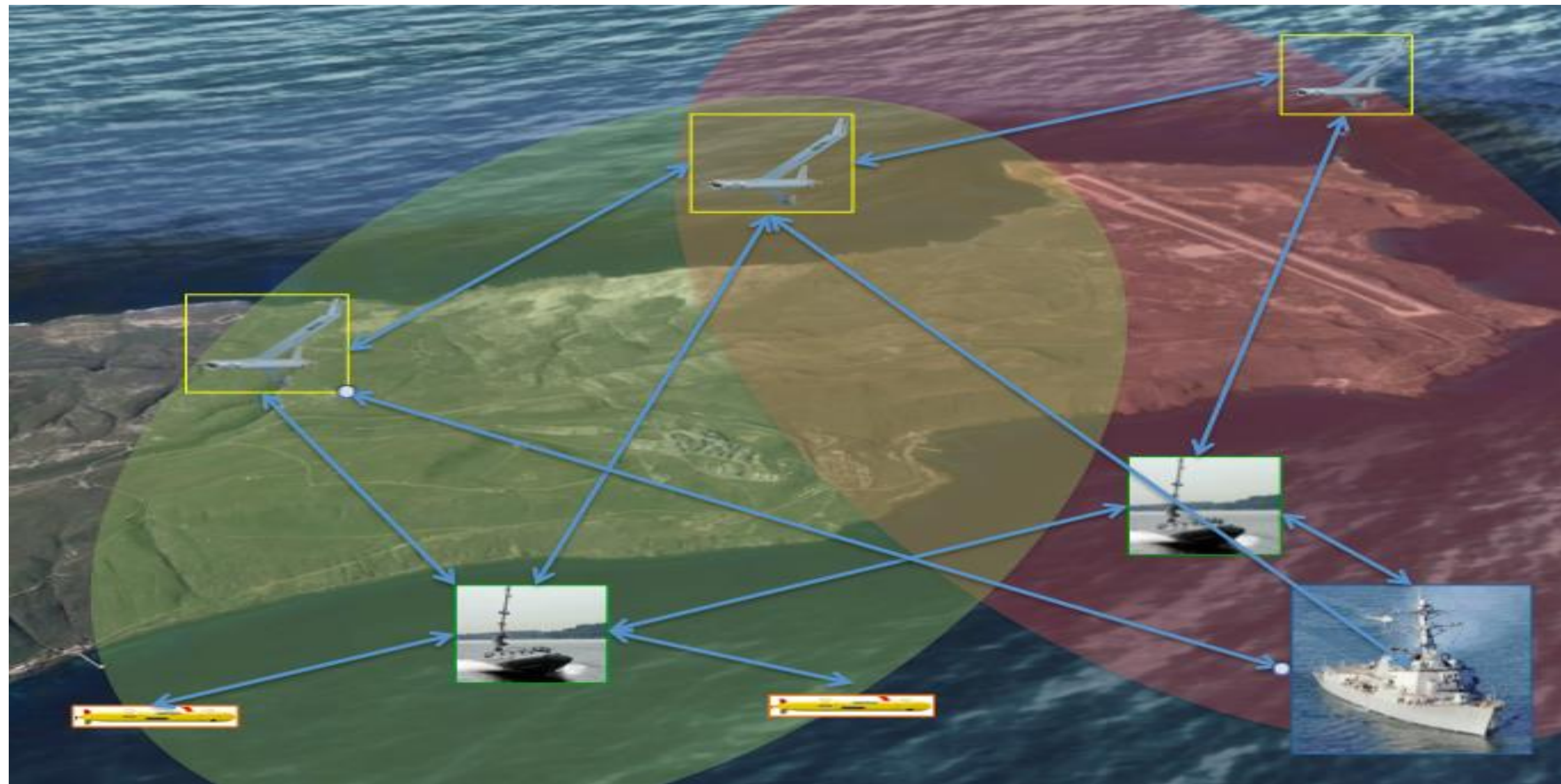


# Human Machine Teaming in a Hybrid Network Control System



Network Control System

## How

- Multiple one-hour sessions will be completed with a ScanEagle simulator, using current ScanEagle operators.
- Multiple sessions are necessary to have operators complete different scenarios, with varying number of ScanEagles.
- Participants would be exposed to various scenarios that include errors reported by professional operators. Clean runs with no errors will also be intermixed in the scenarios to get a baseline number of UAVs capable of being managed by one operator when there are no problems.
- The number of UAVs being managed and the types of scenarios will be counterbalanced between participants to ensure all scenarios are experienced with all possible UAV numbers.

## What

- The ScanEagle is one of the most widely used UAVs in the US Navy, and has traditionally needed two operators to fly.
- With increasing autonomy to support UAV operations, not only can the ScanEagle be flown by one operator, but it may be possible for one operator to fly multiple ScanEagles at once.
- The current proposal aims to investigate the maximum number of ScanEagles an operator can fly while taking into account errors that occur.
- Written recommendations will be provided to Naval Special Warfare about the study. A Student Thesis and Conference Paper will be produced.

## Objective

- Determine the maximum number of ScanEagles that can be flown by a single operator taking into account errors that can occur.
- Maximum number of ScanEagles to one operator is an important topic in personnel planning.
- Experiments using trained personnel and scenarios that incorporate atypical or unexpected elements will depict the most accurate assessment of how many ScanEagles an operator can handle.
- Additionally, this will add to understanding how to develop and incorporate autonomy to assist in flying multiple ScanEagles.