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Grasslands Classification in Yobe state Nigeria using Integrated Orderly Classification System of Grassland (IOCSG)



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Introduction

IOCSG was developed and being used for grasslands classification mainly in China. However, it is also amenable to global application, and can accommodate any new grassland type (Ren et al., 2008). It involves three classification levels: class, subclass, and type.

Aim

The aim of this study is to determine the grassland class in Yobe state Nigeria using the IOCSG.

Materials and Methods

Yobe State, one of the 36 states of Nigeria is situated at a latitude 10.578 - 13.3770 N and longitude 9.654 - 12.6890, covering 47,153 km² (Fig. 1b). Thirty (30) years (1984-2013) data on rainfall and temperature obtained from 12 satellite stations (S1-12) across the state (<https://globalweather.tamu.edu>) were used (Fig. 1c).

Conclusion

Two classes of grasslands were identified using the IOCSG index chat. These grasslands are tropical arid grassland in the south and tropical extra-arid grassland in the northern part of the state (Fig. 4).

Main Results

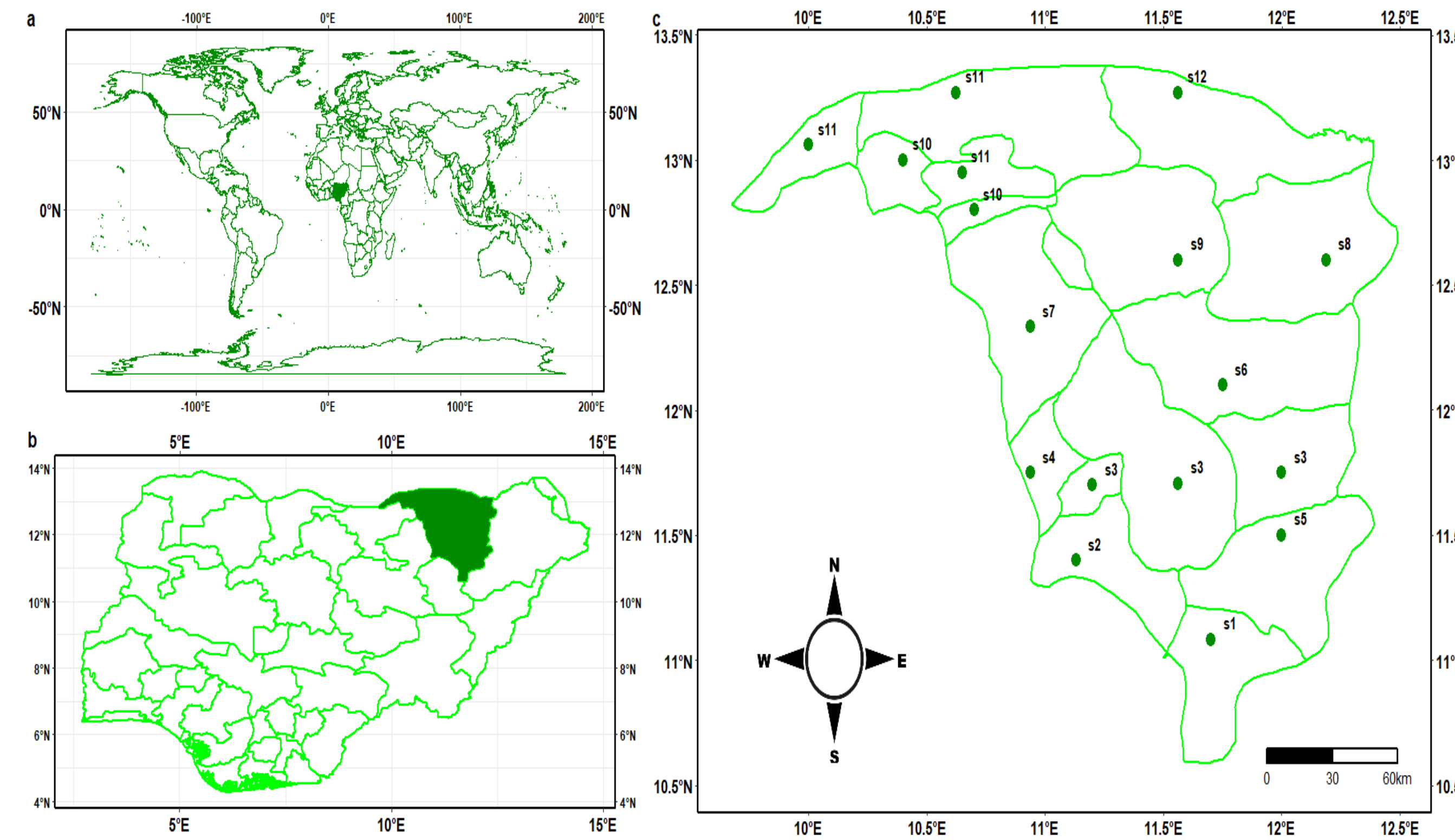


Fig. 1(abc): World map showing Nigeria, Nigerian map showing Yobe state and Yobe state map showing the satellite stations (S1-S12)

