

ECHO Quick Reference Guide

1. Score the incident across Entry, Class, Hazards and Outlook (ECHO)
2. Calculate ECHO incident colour and transmit/share.

Entry

The degree of difficulty for a swiftwater rescuer to enter the water flow (hot zone) is scored (table 3). The degree of difficulty to egress/exit the flow is considered next in the remaining ECHO components as limitations in self-rescue and flow speed for example factor into this.

0	Easy to enter, with little to no effort
1	Able to enter, may require effort
2	Able to enter, may require simple assistance
3	Able to enter, only with simple assistance
4	Difficult to enter, requires technical assistance
5	Very difficult to enter, even with technical assistance
6	Unable to gain entry

Table 3: ECHO Entry score

Class

Based on the hydrological features, the flow is assessed in accordance with the ISRD or this simplified table (table 4).

0	No flow (stationery water)
1	Fast moving, ripples often present
2	Straight forward hydraulics or waves
3	Moderate, irregular waves or hydraulics
4	Intense but predictable waves or hydraulics
5	Obstructed or very violent rapids or hydraulics
6	Extreme or non-navigable

Table 4: ECHO simplified classification of river



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Hazards

Score	Self Rescue (Responder Level)	Flow Speed	Depth	Contamination	Wildlife	Temperature	Imminent Hazards to rescuer if exposed
0	Self rescue not needed	No flow speed (static)	Less than ankle	Water safe to drink		Above 20°C (68°F) but not hot enough to	No other hazards identified
1	Self rescue easy	Less than walking speed (5kmph or	Shin to thigh height		Nuisance wildlife not posing threat to safe-	Between 12°C (43°F) and 20°C (68°F) or	
2	Self rescue may require effort	In between walking and running speed	Above thigh up to chest	Biosecurity hazard not directly affecting human safety (ie. didymo)		Between 6°C (43°F) and 12°C (54°F) or high thermal demand	Hazards that may hinder rescue (i.e. turbidity) or damage property
3	Self rescue difficult, may need help	Running speed (12.5kmph)	Above chest but less than 2m.	Contaminants under their PEL		Between 0°C (32°F) and 6°C (43°F)	Hazards that may cause minor injury
4	Self rescue limited, help required	Sprinting speed (25 kmph)	2-3 metres deep	Contaminants exceeding their PEL or known	Animals present that may threaten safety	Below 0°C (32°F)	Hazards that may cause moderate injury
5	Expert assistance often required	25-50 kmph	Over 3 metres deep				Hazards that may cause major injuries
6	Rescue may be impossible or death imminent	Greater than 50kmph		Contaminants IDLH	Large predatory animals likely to attack		Imminent hazards highly likely to cause death or serious inju-

Outlook

The outlook provides an indication whether the swiftwater rescue risk, based on any of the three primary ECHO components, is likely to increase in risk (escalate) or is likely to decrease in risk (de-escalate) in the window of time to carry out the rescue. The outlook uses the up and down arrow symbols respectively, and where the incident is deemed stable (unlikely to change), no symbol is used.

ECHO Colour

The ECHO colour allows any SRIRAC combination to be easily translated into an overall risk colour. Using a simple five colour approach:

Green	Low	No component exceeds a score of 1.
Yellow	Medium	Any component scored as 2
Orange	Medium Plus	Any component scored as 3-4
Red	High	Any component scored as 5
Purple	Extreme	Any component scored as 6

The use of the ECHO colour, following on from assigning a SRIRAC (code) allows for the rapid and simple communication of risk to other public safety professionals. For example, the first arriving responders on scene may code the incident as 352↑, which would be an “ECHO RED ESCALATING” as one of the components scored a 5 (in this example, the flow was Class V). Context can be given to the ECHO Colour such as “ECHO Yellow Low Head Dam”.



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