



## New Hampshire Amateur Radio Emergency Service



### How NH-ARES Communicates Around New Hampshire And Beyond...

#### Message Types:

ARES messages sent via Amateur Radio on behalf of served agencies fall into two categories – Tactical and Formal.

**Tactical Messages:** Short verbal messages are for immediate and direct delivery to someone at or near the radio. For example, “The Ames dam has breached” or “The Warner River is two feet over flood stage.” Tactical messages can be passed by voice on either High Frequency (HF) or VHF/UHF radio systems.

**Formal Messages:** These are longer or more detailed messages, agency forms, or those that will take time or multiple relays to deliver. Formal messages are *always* written, and delivered precisely as originally composed. Formal messages can be relayed using a number of methods depending on the circumstances, including voice, digital data, Winlink 2000 radio email, or even Morse Code. The Winlink 2000 system is the most versatile and can send and receive error-free email from the Internet and can handle small file attachments. For in-state and local operations, PSK over HF or VHF works well.

#### Radio Systems:

**VHF/UHF:** ARES uses about 40 mountaintop FM voice repeaters around the state, including several radio-linked systems. We also use Echolink and IRLP, both Internet-based systems for Amateur Radio repeater linking. For local data in many areas, we use 2m Packet radio, often tied to Winlink 2000 VHF Packet nodes.

**HF:** For areas where no repeater or data network coverage exists, or for communication outside the state to anywhere in the country, we can use HF NVIS radio systems on the 40m, 60m, or 80m bands. HF long-range and local NVIS stations can also be used to access the Winlink 2000 radio-email system or the back-up nationwide National Traffic System manual message relay networks.

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