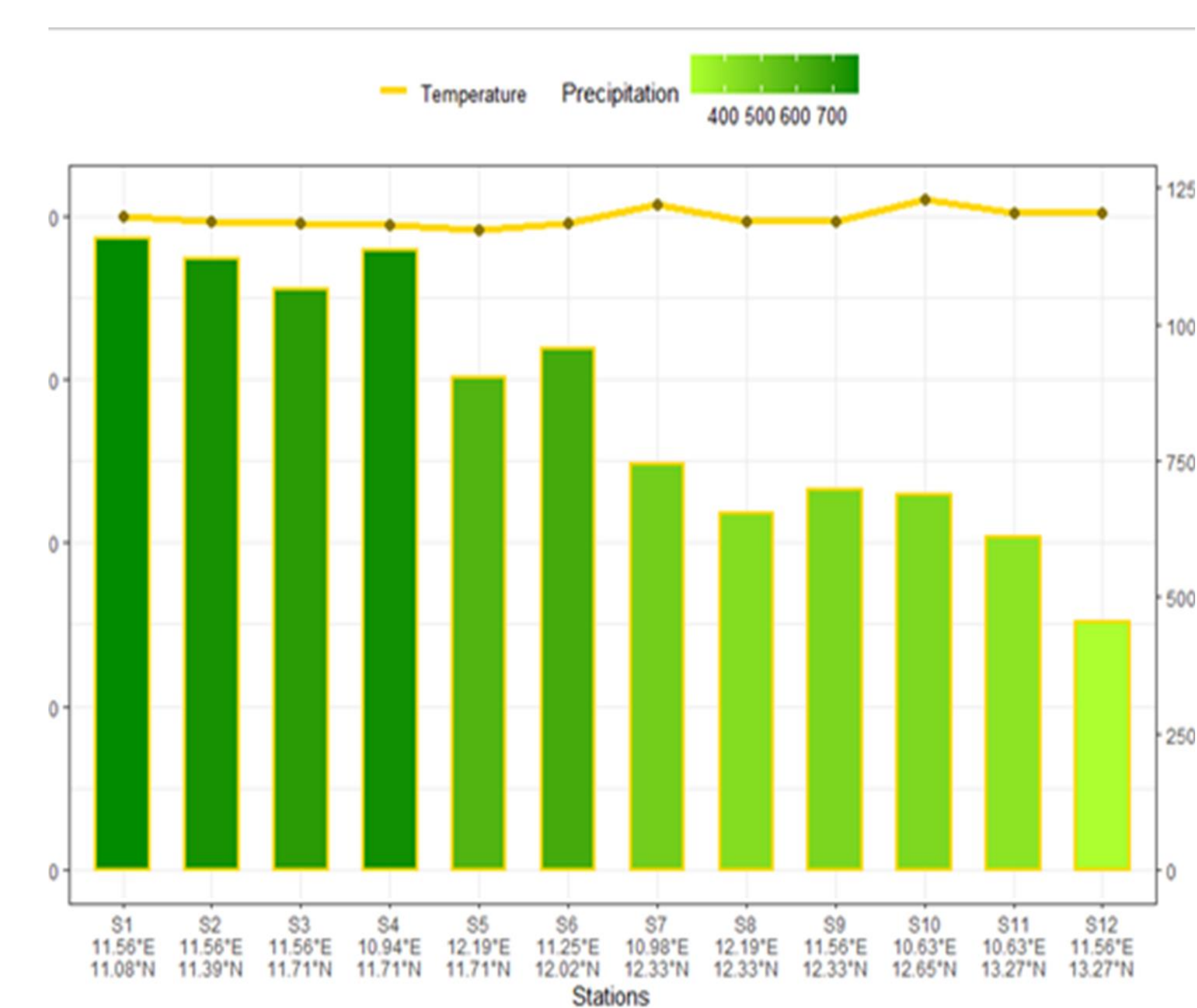


Fig. 2: Rainfall and Temperature from 12 satellite stations in Yobe state

