

Figure S1. Maps of the study area showing the maximum of mean annual air temperature (MAAT) from 2002-04 to 2018-20 in °C.

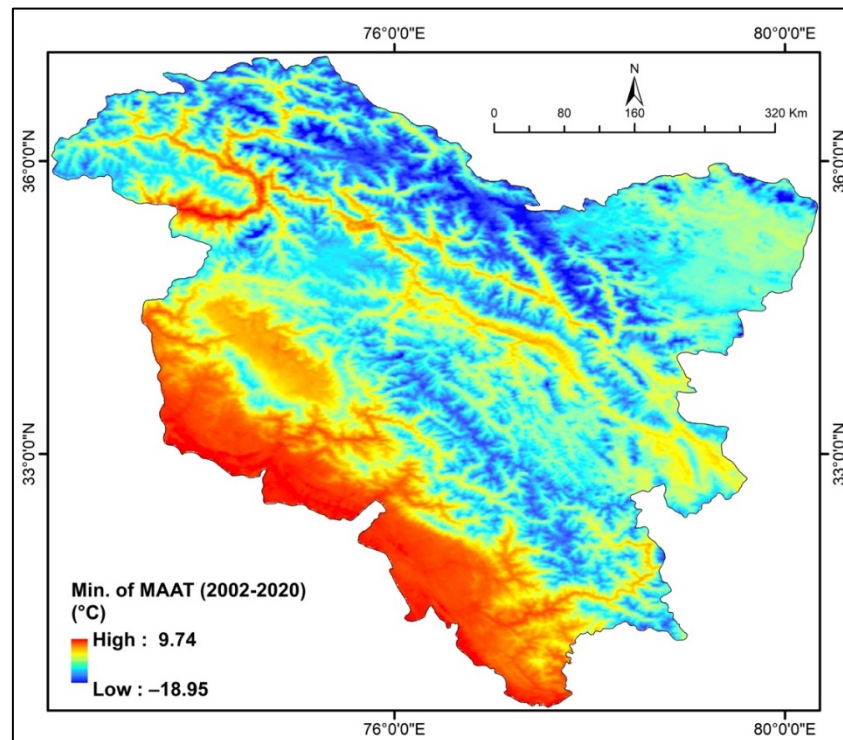


Figure S2. Map of the study area showing the minimum of mean annual air temperature (MAAT) from 2002-04 to 2018-20 in °C.

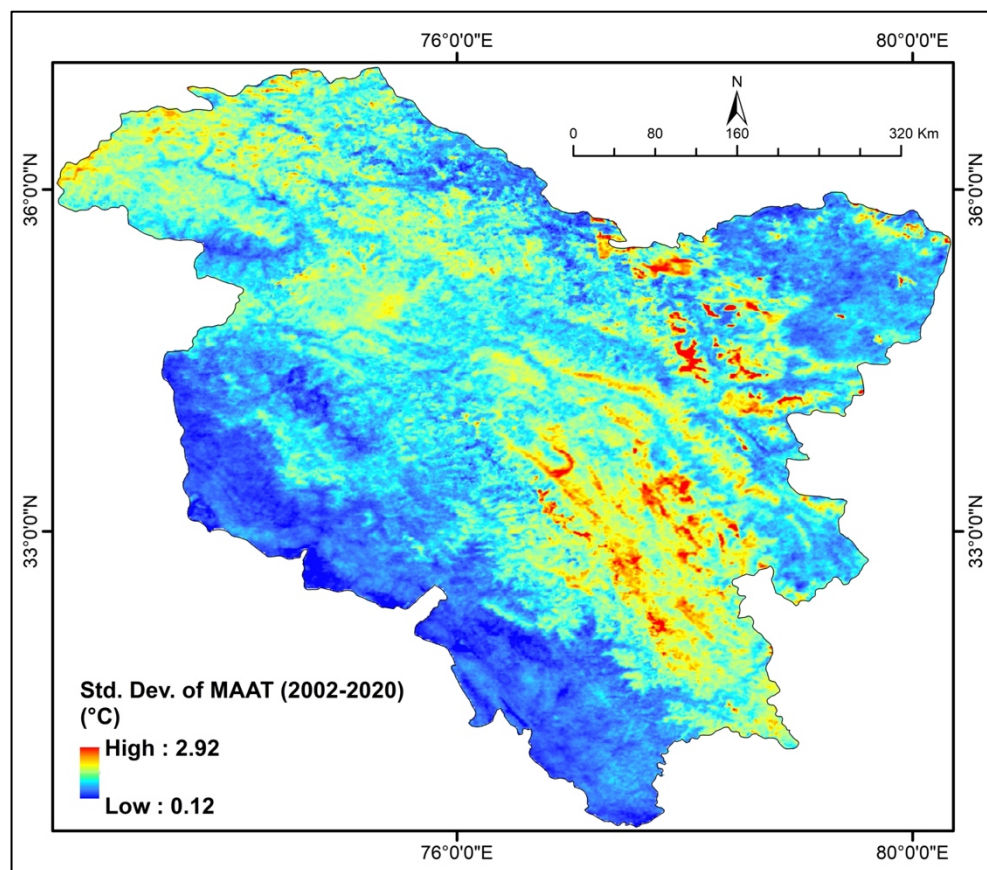


Figure S3. Map of the study area showing the standard deviation in mean annual air temperature (MAAT) from 2002-04 to 2018-20 in °C.

