



**United Nations/Pakistan/PSIPW 4th International Conference  
on Space Technology for Water Management  
Hosted by SUPARCO on behalf of the Government of Pakistan**

**Islamabad Serena Hotel  
Islamabad, Pakistan**

*26 February - 2 March 2018*

**Final Conference Agenda**

***Day 1 - Monday, 26 February 2018 (Sheeshmahal, Serena hotel)***

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08:00 - 09:15	<b>Registration</b>
09:15 - 10:50	<b>Opening Ceremony</b>  09:15 - Guests to be seated 09:30 - Arrival of Chief Guest 09:30 - Recitation from Holy Quran 09:33 - Introductory Remarks by Stage Secretary 09:35 - Address by Chairman SUPARCO 09:40 - Video Address by Director, United Nations Office for Outer Space Affairs (UNOOSA) 09:45 - Address by Prince Sultan bin Abdulaziz International Prize for Water (PSIPW) Representative 09:50 - Address by Chief Guest 10:00 - Group Photo
10:50 - 11:20	<b>Refreshment</b>

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11:20 - 13:00	<p><b>Special Plenary Session</b></p> <p>Keynote - <b>UNISPACE+50 and the importance of space technologies for water and development related SDGs</b> <i>Lorant CZARAN, United Nations Office of Outer Space Affairs</i></p> <p>Keynote - <b>Global Surface Water - The where and when of inland and coastal waters</b> <i>Andreas BRINK, European Commission Joint Research Centre (JRC)</i></p> <p>Keynote - <b>Earth Observations in support of the SDG monitoring frameworks</b> <i>Douglas CRIPE, GEO Secretariat</i></p> <p>Keynote - <b>African Association of Remote Sensing of Environment (AARSE) - Promoting effective utilisation of Earth Observation Systems for Africa's Development</b> <i>Kamal LABBASSI, Secretary General, AARSE</i></p> <p><i>Discussion</i></p>	<p>Session Chairs: <i>Imran IQBAL</i> <i>SUPARCO</i> <i>Lorant CZARAN</i> <i>UNOOSA</i></p>
13:00 - 14:00	<b>Lunch Break</b>	
14:00 - 15:30	<p><b>Plenary Session 1 - Space Applications for Water Security and Risk Management</b> <i>Moderator: Faisal KARIM, SUPARCO</i> <i>Chair: Yun CHEN, CSIRO Australia</i> <i>Co-chair: Yaoming MA, ITP/CAS China</i></p> <p><b>Keynote Address</b> <i>Shahbaz KHAN, UNESCO Indonesia</i></p> <p><b>Identifying River Bank Erosion Hot Spots and Mapping River Discharge Data using Geo-spatial Technologies</b> <i>Zahir ALI, SUPARCO</i></p> <p><b>Use of Space Technology to Water Resources Management in Syria</b> <i>Marwan KOUDMANI, Environmental Protection and Sustainable Development Society, Syria</i></p>	

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**Space Applications for Water and Disaster Management - Serbia Space Strategy 2018-2024**

*Milan MIJOVIC, Serbian office for Space sciences, research and development*

**Geospatial Technologies for Flood Hazard Assessment in Pakistan**

*Muhammad FAROOQ, SUPARCO*

*Discussion*

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15:30 - **Tea and Coffee Break**  
16:00

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16:20 - **United Nations/PSIPW Space and Water Portal**  
16:50 **Introduction and Interactive Ideas Session**  
*Nina KICKINGER, UNOOSA*

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16:55 **End of Day 1**

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**Day 2 - Tuesday, 27 February 2018 (Shamadan, Serena Hotel)**

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09:00 - **Plenary Session 2 - Geospatial Information in Water Resource Management**  
10:30 **(cont.)**

*Moderator: Jahanzeb MALIK, SUPARCO*

*Chair: Shahbaz KHAN, UNESCO, Indonesia*

*Co-chair: Yinsheng ZHANG, ITP/CAS China*

Keynote - **Monitoring, Detecting Surface Water Using Remote Sensing**

*Yun CHEN, CSIRO, Australia*

**Assessing Water Ecosystem Services and their Dependency on Land use changes with Google Earth Engine and ArcSWAT: A case study of the Azov Sea Basin**

