

MapStand Monthly Mashup

MAY 2020

A monthly round up of key developments and insight



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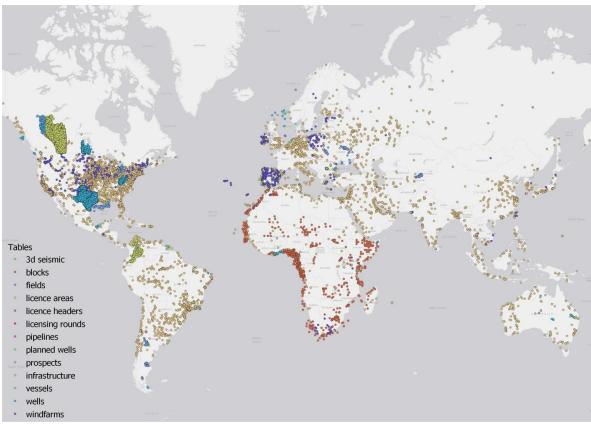


Welcome

Welcome to the May edition of the MapStand Monthly Mashup, a month where we have continued to see the effects of Covid-19 dominate the headlines. As countries begin to unlock we have seen a stabilisation and slight rise in oil prices, Brent Crude sitting around \$39 at the time of writing.

As has been the theme of this newsletter, we will try to focus on some of the highpoints of the month just gone, providing an update to some of the high impact exploration wells planned for 2020 as well as looking at some recent discoveries and licencing round announcements. Our analysts also take a look at Somalia following the announcement of the first licensing round earlier in the year and we discuss how upskilling during a downturn might not be as hard as you think.

Here at MapStand we have made significant updates to our datasets including starting work on our onshore US datasets. We update and publish news and data to our app several times a day and these changes are delivered seamlessly to both the community and our clients through our cloud hosted solutions. If you've not signed in for a few days then head over to <u>app.mapstand.com</u> and take a look at the progress!



New data added for the week 18/05/2020



A selection 2020 wells to watch

Perseverance-1

<u>Bahamas Petroleum Co PLC</u> (BPC) recently signed a contract with <u>Stena Drilling</u> for the provision of a drillship for its Perseverance-1 exploration well targeting ~0.7 billion bbls offshore the Bahamas, scheduled for 2020 Q4.

The well was initially planned for the first half of 2020 but was postponed due to the Covid-19 pandemic.

BPC had entered into an agreement with <u>Seadrill</u> for the provision of a rig beforehand but has since re-evaluated its decision and instead taken advantage of the recent drop in day rates.



Stena IceMax - Photo provided by John Flynn (Marine Manager - Stena)

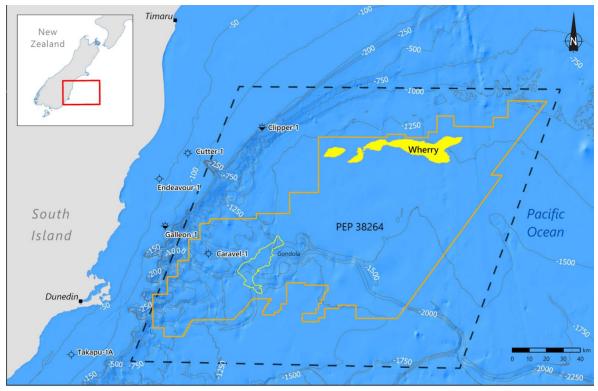


Wherry-1

Partners <u>Beach Energy Resources</u> (37.5), <u>Discover Exploration</u> (25.0) and <u>OGOG</u> <u>Limited</u> (37.5) have been working towards a late 2020 / early 2021 spud date for their Wherry-1 exploration well offshore New Zealand. Subject to Covid-19 and rig availability.

The well is targeting one of two large drill ready liquids prospects in the frontier Canterbury Basin. Gas and condensate shows have already been found in the area, proving the presence of a working hydrocarbon system.

With many other billion barrel prospects and leads mapped in the block,many will be watching events unfold keenly.



