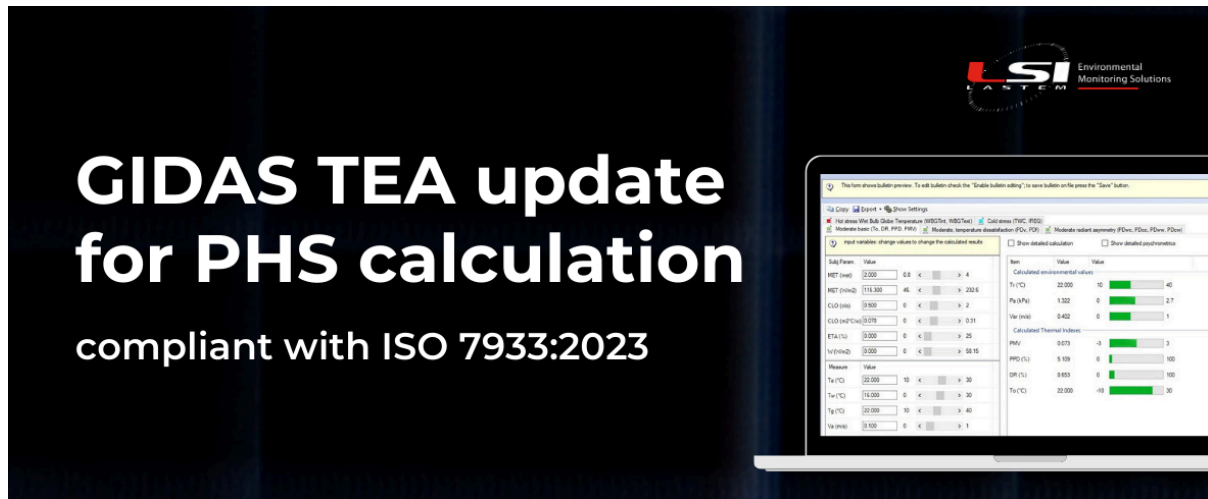


Update of the GIDAS TEA: compliance with the new ISO 7933:2023 standard



Introduction to the GIDAS TEA software

LSI LASTEM's **GIDAS TEA software** is an advanced and indispensable tool for those involved in **microclimatic surveys**, such as **workplace health and safety** consultants. The program allows accurate **calculations** of the **microclimatic indices**, necessary to evaluate the stress or thermal comfort of the occupants in compliance with current laws. In addition, thanks to powerful simulation capabilities, GIDAS TEA allows users to vary environmental parameters to predict results under different microclimatic conditions.

Description of the PHS microclimatic index

The **PHS** (Predictable Thermal Stress) **index**, compliant with the ISO 7933:2023 standard, is a fundamental parameter for evaluating thermal stress in hot environments. This index provides **indications** on the **work-rest cycles** necessary to prevent hot heat stress situations, determining the maximum exposure time and recovery periods required.

Regulatory and technical changes implemented in the program

The **2023 version** of **ISO 7933** (Ergonomics of the thermal environment – Analytical determination and interpretation of heat stress using calculation of the predicted heat strain) introduced important **changes** to the **calculation of PHS**. Below are the main changes:

- **SWmax (Maximum Sweat Rate):** the maximum sweating value no longer depends on the subject's metabolic expenditure. The new limits are 400 g/h for non-acclimatized subjects and 500 g/h for acclimatized subjects;
- **Exposure criteria:** to determine the maximum exposure time, the criterion based on 50% of workers has been eliminated, keeping only the one based on 95%.
- **Calculation formulas:** all the formulas contained in the calculation have been verified and the calculation of the radiant temperature has been updated according to the formulas reported in ISO 7726 and ISO 7243 valid for both type C (comfort) and type S (stress) environments.

The calculation code of GIDAS TEA has been updated to reflect these changes, ensuring accurate calculations that comply with the new standard.

Specific parameters for calculating the PHS

GIDAS TEA now includes **updated tables** to facilitate the selection of parameters needed for PHS calculation, such as special material reflectance coefficients and body area ratio. These updates simplify data entry and improve the accuracy of analyses.

Visualization of results

The changes to the program include a **new summary display** that clearly indicates compliance with the calculation **according** to the **UNI 7933:2023 standard**. Furthermore, the data relating to the D50 and D50L indices have been removed, while the calculations carried out with previous versions of the standard retain the original visualization.

Calculation reports

Two new report templates associated with the updated PHS calculation have been introduced. These reports are generated automatically and offer detailed documentation compliant with new regulations.

Updates on metabolic activity

Metabolic activity is an essential data for calculating the PHS. With the update to the UNI EN ISO 8996:2022 standard, **GIDAS TEA** allows you to enter the value of **metabolic activity in Watts**, with **automatic conversion to met** to maintain compatibility with existing projects.

Subject parameter library

A new feature of the program allows you to create a **library of subject parameters**, facilitating the management and use of standard subjects in different projects. This improves the efficiency and consistency of calculations, reducing the time needed to set parameters.

Conclusion

The update of the GIDAS TEA program to ISO 7933:2023 represents a significant step towards greater accuracy and compliance in microclimate calculations. In a sector as delicate as the microclimatic control of workers, having a commercial partner like **LSI LASTEM** that **guarantees constant updates** and **compliance with regulations** is essential. For further

information on our tools and software for microclimatic investigations, we invite you to visit the dedicated page on our website or contact us directly.