*Sara PRUCKNER, Central European University, Austria*

**UNESCO World Water Quality Portal: Water Quality Monitoring Using Satellite Data**

*Sarantuyaa ZANDARYAA, UNESCO France*

**Improving Land Surface Model simulations via advancements in parameterizations and assimilations of satellite-retrieved estimates**

*Jahanzeb MALIK, SUPARCO*

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**Murgh-O-Mahi Cube Satellite for Water Resource Management**

*Muhammad-Hassaan SHEIKH, British Columbia Institute of Technology Satellite Launch Program, Canada*

**Sustainable use of irrigation water in arid areas of East-Africa**

*Ambrose OTACHI, Jinja Engineering Company, Uganda*

*Discussion*

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10:30 -  
10:50

**Tea and Coffee Break**

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10:50 -  
13:10

**Plenary Session 2 - Geospatial Information in Water Resource Management (cont.)**

*Moderator: Jahanzeb MALIK, SUPARCO*

*Chair: Sarantuyaa ZANDARYAA, UNESCO, France*

*Co-chair: Victor LAGUTOV, CEU Hungary*

**Discovery of Groundwater Reserves**

*Mohamed Ahmed TARABZOUNI, KACST, Saudi Arabia*

**Improving Water Management in Punjab (Pakistan) Barani areas through use of geospatial technologies**

*Arifa LODHI, SUPARCO and Muhammad KAMRAN, ABAD*

**Flash Floods due to Urbanization**

*Sumaira ZAFAR, Institute of Space Technology (IST)*

**Application of Synthetic Aperture Radar (SAR) Imagery for Disaster Management**

*Muhammad Maisam RAZA, SUPARCO*

**Spatio-temporal analysis of changes in rainfall regime using long term satellite based rainfall data in the Sudano Sahelian zone of Nigeria**

*Muhammad USMAN, The Hong Kong Polytechnic University*

**Iranian Experiences on using of satellite images and energy balance based algorithms in estimating the actual Evapotranspiration**

*Karimi NEAMAT, Water Research Institute, Iran*

**Annual run-off estimation of Kunhar River using Satellite Remote Sensing and GIS Techniques**

*Muhammad JAWAD, SUPARCO*

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**Improved Water Resources Management Using Geospatial Data and Remote Sensing Techniques (Case Study - AL Azraq Area)**

*Nivin HASAN and Awni KHASAWNEH, Royal Jordanian Geographic Centre, Jordan*

*Discussion*

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13:10 - **Lunch Break**  
14:00

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14:00 - **Plenary Session 2 - Geospatial Information in Water Resource Management (cont.)**  
15:30

**Validation of TRMM satellite data with rain gauge data in Sindh province, Pakistan**

*Muhammad Usman KHAN, SUPARCO*

**Space Technology for Water Management**

*Pramod GAUTAM, Disaster Management Division, Nepal*

***Spatio-temporal water quality assessment of River Ravi over and surrounding of Lahore district***

*Muhammad LUQMAN, Ammad BAIG, Samiullah KHAN - University of Melbourne*

**Designing Rapid Response Mapping System for Flood Monitoring and Damage Assessment using Geospatial Technologies**

*Muhammad ALI, SUPARCO*

**Optimization of water resources using conjunctive management approach for surface and groundwater**

*Rabia TABASSUM, National University of Computer & Emerging Sciences (FAST), Karachi*

*Discussion*

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15:30 - **Tea and Coffee Break**  
15:50

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15:50 - **Plenary Session 3 - Using Space Technologies to Address Water Challenges in Mountain Regions**  
17:40

*Moderator: Suhaib BIN FARHAN, SUPARCO*

*Chair: Douglas CRIPE, GEO Secretariat*

*Co-chair: Mohamed Ahmed TARABZOUNI, KACST, Saudi Arabia*

**Keynote - Glacier Volume in Upper Indus River Basin - Solid Storage of Pakistan Water**

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*Yinsheng ZHANG, Institute of Tibetan Plateau Research, Chinese Academy of Sciences*