Beach Energy - Wherry project summary



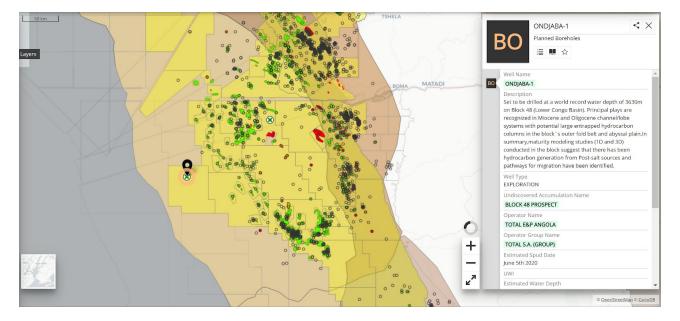
Ondjaba-1

<u>Total's</u> Onjaba-1 still looks set to go ahead this year, albeit at a slightly delayed schedule.

Total contracted the <u>Maersk Voyager</u> drillship for the job at \$195k/d. The vessel is currently anchored off Luanda and according to linkedin posts from individuals working on board, is getting prepared to set sail.

At 3,628m water depth, the well will take the record for deepest ever drilled. If a discovery is made, then a whole range of new subsea technology will need to be developed in order to bring the field onstream.

Total will be looking for a sizable prize to justify the effort.





Industry News Roundup

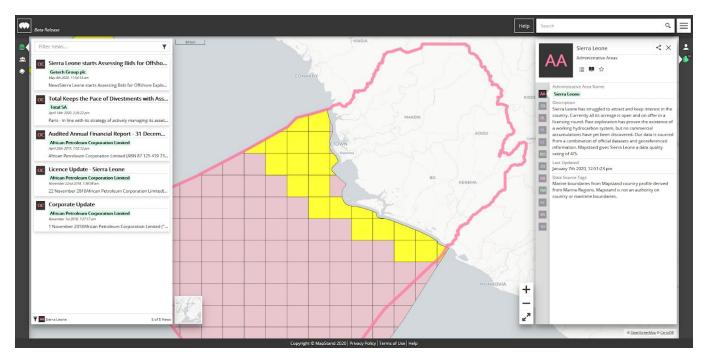
Sierra Leone's licensing round a success?

Sierra Leone announced the provisional results of its fourth licensing round earlier this month.

An interesting response with two relatively small companies acquiring a total of 24 blocks between them. These were Cluff Energy Africa and Innoson Oil and Gas.

As part of the round, the Petroleum Directorate of Sierra Leone offered blocks within a pre-defined gridded framework, with each full section being 1,350 km2 in size. Licence applications were required to cover at least three full blocks.

The vast majority of the awarded areas are located in shallow water depths and within reach of a jackup, meaning exploration and potential development costs should be relatively low. Expect farm-in opportunities shortly.





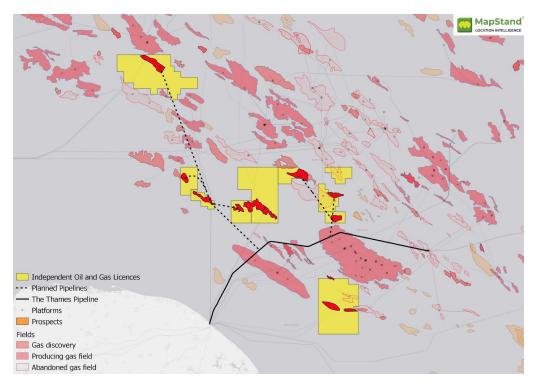
A second life for ageing North Sea infrastructure

These days the Southern North Sea is better known for its stranded gas fields, aging assets and an increasing number of offshore wind farms, but there are still some gas projects making their way through to development.

Last month, the OGA approved Independent Oil and Gas plc's and partner CalEnergy Resources Limited's Core Project Phase 1 Field Development Plan, inclusive of platform fabrication and pipe-laying. IOG has picked up a portfolio of stranded gas fields totaling 421 Bcfe, and uniquely for a company of their size in the southern north sea, owns their own infrastructure.

In 2018, the company acquired the Thames pipeline from Perenco and its partners for just £1. The pipeline was built to service the now abandoned Thames cluster of fields.

What was a decommissioning liability for Perenco is now a cost effective route to market for IOG.





Fracking a new frontier?

