

Table S1. List of references analysed divided per Country, Topic, and Solutions proposed.

	References	Data	Country	Topic	Solution
1	Abbaspour et al. 2009	2009	Iran	Hydrology, River management, Soil and water assessment tool, land use change	Integrated Water Resources Management
2	Aber et al. 1995	1995	North East United States of America	Water holding capacity	Natural Storage
4	Aggarwal et al. 2021	2021	More Countries	Climate change in mountain regions	Integrated Water Resources Management
3	Agrawal 2008	2008	More Countries	Water resources, management and political aspects	Political directions
5	Allan & Pahl-Wostl 2013	2013	China	Adaptation strategy for water management	Integrated Water Resources Management
6	Allan 2003	2003	More Countries	The important of political contest (social and geographic)	Integrated Water Resources Management
7	Alsdorf et al. 2007	2007	More Countries	Methodology to measure spatial and temporal water distribution	Natural Storage
8	Amanambu et al. 2020	2020	More Countries	Groundwater resources and evolution under climate change	Groundwater management
9	Arnell 1998	1998	United Kingdom	Water resources under climate change	Integrated Water Resources Management
10	Arnell 1999	1999	More Countries	Impact of climate change on water resources around the world	Increase knowledge
11	Bai et al. 2019	2019	United States of America	The effects of land use changes and climate change on ecosystem services	Nature Based Solution
12	Barnett 2003	2003	More Countries	Analysis of political economical approach of climate change considering adaptation, vulnerability and risk	Political directions
13	Barnett et al. 2004	2004	United States of America	Methodology to assess the effects of climate change on water resource in different part of America	Increased knowledge
14	Benini et al. 2016	2016	Italy	Under different climate scenario the effect on land use and water resources availability	Political directions and Natural Storage

15	Berga 2016	2016	More Countries	Positive effect of hydroelectric power to deal with climate change and for water resource management	Reservoirs
16	Bhatt & Arora 2015	2015	More Countries	Technological solutions to improve tilling of soil and to retain more water	Natural Storage
17	Boelee et al. 2013	2013	Africa	Positive and negative aspects and effects of water storage	Terrestrial Water Storage
18	Branca et al. 2013	2013	More Countries	Land management and management of agricultural production	Integrated Water Resources Management
19	Burton 1997	1997	United States of America	The adaptation to the climate variability	Political directions
20	Cai et al. 2015	2015	More Countries	Management of water in agricultural practices	Political directions, Increased knowledge and Terrestrial Water Storage
21	Cancelliere 2019	2019	Italy	Model to assess the future evolution of reservoirs under climate change scenario	Reservoirs
22	Case et al. 2021	2021	United States of America	Impact analysis of climate change on vegetation and importance of vegetation to deal with climate change and water resource management	Nature Based Solution
23	Change 2007	2007	More Countries	IPCC report	Political directions
24	Chausson et al. 2020	2020	More Countries	The efficacy of Nature Based Solution to improve resilience to climate change	Nature Based Solution
25	Collier et al. 2008	2008	Africa	The effects of climate change on social and economy aspect and the role of government	Political directions
26	Costello et al. 2009	2009	More Countries	Effects of climate change on human security and health and the role of government	Political directions, policy makers
27	Craig 2005	2005	Australia	Water and agricultural management under climate change and evaporation	Increased knowledge, new technologies
28	Craig et al. 2007	2007	Australia	Water resource management link with reservoirs	Increased knowledge, new technologies
29	Dale 1997	1997	More Countries	A review on relationship between land use and climate change	Integrated Water Resources Management
30	De Loe & Kreutzwiser 2000	2000	Canada	Adaptation of water resources management under climate change	Integrated Water Resources Management