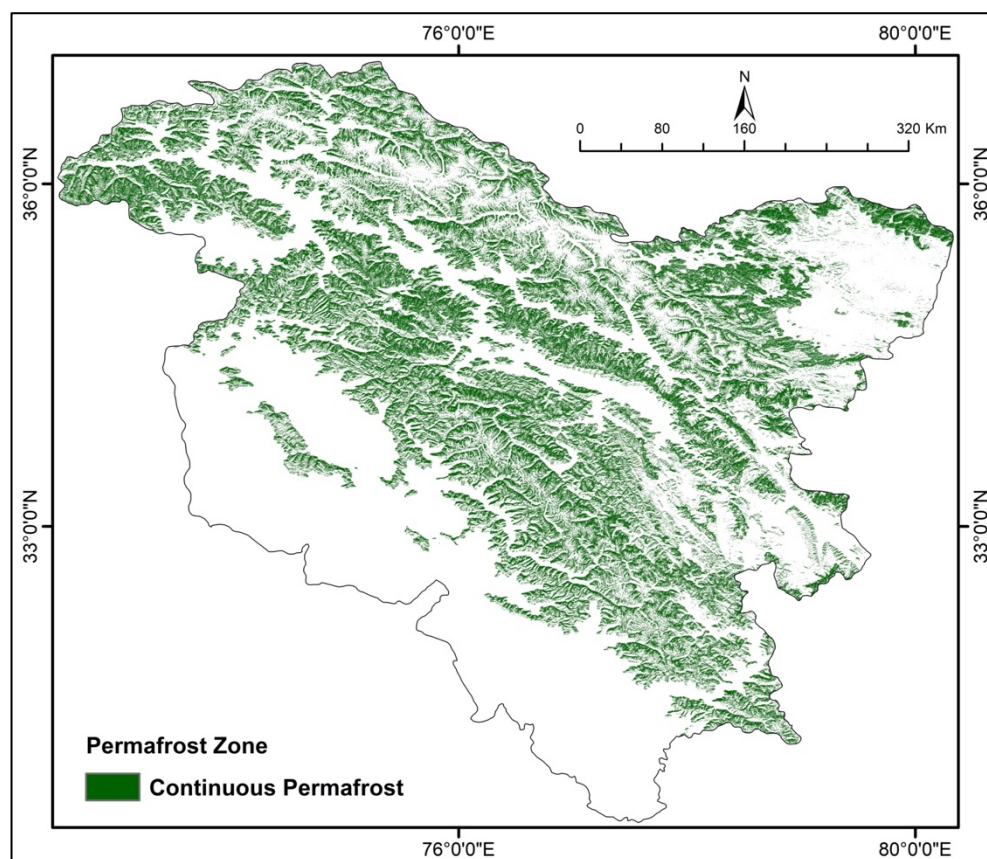


Figure S4. Map of the study area showing the distribution of continuous permafrost zone based on the maximum of BMAT from 2002-04 to 2018-20.

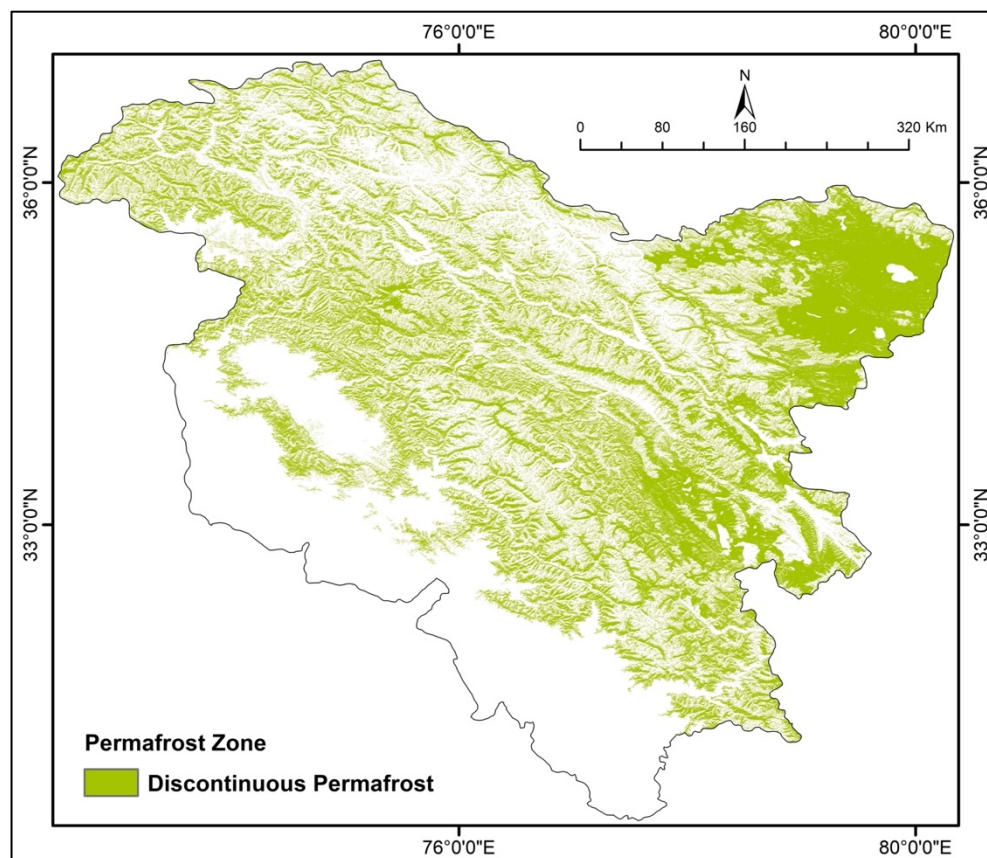


Figure S5. Map of the study area showing the distribution of discontinuous permafrost zone based on the maximum of BMAT from 2002-04 to 2018-20.

