Water and Environment Research Group (WE R)

GROUP INTRODUCTION

The Water and Environment Research (WE R) Group focuses on performing research work in broad domains including Environmental Studies, Climate Change Assessment, Water Crises,Irrigation Channel Efficiency Improvements etc. The group is actively involved in finding means to augment needs of potable water by adopting rainwater harvesting & greywater reuse techniques at residential levels and exploration of groundwater recharge potential in populated areas. The Research work not only concentrates on exploration of Water Resources Flow Forecasting but also on scientific evaluation of Barrage Related Issues.The Research Group also addresses Water Storage and Distribution issues at national and international levels.

GROUP HEAD

Dr. Ishtiaq Hassan

Dr. Ishtiaq Hassan has vast academic and Industrial experience. He did his PhD in Civil Engineering with specialization in Water Resources and Irrigation Engineering from UET Taxila. He served in NESPAK from 1999 to 2014. He has many design and project management projects to his credit. His key research areas include Water Resources Planning & Designing, Global Warming & Climate Change, Rainwater Harvesting, Flow Estimations, Hydrology and Public Health Engineering. He is currently supervising 05 PhD and 04 MS students in addition to 03 MS students who have got their MS degree. He has authored numerous research papers published in HEC recognized / ISI recognized journals. He has also presented his research work in various conferences. Currently he is chairing Civil Engineering Department at Capital University of Science & Technology, Islamabad.

RESEARCH AREAS

- Scientific Evaluation of Barrage related issues with Remedial Measures
- Water Distribution and Water Storage Issues
- Irrigation Channel Efficiency Improvements
- Climate Change and Global Warming
- Water Resources Conservation
- Water Distribution Studies
- Environmental Impact Assessment Studies
- Environmental studies

MS ALUMNI

Mr. Muhammad Ali

Thesis Title: Comparative Evaluation of Hydro power Potential of Jhelum and Indus Basins Using GIS
Year: 2018

Mr. Arsam Awan

Thesis Title: Optimum Lengths of Lining to Reduce Losses in Watercourses by Using Advanced Non-linear Modeling
Year: 2017