31	de Souza Dias et al. 2018	2018	Brasile	Impact of climate change on reservoirs management and hydropower generation	Increased knowledge, new technologies
32	Deng & Chen 2017	2017	Central Asia	Climate change effects on terrestrial water storage using satellites (GRACE)	Terrestrial Water Storage
33	DeNicola et al. 2015	2015	Saudi Arabia	Water resource management under climate change, adaptation and mitigation	Integrated Water Resources Management
34	Dettinger et al. 2015	2015	Western United States of America	The effects of climate change on water resources, environmental and agricultural	Integrated Water Resources Management
35	Döll et al. 2015	2015	More Countries	Most relevant risk of climate change on freshwater resources	Integrated Water Resources Management
36	Dorđević & Dašić 2011	2011	Serbia	Water resource management considering reservoirs and their positive aspects	Reservoirs
37	Earman & Dettinger 2011	2011	More Countries	Effects of climate change on groundwater resources	Groundwater management
38	Eriksson et al. 2009	2009	Himalayan Region	Impact of climate change on water resources	Political directions, policy makers, Population participation, Increased knowledge, new technologies
39	Estrela et al. 2012	2012	Spain	Impact of climate change on water resources and hydrological models	Integrated Water Resources Management, Political directions, policy makers
40	Feng et al. 2018	2018	China	Evaluation of water storage variation using satellite information (GRACE)	Groundwater management
41	Forootan et al. 2017	2017	Middle East	Water resources management	Natural Storage
42	Frappart & Ramillien 2018	2018	More Countries	Water resource management, quantification of groundwater resource usign stellite (GRACE)	Groundwater management
43	Frederick & Major 1997	1997	More Countries	Effects of climate change on water resources	Integrated Water Resources Management, Political directions, policy makers, Population participation, Increased knowledge, new technologies
44	Gandure et al. 2013	2013	South Africa	Risk and opportunity of adaptations to climate change for farmers	Political directions, policy makers
45	Garrote et al. 2015	2015	Mediterranean Europe	Water resource management under climate change using models estimation	Integrated Water Resources Management, Political directions, policy makers,

46	Gergel et al. 2017	2017	Western United States of America	The impact of climate change on snow, soil moisture, using hydrology model	Terrestrial Water Storage
47	Giordano et al. 2007	2007	Southern Italy	Decision-making process for water resources management	Integrated Water Resources Management, Political directions, policy makers, Population participation
48	Goteti et al. 2008	2008	More Countries	Satellite for evaluating Terrestrial Water Storage	Terrestrial Water Storage
49	Grafton et al. 2013	2013	More Countries	Climate change requests changes in governance	Integrated Water Resources Management, Political directions, policy makers
50	Granados et al. 2021	2021	Southern Europe	The role of reservoir storage for water availability under climate change	Reservoirs
51	Green et al. 2011	2011	More Countries	Examination of connections between climate change and groundwater	Groundwater management
52	He et al. 2017	2017	California	Hydrological model to analyse the human impact of water management	Integrated Water Resources Management
53	Hess et al. 2008	2008	More Countries	Climate change, risk management, human health and environment	Integrated Water Resources Management, Political directions, policy makers
54	Hooper 2003	2003	More Countries	Integrated Water Resources Management and River Basin Governance	Integrated Water Resources Management
55	Howard et al. 2016	2016	More Countries	The impact of climate change on water and sanitation	Integrated Water Resources Management, Political directions, policy makers, Increased knowledge, new technologies
56	Hulme et al. 2001	2001	Africa	Future scenarios and consequences on Africa climates	Integrated Water Resources Management, Increased knowledge, new technologies
57	Iglesias & Garrote 2015	2015	Europe	Impacts of climate change, adaptation strategies, risks	Integrated Water Resources Management, Political directions, policy makers, Increased knowledge, new technologies, Terrestrial Water Storage
58	Iglesias et al. 2012	2012	Europe	The impact of climate change on agriculture	Integrated Water Resources Management, Political directions, policy makers
59	Immerzeel et al. 2010	2010	Central Asia	Effects of climate change on precipitation, glacial smelting, rivers, agriculture and food security	Integrated Water Resources Management, Political directions, policy makers
60	Jackson et al. 2001	2001	United States of America	Impact of climate change on freshwater and ecosystem services	Integrated Water Resources Management, Political directions, policy makers, Increased knowledge, new technologies