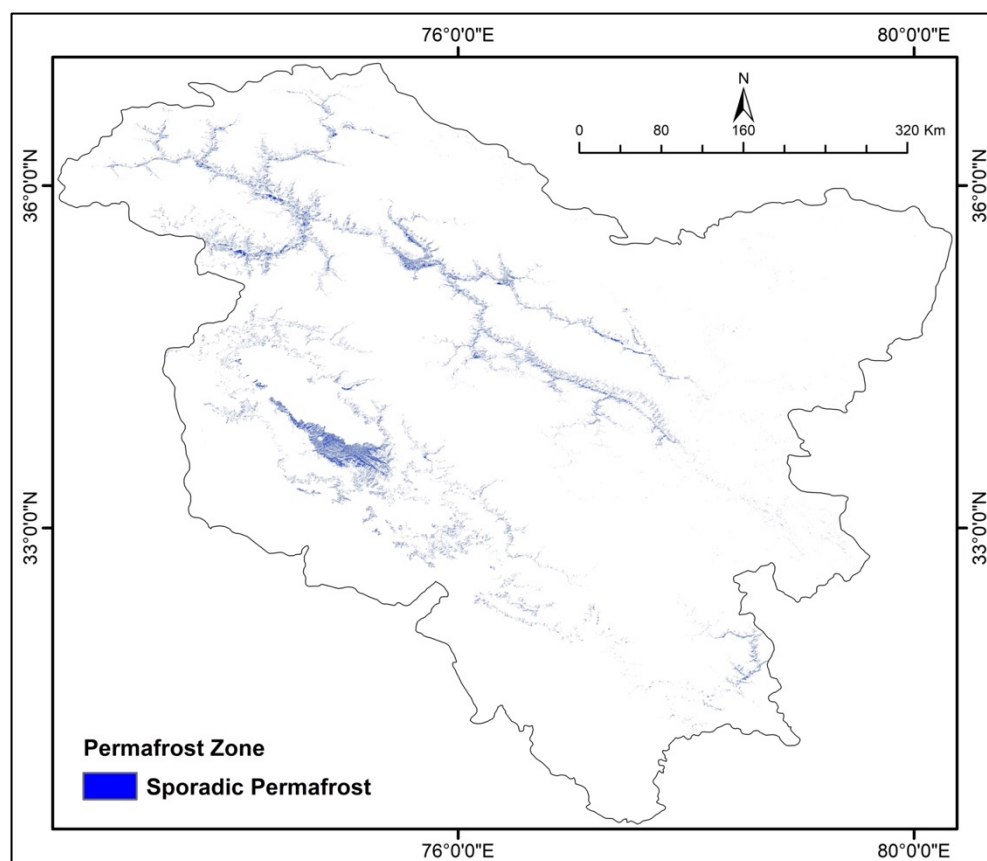


Figure S6. Map of the study area showing the distribution of sporadic permafrost zone based on the maximum of BMAT from 2002-04 to 2018-20.

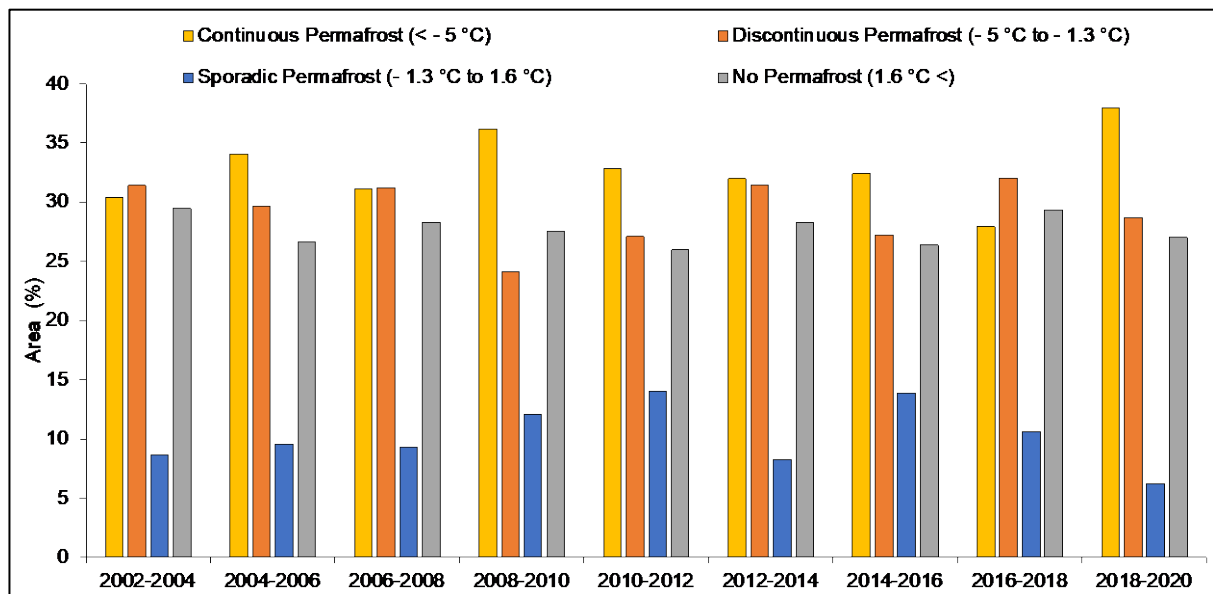


Figure S7. Bar chart showing the temporal extent of permafrost zones in the study area.