Looking to export the shale revolution out of the Americas, <u>Reconnaissance Energy</u> <u>Africa (Recon</u>) has positioned themselves onshore Namibia with acreage covering the Kavongo basin.

The basin which is the size of Eagleford, is believed by Recon to be home to organic rich Permian shales which the company hopes are a prime target for both conventional and unconventional objectives.

The company intends to drill up to three stratigraphic wells in the basin in an attempt to confirm the presence of these shales.

To do this, Recon has purchased a land rig, a CROWN 750. The rig was initially built to be used onshore the United States, but never saw any action and has since been in storage.

The drilling unit will be shipped over to Namibia and preparations are in place to commence exploration towards the end of the year.

The presence of a high powered rig in the area will likely be welcome news to companies in adjacent onshore acreage with similar exploration ambitions.





Malaysian drilling campaign met with controversy

PETRONAS concluded its controversial exploration drilling campaign offshore 'Malaysia' in blocks ND1 and ND2, earlier this week.

Throughout the drilling campaign the Seadrill managed drillship West Capella, faced off a number of Vietnamese and Chinese vessels looking to dissuade drilling operations through intimidation.

The drillship was even visited by Australian and American warships performing military exercises in the region.

To see why the campaign was so contentious, have a look at our map detailing where operations occurred.

Maritime boundaries have been provided by Marine Regions.

MapStand Platform (Boundaries from Marine Regions)



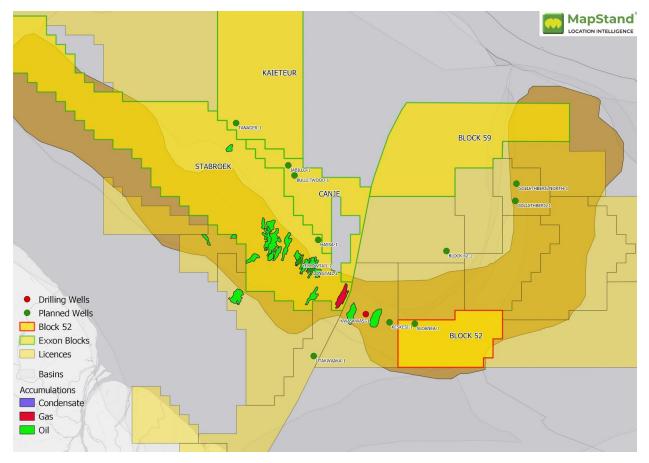
The temperature rises offshore Suriname

<u>PETRONAS</u> announced last month that they farmed down 50% interest in Block 52 to <u>ExxonMobil</u>, offshore Suriname.

The block, on trend with Exxon's discoveries in Guyana, is also adjacent to Apache Corporation and Total's Block 58, where two large discoveries have already been made this year.

Apache's Kwaskwasi-1 well is still drilling with results expected soon. The partners intend to move on to Keskesi after.

Petronas, and now Exxon, plan to drill the highly anticipated Sloanea-1 well in Block 52 by the third quarter of 2020.





Farmout brings Cuban exploration closer

<u>Melbana Energy Limited</u> has completed its farmout agreement with <u>Sonangol</u>, offloading a 70% interest in Block 9 onshore Cuba.

As part of the agreement, Sonangol will pay up to 85% of the costs related to two upcoming exploration wells scheduled for 2020 Q4 on the Alameda and Zapato prospects, targeting a collective prospective resource of 236 mmbbls.

Cuba is under-explored but regarded by many to have strong potential. Good infrastructure, low onshore costs and an attractive tax regime brought Melbana into the country back in 2015.

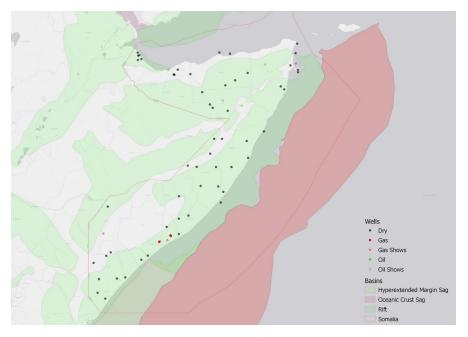


MapStand Platform



In Focus: Somalia

Somalia has an intriguing history both politically and geologically, but the country has largely been overlooked. Widely regarded as hugely prospective, it has never had the opportunity to prove it. That could change.



