

Saving Lives through better Disaster Risk Monitoring and Mitigation

Moderator: Mr Stephen Canter

Esri South Africa



SOUTHERN AFRICA ESRI USER CONFERENCE 2025

Welcome and Introduction

Question?

Are we leveraging location to make a difference in how we plan, prepare and react to the growing threat and impact of disasters?

Agenda

1) Welcome and Introduction:

Stephen Canter (5 minutes)

2) Flood Simulation

William Mojapelo: (10 minutes)

3) NDMC GIS GeoHub for Decision Support

Mark van Staden (20 minutes)

4) Umngeni-Uthukela Water Disaster Risk Encroachment Solution

Leigh Thomas (10 minutes)

5) Free State Emergency Management System (EMS)

Sipho Towa (20 minutes)

6) Data-Driven Wildfire Monitoring and Analysis for Next-Generation
Disaster Management

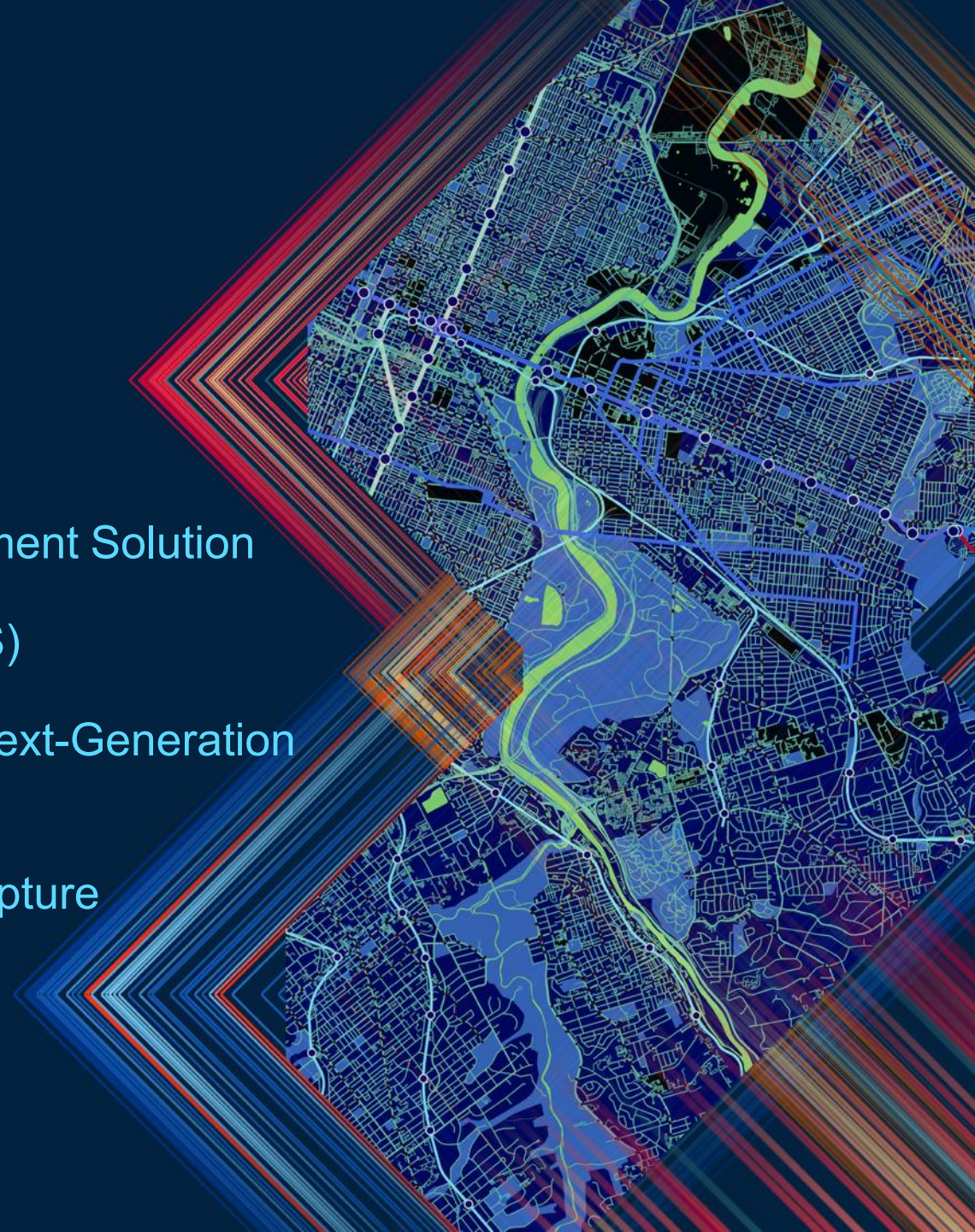
Pieter Olivier (15 Minutes)

