

# Flawed Situational Awareness

The stealth killer of wildland firefighters.

Dr. Richard B. Gasaway  
Fire Chief (ret.)  
Situational Awareness Matters!



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Awareness  
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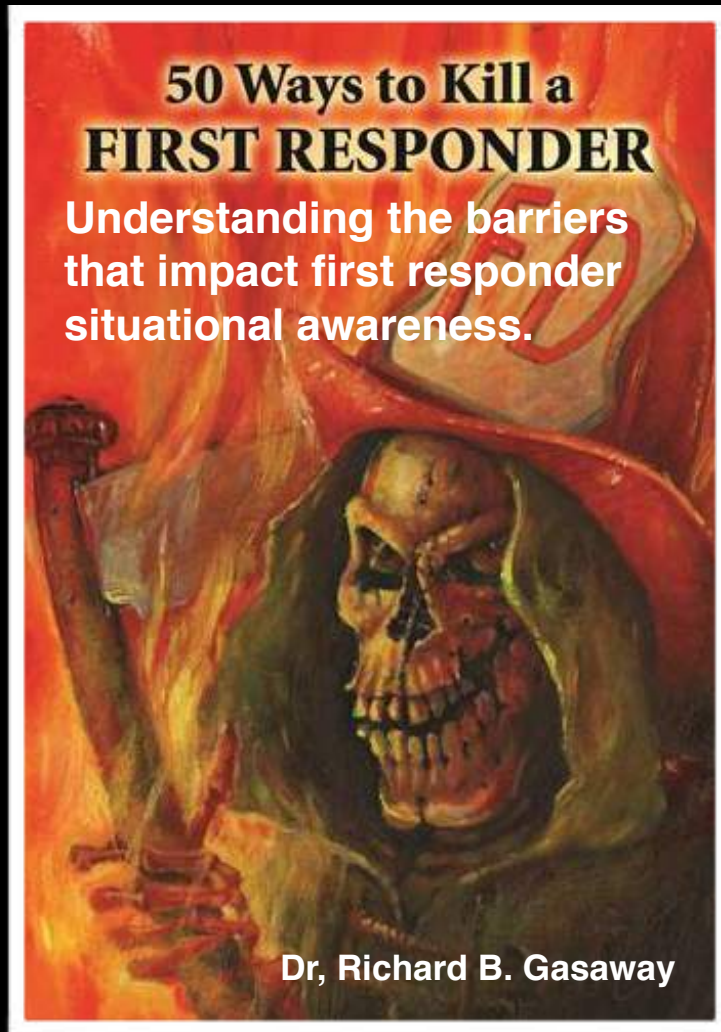


If you are interested in  
hosting a program  
please contact  
Dr. Gasaway at

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This program is available  
as a 3 part DVD series.

If you are interested in  
purchasing it:

Click the “store” link on the  
**SAMatters.com** website

# Situational awareness

The ability to **perceive** AND **understand** what is happening in your environment (in context to how time is passing) and then, in turn, being able to accurately **predict** future events... in time to avoid bad outcomes



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# The Situational Awareness Development Process

## Perception

Using the senses to capture information...  
(clues and cues) about the current situation

- Pay attention...
- Keep your head on a swivel...
- Look up, down, and all around...
- Actively listening...
- Size-up
  - “What’s happening right now?”



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Visual

Audible

Smell

Taste

Sensation



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# The Situational Awareness Development Process

## Understanding

**Making sense out of what is:  
Seen, heard, felt, tasted & smelled**

- **Comprehension**
- **Moment of clarity**
  - **“What does all this mean?”**
  - **“Is this what I expected?”**



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It seems so easy...

See... and understand.

Hear... and understand.