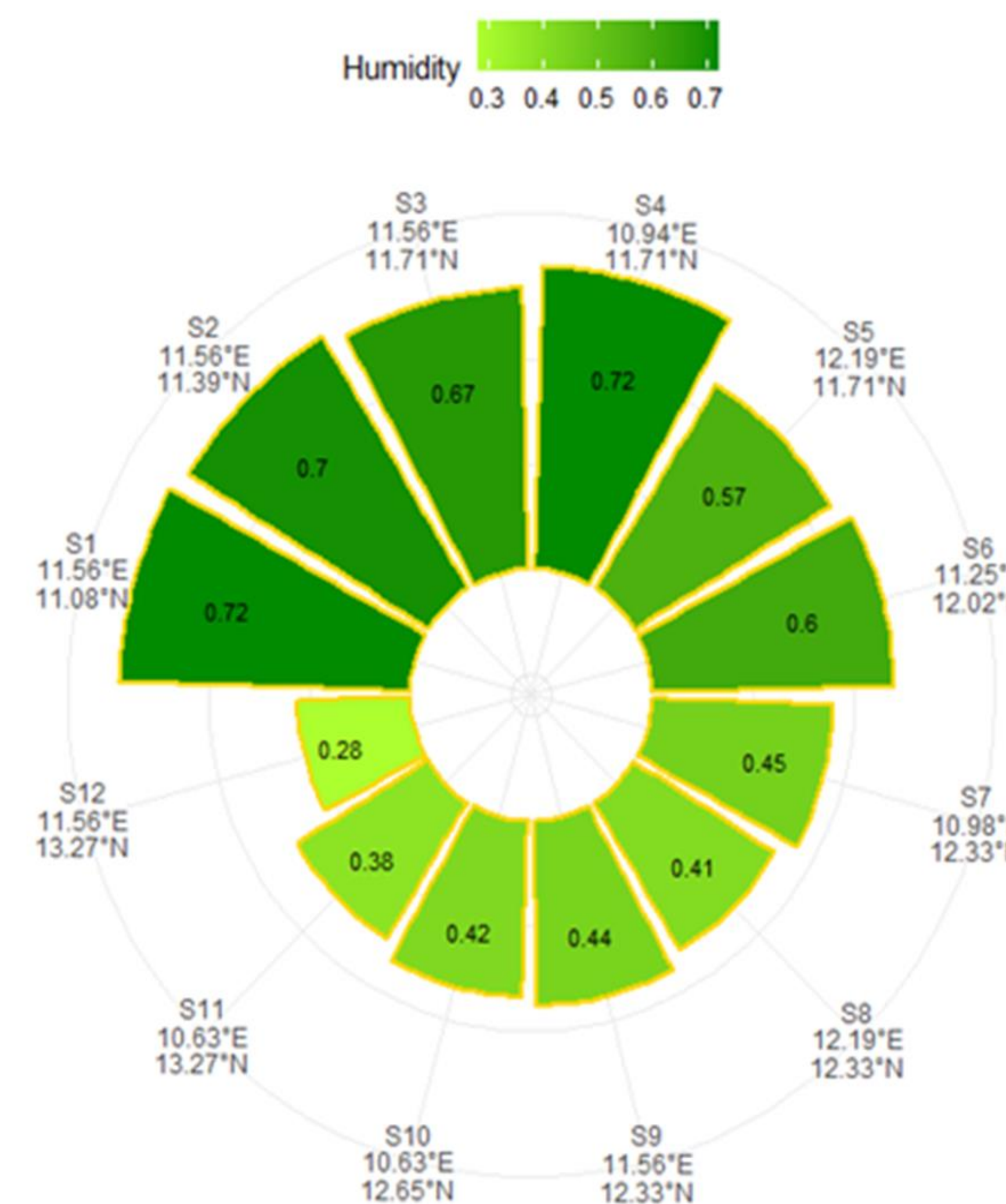


Fig. 3: Moisture index of the 12 satellite stations in Yobe state

