



## **MEMBER PROFILE**



## **Prof. Trahel Vardanyan**

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Study areas					
Countries / Regions	Armenia / Southern Caucasus				

<u>Topics of last three projects</u>							
1	The Hydroclimatic researches and calculations for Hrazdan iron mine exploitation (in co-operation with Ministry of Nature Protection of Armenia)						
2	Grant from CRDF "Development of a new MS program: Climate Change and Sustainable Development with the Emphasis on the Southern Caucasus" (in co-operation with Tbilisi State University)						
3	The hydrological research and calculation for cooling water supply for a new constructed Armenian NPP's (Nuclear Power Plant) reactor (in co-operation with of the Ministry of Energy and Natural Resources of Armenia)						

	Topics of last 10 publications	<u>Publication links</u>			
1	T. G. Vardanyan, Peculiarities of revealing of extreme runoff of the rivers in the context of global climate changes. Proceedings of the YSU, Series Geology and Geography 2016 N 2, 2016, pp 47-53				
2	T. G. Vardanyan, Analysis and evaluation of basic hydrecological characteristics of rivers in Armenia. Proc. Ecological problems. Eurasian space / Ed. Call.: Sadovnichy VA et al. M.: Publishing house of the Moscow University, 2014, p. 269-282				
3	T. G. Vardanyan, On Some Issues of the Anthropogenic Transformation of Water Ecosystems (Case Study of Lake Sevan). Chapter 29 in: National Security and Human Health Implications of Climate Change. Edited by H. J. S. Fernando, Z. B. Klaic, J. L. McCulley.				
4	T. G. Vardanyan, Modelling in Geography as an Applied Constructive Potential Carrier of a Scientific Branch. Scientific Notes of Yerevan State University, Geology and Geography, N 3, 2011, pp. 27-31 (in Armenian)				
5	T. G. Vardanyan, Water Disasters in the Territory of Armenia. In: Threats to Global Water Security. Edited by J. A. A. Jones, Trahel G. Vardanian, Christina Hakopian. NATO Science for Peace Security Series – C: Environmental Security, The Netherlands				
6	T. G. Vardanyan, The Issues of Transboundary Rivers in South Caucasus at the End of the 20th and Beginning of the 21st Centuries. In: Rescue of Sturgeon Species by means of Transboundary Integrated Water Management in the Ural River Basin.				
7	T. G. Vardanyan, Modelling in geography as an applied constructive potential carrier of a scientific branch. Proceedings of the YSU, Series Geology and Geography N 3, 2011, pp 27-31				
8	T. G. Vardanyan, P. J. Robinson. Lake Sevan: The Loss and Restoration of the "Pearl of Armenia". Chapter 8 in: Managing Water Resources in a Changing Physical and Social Environment. Edited by Peter J. Robinson, Tony Jones and Ming-ko Woo. Home of Geography				
9	T. G. Vardanyan, Forecasting River Runoff under Various Global Warming Scenarios: A Case Study in Armenia. Chapter 15 in: Managing Water Resources in a Changing Physical and Social Environment. Edited by Peter J. Robinson, Tony Jones and Ming-ko Woo. Home of Geography				
10	T. G. Vardanyan, River Runoff in Armenia and the Assessment of its Change Under the Global Warming of Climate. Yerevan: Yerevan University Press, 2006, 178 p. (in Russian)				

## Research interests in water

Climate & Water	Water in arid areas	Arctic water	Water cycle	Atmospheric water	Glaciers & Cryosphere					
Hydrological extreme events	Floods	<u>Droughts</u>	Ice phenomena							
Water flow	Catchment processes	Run-off generation	Groundwater- Surface water interactions	Hyporheic processes	Interstitial water	Porewater	Alluvial water			
Surface water	Limnology	Fluvial dynamics	Continental scale processes	Dams / Reservoirs	Sediments	Rivers	Floodplains			
Ground water	Soil water	Karst water	Hydrogeology	Recharge						
Marine Environment	Coastal waters	Estuarian waters								
Aquatic habitats/ Ecosystems	Wetlands	<u>Lakes</u>	Peatlands	Rivers						
Water availability	Water utility	Water storage	Dams / Reservoirs	Water scarcity	Supply & Distribution	Water allocation	Water restrictions			
Modelling and GIS	Hydro GIS	Groundwater modelling	Surface water modelling	Remote sensing						
Water quality	Pollution	Purification	Hydrochemistry	Treatment	Desalination	Waste water	Sewage			
Water & Health	Water & Sanitation	Water & Food	Waterborne diseases	Drinking water	Water purification					
Water & Energy	Water-Energy nexus	Water for energy	Energy for water	Water, Food & Energy						
Water management/ policy	Integrated Catchment management	Integrated water resource management	Water loss	Reticulation & Supply	Transboundary water					
Water use	Urban	Agricultural	Mine water	Industrial	Grey water	Green water	Blue water	Return water	Water sustainability	Competing water use
Water Law & Economics	Water trade	Virtual water	Privatisation	Water as public good	Right to water	Bills & Laws	Affordability			
Socio-political aspects	Water history	Water wars	Water & Poverty	Access to water						