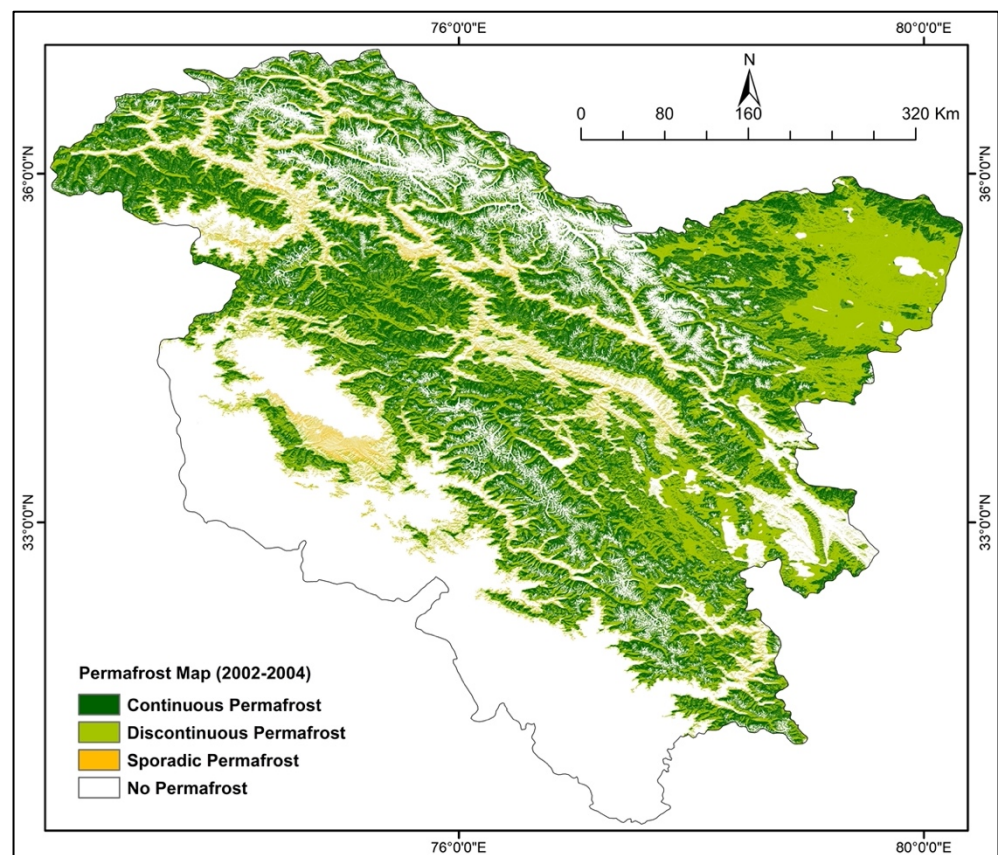


Figure S8. Map of the study area showing the permafrost extent for 2002-04.

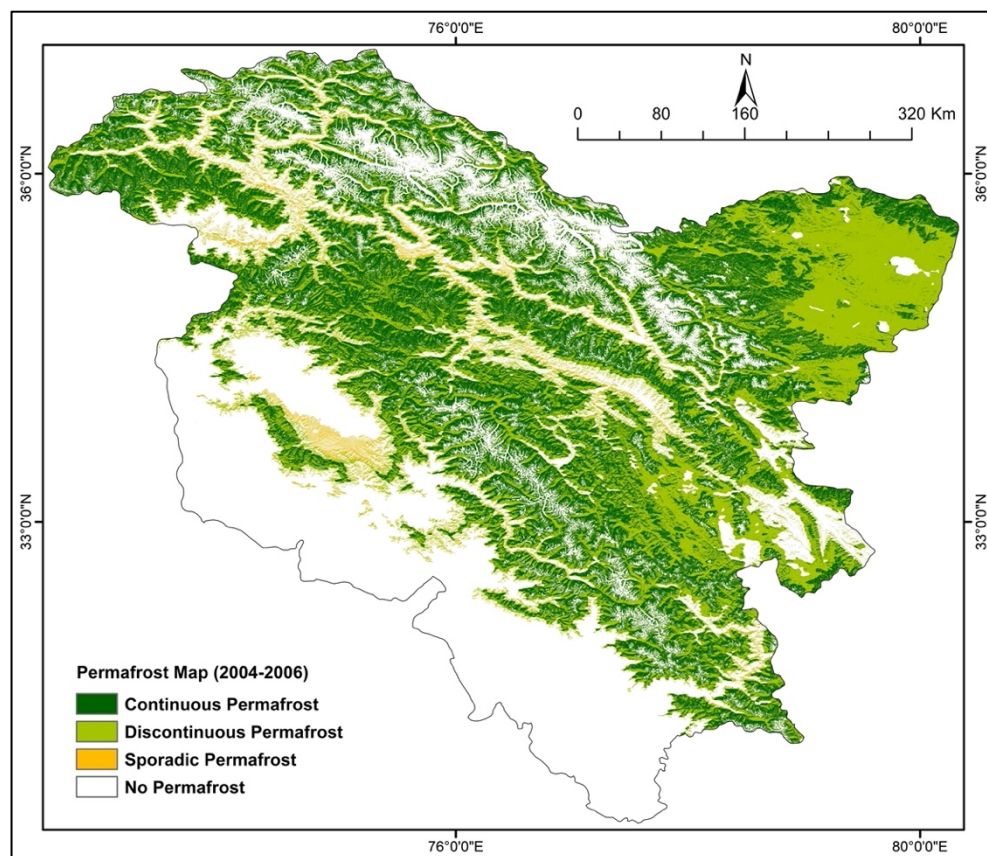


Figure S9. Map of the study area showing the permafrost extent for 2004-06.