7) Vhembe DM: Capture Disaster Incidents Quick Capture

William Mojapelo (10 Minutes)

8) Thanks

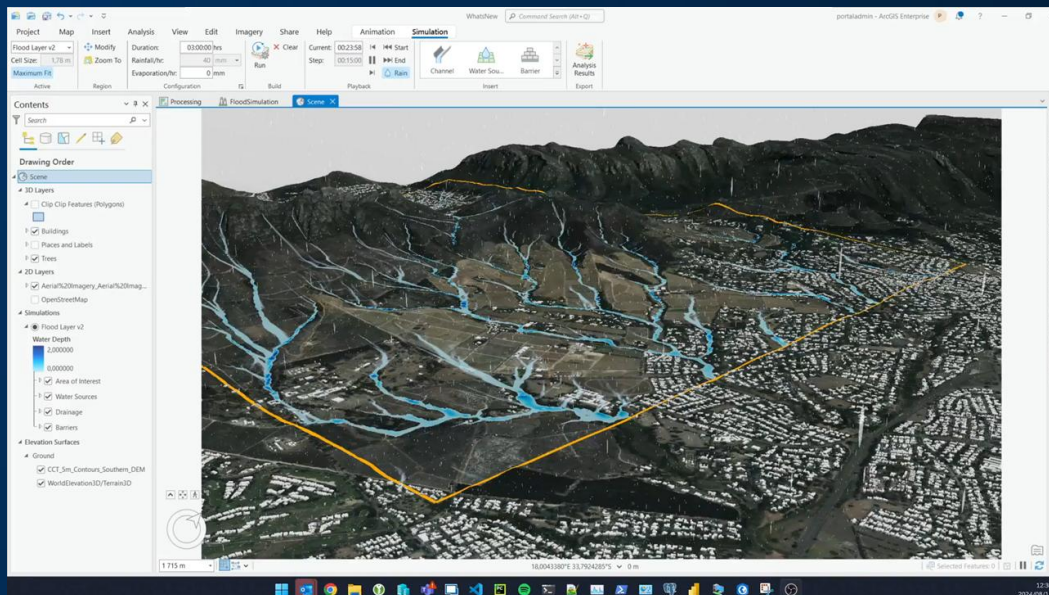
Stephen Canter



Flood Simulation

Mr William Mojaelo, Esri South Africa

Bio: William Mojaelo is an Urban and Regional Planner and Geospatial Consultant at Esri South Africa. With a strong town planning perspective, he is driven by the connection between people and the built environment. William focuses on helping municipalities transition into digital spaces by streamlining land development processes to ensure efficiency, compliance, and alignment with legislation. His passion lies in integrating technology to enhance sustainable and data-driven development. William is the lead BA on AFLA.