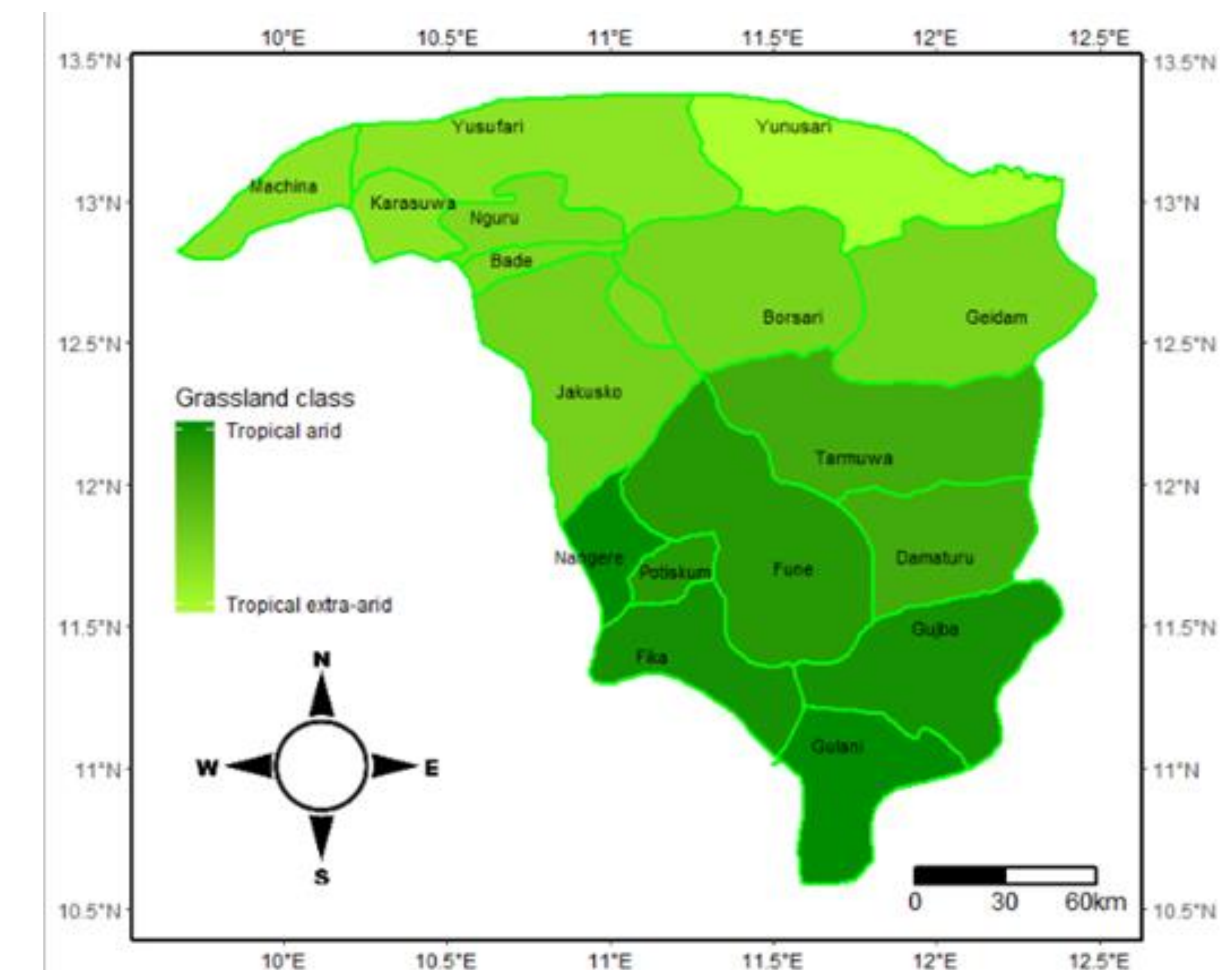


Fig. 4: Map of Yobe state showing the different grassland class using IOCSG