Mr. M. Umar Nadeem Qureshi

Thesis Title: Comparative Study of Hydroponic and Geoponic systems
Year: 2017

GROUP MEMBERS

1. Engr. Syed Shuja-ul-Hassan
2. Engr. Aruba Waqar

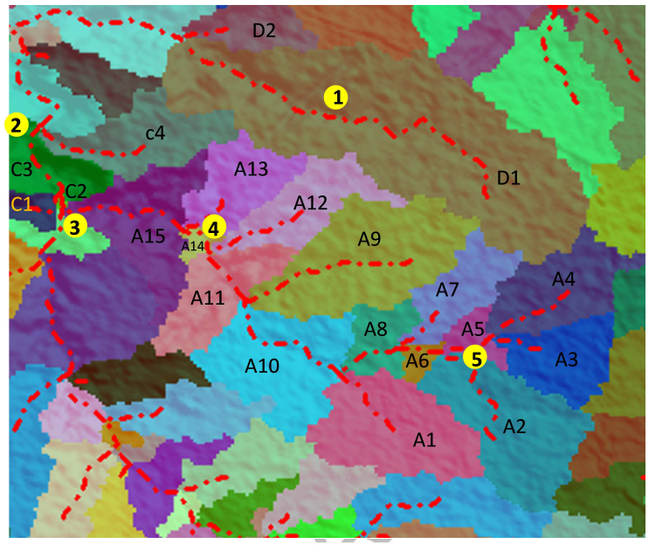
MS/PhD Students

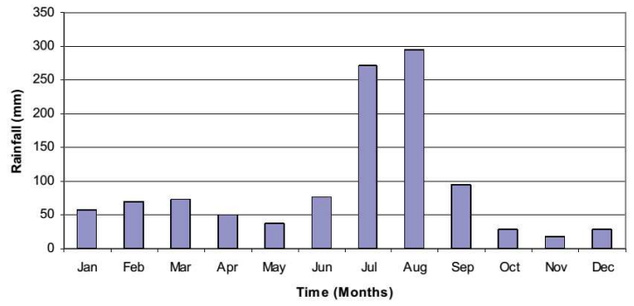
MS Students

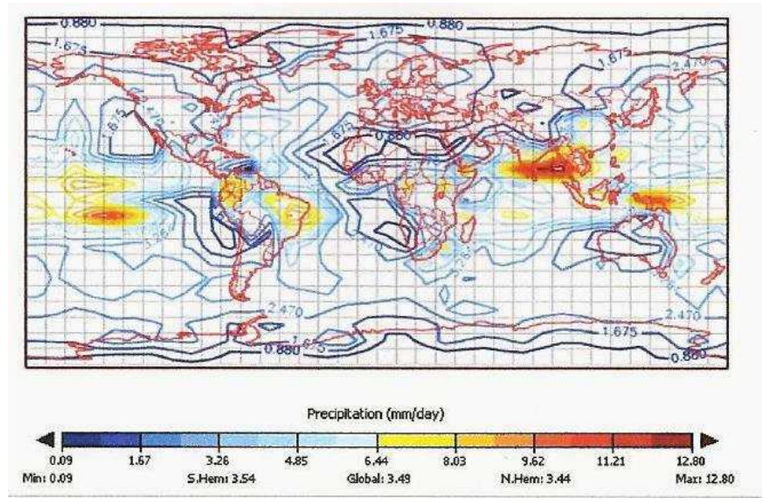
1. Mr. Kawish Mehboob
2. Mr. Hamid Ali Shah
3. Mr. Shafqat Ali Aslam
4. Mr. Adnan Ahmed Khan

PhD Students

1. Mr. Muhammad Hassan
2. Mr. Shahmir Janjua
3. Ms. Erum Aamir
4. Mr. Arsam Awan
5. Mr. M. Waqas Zafar
6. Ms. Laila Khalid







Selected Publications

Journal Publications

- H. Ishtiaq, R. Osama, M. A. Furqan, U. Zakir, A. Hamza, A. Shehryar, M. Arsalan, and W. Aruba, "Reducing water demands by adopting harvesting and recycling techniques in Pakistan", **J. Bio. Env. Sci.** vol. 14, no. 4, pp. 79–88, 2019.
- I. Hassan, A. R. Ghumman, Y. Ghazaw, R. H. Abdel-Maguid, B. Samreen. "Climate Change Impact on Precipitation in Arid Areas of Pakistan",**International Journal of Water Resources and Arid Environments**, vol. 6, no. 1, pp. 80–88, 2017.
- A. A. Awan, I. Hassan, and M. Hassan, "Optimizing lining length of watercourses for increased water saving in Punjab, Pakistan", **Journal of Biodiversity and Environmental Sciences (JBES)**, vol. 10, no. 2, pp. 173–180, 2017.
- I. Hassan,"Rainwater Harvesting - an alternative water supply in the Future for Pakistan", **Journal of Biodiversity and Environmental Sciences**, vol. 8, no. 6, pp. 213–222, 2016.
- I. Hassan, A. R. Ghumman, and H. N. Hashmi, "Global warming and temperature changes for Saudi Arabia", **Journal of Biodiversity and Environmental Sciences (JBES)**, vol. 8, no. 1, pp. 179–191, 2016.
- I. Hassan and A. R. Ghumman, "Application of Civil Engineering Softwares for Downscaling GCM Results", **International Invention Journal of Engineering Science and Technology**, vol. 2, no. 1, pp. 1–9, 2015.
- A. R. Ghumman, I. Hassan, Q. U. Z. Khan, and M. A. Kamal,"Investigation of impact of environmental changes on precipitation pattern of Pakistan", **Environmental Monitoring and Assessment** vol. 185, no. 6, pp. 4897–4905, 2013.

Conference Proceedings

- I. Hassan, A. R. Ghumman, and W. Aruba. "Simulating Precipitation of Bahawalpur and its Adjoining Cholistan Desert of Pakistandue to Climate Change", **8 International Conference on Water Resources and Arid Environments (ICWRAE 8)**, 2019.
- A. Waqar and I. Hassan, "Comparative Analysis of Solid Waste Management Practices in Higher Education Institutions of Developing Countries", **3rd Asian Conference on Science, Technology & Medicine, ACSTM** , 2019.
- I. Hassan, A.R. Ghumman , Y. Ghazaw , R. H. Abdel-Maguid, and B. Samreen, "Climate Change Impact on Precipitation in Arid Areas of Pakistan", **7th International Conference On Water Resources And Arid Environments**, pp. 195–205, 2016.