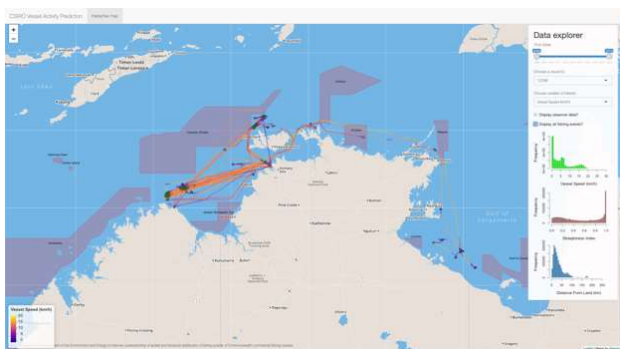


Monitoring Control and Surveillance Analytics

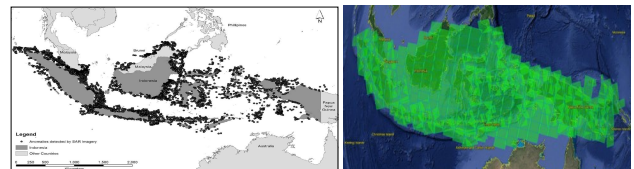
Tailored training workshop on tools to address Illegal, Unregulated and Unreported Fishing

CSIRO Fisheries Monitoring Control and Surveillance (MCS) team have developed several statistical tools for working with various forms of fisheries data, including satellite data, log book data, vessel tracking data, position data from generic vessel tracking systems on larger vessels (using Automatic Identification System, AIS, data) and fisheries vessel tracking systems (using Vessel Monitoring System, VMS and related data). These tools help us to detect vessels that are behaving in abnormal ways, discriminate activities of interest such as fishing events, and identify key violations such as misreported catch, transshipment of catch at sea, and use of regulated technologies such as fish aggregating devices (FADs).



Example of a statistical model used to detect fishing events, validated against logbook and observer data

The CSIRO team have developed a week-long training course to build the analytical understanding and capability of MCS officers to use fisheries data sources in new ways. The training consists of daily lectures and practical exercises based on relevant case studies. The training will give increased awareness of modern, data-driven approaches to identifying IUU related issues, including, for example, the use of risk modelling to identify likely violations and potential enforcement actions.



Example of unprocessed and processed Sentinel data for maritime applications. Automated detection of vessels from approximately 346 images.

The goal of the course is for MCS officers to leave with an understanding of the use of statistics and its potential role in Monitoring Control and Surveillance of Fisheries.

A typical 5-day course might include:

- **Day 1** - General introduction of the ideas behind various analytical tools and datasets, for example satellite radar, AIS, underwater sound, surface radar, VMS, and various other data sources and thinking with data for maritime surveillance and monitoring.
- **Day 2-4** are more in depth on specific topics. – These include risk assessment, including expert elicitation, qualitative risk assessment and quantitative risk assessment; anomaly detection, including behaviour anomalies, reporting anomalies, and movement anomalies; and space and time modelling, including vessel movements, port or vessel inspections, and fisheries landing records.
- **Day 5** – An open and flexible Question and Answer Day, aimed at helping people consolidate at the level they need. This includes supported working on group data, or individual data sets.

Please contact the MCS team at CSIRO if you would like further information on our training workshops, including how they can be tailored for the needs of your organisation.

For further information

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