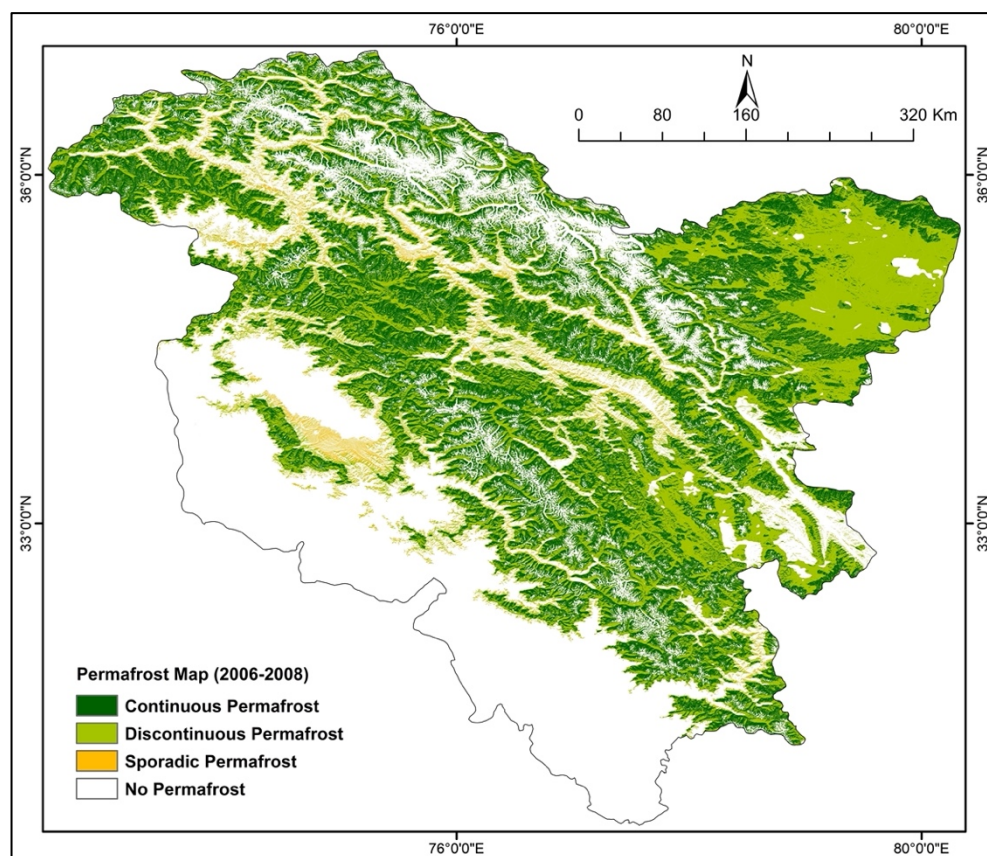


Figure S10. Map of the study area showing the permafrost extent for 2006-08.

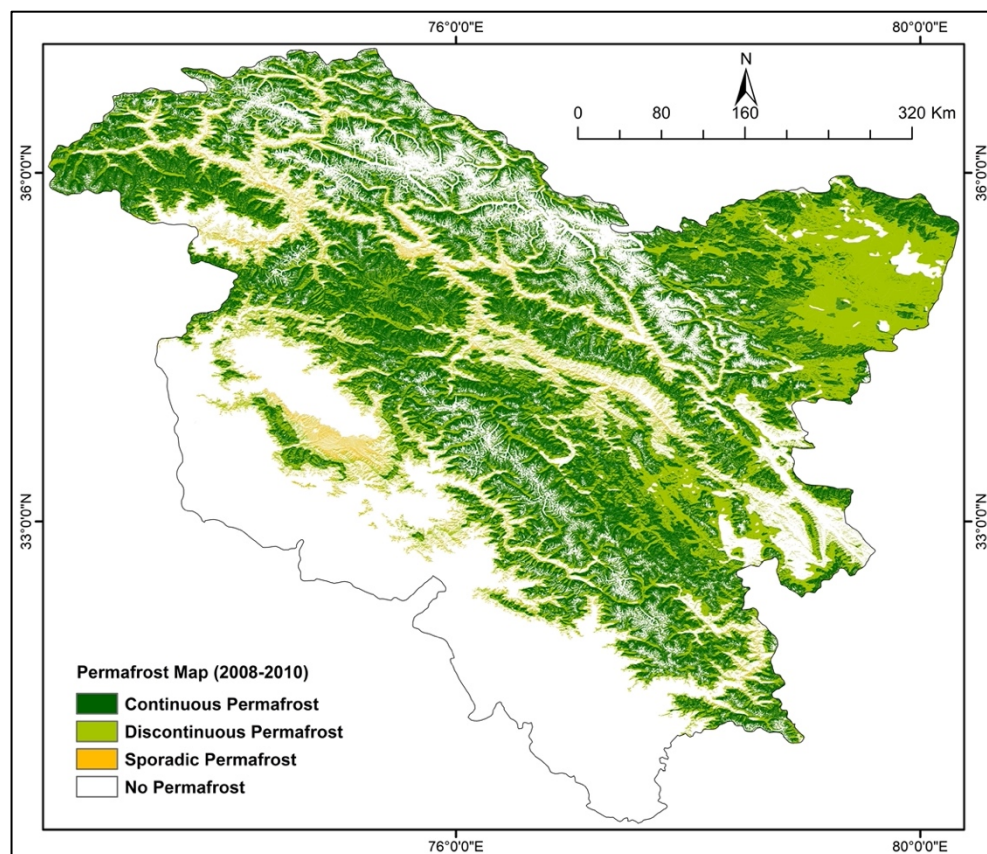


Figure S11. Map of the study area showing the permafrost extent for 2008-10.

