

Hatfield-4206: Monitoring lake and wetland levels and recharge rates following water use for exploration /operations

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Challenge

Challenge ID:	HCP-4206	Originator:	Onshore: Hatfield
Title:	Monitoring lake and wetland levels and recharge rates following water use for exploration/operations.		
Theme:	ON 4.2: Environmental monitoring - Continuous monitoring of changes throughout the lifecycle		
Consortium Lead:	Hatfield	Interviewed Company:	Hatfield
Geography:	ON.REG.03 - Canada		
Challenge Description			
What is not possible / not adequately addressed at present?			
There is a need to monitor lake levels in exploration and operational areas and requires creating a baseline before water use, followed by monitoring levels during and following activities. There is a poor understanding of the coupling of surface water and groundwater. Lake monitoring using in-situ devices is possible but extremely large number of lakes and wetlands.			
What effect does this challenge have on operations?			
Need to manage environmental and social risks related to development and reduce development impact on aquatic habitats. Monitoring impacts on water levels and re-charge rates is a regulatory requirement.			
Thematic information requirements:	Water quantity Terrain information Topographic information		
What do you currently do to address this challenge?			
How is this challenge conventionally addressed?			
Deploy in-situ monitoring devices, using telemetry / satellite communications. Spatial coverage is still limited.			
What kind of solutions do you envisage could address this challenge?			
Potential measurement of water levels and extent from satellites.			
What is your view on the capability of technology to meet this need?			
Are you currently using EO tech? If not, why not?			
Unsure of quality of results of remote monitoring.			
Challenge Classification			
Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	1	Climate class:	Generic climate
Exploration:	3	Topographic class:	Wetland
Development:	3	Seasonal variations:	Any season
Production:	3	Impact area:	Environmental
Decommissioning:	2	Technology urgency:	3 - Short term (2-5 years)
Challenge Information Requirements			

Update frequency:	Monthly
Data currently used:	Waterbody extents, lake level monitors, survey data. Hydrological data (flows and waterbody extents) Lake level monitors Land survey data LiDAR
Spatial resolution:	Regional
Thematic accuracy:	Not specific
Required formats:	Not Specific
Timeliness (Vintage):	Within a month
Geographic extents:	Regional
Existing standards:	None

Relevant products

Content by label

There is no content with the specified labels