**Trans-boundary hydro-ecological and spatio-temporal characterization of large water**

*Athar HUSSAIN, COMSATS Institute of Information Technology*

**Satellite topographic mapping: a key space technology for sustainable water resources monitoring and management**

*Basuti BOLO, Botswana International University of Science and Technology, Botswana*

**Space Based Assessment of Glacier Fluctuation in the Hunza Basin, Western Karakoram Pakistan**

*Muhammad Ateeq QURESHI, SUPARCO*

**Monitoring of glaciers and modeling of future melt-water availability in snow- and glacier-fed basin of North Pakistan**

*Suhaib Bin FARHAN, SUPARCO*

**Assessment of watershed modeling using ArcSWAT & SPHY, A case study from a High-Altitude Glacierized Catchment Hunza**

*Syeda Saleha ALI, Institute of Space Technology (IST)*

*Discussion*

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**Posters Exhibition and Lightning Talks (3-minute presentation per poster) Session**

- **Space-borne inventory of existing sinkholes and detection of alike-occurring areas in the Siberian permafrost region (BOURDET)**
- **Application of remote sensing and GIS for urban flood risk assessment: the case of lower Don River (KVASHA)**
- **Water related problems in Afghanistan (AMIRI)**
- **Remote sensing and GIS based land use land cover change. A case study from the Bostanlik District, Uzbekistan (JULIEV)**
- **Some recommendations for monitoring the level of the Syr Darya and Amu Darya rivers based on the GNSS (MIRMAKHMUDOV)**
- **Evaluation of Uremia lake bathymetry using remotely sensing data Strengthening national water management capacity in Kyrgyzstan (SHESHANGOSHT)**
- **Use of MODIS-based standard vegetation index (SVI) for monitoring drought in the Tunisian drylands (ESSIFI)**

**Day 3 - Wednesday, 28 February 2018 (Shamadan, Serena hotel)**

08:30 -  
10:50

**Plenary Session 4 - Capacity Building and Cooperation Initiatives**

*Moderator: Muhammad IQBAL, SUPARCO*

*Chair: Athar HUSSAIN, COMSATS*

*Co-chair: Bouajila ESSIFI, Tunisia*

**Keynote - The Possible Impact of Black Carbon on the Recent Changes of Water Cycle Pattern over the Third Pole**

*Baiqing XU, Institute of Tibetan Plateau Research, Chinese Academy of Sciences*

**The ARCSSTEE PGD program and the GMES Project: the Journey so Far**

*Oladosu OLAKUNLE, African Regional Centre for Space Science and Technology, Nigeria*

**Role of Universities in Capacity Building on Application of Satellite Technologies**

*Viktor LAGUTOV, ISEPEI Project, Central European University*

**Role of Academic Institutions regarding Application of Remote Sensing Data for Water Management: Bangladesh Perspective**

*Ahmed PARVEZ, Green University of Bangladesh*

**Equal Space Right**

*Chetanath NEUPANE, Xavier International college, Kalopul Kathmandu, Nepal*

**Review of current status of space application for water management in developing countries and the potential development in Sudan**

*Hanadi ABDALLA, University of Khartoum Space Research Centre, Sudan*

*Discussion*

10:50 -  
11:20

**Tea and Coffee Break**

11:20 -  
13:20

**Plenary Session 5: Case Studies - Presentations**

*Moderator: Zahir ALI, SUPARCO*

*Chair: Abed ALATAWAY, PSIPW Saudi Arabia*

*Co-chair: Andreas BRINK, European Commission, JRC*

**Keynote - Tools and Services for the Humanitarian Community for Groundwater Exploration and Water Management**

*Lorenz WENDT, University of Salzburg*

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**Microplastics as Environmental Stressor and Threat to Human and Sea Life**  
*Funmilola OLUWAFEMI, Ropo-Afolabi OLBIYI, National Space Research And Development Agency, NASRDA, Nigeria*

