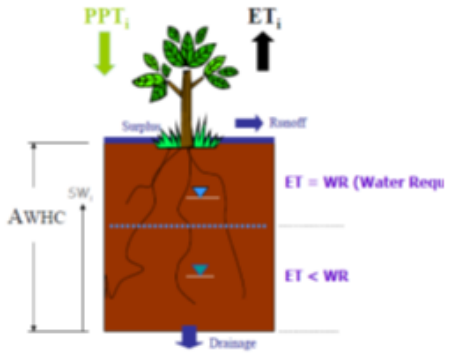
Geospatial crop water accounting & WRSI Monitoring

Water Requirement satisfaction Index (WRSI) :

As potential indicators of early warning and food security

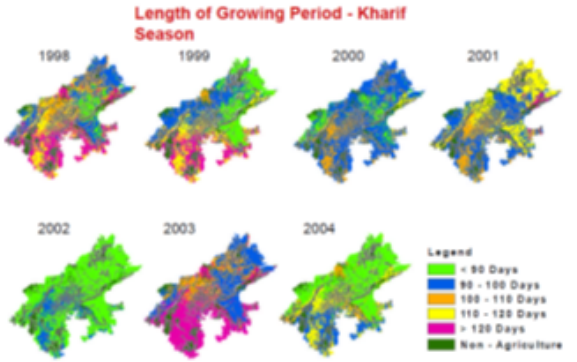
WRSI = f (PPT, PET, AWHC, Crop type, SOS, LGP)

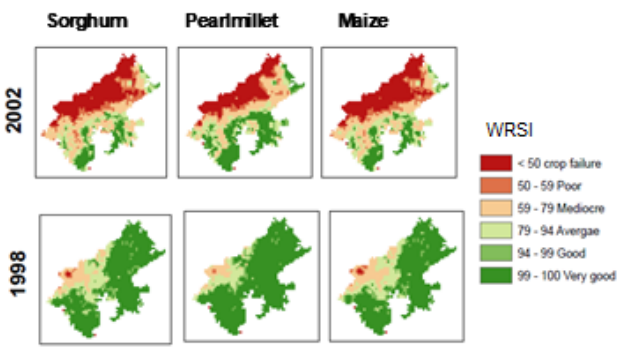


$SW_i = SW_{i-1} + PPT_i - ET_i$

Crop specific water balance Input

- Planting Dekad (Remote sensing)
- Interpolated actual rainfall by Dekad (>100 rain-gauge)
- Dekadal Actual PET (Interpolated)
- Length of crop cycle (Remote sensing)
- Available water holding capacity (NBSSLUP)





- ❑ The LGP was found to vary from 75 days to 135 days across time and space in eastern Rajasthan.
- ❑ LGP was above 100 days during normal years e.g. 1998 and 2003. However, drought stress during 2002 and 2004 caused reduction in LGP by 20-30 days.
- ❑ WRSI of three crops was drastically declined during 2002 in semi-arid and transitional plain because these regions are more sensitive to fluctuation in rainfall caused by large scale drought.