

## Day 1: Wednesday, 1<sup>st</sup> March 2023

09:00 – 10:00	<b>Registration/Assembly</b>
10:00 – 11:00	<p><b>Inaugural Session</b></p> <p>Arrival of Chief Guest</p> <p>Recitation from the Holy Quran</p> <p>National Anthem of Pakistan</p> <p>Welcome Address (Prof. Dr. Rasool Bux Mahar, Director, USPCAS-W, MUET, Jamshoro)</p> <p>Address by Guest of Honor (Prof. Dr. Tauha Hussain Ali, Vice Chancellor , MUET, Jamshoro)</p> <p>Address by the Chief Guest (Mr. Jam Khan Shoro, Minister for Irrigation, Government of Sindh (TBC))</p> <p>Vote of Thanks (Prof. Dr. Kamran Ansari, Co-Director, USPCAS-W, MUET, Jamshoro)</p> <p>Presentation of Souvenirs</p>
11:00 – 11:30	<b>Tea-Break</b>
11:30 – 13:00	<p><b>Plenary Session – I</b></p> <p><b>Venue: Auditorium</b></p> <p><b>Moderator:</b> Dr. Mohsin Hafeez, Country Representative, IWMI, Pakistan</p> <p><b>Facilitator:</b> Ms. Falak Naz and Ms. Fihaz Saeed</p> <p><b>Keynote Speech:</b> Devastation of 2022 Floods in Sindh: Perspective From Sindh (Causes, Impacts and Looking Forward) – (By: Zarif Khero, Chief Engineer, Irrigation Department, Government of Sindh)</p> <p><b>Keynote Speech:</b> TBC – (By: Dr. Muhammad Abubakr, Department Chair, Syed Babar Ali School of Science and Engineering, LUMS, Lahore)</p> <p><b>Keynote Speech:</b> Climate change for Pakistan is a Water Menace – (By: Dr. Zia Hashmi, Section Head (Water Resources and Glaciology), GCISC, Islamabad)</p> <p><b>Keynote Speech:</b> Attribution of a record-breaking rainfall event in summer 2018 of Hami city in Eastern Xinjiang, China – (By: Prof. Dr. Weili Duan, Professor, Water resources and climate change at Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, China)</p> <p><b>Keynote Speech:</b> Modelling Hydrological Responses to Climate Change in Data-Scarce Mountain Basins in the Tianshan and Upper Indus – (By: Prof. Dr. Yan-Jun Shen, Center for Agricultural Resources Research, Institute of Genetics and Developmental Biology (IGDB), Chinese Academy of Sciences (CAS), China)</p> <p><b>Keynote Speech:</b> Impacts of Climate Change on the Runoff and its Components Across the Upper Indus River Basin – (By: Prof. Dr. Takahiro Sayama, Disaster Prevention Research Institute (DPRI), Kyoto University, Japan)</p>
13:00 – 14:00	<b>Lunch and Prayer Break</b>