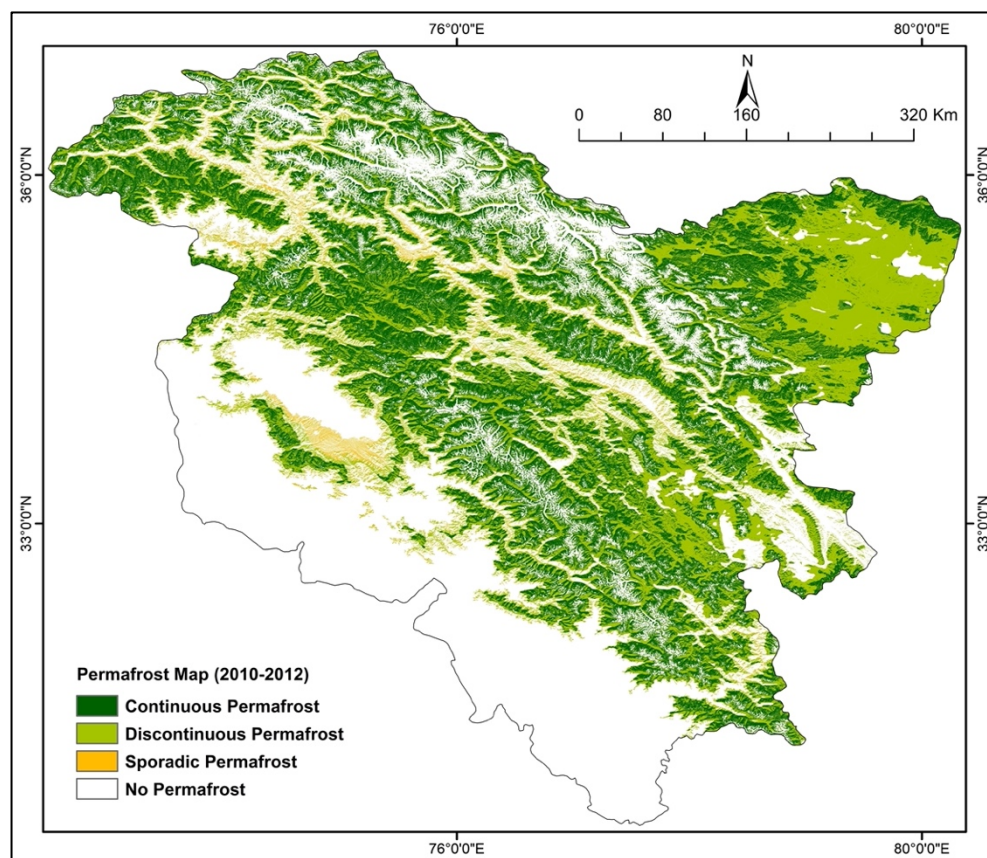


Figure S12. Map of the study area showing the permafrost extent for 2010-12.

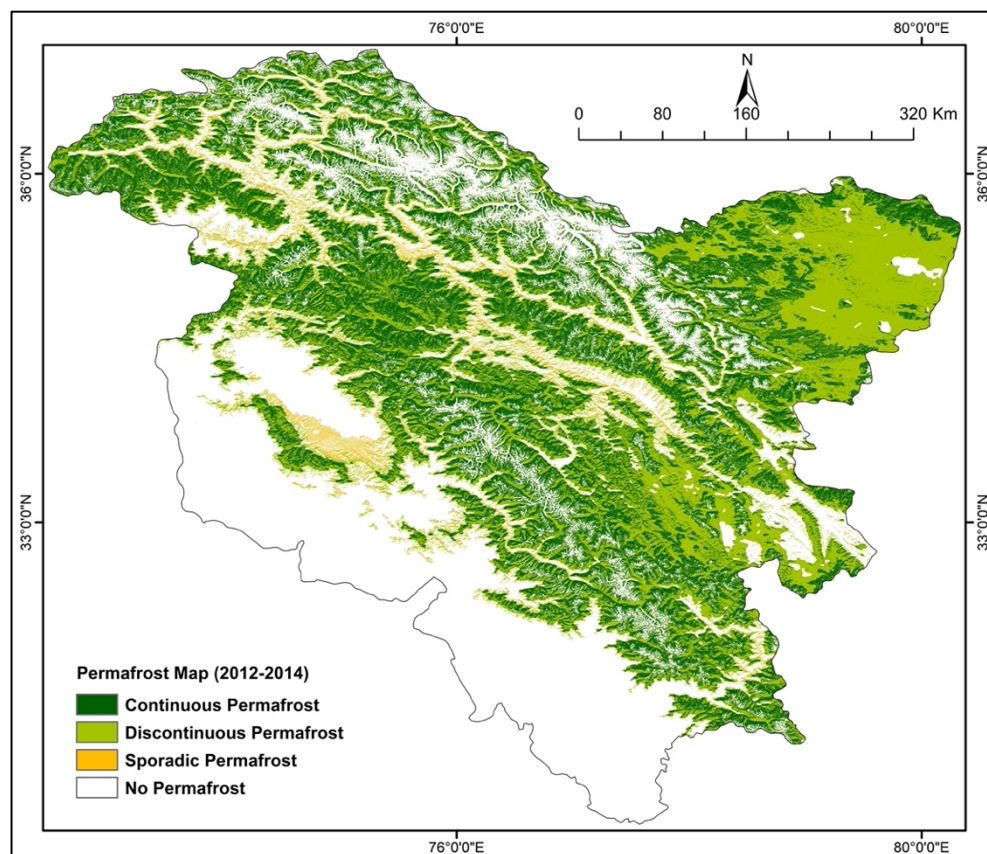


Figure S13. Map of the study area showing the permafrost extent for 20012-14.