MapStand Platform (Basins layer in partnership with Geonostics)

Exploration began in the 1950s with AGIP, BP/Shell, Mobil and Sinclair all searching the Horn of Africa for giant structures similar to those found in the Arabian peninsula at that time. Many wells were drilled onshore and most came up dry, but a number of shows were reported too. It's fair to say the definition of shows and commercial discoveries has certainly changed since those times.

This activity continued through the 60s, 70s and 80s with other big names joining the fray, including Conoco, Elf, Texaco, Amoco and Chevron, all taking up positions in the country.

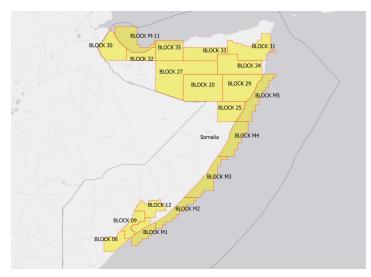
But in 1991, the music stopped abruptly, with the country collapsing into a state of anarchy after a military coup. Whilst many of those companies have since merged and changed names, to this day they still stake a claim to their pre-war licences under a clause of force majeure.



Following the civil war, Somalia broke up into numerous factions and states. There are many political bodies operating in the country, but the four main ones are listed below:

Federal Government of Somalia

The Federal Government of Somalia (FGS) is the only internationally recognised body operating within the country. Although it officially administers the nation, in reality, aside from a few other areas, this control reaches no further than the borders of Mogadishu. It does however have some pro-government support from Puntland and other various states. The government is reliant on foreign aid to function, with the United States being one of the largest donors.



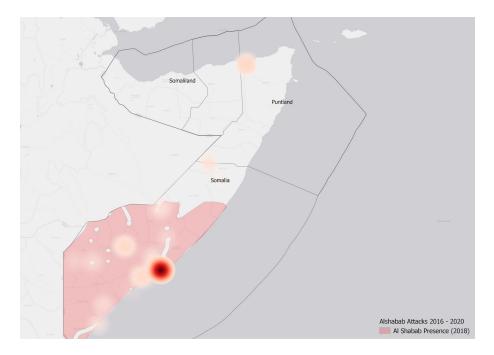
Blocks from MapStand Platform

Under the new petroleum law passed in January 2020, the FGS holds full ownership of petroleum and mineral resources within the country's pre-1991 borders. The new act dissolves all licences awarded by regional entities after 1991. The body still honours pre-1991 contracts under force-majeure and has recently offered acreage in adjacent areas within the country's latest offshore licensing round.

Al Shabaab

Al Shabaab is one of the militant islamist groups operating within the countries power vacuum. It controls vast swathes of land in the south-east of the country and governs via a strict form of Sharia law. The Federal state is still unable to provide for its population and as a result the group maintains a stranglehold on the country. It administers key public services and recruits disenfranchised individuals, providing an income for many of the populace under its control.

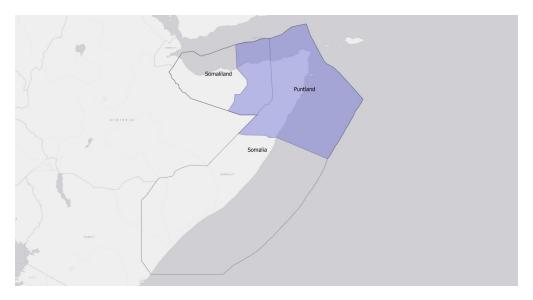




Although the FGS has made progress tackling this insurgency with help from the UN, the group is still a very present disruptor onshore. The UN backed AMISOM programme (African Union Mission in Somalia), is expected to fully withdraw troops by the end of 2020, raising concerns of a potential regression in the security situation.

Puntland

Puntland is a stable, autonomous region with an un-elected governing body. It is located towards the north east of the country and 'has' relatively good relations with the federal government.





