**Multiple choice quiz**

1. Which of the following does TAMSAT-ALERT take into account when producing risk assessments [select all that apply]:
2. local climatology
3. vulnerability of the local population
4. meteorological forecasts
5. soil texture

The answer is a, c and d. The local climatology and meteorological forecasts are incorporated into the TAMSAT-ALERT system, as described in this session. Soil texture is included in the soil moisture model – as described in the previous session. The TAMSAT-ALERT code does not include the vulnerability of the local population, but TAMSAT-ALERT forecasts can be combined with metrics of vulnerability to provide a holistic risk assessment.

1. How does the TAMSAT-ALERT system account for uncertainty in the future weather [select all that apply]?  
   a. using an ensemble generated from historical weather

b. using an ensemble generated from seasonal forecast model output

c. incorporating probabilistic seasonal forecasts into the prediction process

The answer is a and c. TAMSAT-ALERT does not use seasonal forecasts directly to force the soil moisture model, but does incorporate seasonal forecast into the prediction process.

1. Which of these metrics could the TAMSAT-ALERT system be used to predict? [select all that apply]  
   a. mean upper level soil moisture in the next 7 days  
   b. cumulative precipitation over a two year period  
   c. seasonal water resource satisfaction index  
   d. seasonal evaporation  
   e. climate change

The answer is a, b, c and d. TAMSAT-ALERT can forecast any variable that is based on meteorological data, at the seasonal to interannual scale. However, TAMSAT-ALERT cannot predict climate change because it relies on historical data. Climate change cannot be estimated using historical data alone.