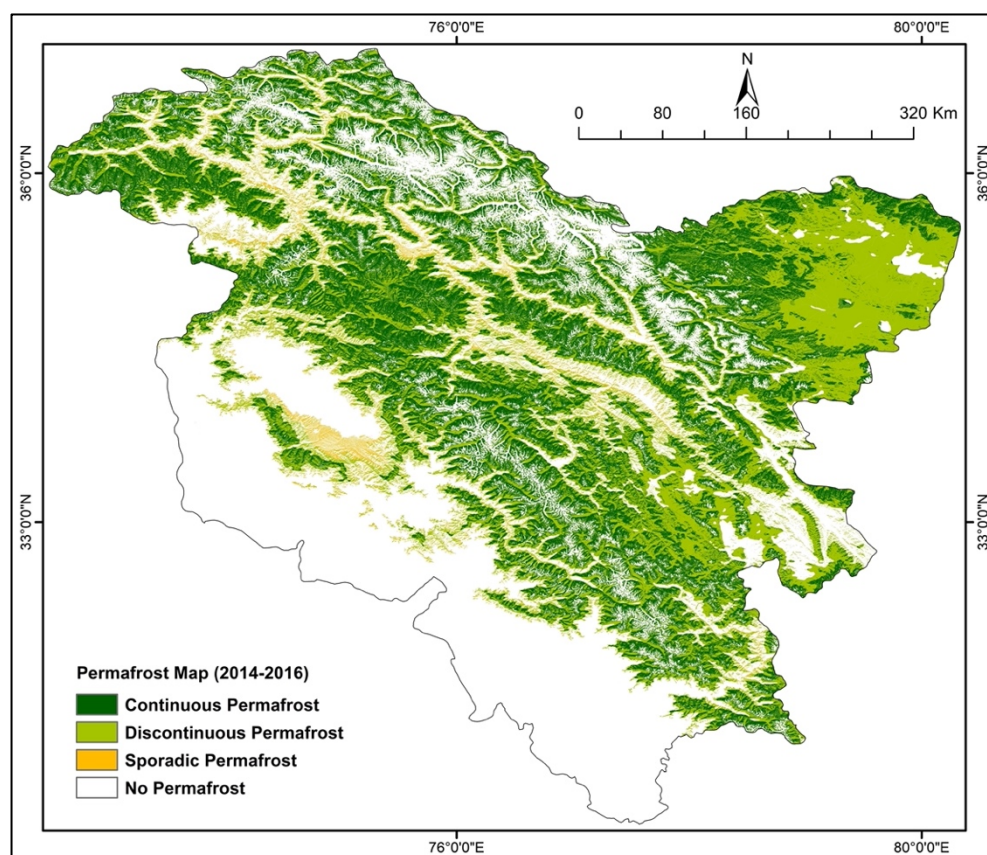


Figure S14. Map of the study area showing the permafrost extent for 2014-16.

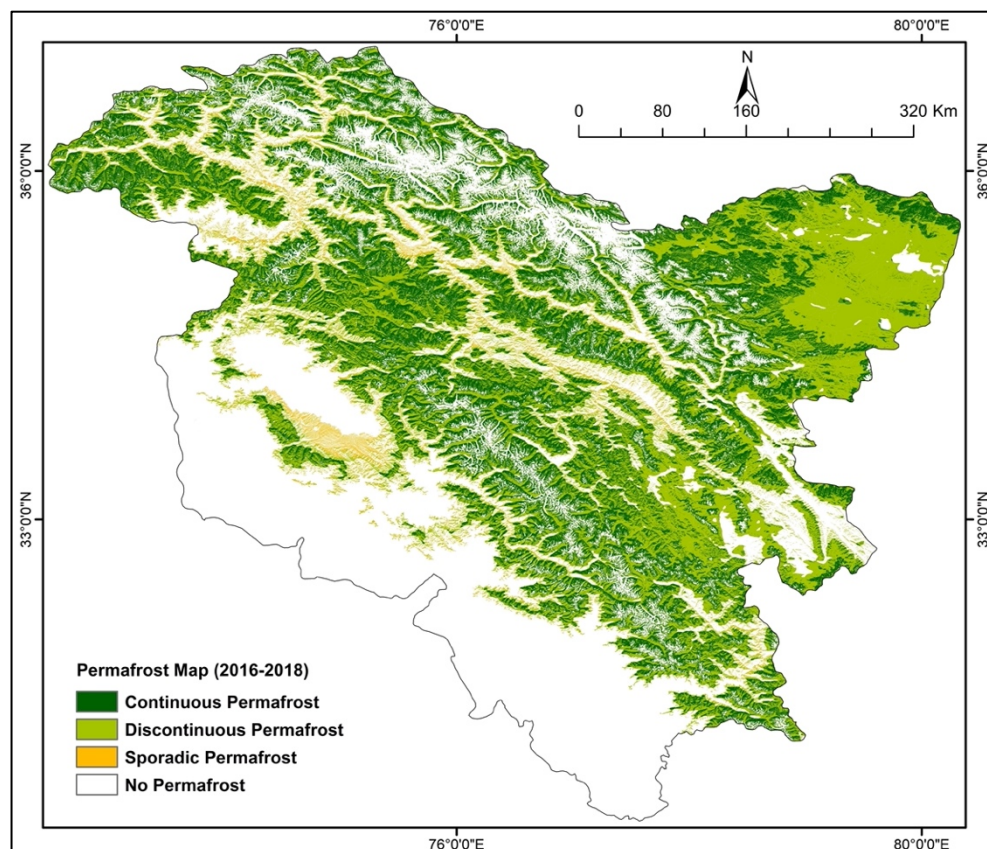


Figure S15. Map of the study area showing the permafrost extent for 2016-18.