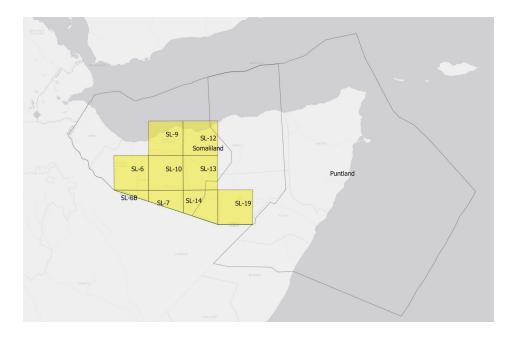
The region's ministry has awarded petroleum licences in the past and is still an active body. In 2005, authorities granted two blocks to Range Resources. The blocks covered both Puntland and disputed areas of Somaliland. The company and its partners drilled two exploration wells in 2012, Shabeel-1 and North Shabeel-1, the former encountered strong oil shows over a gross section of 490ft, with a possible net pay between 39ft and 66ft. The partners relinquished both blocks in 2015 and the region no longer administers any active licences.

Puntland announced in 2015 that it was preparing to launch a licensing round offering up to 25 offshore areas. Those plans dissipated as the region grew closer to the FGS.

Tensions have started to rise, with Puntland branding Somalia's new 2020 petroleum law as "grossly unconstitutional" over concerns that it violates the constitutional rights of the region.

Somaliland

Somaliland is a self-proclaimed independent state with a democratically elected government. Whilst stable and fully functioning, the country is not internationally recognised by the UN. Or more specifically, the United States, over concerns that recognition could further destabilise the region. (US-listed oil companies Chevron and ConocoPhillips still claim force majeure on licences covering Somaliland and Puntland.)



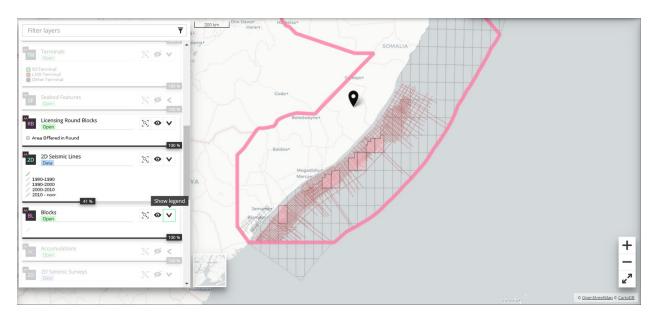


The country has granted a number of onshore licences to companies including Ansan Wikfs, DNO, RakGas and Genel. DNO has since relinquished its position, but the latter two companies are still active in the region with exploration plans in place. It remains to be seen if these companies will still press ahead after the internationally recognised FGS officially invalidated these licences with the new petroleum law.

The presence of oil companies in the region has accelerated a territorial dispute with neighbouring Puntland and a number of armed clashes have been reported.

Somalia's first licensing round

Somalia recently announced the country's first licensing round after passing its new petroleum bill in February 2020. The bill also finalised fiscal terms, established the Somalia Petroleum Authority and Somali National Oil Company (SONOC). The country is offering seven offshore blocks towards the South East of the country. The round will open on 4th of August, and close on 12th March 2021. Over 20,000 km of 2D seismic acquired between 2014 and 2016 can be acquired from TGS.



Preliminary interpretation of this data has revealed large tilted fault blocks, fold belts and reefal buildups. Satellite imagery has even identified offshore oil slicks in the area, potentially setting the country apart from its gas prone East African peers. Promising is the word on everyone's lips.



Fiscally and prospectively (discovered resources), it's probably fair to say Somalia used to rank as the most unattractive countries in the world. The country now fully understands the need to be fiscally attractive at this early stage of jump starting its

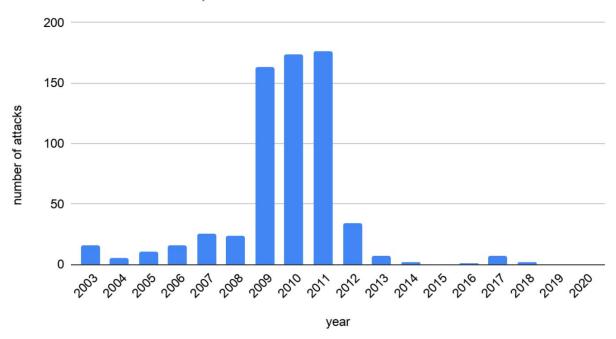
petroleum industry. Attractive terms will be a good first step, particularly within today's intensely competitive licencing environment.