14:00 – 15:00	<p><b>Plenary Session – II</b></p> <p><b>Venue: Auditorium</b></p> <p><b>Moderator:</b> Dr. Muhammad Abubakr, Department Chair, Syed Babar Ali School of Science and Engineering, LUMS, Lahore</p> <p><b>Facilitator:</b> Ms. Falak Naz Channa and Ms. Fihaz Saeed</p> <p><b>Keynote Speech:</b> TBA (By: Dr. Mohsin Hafeez, Country Representative, IWMI, Pakistan)</p> <p><b>Keynote Speech:</b> HANDS Response, Early recoveries Interventions, and Rehabilitation Plan for Flood 2022 with Multilaterals and Community Partnership and Lesson learned. – (By: Dr. Shaikh Tanveer Ahmed, Chief Executive of Health And Nutrition Development Society (HANDS), Pakistan)</p> <p><b>Keynote Speech:</b> Pakistan Floods 2022: Building Back Better for A Resilience Pakistan in the Wake of Flood Damages and Loss – (By: Ali Asghar Halepoto, Chief (Water Resources Section), Planning Commission, Ministry of Planning, Development and Special Initiatives, Government of Pakistan, Islamabad)</p> <p><b>Keynote Speech:</b> Mechanism and Simulation of Rainfall Flooding in Dryland Watersheds and Cities in the Context of Extreme Rainstorms and Double Carbon – (By: Prof. Dr. Pingping Luo, Professor, School of Water and Environment, Chang’an University, China)</p> <p><b>Keynote Speech:</b> TBA – (By: Dr. Zakir Hussain Dahri, Managing Director, Pakistan Agricultural Research Council, Islamabad)</p>
15:00 – 16:00	<p><b>Technical Session-I: Flood Forecasting, modeling, vulnerability and risk assessment</b></p> <p><b>Venue: Auditorium</b></p> <p><b>Chair:</b> Zarif Khro, Chief Engineer, Irrigation Department, Govt. of Sindh</p> <p><b>Co-Chair:</b> Engr. Sajjad Soomro, Deputy Director, SIDA</p> <p><b>Facilitator:</b> Ms. Falak Naz Channa and Ms. Samiya Shah</p> <ol style="list-style-type: none"> <li>Changes in Flooding in the Alpine Catchments of the Tarim River Basin, Central Asia (By: Prof. Dr. Gonghuan, Fang, China)</li> <li>Methodological Approaches for Assessing Flood Risk Management Decision at Farm Level (By: Dr. Raza Ullah, University of Agriculture, Faisalabad)</li> <li>Analysing flood events in Pakistan using Integrated Flood Analysis System (IFAS) (By Usman Ashiq, UET Taxila)</li> <li>Flood Risk Management and Mitigation Strategies under Climate Change (By: Muhammad Safdar, University of Agriculture, Faisalabad)</li> <li>Improved Flood Mapping using Fusion of Sentinel-1, Sentinel-2 And Landsat-9 Datasets for Data Driven Policy Design (By: Usman Nazir, LUMS, Lahore)</li> <li>Flood Modeling, Mapping and Forecasting under Climate Change for Manchar Lake, Sindh, Pakistan (By: Aqsa Zahid, NEDUET, Karachi)</li> </ol>

15:00 – 16:00

**Technical Session-II: Flood management with innovative approaches, and rehabilitation & recovery**

**Venue: Conference Room**

**Chair:** Dr. Zakir Hussain Dahri, Managing Director, Pakistan Agricultural Research Council, Islamabad.

**Co-Chair:** Dr. Arjumand Zaidi, USPCAS-W, MUET, Jamshoro

**Facilitator:** Ms. Farkhanda Noor and Mr. Tauqeer Ali

1. Mapping Flood-Affected Cropland in Sindh Using GEE and Sentinel 1 SAR Data (**By: Dr. Arjumand Zaidi, USPCAS-W, MUET, Jamshoro**)

2. Application of nature-based solutions to control flooding hazards in Naeen Gajj, district Dadu, Pakistan (**Dr. Ziauddin, USPCAS-W, MUET, Jamshoro**)

3. The Nexus Between Climate Change, Flood-2022, and Pakistan's National Security: Why does Integrated Flood Management be the best strategy? (**By Zulqarnain, Quid-e-Azam University, Islamabad**)

4. Managing Rivers using Satellite Radar Altimetry at Ungauged Locations: A Case Study of the Lower Indus River (**By: Fizah Saeed, USPCAS-W, MUET, Jamshoro**)

5. Removal of Pesticides (pops) from contaminated fresh water due to severe floodings with the help of neem decorated-TiO<sub>2</sub> nanoparticles (**By: safina kamboh, USPCAS-W, MUET, Jamshoro**)

6. Investigate the Management Structure of Drainage System to Identify the Current Problems: An Empirical Study of District Hyderabad (**By: Samia Arain, MUISTD, Mehran UET, Jamshoro**)

7. Accuracy Assessment of Land Use Land Cover (LULC) Derived by ESRI's Living Atlas with Ground Data in District Badin (**By: Noman Irshad, USPCAS-W, MUET, Jamshoro**)

