europe, (e) North America, and (f) South America in the baseline period (1991–2014), near-term (2021–2040), mid-term (2041–2060), and long-term (2080–2100) under SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5. SSP, shared socioeconomic pathway.

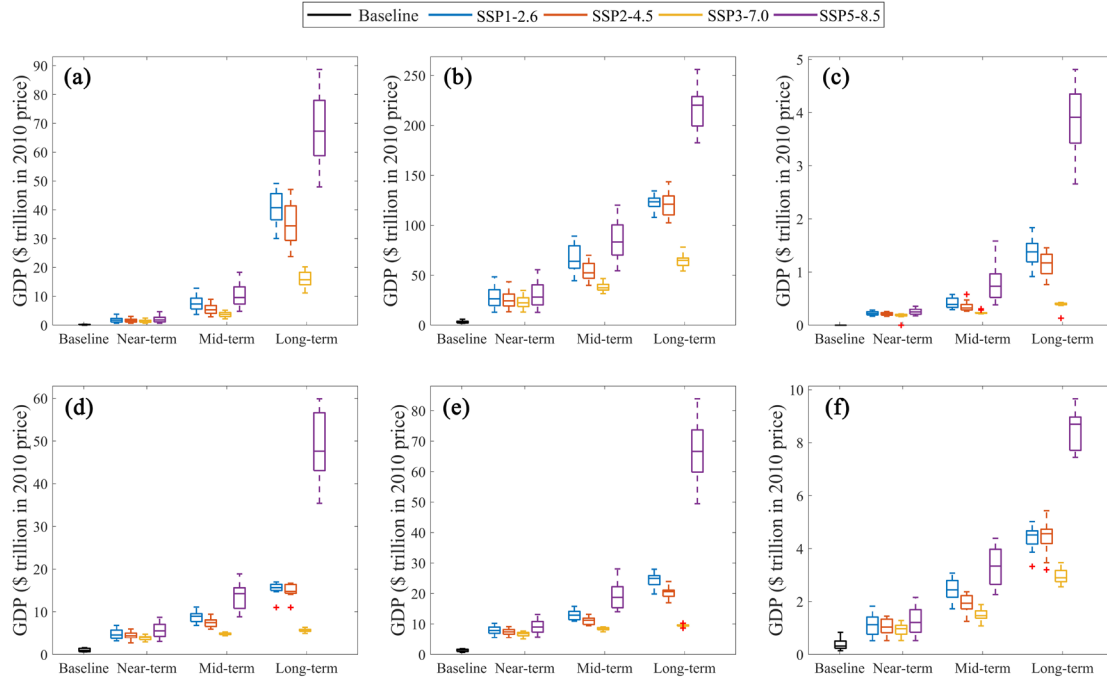


Figure S14. The total GDP under drought risk Level 5 for (a) Africa, (b) Asia, (c) Australia, (d) Europe, (e) North America, and (f) South America in the baseline period (1991–2014), near-term (2021–2040), mid-term (2041–2060), and long-term (2080–2100) under SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5. GDP, Gross Domestic Product; SSP, shared socioeconomic pathway.