

OTM-003: Subsidence from reservoir draw-down

Subsidence from reservoir draw-down

Challenge

Challenge ID	OTM:003				
1 Title	Subsidence from reservoir draw-down				
2 Theme ID	ON 3.3: Subsidence monitoring - Reservoir management				
3 Originator of Challenge	Onshore: OTM				
4 Challenge Reviewer / initiator	Statoil, Exxon				
General description		Overview of Challenge			
5 What is the nature of the challenge? (What is not adequately addressed at present?)	Drawing down a reservoir with managed (or even zero) subsidence (i.e. avoiding reservoir collapse), can potentially increase the ultimate recoverables. By monitoring the reservoir to be sure of zero subsidence, it can increase overall production.				
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?	Reservoir management - increase ultimate production				
8 What do you currently do to address this challenge?/ How is this challenge conventionally addressed?	Downhole pressure and temperature gauges can give indications of conditions that are likely to cause subsidence. These will also indicate when draw-down from certain zones is at its limit. Subsidence monitoring can complement these downhole technologies				
9 What kind of solution do you envisage could address this challenge?	Ground movement satellite imagery could identify subsidence and deduce reservoir compaction				
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					
20 Spatial resolution					
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 products

Content by label

There is no content with the specified labels

