Can you help create the next generation of monthly Land Surface Air Temperature products?

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OVERVIEW

The International Surface Temperature Initiative is creating a databank holding and benchmarking and assessment framework to advance our understanding of Land Surface Air Temperatures. The ISTI needs independent analyst groups to take up the challenge of creating new products.

1. International land surface databank
   • A formal first release at the monthly resolution is pending acceptance of the methods paper (likely late spring).
   • Version control will be maintained.
   • Beta release version of the databank is available. www.gosic.org/GLOBAL_SURFACE_DATABANK/GBD.html
   • Significant increase in completeness and coverage over pre-existing holdings such as GHCNMv3 raw.

2. We require the creation of multiple independent datasets
   • Databank data undoubtedly contain artifacts from instrumental and operational changes.
   • There is no definitive right way to go about adjusting for such effects given the lack of traceability of the measurements and the lack of metadata.
   • Only through undertaking multiple methodologically distinct and independent efforts can we gain a realistic estimate of the uncertainty.
   • Redundancy of effort is scientifically important – cannot leave the task to just one group no matter how expert they are.
   • Efforts need not be globally complete analyses – regional analyses are equally important.
   • Databank is available as Tx, Tn, and Tavg.
   • Databank will be updated in near real time.

3. Benchmarking and assessment exercise
   • With real world data we do not have the luxury of knowing the truth – we cannot measure performance of a specific method or closeness to real world truth of any one data-product.
   • Consistent synthetic test cases, simulating real world noise, variability and spatial correlations potentially enable us to do this.
   • Create c.10 analog-error-worlds
     • Climate model basis (maintains plausible far field correlation structure) tweaked with real station climate characteristics.
     • Add in random and systematic errors to approximate the real world error structures which may exist.
     • Error structures should enable answering a range of questions / assumptions regarding the true error to avoid over-tuning.
   • Analogs to be made available based upon version 1 release of databank.
   • Analogs will mimic the spatio-temporal coverage of the databank.
   • Benchmarking includes periodic assessment exercises following successful model of COST HOME (Venema et al., 2012).

4. How to get involved
   • Any individual / group can take part.
   • It is helpful, but not essential to register interest / participation.
   • Unfortunately we are unable to provide financial support for contributions and participation.
   • We can provide letters of support and in kind support to the extent the (voluntary) resources of participants permit.

References
