Comparison of vestibular input statistics during natural activities and while piloting an aircraft

Authors: Roques, A.[1,2,3], James, Y[3], Bargiotas, I.[1], Keriven Serpollet D.[1], Vayatis, N.[1], Vidal, P.-P. [4,1]*.
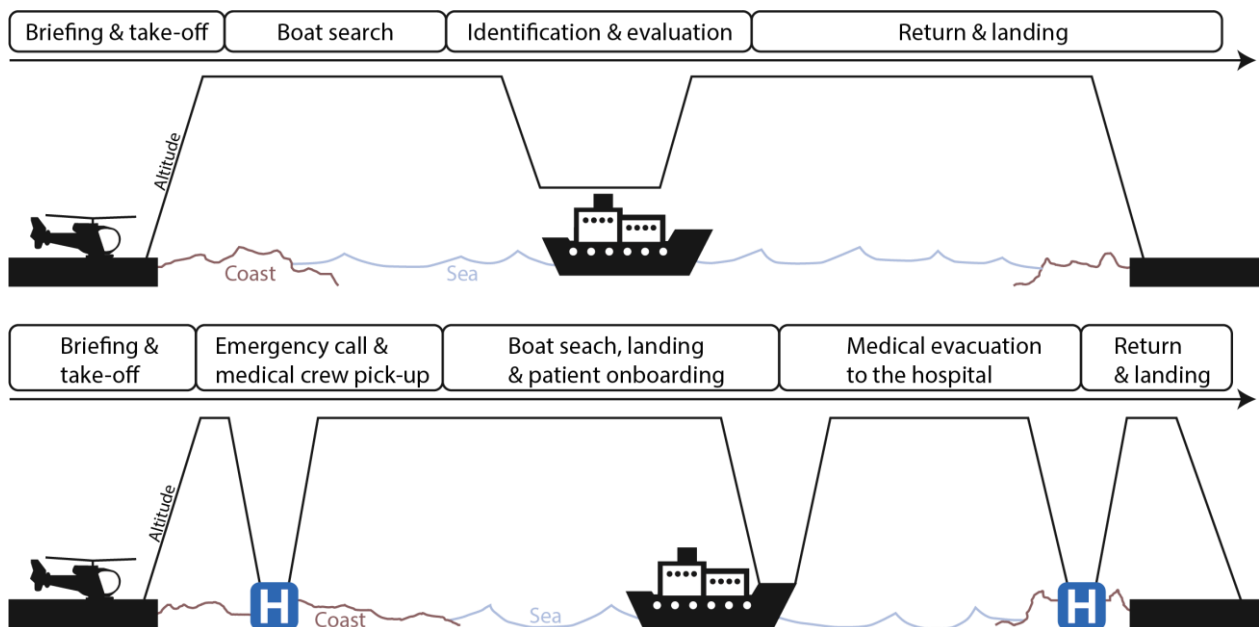
[1]Centre Borelli, CNRS, SSA, INSERM, Université Paris Saclay, ENS Paris Saclay, Université Paris Cité, 75006 Paris, France
[2]Laboratoire GBCM, EA7528, CNAM, Hesam Université, 75003 Paris, France
[3]Thales AVS, 95520 Osny, France
[4]Institute of Information and Control, Hangzhou Dianzi University, Hangzhou, China

Scenarios of the manual navigation task

Supplementary Figure 1: Main tasks involved in the first and second scenarios (respectively top and bottom panel).

Pilots were asked to conduct two realistic scenarios in the simulator. In the first scenario, pilots were tasked to research and identify a boat that was spilling oil at sea. After briefing, they flew off the coast, searched for the boat, identified the boat registration and returned. In the second scenario, pilots embarked for a rescue mission at sea. After take-off, they received an emergency call and were commanded to intervene. To do so, they had to adapt their flight plan, pick up a medical crew at the hospital, fly towards the boat and land. With the wounded individual now on board, pilots made their way back to the hospital. However, before reaching their destination, they were asked to land in a low-visibility area for an emergency landing because the condition of the patient was deteriorating. After this eventual stop, pilots dropped off the medical team at the hospital, and returned to the airport.