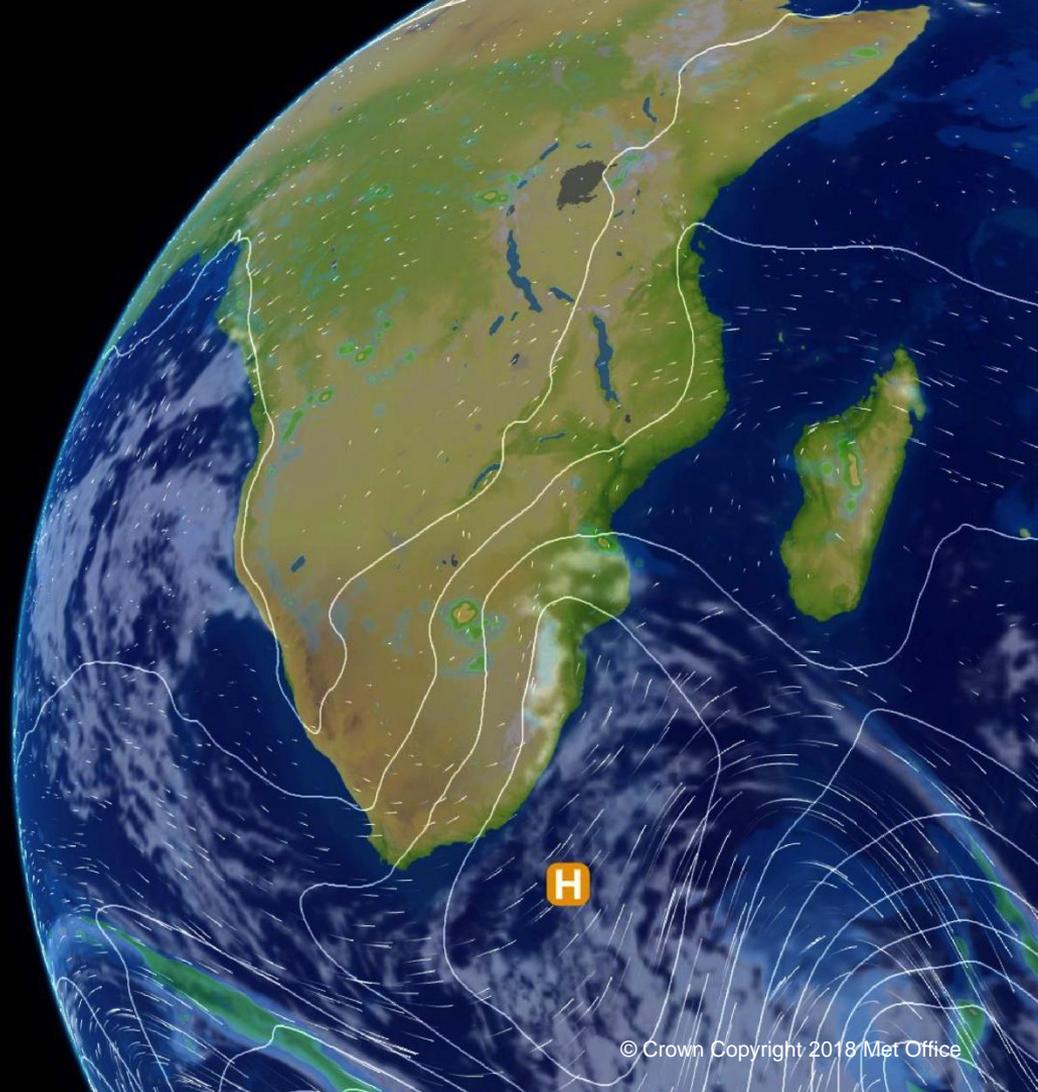


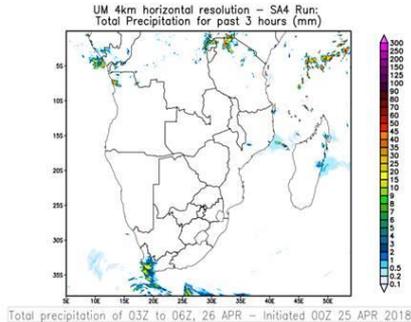
WCSSP South Africa Overview



Work Package 1: Underpinning Science Development

Achievements so far:

- Since April 2016, SAWS has been using 4km and 1.5km convective scale models operationally and have more recently been installed for use by South African Universities, allowing for enhanced collaboration and knowledge sharing.
- SAWS is engaged in and contributing to the Regional Model Evaluation and Development working group (RMED). In June 2017, two members of staff from SAWS attended the UM Partnership workshop in Exeter to present their work and presented remotely in 2019.
 - A convective scale ensemble suite has been set up and a pilot run of the SA 4.5km 18-member demonstration cycle was successfully run in early 2019, with the intent of this becoming operation in FY 19/20.