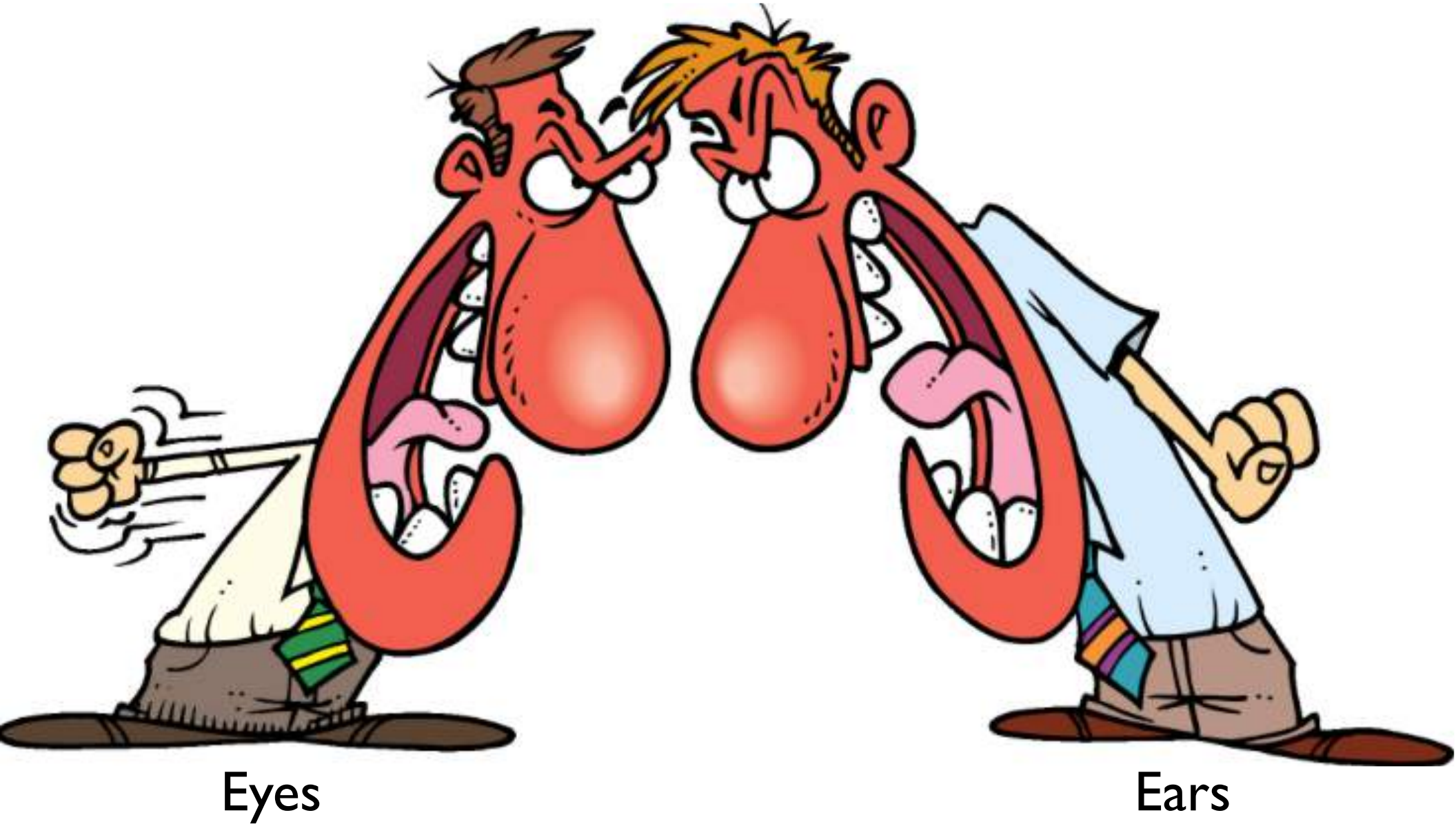


Perception

Understanding



# Sensory Conflict



Eyes

Ears



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MAGIC Etch A Sketch® SCREEN

Where in your brain  
do you develop  
your understanding?

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Sensation

Visual

Taste

Audible

Smell





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There are puzzle pieces you cannot see or hear.



## Negative Clues & Cues

Only experts can comprehend  
the meaning of the  
missing information.



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# Memory Recall



Can trigger the 6th sense.



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# Intuition



Pattern Matching

Tacit Knowledge



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A man with a confused expression, scratching his head. The image is split vertically: the left side shows the man's face and hand against a light grey background, while the right side is a solid black background with white text.

# Intuition:

# Knowing...

# Without knowing...

# How you know.



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# Your Red Flag Warning System

*Intuition*

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There are some problems with intuition:

It is hard to understand the origin of intuition.

It is easy to dismiss or distrust intuition.

It is hard to justify decisions without facts & data.

Intuition can be wrong.



