## Robust Capacity Management

**Supervisor(s) Name:** Sarah van Rooyen, Ajith Ratnarajah

The Robust programme has been established to improve the long term security, reliability and availability of critical business functions across the Bureau. This will mean that the Bureau’s key systems are well protected through a range of layered defences, and that they can provide continuous forecasts and warnings to support the safety of life and property.

To achieve this, the Bureau needs to develop a strong capacity management framework.

The Capacity Management project will develop and deliver the system, policies and processes required to ensure that Bureau IT system resources are sufficient to meet current and future business requirements such that outages or issues on Bureau critical services are averted before thresholds are reached and long-term resource demands can be effectively managed.

The project will broadly follow the practices for IT service management set out in the Information, Technology Infrastructure Library (ITIL). Under this framework the project will look at addressing both short term and long term capacity management.

The project is seeking someone experienced in data analysis and solving applied problems. The candidate will be required to work as part of a team and autonomously to analyse data and develop models that:

1. identify trends in past IT capacity demand across Bureau devices, network infrastructure and software licences
2. identify patterns in ongoing system demands based on stakeholder predictions of future activity and business analysis inputs
3. predict future (short and long term) changes in capacity demands and the likelihood of capacity incidents occurring across the Bureau with confidence bounds and taking into consideration periods of peak activity during severe weather season
4. identify system specific thresholds to feed into capacity monitoring, alert and reporting systems to enable pre-emptive capacity management
5. optimise capacity allocation across Bureau critical business functions and service

The candidate will also be required to support developing user cases as part of model testing processes and to assist in designing a process to integrate model outputs and thresholds into the enterprise monitoring solution being scoped as part of Robust Tranche 2.
Student academic background: Seeking a PhD Student or Masters Student in statistics or machine learning. Knowledge of ICT systems and ITIL Capacity Management would be advantageous.

Number of students: 1

Location: Bureau of Meteorology Office in Canberra or Melbourne

Part time / full time / Either: Full time

Preferred start date: 16 October 2017

Expected length of Project: 5 months