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				
	Chanenge classification				
11	Lifecycle stage	Pre license Exp. Dev. Prod. Decom.			
11		Pre license Exp. Dev. Prod. Decom. 0 0 0 2 0			
11	Lifecycle stage	1			
11	Lifecycle stage	1			
	Lifecycle stage Score from impact quantification [1]	0 0 0 2 0			
12	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions	0 0 0 2 0 NOT CLIMATE SPECIFIC			
12 13	Lifecycle stage Score from impact quantification [1] Climate classification	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified)			
12 13 14	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified)			
12 13 14 15	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season			
12 13 14 15 16	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production			
12 13 14 15 16	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production			
12 13 14 15 16	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution)	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production			
12 13 14 15 16 17	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years)			
12 13 14 15 16 17	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements Update frequency	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years) daily / weekly /annually (application dependent)			
12 13 14 15 16 17	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements Update frequency Data Currently used	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years) daily / weekly /annually (application dependent) GPS			
12 13 14 15 16 17 18 19 20	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements Update frequency Data Currently used Spatial resolution	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years) daily / weekly /annually (application dependent) GPS			
12 13 14 15 16 17 18 19 20 21	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements Update frequency Data Currently used Spatial resolution Thematic accuracy	NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years) daily / weekly /annually (application dependent) GPS GPS			
12 13 14 15 16 17 18 19 20 21 22	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements Update frequency Data Currently used Spatial resolution Thematic accuracy Example formats	0 0 0 2 0 NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years) daily / weekly /annually (application dependent) GPS GPS GIS Shape file			
12 13 14 15 16 17 18 19 20 21 22 23	Lifecycle stage Score from impact quantification [1] Climate classification Geographic context/restrictions Topographic classification / Offshore classification Seasonal variations Impact Area Technology Urgency (How quickly does the user need the solution) Information requirements Update frequency Data Currently used Spatial resolution Thematic accuracy Example formats Timeliness	NOT CLIMATE SPECIFIC Generic onshore (Unspecified) Generic onshore (Unspecified) Any season Increased production Immediately (0-2 years) daily / weekly /annually (application dependent) GPS GPS GIS Shape file Within a month			

[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