

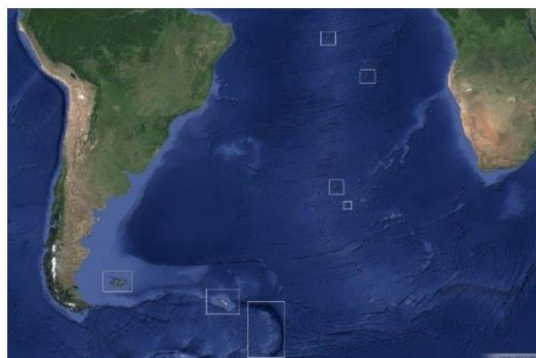
Earth Observation Centre of Excellence

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“Finding connections between science and public use” is what Dr Gwawr Jones, on a recent trip to the Falkland Islands, describes the purpose of the [Earth Observation Centre of Excellence](#) (EOCoE).

Dr Jones is a GIS specialist who works for the Joint Nature Conservation Committee (JNCC) in the UK. In March 2019 she was part of a delegation to the Falklands to officially launch the platform which will promote and enhance the application of Earth Observation (EO) in the Southern Cone.

She describes Earth Observation as “collecting data without touching it” and it includes satellite data, aerial photography and also information systems such as sonar. It’s been around in research for decades but as Dr Jones explains “there’s never been a synergy between the research and actually picking it up. A lot of money has been spent getting this technology into space, on to aircraft, under the sea and the public should get their value back from all of the research we’ve put in to the technology side. That data can be used by the lay person on the ground, it’s just trying to find that connection”.



A satellite image showing the Southern Cone and mid-Atlantic research institutes

Dr Jones was joined in the Falklands by four from Chile, researchers from partnered universities and a representative of the Foreign and Commonwealth Office in Santiago, who funded part of the visit. The team, along with SAERI, was tasked with devising how EO can support government bodies, researchers and the private sector and a day-long Science Symposium was held to identify areas of potential collaboration.

During this Science Symposium the delegates met with representatives of organizations from the Islands including fisheries, agriculture, education, tourism and development. They discussed how data can be collected and used collaboratively between themselves, in the Falklands, as well as with organizations in Chile. Visiting delegate, Dr Fabio Labra from the Universidad Santo Tomas, spoke about some of the outcomes of the symposium.

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The delegates working at the Science Symposium

“We (Falklands and Chile) have common ground in agriculture, wetland habitat and marine science. In each of these areas we’ve been able to pinpoint common interests and problems that could be solved by using field data as well as EO information.

We live in a changing world, climate change is happening a lot faster than one could have expected ten or fifteen years ago and countries in the Southern part of the world share

many challenges (. . .). Working on an institute or country basis means you have to spend a lot of money, effort and time just to get to the baseline level. Whereas if you can share information and expertise, which is something very important, you can gain a lot more knowledge and insight in order to solve problems which typically are very urgent and people require fast answers.”

Some of these problems were successfully identified from the symposium as well as how EO can be used to monitor them across many sectors. In agriculture, for example, it can be used to identify the exact area and quality of grazing land, track erosion, predict vegetation regrowth and locate water.

Environmental Economist, Dr Alejandro Leon, works in the estimation of social vulnerability of drought to families in northern Chile and also in water management across South America.

“At my institute (Department of Environmental Science, Universidad de Chile) there is a wide array of disciplines where we can start collaboration. We have soil specialists, animal husbandry specialist. There is a tremendous opportunity for us to collaborate with you as from what I see, these days, we have very similar problems in terms of animal care and preserving the environment.”

Agriculture was not the only use that was identified for EO, it has its use in marine science too which is what Biological Oceanographer, Dr Maximo Frangopolus, was interested in. In his work at the Universidad de Magallanes he studies the effects of harmful algal blooms, known as red tides. At the moment he has little information out of Chile and as algal blooms can be tracked using EO, he thinks a monitoring programme to study their presence

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would be helpful. “You have a very rich marine ecosystem and it will be very sad and complicated if, in the future, you had a red tide. I know in the past a lot of penguins have died because they have eaten toxic algae so it’s important, from my point of view and experience, for the technology to be used in this way in the future.”



Dr Frongopolus presenting a public talk, in Stanley, on his work

A number of objectives were raised from the Science Symposium including how to turn the concept into reality and identifying the next steps. Consolidating all of the gathered information was the focus of the next day where the delegates, along with SAERI, worked in developing a road-map for the Centre as well as establishing the interest areas. Their knowledge and ideas would be tested that evening as the EOCoE was officially, and successfully, launched at Government House by

H.E The Governor Nigel Phillips.

Not all of the work was completed behind desks though. Understanding the landscape and infrastructure of the Islands were both important for visualising how EO can benefit those on the ground. Meeting the people who call the Falklands home, visiting the most remote places and seeing the wildlife in action were all on the to-do list. A trip to Nature Reserve Sealion Island, a local farm and visiting children in the Secondary School all contributed to the delegates getting a thorough understanding of life in the Falklands and the unique challenges that can come with it.



Dr Frangopolus, Dr Labra and Dr Leon speaking to secondary school students

For now, the participants have identified areas of priority to implement and the goal to create a tool box of solutions to tackle common issues which affect the Southern Cone is getting closer.