16:00 – 17:00	<p><b>Technical Session-III: Flood damage and Impact Assessment</b></p> <p><b>Venue: Auditorium</b></p> <p><b>Chair:</b> Ali Asghar Halepoto, Chief (Water Resources Section), Planning Commission, Ministry of Planning, Development and Special Initiatives, Government of Pakistan, Islamabad</p> <p><b>Co-Chair:</b> Prof. Dr. Asmatullah, USPCAS-W, MUET, Jamshoro</p> <p><b>Facilitator:</b> Ms. Falak Naz Channa and Ms. Samiya Shah</p> <ol style="list-style-type: none"> <li>1. Mapping flood extent and post-flood vegetation cover using Google Earth Engine <b>(By: Waqas Ahmad, University of Agriculture, Faisalabad)</b></li> <li>2. Integrating Time-Series Multi-Satellite Imagery for Flood Mapping and Impact Assessment in Pakistan, 2022 <b>(By: Sikandar Ali, University of Agriculture, Faisalabad)</b></li> <li>3. Rapid appraisal for need assessment for rehabilitation of agriculture and livelihoods in the flood affected areas of Sindh and Punjab <b>(By: Muhammad Asif Kamran, University of Agriculture, Faisalabad)</b></li> <li>4. Analyzing the knock-on Impacts of 2022 Floods on Rabi 2023 Using Remote Sensing and Field Surveys <b>(By: Usman Nazir, LUMS, Lahore)</b></li> <li>5. Bringing the Agriculture Back to Normal: A Remote Sensing Based Analysis of Post-Flood Conditions in South Punjab and Sindh Provinces <b>(By: Muhammad Adnan Shahid, University of Agriculture, Faisalabad)</b></li> <li>6. Impact Analysis of 2022 Flood in Lower Indus Basin <b>(By: Talha Khan Khoro, USPCAS-W, MUET, Jamshoro)</b></li> </ol>
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<p>16:00 – 17:00</p>	<p><b>Technical Session-IV: Climate change impacts, WEF Nexus; Socio-economic impacts; Sensitivity, and uncertainty analyses, Governance, Extreme Events (Floods, droughts, heat waves, GLOFs), Groundwater Management</b></p> <p><b>Venue: Conference Room</b></p> <p><b>Chair:</b> Prof. Dr. Kamran Ansari, USPCAS-W, MUET, Jamshoro</p> <p><b>Co-Chair:</b> Dr. Ghulam Hussain Dars, USPCAS-W, MUET, Jamshoro</p> <p><b>Facilitator:</b> Ms. Farkhanda Noor and Mr. Tauqeer Ali</p> <ol style="list-style-type: none"> <li>1. Climate Change and the Importance of Natural drains in Sindh <b>(By: Prof. Dr. Kamran Ansari, USPCAS-W, MUET, Jamshoro)</b></li> <li>2. Addressing Climate Change Impacts on Urban Morphology of Secondary Cities in Sindh with Planning for Flood Management <b>(By: Dr. Ravindar Kumar Khiani, NEDUET, Karachi)</b></li> <li>3. Sindh Flood 2022: Impacts and Challenges of Food Security <b>(By: Dr. Abdul Ghani Soomro, PARC, Thatta)</b></li> <li>4. Monitoring Sindh Groundwater Dynamics After 2022 Floods in Pakistan Using GRACE Satellites Data <b>(By: Tarique Aziz, USPCAS-W, MUET, Jamshoro)</b></li> <li>5. Measuring Urban Resilience to Natural Disasters and Climate Change for Punjab, Pakistan <b>(By: Shareef Hussain, NUST, Islamabad)</b></li> <li>6. Precipitation Trend Analysis Over Balochistan Pakistan <b>(By: Abdul Wahid Mengal, USPCAS-W, MUET, Jamshoro)</b></li> <li>7. Performance of Different Varieties of Brassica Under Variable Salinity Profiles at Malwah Distributary, District Shaheed Benazirabad, Sindh, Pakistan <b>(By: Abdul Basit Solangi, USPCAS-W, MUET, Jamshoro)</b></li> </ol>
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## Day 2: Thursday, 2<sup>nd</sup> March 2023

10:00 – 11:00	<p><b>Plenary Session – III</b></p> <p><b>Venue: Auditorium</b></p> <p><b>Moderator:</b> Dr. Zia Hashmi, Section Head (Water Resources and Glaciology), GCISC, Islamabad</p> <p><b>Facilitator:</b> Ms. Falak Naz, Ms. Fiza Saeed and Ms. Samiya Shah</p> <p><b>Keynote Speech:</b> Urban Storm water Management Practices to Alleviate Flood Events, Improve Water Quality and Groundwater Recharge – (By: <b>Dr. Amir Motlagh, Assistant Professor, Department of Civil Engineering at California State University, USA</b>)</p> <p><b>Keynote Speech:</b> Lesons from the floods 2022 and the way forward – (By: <b>Dr. Muhammad Ashraf, Chairman, PCRWR, Islamabad</b>)</p> <p><b>Keynote Speech:</b> Nanofibers Membranes for Water Purification: A Fragile Material for Robust Solution – (By: <b>Prof. Dr. Zeeshan Khatri, Chairman, Department of Textile Engineering, Mehran UET Jamshoro</b>)</p> <p><b>Keynote Speech:</b> Recent Floods in Sindh: A Synergic Impact of Climate Change and Bad Governance – (By: <b>Prof. Dr. Altaf Ali Siyal, Dean Faculty of Agricultural Engineering, Sindh Agriculture University Tando Jam</b>)</p> <p><b>Keynote Speech:</b> Flood Mitigation Strategies from the Perspective of a US City Government – (By: <b>Engr. Aziz Mahar, Senior Engineer City of Alexandria, Virginia, United States</b>)</p>
11:00 – 11:30	<b>Tea Break</b>