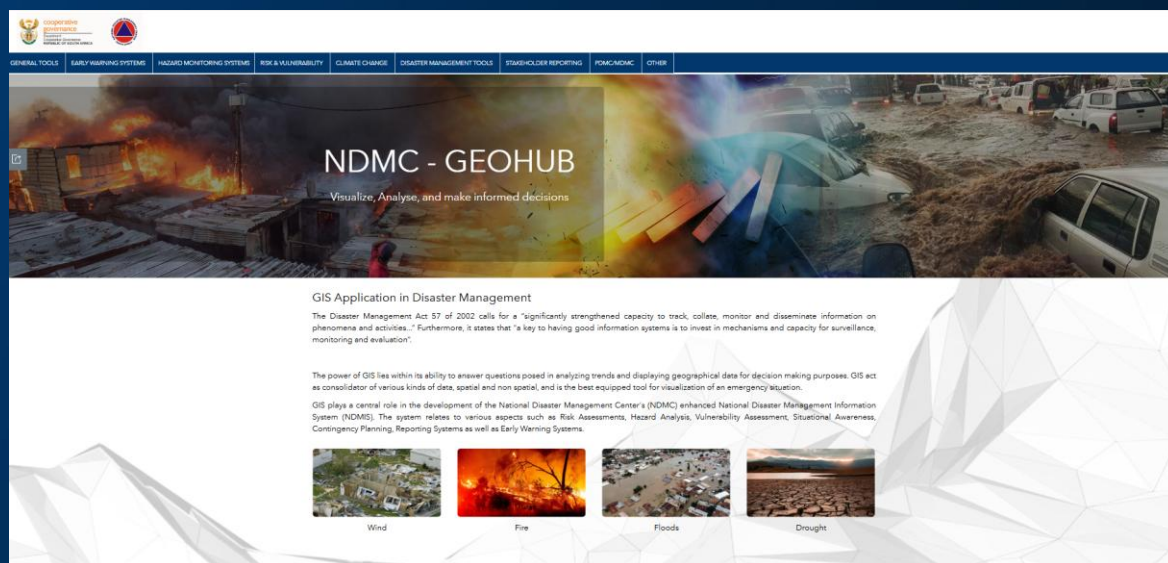
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NDMC: GIS GeoHub for Decision Support

Name: Mr. Mark van Staden

Position: Acting Director in the Directorate for Disaster Risk Assessment and Early Warnings (DRAEW)

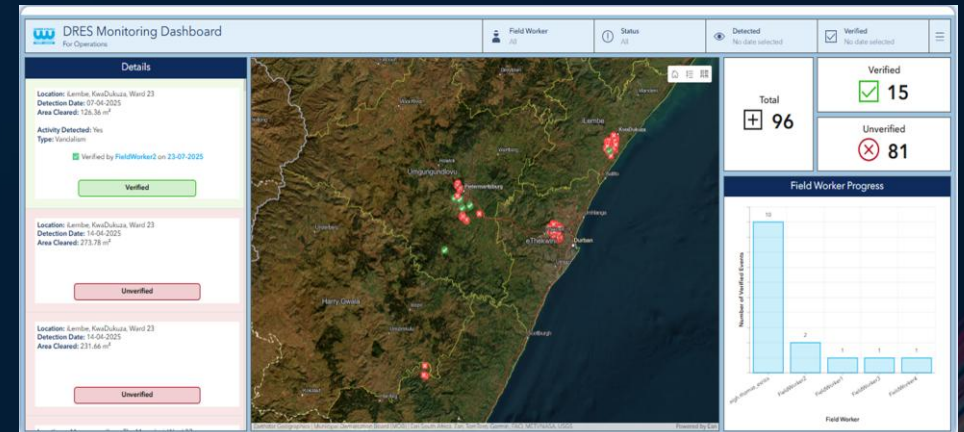
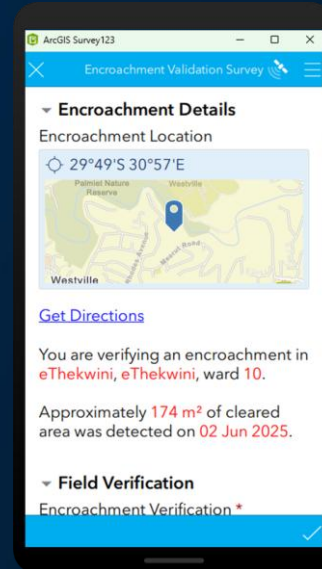
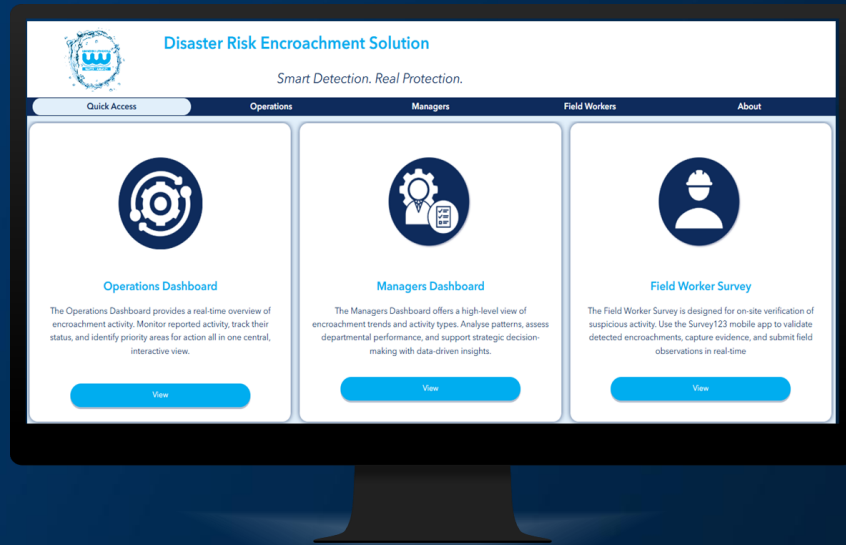
Bio: Mark is a Disaster Risk Specialist at the National Disaster Management Centre, where he leads work on risk assessment and early warning systems. With over two decades of experience in climate and disaster risk management, Mark focuses on turning complex hazard data into practical spatial tools that aid decision support throughout the Disaster Management cycle. He is passionate about building partnerships between scientists, local authorities, and communities to make early warnings and risk knowledge accessible to all.