61	Jin & Zhang 2016	2016	South-Western United States of America	Evaluation of water content by GPS and hydrological model	Terrestrial Water Storage
62	Keskinen et al. 2010	2010	South-East Asia	Adaptation strategies to deal with climate change and its effect of water resources	Integrated Water Resources Management, Political directions, policy makers
63	Koutroulis et al. 2013	2013	Greece	Effects of climate change on water resources	Integrated Water Resources Management
64	Kundzewicz & Matczak 2012	2012	Polland	Review of the impacts of climate change in Polland	Political directions, policy makers
65	Kusangaya et al. 2014	2014	South Africa	Impact of climate change on water resources	Integrated Water Resources Management, Increased knowledge, new technologies
66	Lehner et al. 2006	2006	Europe	Impact of climate change on extreme events	Integrated Water Resources Management
67	Lempert & Groves 2010	2010	Western United States of America	Adaptative strategies to deal with climate change	Integrated Water Resources Management
68	Li & Huang 2009	2009	No Country	The uncertainty in water management and water quality	Integrated Water Resources Management
69	Liu et al. 2020	2020	More Countries	Satellite for evaluating Terrestrial Water Storage	Terrestrial Water Storage
70	Loáiciga 2003	2003	North America	The impact of climate change on groundwater resources	Groundwater management
71	Lopez et al. 2009	2009	England	Different scenarios to decrease uncertainty of forecast and model for adaptation measures	Integrated Water Resources Management, Reservoirs
72	Mall et al. 2006	2006	India	The effect of climate change on water resources	Integrated Water Resources Management, Political directions, policy makers
73	Manga et al. 2021	2021	More Countries	Water storage in developing countries	Increased knowledge, new technologies, Terrestrial Water Storage
74	Marunga et al. 2006	2006	Zimbabwe	A new approach to management water resources	Integrated Water Resources Management, Increased knowledge, new technologies
75	McBean & Motiee 2008	2008	North America	The effect of climate change on water resources	Increased knowledge, new technologies
76	McCartney & Smakhtin 2010	2010	More Countries	Different water storage systems to deal with climate change	Terrestrial Water Storage

77	Milly et al. 2008	2008	No Country	Variability of climate change	Integrated Water Resources Management, Reservoirs
78	Misra 2014	2014	More Countries	Water and food security under climate change	Groundwater management
79	Mortsch & Quinn 1996	1996	North America	Impact of climate change on aquatic ecosystems	Increased knowledge, new technologies, Natural Storage
80	Mostert 2003	2003	Europe	Water Framework Directive and water management research	Integrated Water Resources Management, Political directions, policy makers
81	Murdoch et al. 2000	2000	North America	Effects of climate change on water quality	Integrated Water Resources Management, Political directions, policy makers, Increased knowledge, new technologies
82	Nazemi & Wheeler 2015	2015	More Countries	Water demand in large-scale models	Integrated Water Resources Management, Increased knowledge, new technologies
83	Nicklow et al. 2010	2010	No Country	A review of water resources planning and management	Integrated Water Resources Management, Political directions, policy makers, Increased knowledge, new technologies
84	Nikolaou et al. 2020	2020	Europe	A review of sustainable irrigation under impact of climate change	Increased knowledge, new technologies
85	Olmstead 2014	2014	United States of America	A review of impact of climate change on water resources management	Integrated Water Resources Management, Political directions, policy makers, Reservoirs/Infrastructures
86	Pahl-Wostl 2007	2007	Europe	Scientific method for a new adaptive water management	Integrated Water Resources Management
87	Palanisami et al. 2010	2010	India	Water resources management for irrigation with different water storage	Terrestrial Water Storage, Political directions, policy makers
88	Palmer et al. 2008	2008	More Countries	Water resources management to minimize risks to ecosystems and people	Nature Based Solution
89	Panwar & Chakrapani 2013	2013	India	Effects of climate change on groundwater resources	Groundwater management
90	Payne et al. 2004	2004	Columbia	The effects of climate change on the hydrology and water resources	Reservoirs
91	Pearson et al. 2010	2010	No Country	Support decision system that involves citizens	Integrated Water Resources Management, Political directions, policy makers, Population participation

92	Pereira et al. 2002	2002	More Countries	Water use in agriculture, recycling and desalination	Integrated Water Resources Management, Increased knowledge, new technologies
93	Perry & Praskievicz 2017	2017	Western United States of America	Water storage and adaptation measure under climate change	Integrated Water Resources Management, Reservoirs
94	Piao et al. 2010	2010	China	The impacts of climate change on water resources and agriculture	Increased knowledge, new technologies, Terrestrial Water Storage
95	Pires et al. 2017	2017	No Country	Indicators related to water use management and sustainability	Integrated Water Resources Management
96	Pokhrel et al. 2021	2021	More Countries	Water availability, water management and adaptation under climate change	Terrestrial Water Storage
97	Polenghi-Gross et al. 2014	2014	California	Water resources management for drinking water	Reservoirs
98	Pollard et al. 2004	2004	More Countries	Risk analysis and risk management tools and techniques into the water sector	Political directions, policy makers
99	Price 1998	1998	United Kingdom	The role of groundwater under climate change	Groundwater management
100	Qiao et al. 2019	2019	Tibet	The effects of climate change on lake water storage, hydrological cycle, glacial meltwater	Terrestrial Water Storage
101	Qu et al. 2013	2013	No Country	Waste water treatment	Integrated Water Resources Management, Increased knowledge, new technologies
102	Rangecroft et al. 2013	2013	Bolivia	Climate change and water resources in arid mountains	Integrated Water Resources Management
103	Ravindranath & Sathaye 2002	2002	More Countries	Climate change in the developing countries	Integrated Water Resources Management
104	Rehan et al. 2011	2011	Canada	Improve water resources management by improving aqueduct networks, reuse and treatment systems	Increased knowledge, new technologies
105	Rohde et al. 2020	2020	More Countries	Multibenefit solutions for securing water for food, drinking and the environment	Integrated Water Resources Management, Increased knowledge, new technologies
106	Rounsevell & Reay 2009	2009	United Kingdom	Relationships between land use and climate change	Political directions, policy makers, Nature Based Solution
107	Santer et al. 1996	1996	More Countries	IPCC report	Political directions, policy makers