11:30 – 12:30

**Technical Session-V: Climate change impacts, WEF Nexus; Socio-economic impacts; Sensitivity, and uncertainty analyses, Governance, Extreme Events (Floods, droughts, heat waves, GLOFs), Groundwater Management**

**Venue: Auditorium**

**Chair:** Prof. Dr. Altaf Ali Siyal, Dean Faculty of Agricultural Engineering, Sindh Agriculture University Tando Jam

**Co-Chair:** Prof. Dr. Abdul Latif Qureshi, USPCAS-W, MUET, Jamshoro

**Facilitator:** Ms. Falak Naz and Ms. Samiya Shah

1. Turning Threats Into Opportunities in Sindh: Above-Normal Rainfall-Induced Flood Challenges and Their Solutions (**Prof. Dr. Abdul Latif Qureshi, USPCAS-W, MUET, Jamshoro**)
2. Modeling of the Recent Shishper Glacier-dammed Lake and its Outburst Flood in Pakistan Using a Geospatial Integrated Approach (**By: Falak Naz, US-PCAS-W, MUET, Jamshoro**)
3. Analysis of the Sentinel 3A radar altimetry waveform for Pakistan's recent flooding in 2022 (**By: Farkhanda Noor, Institute of Physics, Sindh University, Jamshoro**)
4. Effects of irrigation water regimes on young mango and jujube (ber) orchard in the Tando Allahyar (**By: Raheel Raza, USPCAS-W, MUET, Jamshoro**)
5. Analysis of extreme precipitation events in Sindh Province under climate change using CMIP6 climate data (**By: Asad Ali, USPCAS-W, MUET, Jamshoro**)
6. Impact of climate change and floods on South Asia: a review (**By: Muhammad Fahad Ali, Civil Engineering, MUET, Jamshoro**)

<p>11:30 – 12:30</p>	<p><b>Technical Session-VI: Flood management with innovative approaches, and rehabilitation &amp; recovery</b></p> <p><b>Venue: Conference Room</b></p> <p><b>Chair:</b> Dr. Zia-ur-Rehman Hashmi, Head (Water and Glaciology Section), GCISC, Islamabad</p> <p><b>Co-Chair:</b> Prof. Dr. Zubair Ahmed, USPCAS-W, MUET, Jamshoro</p> <p><b>Facilitator:</b> Ms. Fizah Saeed and Tauqeer Ali</p> <ol style="list-style-type: none"> <li>1. Teaching them How to Fish: Educating Flood Vulnerable Communities to Access Safe Drinking Water Using Sustainable Treatment Techniques for Prevention of Water-borne Diseases (<b>By: Prof. Dr. Zubair Ahmed, USPCAS-W, MUET, Jamshoro</b>)</li> <li>2. Impact Assessment of Small Dams in the Kohistan Region (<b>By: Abdul Rafiue Memon, USPCAS-W, MUET, Jamshoro</b>)</li> <li>3. Assessment of rooftop rainwater harvesting potential in DHA Karachi (<b>By: Sadaf Sher, USPCAS-W, MUET, Jamshoro</b>)</li> <li>4. Performance Assessment of an Irrigation Canal; A Case Study of Pir Gunio Distributary at Dadu Canal Asad Khoso (<b>By: Prof. Dr. Zubair Ahmed, USPCAS-W, MUET, Jamshoro</b>)</li> <li>5. Flood Modeling Analysis of Lower Indus Reach to visualize the Vulnerability of Specific Districts under Threat (<b>By: Tayyaba Suhail, USPCAS-W, MUET, Jamshoro</b>)</li> </ol>
<p>12:30 – 13:30</p>	<p><b>Technical Session-VII: Climate change impacts, WEF Nexus; Socio-economic impacts; Sensitivity, and uncertainty analyses, Governance, Extreme Events (Floods, droughts, heat waves, GLOFs), Groundwater Management</b></p> <p><b>Venue: Auditorium</b></p> <p><b>Chair:</b> Hafiz Abdul Salam, Director (DRIP), PCRWR, Tando Jam</p> <p><b>Co-Chair:</b> Mr. Muhammad Ali, Assistant Professor, USPCAS-W, MUET, Jamshoro</p> <p><b>Facilitator:</b> Ms. Falak Naz and Ms. Samiya Shah</p> <ol style="list-style-type: none"> <li>1. Climate Change and Freshwater utilization for biofuels production in Pakistan (<b>By: Dr. Muhammad Arshad, University of Veterinary and Animal Sciences Lahore, Jhang Campus</b>)</li> <li>2. Rainfall runoff modelling using artificial neural networks ANNs for flood forecasting in Pishin Lora Basin (<b>By: Ghunwa Shah, USPCAS-W, MUET, Jamshoro</b>)</li> <li>3. Exploration of Groundwater resources for future settlement of population in northern areas of Quetta Valley through Vertical Electrical Sounding (<b>By: Qayyum Habib, USPCAS-W, MUET, Jamshoro</b>)</li> <li>4. Assessment of Extreme Climatic Events on Darawat Dam by Using CMIP6 Climate Data (<b>By: Mir Hassan, USPCAS-W, MUET, Jamshoro</b>)</li> <li>5. Flood Effective Drinking Water Quality Index in Qazi Ahmed, Nawabshah, Sindh (<b>By: Touqir Raza, USPCAS-W, MUET, Jamshoro</b>)</li> </ol>



