



# Heat Strain Decision Aid

Natick, Massachusetts

## USARIEM Heat Strain Decision Aid (HSDA)

The HSDA is an automated tool which assists commanders or training cadre in performing risk assessments for heat injury based on information about the Soldier, their environment, clothing and activity. HSDA estimates core temperature and calculates recommended safe work times, water requirements, and risk of heat casualties if guidance is not followed. Thousands of experiments were used to develop and validate HSDA which underpins current Army heat injury prevention doctrine.

HSDA is one element of the Army's Integrated Weather Effects Decision Aid (IWEDA) found in the Army's tactical weather battle command system. IWEDA aids commanders in selecting appropriate systems under given forecasted weather conditions and provides qualitative weather impacts for operations, including Soldier performance and risk of heat injury.

HSDA is also contained within the Joint Warning and Reporting Network (JWARN) to meet a requirement for certified heat strain decision aid functionality within their application. The JWARN is a computer-based application that networks nuclear, biological and chemical sensors directly with joint and service command and control systems.

HSDA-RTB is being transitioned to the Ranger Training Brigade for mitigation of heat strain in students attending Ranger School. A module specific to the 12 mile foot march with loaded ruck has been validated during the summer of 2008, and elements to address other events during Ranger Assessment Phase (RAP) and during mountain phase are being developed.

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