OTM-005: Monitoring natural fault movement

Monitoring natural fault movement

Challenges

	Challenge ID	OTM:005
1	Title	Monitoring natural fault movement
2	Theme ID	ON 3.1: Subsidence monitoring - Land motion relating to fault lines or other causes
3	Originator of Challenge	Onshore: OTM
4	Challenge Reviewer / initiator	Statoil, PetroSA, Petronas
	General description	**Overview of Challenge**
5	What is the nature of the challenge? (What is not adequately addressed at present?)	Natural movement of faults can alter the validity of geomechanical models and reservoir management plans. These need to be well understood to ensure that reservoir management is appropriate to the changing reservoir.
6	Thematic information requirements	1. Obtain detailed topographic information, 13. Monitor ground movement,
7	Nature of the challenge - What effect does this challenge have on operations?	Production can decrease if fault line exposes alternative HC draw-down channels. Reservoir management strategy may need to adapt to ensure injection resources aren't wasted
8	What do you currently do to address this challenge?/ How is this challenge conventionally addressed?	Seismics can see where faults are, but couldn't infer whether they had moved by a few mm's.
9	What kind of solution do you envisage could address this challenge?	Ground movement satellite imagery could indicate where movement has occurred over known fault lines
10	What is your view on the capability of technology to meet this need? – are you currently using EO tech? If not, why not?	EO could be a useful complimentary technology
	Challenge classification	

11	Lifecycle stage	Pre license	Exp.	Dev.	Prod.	Decom.
	Score from impact quantification [1]	0	0	0	2	0

12	Climate classification	NOT CLIMATE SPECIFIC
13	Geographic context/restrictions	Generic onshore (Unspecified)
14	Topographic classification / Offshore classification	Generic onshore (Unspecified)
15	Seasonal variations	Any season
16	Impact Area	Increased production
17	Technology Urgency (How quickly does the user need the solution)	Immediately (0-2 years)
	Information requirements	
18	Update frequency	daily / weekly /annually (application dependent)
19	Data Currently used	GPS
20	Spatial resolution	GPS
21	Thematic accuracy	
22	Example formats	GIS Shape file
23	Timeliness	Within a month
24	Geographic Extent	Reservoir footprint
25	Existing standards	No industry standards. TRE have their own internal INSAR standards

[1] Impact quantification scores: *4 – Critical/ enabling; 3 – Significant/ competitive advantage; 2 – Important but non-essential; 1 – Nice to have; 0 – No impact, need satisfied with existing technology*

Relevant themes

Content by label

There is no content with the specified labels