108	Schilling et al 2020	2020	North Africa	Climate change vulnerability and its social implications	Increased knowledge, new technologies, Political directions, policy makers
109	Sechi & Sulis 2009	2009	Sardinia	Optimization and simulation models to define drought mitigation measures	Reservoirs
110	Şen 2021	2021	More Countries	Water resources management increasing water storage with reservoirs and groundwater	Reservoirs, Natural Storage, Groundwater management
111	Seung-Hwan et al. 2013	2013	Korea	Impacts of climate and land use change on agriculture and water storage	Reservoirs, Terrestrial Water Storage
112	Shamsudduha & Panda 2019	2019	Himalayan Region	A review of spatio-temporal changes in terrestrial water storage	Groundwater management, Terrestrial Water Storage
113	Shiru et al. 2020	2020	Nigeria	The effects of climate change on water resources availability and ecosystems	Integrated Water Resources Management, Groundwater management
114	Siegfried et al. 2012	2012	Central Asia	Effects of climate change on water resources	Political directions, policy makers, Reservoirs/Infrastructures
115	Skrzypczak et al. 2020	2020	No Country	Water storage improvement with biodegradable hydrogel materials	Reservoirs, Terrestrial Water Storage
116	Staudinger et al. 2017	2017	Switzerland	Different types of storage including dynamic and mobile catchment storage	Terrestrial Water Storage
117	Swain et al. 2022	2022	India	A review of climate change impact on groundwater hydrology	Groundwater management
118	Taylor et al. 2013	2013	More Countries	Effects of climate change on groundwater resources	Groundwater management
119	Thornton et al., 2014	2014	More Countries	A review on variability and vulnerability to climate change	Increased knowledge, new technologies, Political directions, policy makers
120	Tong & Chen 2002	2002	Miami	Land use management to improve water resource quality	Integrated Water Resources Management, Political directions, policy makers
121	Urry 2015	2015	More Countries	The effects of climate change on society	Political directions, policy makers
122	Vairavamoorthy et al. 2008	2008	South India	Effects of climate change on urban areas	Increased knowledge, new technologies, Political directions, policy makers
123	Vermeulen et al. 2012	2012	More Countries	Options for supporting agriculture and food security under climate change	Political directions, policy makers, Population participation, Increased knowledge, new technologies
124	Wada et al. 2017	2017	More Countries	Recent changes in land water contribution to sea level variations	Terrestrial Water Storage

125	Wang et al. 2018	2018	China	Water resource management in a urban contest - The sponge City	Integrated Water Resources Management, Nature Based Solution
126	Watts et al. 2015	2015	United Kingdom	Past changes and future prospects of climate change and water	Increased knowledge, new technologies, Political directions, policy makers
127	Weng et al. 2010	2010	China	Decision support system for water resources management and planning	Integrated Water Resources Management
128	Woolway et al. 2020	2020	More Countries	Impact of climate change on lacustrine ecosystem	Increased knowledge, new technologies
129	Wright et al. 2004	2004	More Countries	Different options to deal with water scarcity in developing countries	Increased knowledge, new technologies
130	Xu et al. 2009	2009	Himalayan Region	Effects of climate change on water, biodiversity, and livelihoods	Political directions, policy makers, Population participation
131	Yang et al. 2015	2015	More Countries	Climate change and water storage variability in arid regions	Terrestrial Water Storage
132	Zhang et al. 2018	2018	More Countries	Water resources management and positive aspects of use of renewable sources	Reservoirs
133	Zhang et al. 2019	2019	Australia	Impacts of future climate change on water resource availability	Integrated Water Resources Management
134	Zhang et al. 2020	2020	Tibetan Plateau	Impact of climate change on lacustrine ecosystem	Increased knowledge, new technologies