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# The Situational Awareness Development Process

## Prediction

**Anticipating future events before they happen.**

- Run options in your head
  - Forecasting
  - Projections
- Begin... with the end in mind
- Mental models



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# The Situational Awareness Development Process

## Prediction

**Anticipating future events before they happen.**

- Where is this event headed?**
  - How long is it going to take to get there?**
  - Every event unfolds at a certain pace (speed)**
  - Keeping track of the passage of time.**



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The ability to perceive AND understand  
what is happening in your environment

**(in context to how time is passing)**

and then, in turn, be able to accurately  
predict future events...

in time to avoid bad outcomes



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# The Situational Awareness Development Process

## Prediction

**Anticipating future events before they happen.**

- **Setting Expectations**
  - Can we change the outcome?
  - Are the conditions right?
  - Do we have the resources?
  - Can we operate faster than conditions are changing?
  - How much time do we have?



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MAGIC Etch A Sketch® SCREEN



Your Mind's Eye





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Sensory inputs  
+  
Visual imagery  
+  
Memory Search  
+  
Forecasting

# Case study



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Be thinking about...

Perception

Understanding

Prediction



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# Situational Awareness Barriers

Anything that blocks:



- Perception
- Understanding
- Prediction



# Pre-Arrival Lens



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CONSIDER

Conducting an original size-up to to improve the accuracy of your situational awareness.

Avoiding premature decisions based on assumed information.



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# Urgency



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# CONSIDER

Avoiding shortcuts, especially those related to SA and decision making.

Avoiding the mindset:  
“There’s no time to waste!”

# Over Confidence



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# Complacency



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CONSIDER

Avoiding “created” risk.

No celebrating near-miss events.

Never letting your guard down.



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# Confabulation



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# CONSIDER

Being aware that in the absence of facts,  
your brain can make up its own reality.

Being alert for differing  
“Perceptions of reality.”

# Multitasking



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CONSIDER

As you alternate attention,  
understand information can be lost.

Writing things down.

Sensory domination can dull other senses.



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# Short-Term Memory Overload



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CONSIDER

Respecting your short-term memory limits.

Learning & practicing  
memorization techniques.

Using memory aids:  
(checklists and worksheets).



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# Time Distortion



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# CONSIDER

Keeping track of the passage of time.

Elapsed time notifications:

The faster the incident conditions are changing,  
the shorter the timeframe for ETNs.

# Auditory Exclusion



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# CONSIDER

Determining what radio traffic is:  
Critical, essential, non-essential.

Using standardized terms & phrases.

Using a cadence.



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# Task Fixation (Attentional)



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CONSIDER

The bad news is:  
It is extremely common.

The good news is:  
You can control it.

Meta-awareness.

Mindfulness.



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# Mission Myopia



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## CONSIDER

The bad news is:  
This is taught and reinforced in  
our training and our culture.

The good news is:  
Behavior can be changed through teaching,  
coaching, practice and mentoring.

Teach the process of decision making.

# Automatic Performance (robotic action)



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CONSIDER  
THIS

Skill set is a combination of education and training.

Cognitive and kinesthetic go together.

Teach and practice how to:

Think - Decide - Act



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# Barriers can steal away your Situational Awareness