But what about the piracy?

Somalia had a reputation for piracy. Today that is just a reputation.

The peak of the Somali piracy crisis was between 2007 and 2012, with attacks occurring almost exclusively off the north of the country within the busy shipping route of the Gulf of Aden.

A strong international response has curbed those numbers to the point where no attacks have been recorded in the vicinity of Somalia for two years. The blocks on offer are in an area that has very little history of piracy.



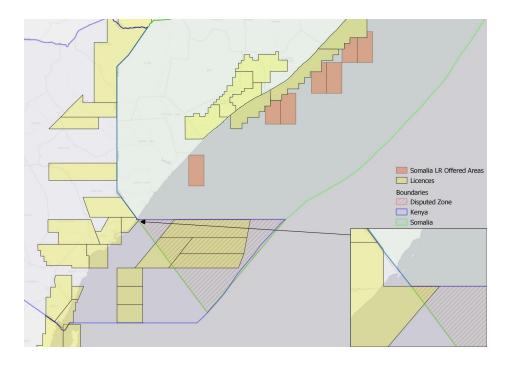
Somalia: Number of pirate attacks

Could a theoretical oil industry be a tempting target? Possibly, that depends on the long term security situation at the time of exploration activity (3 yrs) and development (~5-7 yrs).



The Kenyan maritime border dispute

The sovereignty of a large offshore area is in dispute between the governments of Kenya and Somalia. With Somalia arguing that the maritime boundary should be drawn along the same direction of its land border and Kenya arguing it should extend parallel to the line of Latitude.



Whilst this dispute has no direct impact on acreage offered in Somalia's first licencing round, it does have potential destabilising ramifications for the region. In response, Kenya has been supporting the semi-autonomous region of Jubbaland (adjacent to Kenya's border) in an attempt to undermine the authority of the FGS. A number of armed clashes have occurred recently between the latter two entities.

For Kenya, the disputed area encapsulates a number of actively licenced blocks and could significantly reduce the country's offshore territory.

For Somalia, the federal government has very limited control over its own country. The areas it can successfully offer in upcoming licensing rounds are similarly limited. The FGS is keen to increase its territorial control, believing it has a chance in the short term with an international resolution to the maritime dispute.

Both sides are unwilling to back down. In 2014 Somalia brought the case against Kenya to the International Court of Justice at The Hague, which was set to be heard earlier this year. The coronavirus pandemic has since delayed the hearing.



Will there be any interest in the offshore round?

Macroeconomic trends certainly aren't helpful and the response could be less than spectacular. On the face of it, the country has done a great job setting up a competitive round. Fiscal terms are supposedly attractive and the geology is reportedly very enticing too, with large leads on offer.

Deepwater projects have recently been attractive and are regarded as one of the most carbon-friendly methods of reserve replacement (not a phrase I would utter in public), but require significant upfront capital and technical expertise. The presence of a major oil company or an experienced NOC will be required at some stage. Many majors are already present in the country and they still have not lifted force majeure. Will deepwater still be competitive in 5-7 years time? Costs have come down via technology and standardisation, but a good chunk of that has been in relation to an excess capacity and intense competition within the supply chain over the last 6 years. This is not a sustainable situation and the recent chapter 11 bankruptcy of Diamond Offshore is a stark reminder. As attrition of assets takes hold, and bankruptcies and consolidation occurs, the current supply/demand dynamic could flip. Costs could rise, requiring large discoveries to justify development. For counter-cyclical investment opportunities, licensing rounds are probably not near term enough.

Indirectly security is a concern. Whilst exploration and development work would occur far offshore, tensions are building internationally due to the Kenyan maritime border dispute, and internally too. The withdrawal of AMISOM may also lead to a deterioration of the situation. The long term stability of the country and its governmental structures is under question.

For Somalia, this licensing round is a potential lifeline. The country is in dire need of revenue to rebuild. The fiscal terms could be too generous, especially if only small volumes are found. Ultimately it's the chicken and egg debate.