Umngeni-Uthukela Water Disaster Risk Encroachment Solution

Ms Leigh Thomas, Esri South Africa

Bio: Leigh joined Esri South Africa in 2009 as a trainer after earning an Honours degree in GIS and a Master's degree in Environmental Management from the University of Stellenbosch. Currently serving as Senior Geospatial Business Analyst, she leads professional services in the Durban region. Leigh is passionate about helping customers develop effective geo-enabled solutions to maximize their impact and achieve their goals.



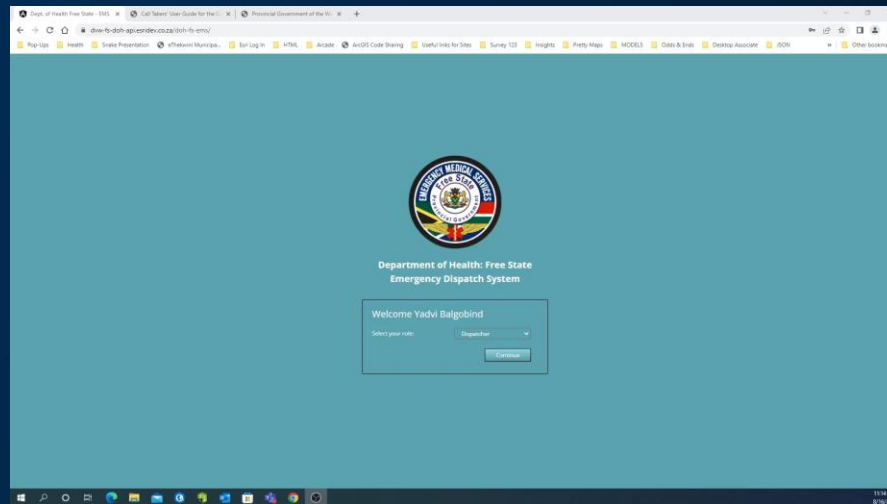
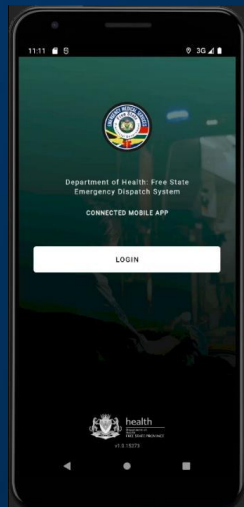
Free State Emergency Management System

Mr Sipho Towa, District Manager for EMS Control Centers

Bio: Sipho Sidney Towa's journey with the Free State Department of Health's Emergency Medical Services began in December 2000 and has been marked by a steadfast commitment to innovation and public service. As District Manager for EMS Control Centers, Mr. Towa has played a leading role in transforming emergency response and patient care across the province.



Mr. Towa's dedication to leveraging technology continued with the introduction of Geographic Information Systems (GIS) into emergency call taking and dispatch in 2014, earning him international recognition with the Special Achievement in GIS award in San Diego in 2016. His drive for service excellence was further acknowledged in 2022, when he received an award for innovation in EMS service delivery from the Centre for Public Service Innovation.



