

Hatfield-2401: Identify geohazards and landscape change rates

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Challenge

Challenge ID:	HCP-2401	Originator:	Onshore: Hatfield
Title:	Identify geohazards and landscape change rates.		
Theme:	ON 2.4: Surface Geology Mapping - Terrain evaluation and geo-morphology characterisation		
Consortium Lead:	Arup	Interviewed Company:	Arup
Geography:	ON.REG.00 - Generic onshore		
Challenge Description			
What is not possible / not adequately addressed at present?			
Need to identify geohazards (karst, slope instability, mining) and rate of landscape change that may pose threat to infrastructure. Identification of areas susceptible to flooding, ephemeral lakes. Need to identify terrain classes for infrastructure planning, field development and access.			
What effect does this challenge have on operations?			
Shortage of published information in remote areas and new development areas. Information reduces uncertainty, improves decision making for exploration and field development.			
Thematic information requirements:	Terrain information Land use Land cover Topographic information		
What do you currently do to address this challenge? How is this challenge conventionally addressed?			
Topographic mapping. Aerial photographic interpretation. Field mapping, walkover surveys and fly-by surveys. Published information and literature searches. Assessment can be both quantitative and qualitative - shortage of skilled professionals.			
What kind of solutions do you envisage could address this challenge?			
DEM analysis, High Resolution stereo DEM, multispectral and hyperspectral, automated classification processing			
What is your view on the capability of technology to meet this need? Are you currently using EO tech? If not, why not?			
Globally consistent DEMs provide repeatability across different regions. Accuracy and resolution of off-the-shelf DEMs is increasing. Cost and technical skills shortage			
Challenge Classification			
Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	1	Climate class:	Generic climate
Exploration:	3	Topographic class:	Not specific
Development:	3	Seasonal variations:	Any season
Production:	1	Impact area:	
Decommissioning:	0	Technology urgency:	3 - Immediately (0-2 years)
Challenge Information Requirements			
Update frequency:	Snapshot		

Data currently used:	Air photo interpretation DEM analysis (ASTER, SRTM, High res optical DEM) Google Earth
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

