## Hatfield-2201: Identify geological structure through landform

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## Challenge

Challenge ID:	HCP-2201		Originator:	Onshore:	Hatfield		
Title:	Identify geological structure through landform.						
Theme:	ON 2.2: Surface Geology Mapping - Structural interpretation						
Consortium	Arup		Interviewed Company: Arup				
Lead:							
Geography:	ON.REG.00 - Generic onshore						
Challenge Description							
What is not possible / not adequately addressed at present?							
Information is required to inform structural geological mapping of strata (dip-strike, fold structures). In arid							
regions, evaluation is more straightforward. In vegetated and tropical areas it is more challenging to acquire							
What effect does this challenge have on operations?							
In arid regions the evaluation is straightforward. In vegetated and tropical areas, the vegetation means that the							
underlying surface cannot be observed, which can affect the accuracy of classification.							
Thematic information Topographic information							
requirements: Lithology, s			structural geology, surficial geology				
Land Cover							
what do you currently do to address this challenge? How is this challenge conventionally addressed?							
Field manning. Multispectral image analysis. LiDAR can be used in vegetated areas to identify landform and							
structural geology below the vegetation canopy. A spectral library of vegetation type (and seasonal variation)							
can be mapped with known soil-rock associations.							
What kind of solutions do you envisage could address this challenge?							
Radar-derived DEM							
High resolution stereo optical DEM							
Multispectral and hyperspectral images							
What is your view on the capability of technology to meet this need?							
Are you currently using EO tech? If not, why not?							
saterine imagery is already well suited, but new technologies coming on stream with increased spatial and spectral resolution (e.g. EnMAP) and new processing techniques will be of benefit							
Challenge Classification							
Impact on Lifecycle (0=none.							
4=high):		Climate / Topography / Urgency:					
Pre-license:		1	Climate class:		Generic climate		
Exploration:		3	Topographic c	lass:	Not specific		
Development:		2	Seasonal varia	tions:	Any season		
Production:		1	Impact area:				
Decommissioni	ng:	0	Technology u	rgency:	3 - Immediately (0-2 years)		
Challenge Information Requirements							
Update frequence	ev:	Snapshot					
Data currently used: Air photo in LiDAR, mul		Air photo inte LiDAR, multi	erpretation, DEM analysis (ASTER, SRTM, High res optical DEM), ispectral images				

Spatial resolution:	Regional to License			
Thematic accuracy:	Not specific			
Required formats:	Not Specific			
Timeliness (Vintage):	Reference data			
Geographic extents:	Regional to License			
Existing standards:	None			

## Relevant products

## Content by label

There is no content with the specified labels