Data-Driven Wildfire Monitoring and Analysis for Next-Generation Disaster Management

Mr Pieter Olivier

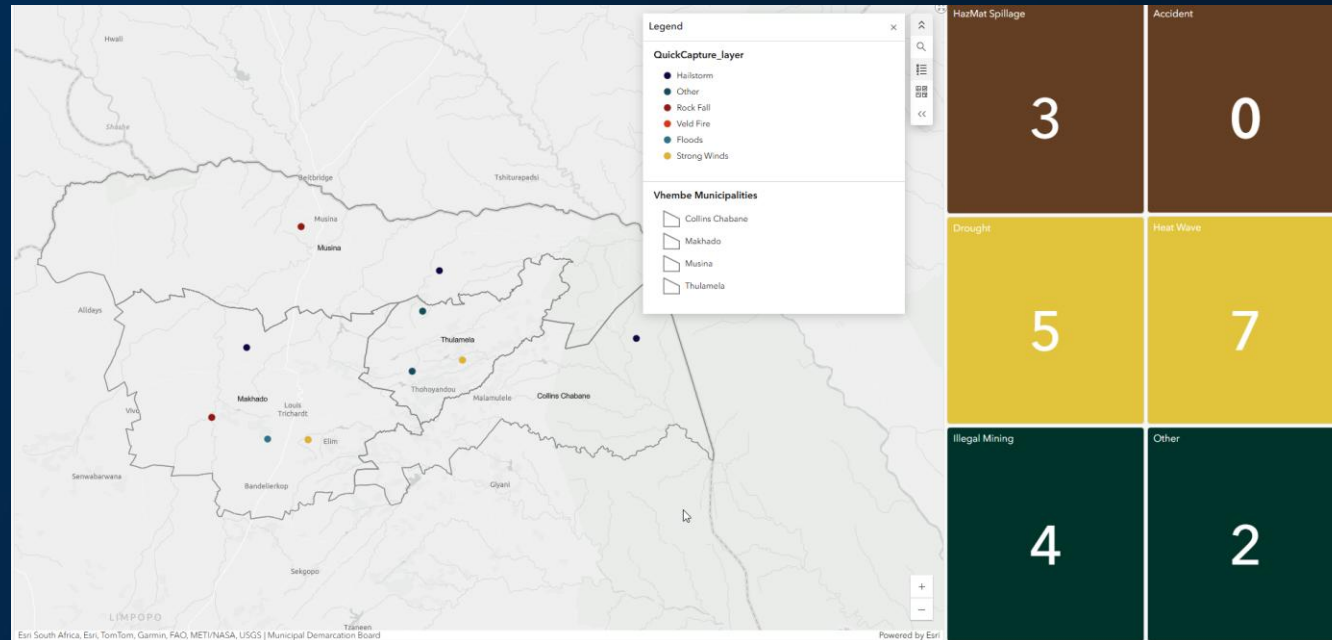
M.A.P Scientific Services

Bio: Pieter is a director at M.A.P Scientific Services (MAPSS) and is passionate about using geospatial technology to solve environmental problems. His role at MAPSS focuses on innovating with new sectors and exploring opportunities at the intersection of science, technology, and conservation.



Vhembe DM: Disaster Incidents Quick Capture Tool

Mr William Mojaelo, Esri South Africa



So, to answer the question :

Are we leveraging location to make a difference in how we plan, prepare and react to the growing threat and impact of disasters?

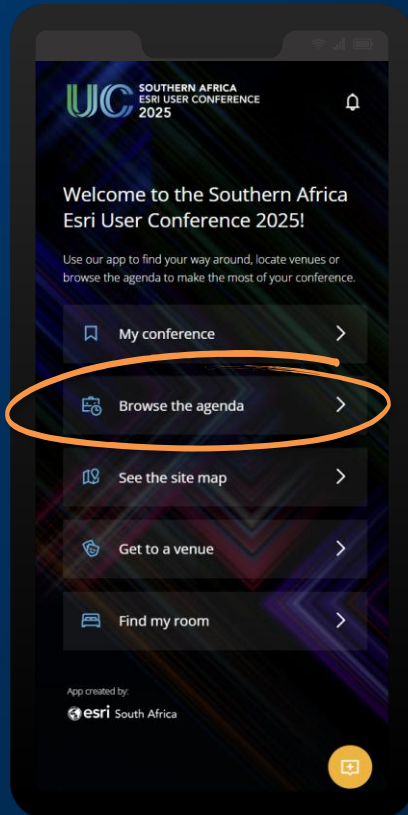
Below is an extract from the Sendai Framework for Disaster Risk Reduction Policy:

