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Subject: [IAH2018] Notification of Acceptance_ FP-353

Dear Dr. Xiaobin ZHU,

Thanks for your contributions toward the 45th International Association of Hydrogeologists, which will be held in Daejeon, Republic of Korea from **September 9 to 14, 2018**.

We are pleased to inform you that the abstract listed below has been accepted for **Oral Presentation** at the IAH 2018 Congress.

Apply No.	FP-353
Topic	<p>T4.6 Groundwater sustainability in China (China University of Geosciences Special Session)</p> <p><i>* Scientific committee can adjust the topic you applied. The topic mentioned above is the final and it may be changed from the original one.</i></p>
Abstract Title	Quantitative assessment of the impact of an inter-basin surface water transfer project on groundwater flow and groundwater-dependent eco-environment in an oasis, arid northwestern China
Authors	¹ Xiaobin ZHU, ¹ Jichun WU, ¹ Huijun NIE, ² Fei GUO, ¹ Jianfeng WU, ¹ Kouping CHEN, ¹ Penghui LIAO, ¹ Hongxia XU, ¹ Xiankui ZENG
Institution	¹ Department of Hydrosociences, School of Earth Sciences and Engineering, Nanjing University, China, ² Department of geography science, Key Laboratory of Virtual Geographical Environment, Nanjing Normal University, China
Abstract Body	In contrast to most inter-basin water transfer projects (IBWTs) which mainly impact the surface water eco-environment, this study focuses on impacts on groundwater and its eco-environment in a water donor basin of an IBWTP in an arid area of northwest China where surface water and groundwater are frequently exchanged. Surface water is assumed to recharge groundwater and then a groundwater numerical simulation model was constructed using the MODFLOW module of the Groundwater Modeling System (GMS). The model was calibrated and then used to quantitatively evaluate the upstream impact of an IBWTP on decreases in springs, drawdown of

	<p>groundwater, and reductions in area, and increases in species replacement, of oasis vegetation in midstream and downstream of the Nalenggele River, the biggest river in the Qaidam basin, northwest China. The recharge of the groundwater numerical model will be decreased by 170 million m³/a with the designed 269 million m³ surface water annually transferred to outer basins. Results show that the outcrop sites of springs at the front of the oasis will retreat 2-5 km downstream, and the outflow of springs will decrease by 42 million m³/a. The groundwater level in the front of the oasis will go down and the maximum drawdown is about 3.6 m. The area across which the drawdown of groundwater exceeds 2.0 m is about 59.02 km², accounting for 2.71% of the total area of the oasis. Reeds will gradually be replaced by Tamarix, shrubs, and other alternatives. These findings have important implications for the optimization of water resource allocation and protection of the eco-environment, especially in arid regions of northwest China and other similar conditions areas.</p>
Keywords	Arid regions, China, Inter-basin surface water transfer, Eco-environment, Groundwater/surface-water relations
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Thank you once again and looking forward to meeting you soon at Daejeon.

If you have any questions, please do not hesitate to contact us to scientific@iah2018.org.

Best regards,

Seong-Taek Yun, Ph.D.

Chair

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