12:30 – 13:30	<p><b>Technical Session-VIII: Flood management with innovative approaches, and rehabilitation &amp; recovery</b></p> <p><b>Venue: Conference Room</b></p> <p><b>Chair:</b> Prof. Dr. Ashfaque Ahmed Memon, Civil Engineering, MUET, Jamshoro</p> <p><b>Co-Chair:</b> Dr. Arjumand Zaidi, USPCAS-W, MUET, Jamshoro</p> <p><b>Facilitator:</b> Ms. Fizah Saeed and Tauqeer Ali</p> <ol style="list-style-type: none"> <li>1. Post Flood Field Investigation for Loss Estimation and Recommendation for Structure Mitigation Using Quantitative Survey Techniques in the Gulen Gol Tehsil, District Lower Chitral, Pakistan <b>(By: Muhammad Shahab, University of Peshawar, KPK)</b></li> <li>2. Estimating Land Surface Temperature, NDVI, and its Correlation by Using GIS and RS Techniques <b>(By: Naresh Kumar Guriro, USPCAS-W, MUET, Jamshoro)</b></li> <li>3. How do Seasonal Variations from Sentinel 3 Satellite Dictate Reservoir Operations to Optimize Flood and Water Supply Releases? A Case Study of Tarbela Reservoir <b>(By: Jasra Rehman, USPCAS-W, MUET, Jamshoro)</b></li> <li>4. Monitoring Seasonal Water Surface Fluctuations Using Satellite Radar Altimetry Products for an Ungauged LAKE: A Case Study of the Manchar Lake <b>(By: Shahryar Jamali, USPCAS-W, MUET, Jamshoro)</b></li> <li>5. Assessment of Flood Hazard Zone Mapping of Sindh by Using Remote Sensing and MultiCriteria Analysis (MCA) Techniques <b>(By: Bakhtawar Ayaz, USPCAS-W, MUET, Jamshoro)</b></li> <li>6. Efficient agricultural practices to combat anticipated wheat shortage after 2022 Floods <b>(By: Mumtaz Ali, USPCAS-W, MUET, Jamshoro)</b></li> </ol>
13:30 – 14:30	<p><b>Lunch/Prayer Break</b></p>
14:30 – 15:30	<p><b>Closing Ceremony</b></p> <p>Conference Report <b>(Dr. Ghulam Hussain Dars, Assistant Professor, USPCAS-W, MUET, Jamshoro)</b></p> <p>Recommendations of the Conference <b>(Prof. Dr. Rasool Bux Mahar, Director, USPCAS-W, MUET, Jamshoro)</b></p> <p>Address by Guest of Honor <b>(Prof. Dr. Tauha Hussain Ali, Vice Chancellor, MUET, Jamshoro)</b></p> <p>Speech by the Chief Guest <b>(Mr. Muhammad Mureed Rahimoon (Secretary, Universities &amp; Boards Department, Govt. of Sindh, Karachi)</b></p> <p>Vote of Thanks <b>(Prof. Dr. Kamran Ansari, Co-Director, USPCAS-W, MUET, Jamshoro)</b></p>

## Day 3: Friday, 3<sup>rd</sup> March 2023

10:00 – 17:00	<p><b>Field Visit to Keenjher Lake</b></p>
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