

PIFSC Boating Operations Risk Assessment Tool (GAR Model)

Risk Factor	Risk Factor Score						Risk Level
	Very Low	Low	Medium	Medium-High	High	Very High	
Resources: Equipment, PPE, Communication, Support, instruments, platforms	Excellent All systems operational. <30 min rescue response.	Very Good All systems operational. 30 - 60 min rescue response	Good All necessary systems operational. 60 - 120 min rescue response	Marginal Temporary fix on some systems but operational. >120 min rescue response	Cat II Deficiencies Cat II deficiencies on boat. Temporary fix on primary systems and equipment	Cat I Deficiencies Missing a key resource to safely complete mission. Hull integrity compromised.	
Environment: near shore, open ocean, surf zones, high current/tidal effects	Very Forgiving Protected bays, harbors. Marked channels	Forgiving <1 mile offshore, bay with >1 mile opening	Moderately Forgiving 1-3 miles off-shore, strong currents, tidal effects	Unforgiving 3-10 miles off shore, near surf zones, unmarked channels/reefs	Very Unforgiving 10-20 miles off shore, in surf zones,	Dangerous >20 miles off shore	
Weather: Wind and Sea state, weather conditions	Excellent Calm wind and seas	Very Good <2' seas and/or 5-10 knots wind	Good <3' seas and/or 10 to 20 knot winds	Marginal 3-6' seas and/or 20 to 25 knots wind	Poor 6-8' seas and/or 25 to 30 knot winds	Very Poor >8' seas, >30 knot winds	
Team Selection: Experience, training and familiarity, safe manning levels	Excellent Team Highly qualified OIC. Expert crew that can do every aspect of tasks/roles	Very good Team Highly qualified OIC. Personnel expert in assigned roles	Appropriate Team Qualified OIC. Majority of personnel expert in assigned roles. New staff in training	Marginal Team Qualified OIC. New crew and/or crew-in-training. Minimum manning level	Poor Team Qualified OIC. Untrained crew. Below minimum manning level	Very Poor Team Newly qualified OIC. Untrained crew. Below minimum manning level	
Team Fitness: Physical and mental fitness of all personnel on board	Excellent Readiness Minimal physical activity required. Team in excellent fitness for required activity. All well rested	Good Readiness Some physical activity required. Team is rested. No physical/mental stress observed.	Appropriate Readiness Physical activity required. Team able to accomplish tasks with minimal fatigue. Designated rest periods scheduled	Marginal Readiness Increased physical activity required. Some fatigue observed. Minimal rest periods.	Poor Readiness Injuries reported. Fatigue obvious. No rest periods available or exceeding 12 hour work day.	Very Poor Readiness No qualified staff on site. Directions are being given over the phone	
Mission Complexity: New or experimental, time sensitive, response or research, mission briefing	Simple No equipment needed, no specialized skills other than operator certification	Standard Basic boating operations. Some technical equipment & specialized skills	Moderately Complex New operation, gear testing, multi-day project, transfer of personnel to ship, Dive operations. Moderate boating traffic	Complex Gear over-the-side, emergency response, night operations. Highly technical skills required. Heavy boating traffic	Very Complex 12 hours of continuous operations, at maximum capacity of boat,	Extremely Complex >12 hours continuous operations w/out additional OIC/crew. Exceed max capacity of boat.	

If a Risk Level equals:

Medium-High

High

Very High

Notify VOC before proceeding

Contact VOC or VPC for approval to continue operations

Do not proceed/continue with mission unless risks are mitigated. Contact VOC or VPC for approval.