IGARSS is the pre-eminent conference for both scientists developing remote-sensing applications, and developers of instrumentation for remote-sensing platforms. My project involves detecting and studying the variability of East Antarctic landfast sea ice (or simply “fast ice”) using MODIS (MODerate resolution Imaging Spectroradiometer) satellite imagery. Fast ice is sea ice which forms and remains fast along the coast, where it is attached to the shore, to an ice wall, to an ice front, between shoals and grounded icebergs (World Meteorological Organisation, 1970). It forms an important part of the climate system, may be a sensitive indicator of climate change, and has links to biological and ecological productivity.

Due to its spectral similarity to the moving pack ice, fast ice has traditionally been difficult to detect. Because pack ice and fast ice are both covered by snow, their appearances are very similar. Some studies have used very high-resolution synthetic aperture radar (SAR) images to discriminate pack ice from fast ice, but there are several inherent difficulties with this approach. My project uses visible and thermal infrared cloud-free composite images to differentiate pack ice from fast ice. When completed, my project will include the first high spatio-temporal (20-day, 2-km) resolution maps of fast ice over a 9-year data record, enabling for the first time the study of the variability of this important system.

Despite a heavy focus on radar and microwave in recent years - particularly on development and applications of very high-resolution SAR and other active radars – this year's IGARSS also focussed on MODIS science applications, due to the 10th anniversary of that instrument. This focus on MODIS attracted several key scientists in the field of earth observation using MODIS, several of whom I met for the first time at this conference.

The MODIS anniversary sessions (intived oral only) were well-presented, and covered a wide variety of applications including
• land usage classification, active fire and burned area determination;
• cloud detection, classification and property retrieval;
• sea-ice detection, and;
• use of MODIS for biological and physical ocean measurements.

Technical details of the MODIS instrument were also presented in this session, which provided an important look at the technology behind the instrument, and a comparison to past (i.e., AVHRR – Advanced Very High Resolution Radiometer on the NOAA satellites) and future (i.e., VIIRS - Visible Infrared Imager Radiometer Suite on the NPOESS (National Polar-Orbiting Operational Environmental Satellite System) satellites) platforms with similar instrumentation. The NPP (NPOESS Preparatory Project) sessions were also of great interest to me – particularly the presentations detailing the forthcoming VIIRS instrument (essentially a successor to MODIS).

I would like to thank ARCNESS for providing me with funding to attend this conference. I feel that this conference has not only increased my knowledge in the field of environmental remote sensing, but has given me valuable experience, and allowed me to form important relationships with scientists with similar interests.

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