

# Generation III Extended Cold Weather Clothing System (ECWCS)



## Specifications

**Component materials:** Base layer garments are constructed of silkweight, moisture-wicking knitted polyester and polyester grid fleece. The fleece jacket uses thermal pro animal fur-mimicking insulation. The wind jacket is made of a lightweight, windproof, and water-repellent material. The soft shell jacket and trousers are made of a highly water-resistant, windproof material that increases moisture vapor permeability (breathability). The extreme cold/wet weather jacket and trousers are made of a waterproof material for use in prolonged wet and/or hard rain conditions. The extreme cold weather parka and trousers are constructed with loft insulation that provides superior warmth with high compactability, low weight, and low volume.

**Color:** Desert sand (base layers); foliage green (fleece layer); universal camouflage pattern (outer layers); urban gray (extreme cold weather)

**Weight:** 12.85 pounds (all layers combined)

**Size:** Tops and bottoms: X-small-short, X-small-regular, small-short, small-regular, small-long, medium-regular, medium-long, large-regular, large-long, X-large-regular, X-large-long, X-large-X-long, XX-large-regular, XX-large-long, XX-large-X-long

**Status:** Initial fielding began in August 2007 to elements of the 73rd Calvary Regiment in Afghanistan. Fielding is through the Rapid Fielding Initiative.

The Generation III Extended Cold Weather Clothing System (GEN III ECWCS) was designed to be functional in multiple cold weather climates and activities. It consists of a multilayered insulating system that allows the Soldier to adapt to varying mission requirements and environmental conditions. New materials offer a greater range of breathability and environmental protection, providing greater versatility in meeting Soldiers' needs. The GEN III ECWCS design is more compatible with body armor than previous cold weather clothing. The 12 components of the GEN III ECWCS include a lightweight undershirt and drawers, midweight shirt and drawers, fleece cold weather jacket, wind cold weather jacket, soft shell jacket and trousers, extreme cold/wet weather jacket and trousers, extreme cold weather parka and trousers.

*During Operation Mountain Lion, I found myself praying for bad weather, the first time in my military career I was actually begging for a cold front to come through. I knew my Soldiers could handle it and the enemy couldn't. ECWCS allowed my men to outlast the enemy on their own terrain. When the enemy was forced out of the mountains due to the bitter cold to take shelter, that's when we got them*

*- LTC Christopher Cavoli, Commander, 1-32 Infantry Battalion, 10th Mountain Division*



## ECWCS Increases Survivability and Comfort, Helps Troops Outlast the Enemy



Among the many challenges American and allied Soldiers face in Afghanistan, one they have had little control over is the weather. Depending upon the season, the temperature in the rugged mountain nation can range from minus 20 degrees Fahrenheit to well above 100 degrees Fahrenheit.

Now, with the Generation III Extended Cold Weather Clothing System (GEN III ECWCS), Soldiers are getting the help they need from their equipment. GEN III ECWCS, designed based on clothing used by mountaineering professionals, is being distributed through the Rapid Fielding Initiative to all Soldiers deploying to Iraq and Afghanistan.

The system provides Soldiers with a survivability advantage while operating in multiple cold weather climates and activities. With layered clothing systems based on principles of insulation, layering, and ventilation, it represents a large leap forward in extreme climate operations. The 12-piece, seven-layer system allows Soldiers to dress up or down to their individual comfort levels to accomplish their missions in extremely cold climates without risk of hypothermia or of overheating when activity levels rise.

The harsh winter is a particular challenge, and ECWCS has met the challenge, according to overwhelmingly positive feedback from Soldiers who have used it. Operating in the cold is tough on troops: The going is slower, and it takes more time to perform tasks. Strength ebbs faster; so does concentration. It is essential to stay dry and warm.

SGT Franklin Hayes, who was deployed to Afghanistan with the 10th Mountain Division, spent a week walking from one village to another where his unit was setting up a base. "It was a very good system because it gave us different layers to be able to change with the environment as opposed to just throwing on an overcoat regardless of how cold it was," Hayes said.

Going from wet to cold to wet and cold really put the ECWCS system to the test. Its inner layers retain heat but draw perspiration away from the skin. The outer layer lets perspiration evaporate while repelling water. These features, according to Hayes, proved especially useful when sweaty Soldiers on patrol needed to stay warm and sleep for a couple of hours. "As our bodies started to cool down we would get really cold because we were wet, so we could put layers on as we needed them," Hayes said.

The 12 components of GEN III ECWCS provide Soldiers clothing with greater breathability and environmental protection, and compatibility with Interceptor Body Armor (IBA), compared with previous ECWCS systems. The GEN III ECWCS system includes a lightweight undershirt and drawers, midweight shirt and drawers, fleece jacket, wind jacket, soft shell jacket and trousers, extreme cold/wet weather jacket and trousers, and extreme cold weather parka and trousers. Each layer can accommodate rank, name, and U.S. Army tapes, using a hook-and-loop system.

The clothing enables Soldiers to adapt more readily to varying mission requirements and environmental conditions ranging between minus 40 to plus 60 degrees Fahrenheit.

Each piece in the ECWCS fits and functions either alone or together as a system to provide the most options for the Soldier, enabling seamless integration with load carriage equipment and body armor. Hayes said the system "worked well with the IBA. We didn't have any issues with it, even with the loft suit. It doesn't really change your mobility at all."

Of the wind jacket, SGT Hayes said, "Whenever there was going to be a storm you always wanted to have it with you. .... We had a sandstorm pop up—they come up out of nowhere. Along with it came torrential downpours, and we were stuck out in the middle of a mountain range. It kept us pretty dry considering basically having buckets of water dumped on us, but it also kept us warm, especially afterward."

The advantage of the GEN III ECWCS clothing can't be underestimated. It changes the way Soldiers can fight and enables them to take the fight to the enemy. The Army's Project Manager Clothing and Individual Equipment, part of Program Executive Office (PEO) Soldier, sought significant feedback from Soldiers and industry to develop this integrated cold weather system.

The Soldiers operating under LTC Christopher Cavoli, Commander, 1-32 Infantry Battalion, 10th Mountain, were among the first to receive the GEN III system and test it in the combat environment, and the results were dramatic, Cavoli said, "During Operation Mountain Lion, I found myself praying for bad weather, the first time in my military career I was actually begging for a cold front to come through. I knew my Soldiers could handle it and the enemy couldn't. ECWCS allowed my men to outlast the enemy on their own terrain. When the enemy was forced out of the mountains due to the bitter cold to take shelter, that's when we got them." The 10th Mountain Division field-tested 18,000 GEN III ECWCS systems in Afghanistan in the fall of 2006 and winter of 2007.

Now, U.S. Army Soldiers equipped with GEN III ECWCS and fighting Taliban insurgents count on the weather, if not as a friend, at least as a potential ally.