**And there are more  
than 100 of them!**



# Handout of today's program...

On an index card write down your

**Name**

**Email Address**

**(Please: Write neatly.)**

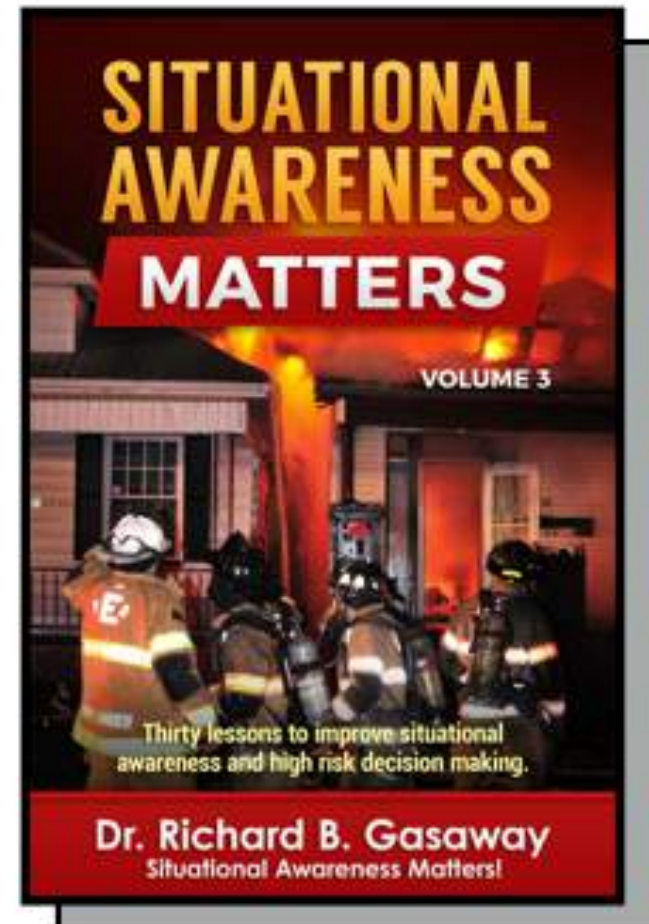
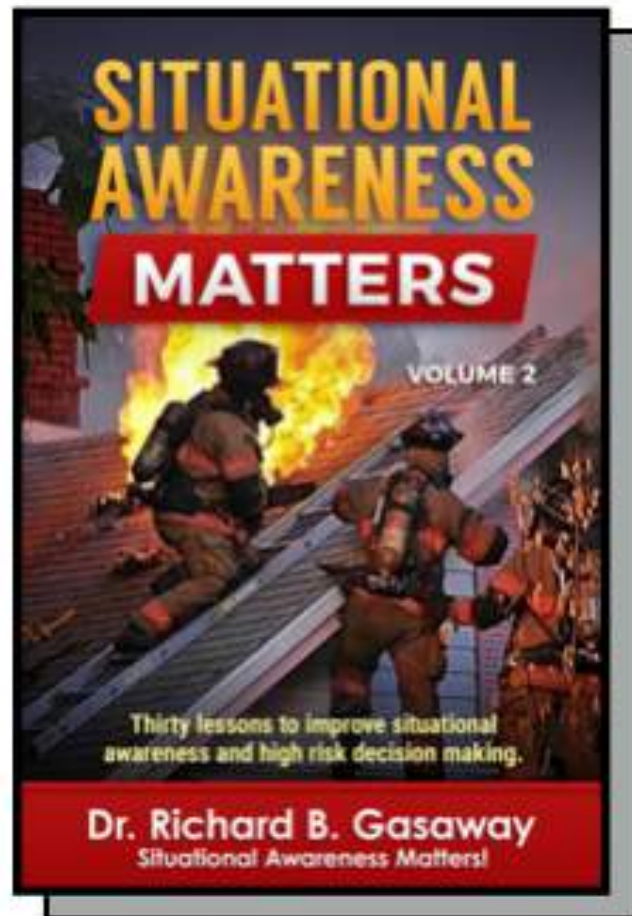
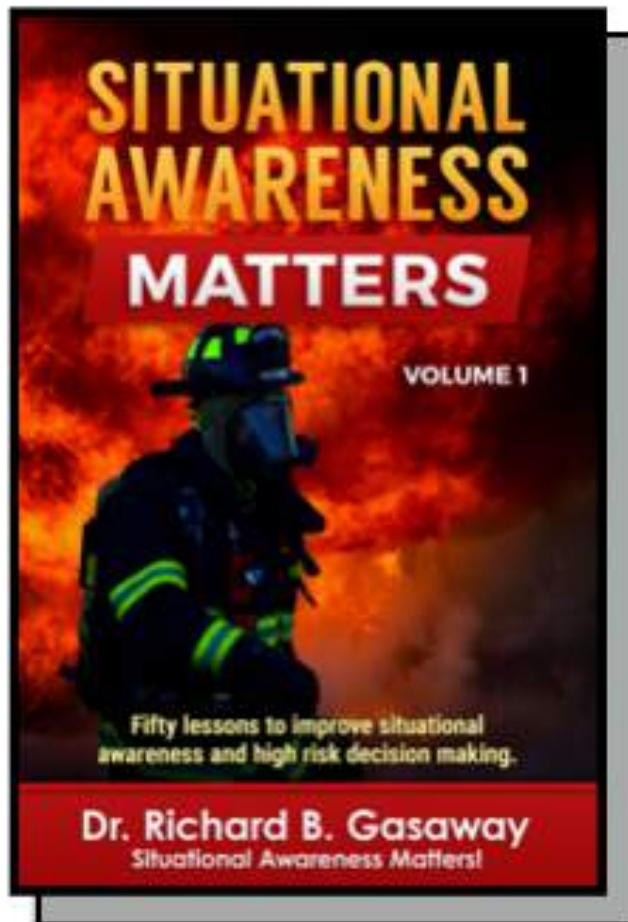
If you have a business card...

**“HO”**

**“FU”**



# Books





FIGHT FIRE WITH FIRE



**MIDWEST FIRE**  
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Helping wildland firefighters see the bad things coming...  
in time to avoid bad outcomes.

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