Effective disaster risk monitoring and mitigation, particularly when leveraging location-based data, can significantly reduce the impact of disasters on human lives. By identifying vulnerable locations, understanding potential hazards, and implementing targeted interventions, it's possible to minimize loss of life, injuries, and property damage.

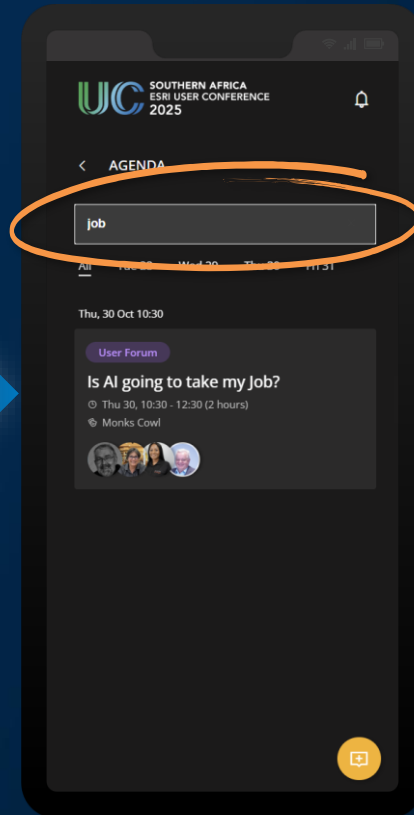
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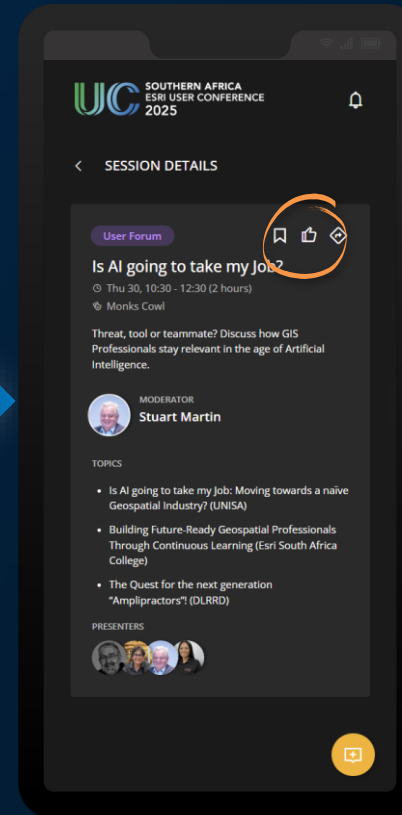
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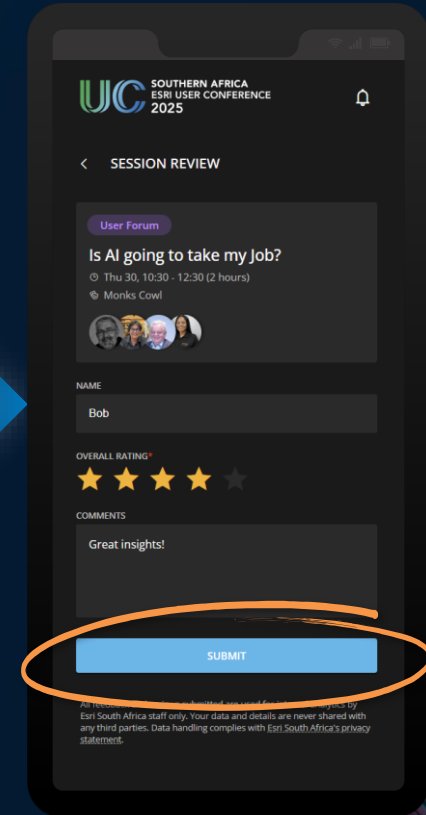
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