Hatfield-2101: Lineament mapping

Lineament mapping

Challenge

Challenge ID:	HCP-2101	Originator:	Onshore: Hatfield
Title:	**Lineament mapping.**		
Theme:	ON 2.1: Surface Geology Mapping - Mapping geological features		
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 structural geological lineaments (joints, faults, discontinuities), presence, orientation, length, quantitative data (stereo-nets). Required for exploration, field development and seismic hazard appraisals including identification of active faults.	
What effect does this challenge have on operations?	
Information required to reduce uncertainty, improve decision making for exploration and field development.	
Thematic information requirements:	Topographic information Lithology, structural geology, surficial geology.
What do you currently do to address this challenge? How is this challenge conventionally addressed?	
Approach varies by geographic area and density of vegetation cover. Geological and topographic mapping. DEM analysis (SRTM, ASTER, High Res stereo satellite, LiDAR) Air photo interpretation. Geophysics. Ground investigation and boreholes.	
What kind of solutions do you envisage could address this challenge?	
Radar DEM High Res stereo DEM Thermal Multispectral and hyperspectral	
What is your view on the capability of technology to meet this need? Are you currently using EO tech? If not, why not?	
EO 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 class:	Not specific
Development:	2	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) Multispectral Thermal
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