4km UM run at CHPC during
SAWS relocation in May 2018

Work Package 1: Underpinning Science Development (*cont.*)

Achievements so far:

- A defrayment with Reading University delivered a multi-instrument climatology of clouds and convection, unique for South Africa, for the evaluation of NWP models for the timing and location of precipitating cloud as well as two peer reviewed papers; “Stein et al: An evaluation of clouds and precipitation in convection-permitting forecasts in South Africa” and

“Keat et al. Convective initiation and storm life-cycles in convection-permitting simulations of the Met Office Unified Model Over South Africa”.



**University of
Reading**

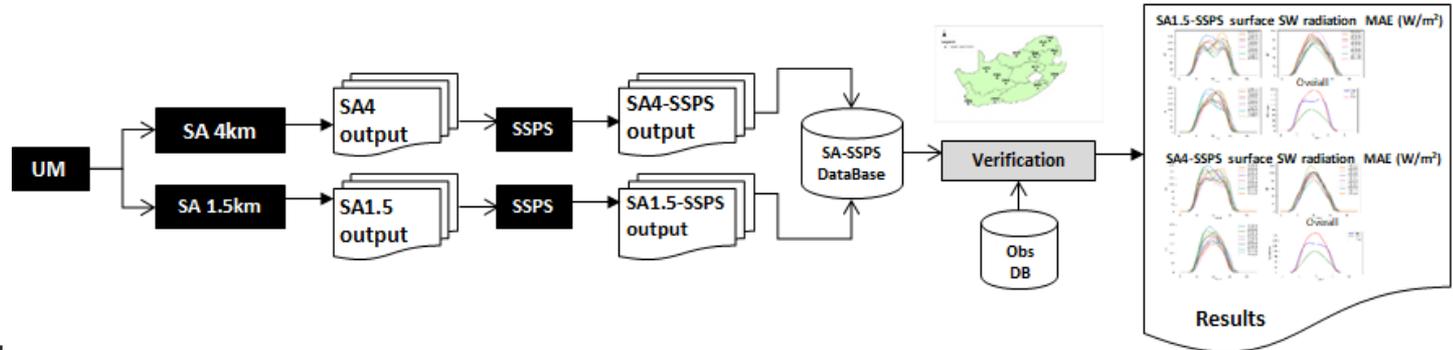
Work Package 2: Strengthening Institutional Capability

Support operational tools enhancement at SAWS

Achievements so far:

- The project has supported SAWS in the training and set up of the statistics software SPSS, which can be used for verification of solar forecasts.
- In 2018, a user engagement plan between SAWS and ESKOM was agreed, this will enable

the latter to better balance demand and supply using wind and solar climatological data.



Work Package 2: Strengthening Institutional Capability (cont.)

- Training of SAWS staff in using Moodle plug-in in the classroom environment took place during August 2018.
- The weather simulator Moodle plug-in provides the ability to use real world data in a simulator where time, tasks, data availability and information can all be controlled, in order to recreate reality as closely as possible, is an invaluable way of training, assessing and enhancing competencies among forecasters.
- A paper on solar radiation short-term forecasts from the SA model has been produced with an abstract has been delivered by SAWS at the ICEM in 2019.
- Preliminary results from site-specific forecasts of solar radiation will provide a solid foundation for work with the energy industry, specifically ESKOM going forward, helping South Africa better balance energy needs.



Work Package 3: User-led applications

- A Pilot Stakeholder Event for the insurance and disaster management industries in South Africa has been developed and was held for the first time this year.
- An Impact Based Severe Weather Warning Service has been developed and will be launched in 2019; the aim is for this system to verify at 70% accurate, thus building trust between SAWS, South African industry and the public.
- Using expertise within the Met Office College and SAWS RTC improvements have been made to Marine and Aviation forecasting training as has engagement with Stakeholders.



Some benefits of WCSSP South Africa

1. Delivering resilience and preparedness
 - Heavy rain forecast: emergency responders
2. Improved services for the nation
 - Fog forecasting: efficient aviation service
3. Saving lives and livelihoods
 - Severe weather forecasting: public safety
4. Regional and international obligations
 - Severe weather guidance: regional safety

WCSSP South Africa partners



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(Contract ended Sept. 2018)