**Satellite data and GIS to help water development and management**  
*Geraint BURROWS, Groundwater Relief UK*

**Influence of hydrological fluctuations on vegetation and avifauna species composition, abundance and diversity in the Bahi Swamp Wetlands Central Tanzania**  
*Geofrey SOKA, College of Forestry, Wildlife and Tourism, Sokoine University*

**Spectral and Meteorological based Indices for Drought Monitoring: A Case Study in the Sulaimaniyah, Iraqi Kurdistan Region**  
*Ayad AL-QURAIISHI, University of Kufa, Iraq*

**Soil & Water Conservation Needs Assessment using Geospatial Techniques: A case Study of Potohar Region of Pakistan**  
*Muhammad IQBAL, SUPARCO*

**GIS based identification of water borne diseases**  
*Hania ARIF, PDMA, Pakistan*

*Discussion*

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13:20 - **Lunch Break**  
14:10

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14:10 - **Plenary Session 5: Case Studies - Presentations (cont.)**  
15:45  
*Moderator: Zahir ALI, SUPARCO*  
*Chair: Abed ALATAWAY, PSIPW Saudi Arabia*  
*Co-chair: Andreas BRINK, European Commission, JRC*

**Surveillance and analysis for causes of water pollution in groundwater**  
*Shahid IQBAL, University of Punjab, Lahore*

**Delineation of groundwater recharge potential sites in Lahore using Remote Sensing and GIS techniques**  
*Bilal ASLAM, SUPARCO*

**Remote Sensing applications in agricultural water management in central Russia**  
*Elisaveta KHAZIEVA, Russia*



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**Economizing Water Resources Using Geo-spatial Technology Based Solutions in Pakistan**

*Faisal KARIM, SUPARCO*

**Impact of Change in Depth to Groundwater on Vegetation Cover – A Case Study for Portion of Upper Thal Doab, Punjab-Pakistan**

*Syed Saad ALI, SUPARCO*

**Application of geospatial technologies to assist groundwater exploration in Thar desert**

*Muhammad Badar MUNIR, SUPARCO*

**Crop water productivity under climate forcing and irrigation strategy in the irrigated zone of Doukkala, Morocco**

*Kamal LABASSI, AARSE, Morocco*

*Discussion*

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15:45 - **Tea and Coffee Break**  
16:00

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***Day 4 - Thursday, 1 March 2018 (Shamadan, Serena hotel)***

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09:00- **Plenary Session**  
10:50 **Demonstration - Data Cube**  
*Yun CHEN, CSIRO, Australia*

**Formation of Working Groups - Objectives**  
**Break-out into Working Groups (3)**

- Group 1: Space Technology in Water-related Disaster Risk Management
- Group 2: Geospatial Information in Water Resource Management
- Group 3: Space Technology for Water-related Challenges in Mountain Regions

**Breakout discussions on needs and possible Conference recommendations**

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10:50 - **Tea and Coffee Break**  
11:20

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11:20 - 13:20	<b>Break-out in Working Groups continue.</b>
(12.15)	<b>Plenary Session</b> <i>Moderator: Lorant CZARAN, UNOOSA</i>
	<b>Reporting from the Working Groups</b> <i>(presentations by rapporteurs on outcomes of the discussions)</i>
	1. Group 1 2. Group 2 3. Group 3
	<b>Plenary Discussion on Recommendations, Harmonization and adoption</b>
13:20 - 14:30	<b>Lunch Break</b>
14:30 - 18:00	<b>Cultural Tour and Sightseeing</b> (for foreign participants only)

***Day 5 - Friday, 2 March 2018 (Shamadan, Serena hotel)***

09:15 - 11:00	<b>Closing Session</b>
09:15	<b>Guests to be seated</b>
10:00	<b>Arrival of Chief Guest</b>
10:05	<b>Recitation from Holy Quran</b>
10:10	<b>Opening remarks by Stage Secretary</b>
10:15	<b>Chairman SUPARCO Address</b>
10:20	<b>UN Representative Address</b>
10:25	<b>Chief Guest Closing Address</b>
10:35	<b>Distribution of Attendance Certificates and Group Photo</b>
11:00 - 12:00	<b>Refreshment</b>
12:00	<b>Departure</b>