The role of hydrological research and modelling for designing resilient forest landscapes
in Central Asian Mountain regions

John A. Stanturf[1]

Marcus Williams[2], Ying Ouyang[2], Evgeniy Botman[3], Muslim Razhapbaev[4]

[1]InNovaSilva ApS and Estonian University of Life Sciences
[2]US Forest Service
[3]Forestry Research Institute of Uzbekistan
[4]Research and Production Center for Forest Research, Kyrgyz Republic

Rivers are the Water Towers of Central Asia

Water Erosion, Mud Flows, Flooding

Objective

- **Part of the Resilient Future Forest Laboratory (RFFL) in Uzbekistan and the Kyrgyz Republic**

- **International network of RFFL Locations comprised of Demonstration Research and Monitoring (DRM) plots**

- **The RFFL is a vehicle for science-practice and science-society interactions**

- **Foundation for transforming landscapes and land use under future and novel conditions**
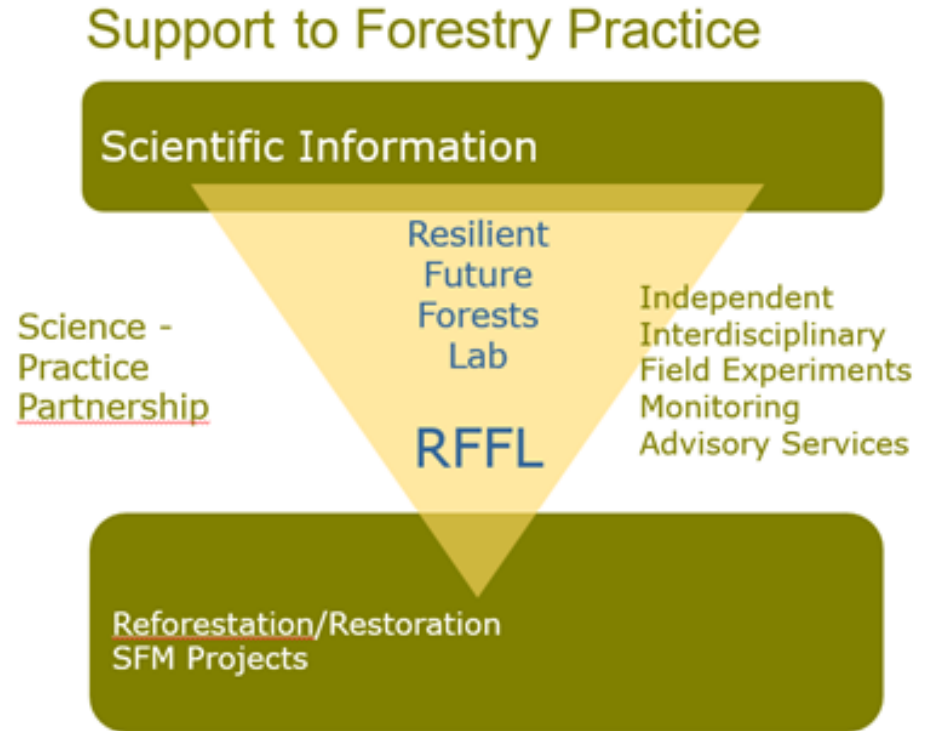
Approach—WRF and SWAT
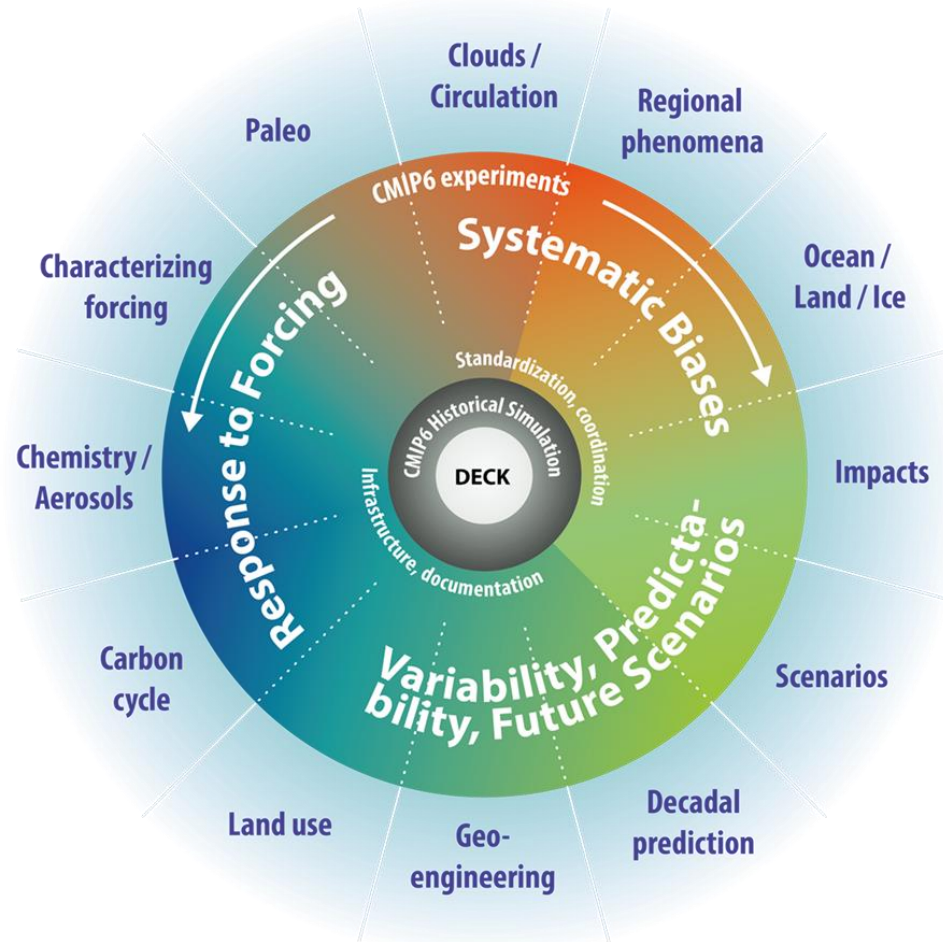
Weather Research and Forecasting
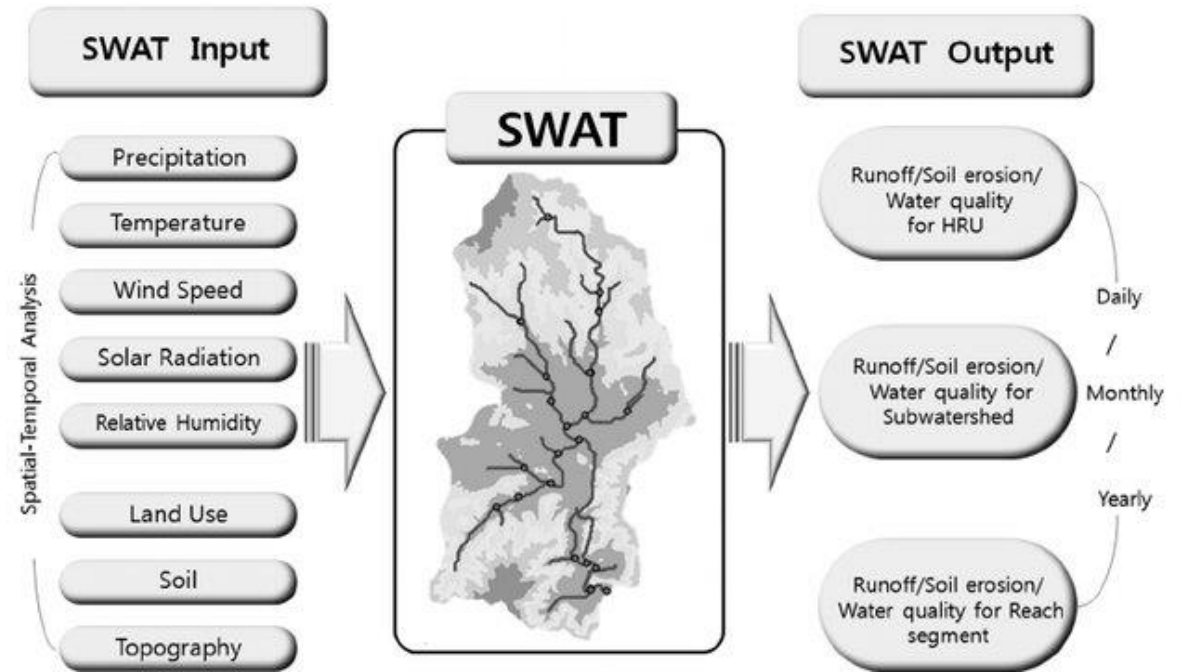
Soil and Water Assessment Tool

Initial Focus on Aktash Basin in Uzbekistan

Western Tien Shen Mountain Range) at 41 ° 39'23.73 "N; 69 ° 45'51.82" E. Elevation is 1100-1600 m, with a total area of 6.3 km2

Afforestation begun in late 19th Century

Degraded basin, deforested and over grazed