Hatfield-1206: Identify steep slopes to assess potential constraints to access

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Challenge

Challenge ID:	HCP-1206	Originator:	Onshore: Hatfield
Title:	**Identify steep slopes to assess potential constraints to access.**		
Theme:	ON 1.2: Seismic Planning - Identification of adverse terrain for trafficability		
Consortium Lead:	RPS Group	Interviewed Company:	RPS Group
Geography:	ON.REG.00 - Generic onshore		

Challenge Description

What is not possible / not adequately addressed at present?

Steepness of terrain governs what source point options are available. Vibrators and all equipment and personnel are restricted by where they can go in steep terrain (need to know to mitigate and understand cost options). Source points are quite often offset away from design location which effects seismic coverage. In projects where a mixed source point option is available (vibrator and dynamite) better planning can be initiated to allow for the optimal use of both options to reduce costs and fulfill design requirements.

What effect does this challenge have on operations?

A lack of a high resolution terrain model leaves an operation susceptible to ad hoc offsetting on the fly which may not be beneficial to the geophysical target. Or in the case of mixed source surveys, an over use of more expensive drilling options where suitable compromises in planning could have been considered in advance to reduce costs. A good digital terrain model will help source point planning and to understand and/or verify why source locations may need to be or have been offset. In the case of man portable drilling operations, heavy equipment has to be transported from drill location to drill location which has an increased health and safety risk in steeper terrains.

Thematic information requirements:	Terrain information Topographic information

What do you currently do to address this challenge?
How is this challenge conventionally addressed?

Create slope models. LiDAR bare earth digital terrain models. SRTM data or other existng terrain models can work suitably for open terrain.

What kind of solutions do you envisage could address this challenge?

High-resolution satellite derived terrain models where not affected by vegetation.

What is your view on the capability of technology to meet this need?
Are you currently using EO tech? If not, why not?

Would be beneficial to have a cost-effective and better resolution option to the freely available 90m resolution SRTM data.

Challenge Classification

Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	2	Climate class:	Generic climate
Exploration:	4	Topographic class:	Not specific
Development:	2	Seasonal variations:	Any season
Production:	2	Impact area:	Health and Safety, Cost reduction
Decommissioning:	1	Technology urgency:	2 - Short term (2-5 years)

Challenge Information Requirements	
Update frequency:	Snapshot
Data currently used:	LiDAR, high resolution imagery
Spatial resolution:	License
Thematic accuracy:	Not specific
Required formats:	Not Specific
Timeliness (Vintage):	Reference data
Geographic extents:	Basin
Existing standards:	None

Relevant products

Content by label

There is no content with the specified labels