**Work Plan: Characterisation of Unprecedented Atmospheric Heat Stress Extremes**

This project aims to assess the nature and drivers of extreme atmospheric heat stress events by combining observational data with seasonal to decadal climate predictions and long-term projections. The research will improve understanding of how these extremes are evolving and support strategies for early warning and climate adaptation.

**Key Activities:**

* **Data Collection & Index Development:** Compile and preprocess reanalysis data, seasonal to decadal forecasts, and climate projections (e.g., ERA5, CMIP6). Calculate key heat stress indices such as WBGT and UTCI.
* **Extreme Event Analysis:** Detect and characterize historical and emerging heat stress extremes using statistical methods and trend analysis.
* **Attribution & Scenario-Based Projections:** Identify key short- and long-term drivers of extremes (e.g., ENSO, land-use change) and project future risks under selected climate scenarios, providing insights for adaptation planning.