Political governance and wealth redistribution are key points to mention. The country has a history of personalised politics, with power and wealth concentrated along a narrow political elite. If potential economic growth from oil is not compounded with government and political restructuring, internal tensions may rise.

The question for oil companies is very simple. Do the fiscals and the geology outweigh the above ground risks?



Upskilling in a downturn

In the first edition of the MapStand Monthly Mashup, we discussed digital transformation in the Oil and Gas industry and highlighted how terminology and skills previously thought only relevant to the IT department now need to be part of the vocabulary and skill set of the modern geoscientist.

For students graduating this summer, the prospect of getting a job in the oil and gas industry may already seem daunting, so how do you make your CV stand out amongst both your peers and seasoned professionals who are in the job market? Gaining relevant skills and demonstrating a passion for continuous professional development is a great place to start. For those already working in the industry, companies are going into survival mode which naturally leads to a focus on the work at hand rather than training and career development for employees. With training budgets cut and time at a premium, how do you keep up with your own personal learning?

But where do those looking to gain these skills in the midst of a downturn start? The key message is this - Be proactive and It's not as hard as it seems! Think back to the first time you opened Excel or built your first Powerpoint, skills that are now second nature.

The great thing about upskilling now is that there is a wealth of resources out there, almost all of which can be accessed and practiced at home, in your own time, for little to no cost. Online course providers such as <u>Google Garage</u>, <u>Udemy</u> and <u>Coursera</u> to name a few, offer free and low costs options. If you're looking for more of a geoscience focus, <u>Book-4</u> is also a great resource.

But once you sign-up, how do you decide, from the many courses, which is right one for you? Well that will depend on the individual and the ultimate career goal, not that helpful i know! A manager might not need to write code but will need an understanding of terminology and concepts whilst early career geoscientists might want to be able to write code, not only to learn the skill of coding but also to develop new ways of thinking about how to solve geoscience problems. One thing is for sure, the volumes of data available to the modern E&P professional require the ability to quickly handle, manipulate and process it to draw out hidden value and then present this in a simplified way to colleagues. Learning to code (we would recommend Python) is a great place to start when trying to achieve this and will allow you to branch out into the world of machine learning and data science if that becomes your passion.



Once you have completed a few courses, a good next step is to practice your skills and tackle real world problems within your subject matter. Here another great step forward in the oil and gas industry is the availability of open data. What was once a closed shop in terms of data access and data sharing is now becoming increasingly more open with large data sets provided by governments on open data licences (the OGA is a great example) for anyone to access. A key way to practice the skills that have been learnt is to take on real-world problems, relevant to the field in which you work, thereby combining an understanding of the problem within your chosen discipline. Access to online courses and open data sets provides the perfect combination for practice.

MapStand is a leading advocate of open data and the first to provide a global news and E&P dataset for free, on an open data licence. We are always happy to provide direct access to our data for projects however these must also be made open and available to all. We will also soon launch the MapStand University hub, this will give students access to our global oil and gas datasets and allow them to use MapStand data for their studies.

As well as online courses and self-taught learning, there are a number of conferences now fully focussed on digital technology. While many are costly, there are exceptions (even during a global pandemic). The end of this week (6/6/202) will see <u>TRANSFORM 2020</u> kick off as a free virtual conference, combining hackathons with workshops and sessions, all focussed on the digital subsurface.

Other useful resources include online blogs (<u>Towards Data Science</u> and, for a specific geoscience focus, <u>Agile Scientific</u> are great places to start) and LinkedIn pages (including <u>The Oil & Gas Technology Council</u> and the <u>Oil & Gas Council</u>). Here you can keep up to date with training and events, listen to podcasts and connect with those from both within and outside oil and gas.

Once you have gained new skills, promoting them is equally important, alongside the traditional CV and LinkedIn profile a MapStand community profile is a great place to start! As the industry moves into a new era it is the knowledge and experience held by every one of us that will make the difference.You can sign up to <u>MapStand</u> for free, build an interactive profile of the places you have worked or studied, add the skills and competencies your have gained and access our growing community (To find out more about our community profiles, read our recent <u>blog</u>)

Next month we will take a more in-depth look at open-source data and technology available including the tech behind MapStand.