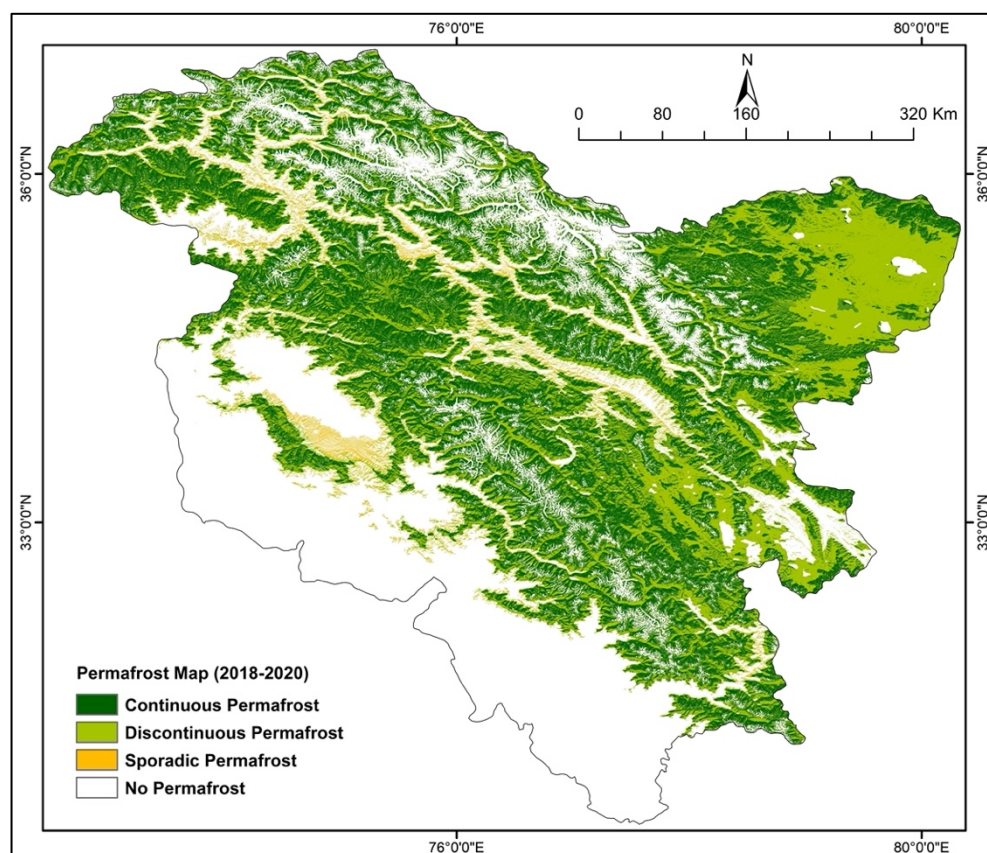


Figure S16. Map of the study area showing the permafrost extent for 2018-20.

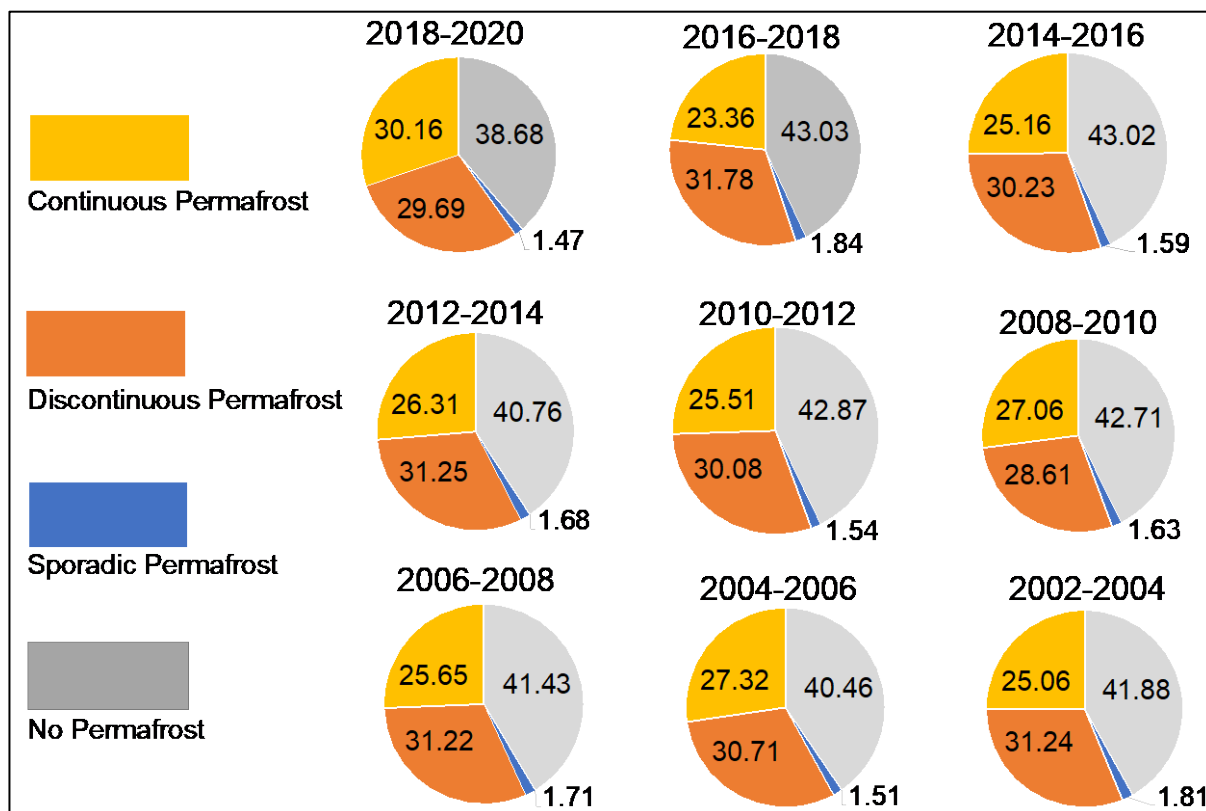


Figure S17. Pie charts showing the temporal (2002-04 to 2018-20) variation in the distribution of permafrost extent in the study area.