

Shoreline Response to Oil Spills in Snow and Ice the Arctic

Shoreline Response to Oil Spills in Snow and Ice in the Arctic is a 2-day course designed for:

- oil spill response planners, managers, and decision makers who would be involved in Shoreline Cleanup Operations and Environmental support

The focus will be on:

- (1) Arctic Coastal environments,
- (2) The role of technical support to the shoreline program decision process during the first response (24-72 hours),
- (3) Gathering pre-spill and real-time information,
- (4) Response Methods (Strategies and Tactics), and
- (5) Implementing a Shoreline Response Programme.

Course presentations will include recent material from the 2015 EPPR *Guide to Oil Spill Response in Snow and Ice Conditions in the Arctic*. <https://oaarchive.arctic-council.org/handle/11374/403>

The course will be presented by Dr. Ed Owens, who has over 45 years of experience on shorelines and oil spills in North America, northern Norway/Svalbard, and Russia.

THE COASTAL SETTING: SHORELINES, OIL, SNOW, AND ICE

SHORELINES, SNOW, ICE, AND OIL

#	TOPIC
1	Introduction <ul style="list-style-type: none">• Introductions and expectations• Overview of material to be covered• Learning outcomes
2	Shorelines with Snow and Ice <ul style="list-style-type: none">• Climate• Weather, Coastal Oceanography and Ice• The Seasonal Coastal Process Cycle• Shoreline Types of the Arctic• Arctic Coastal Ecology The Coastal Operating Environment <ul style="list-style-type: none">• Infrastructure, Access and Logistics
3	Oil in Snow and Ice <ul style="list-style-type: none">• Transport and Fate of Spilled Oil• Coastal Waters, Deltas, and River Spills• Weathering and Fate• Where Oil is Stranded• Oil Burial, Penetration and Retention• Oil in Snow• Oil in Coastal/Shoreline Ice

THE SHORELINE RESPONSE DECISION PROCESS

4	<p>Environmental Support for a Shoreline Program During the First Response</p> <ul style="list-style-type: none"> • Input: Information required by the Decision Team regarding a Shoreline Response Program <ul style="list-style-type: none"> ○ Pre-spill data and information ○ Real-time data an information • Output: Decisions required from the Decision Team to Implement a Shoreline Response Program <ul style="list-style-type: none"> ○ Sensitivity, Resilience, and Vulnerability ○ Arctic Wetlands ○ Net Environmental Benefit ○ Response Objectives, Priorities, Strategies ○ Development of Treatment End Points ○ Best Management Practices: Tactics, Constraints and Limitations • The Decision Process <ul style="list-style-type: none"> ○ the Planning Cycle ○ information flow • Operations Support • When is treatment completed? • A Toolbox for Arctic Shorelines
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IMPLEMENTATION: THE SHORELINE RESPONSE

5	<p>Information: Shoreline/River Bank Assessment Surveys (SCAT)</p> <ul style="list-style-type: none"> • Planning and preparedness <ul style="list-style-type: none"> ○ “Pre-SCAT” objectives ○ Strategies (logistics, access) ○ Geographic Response Plans (GRPs) • Real-Time: Shoreline/river bank assessment surveys (SCAT) <ul style="list-style-type: none"> ○ Objectives ○ Field Surveys: Detection, Delineation ○ Surface Oil, Subsurface Oil ○ Surveys in Snow and Ice Conditions ○ Treatment Recommendations ○ Shoreline Monitoring, Inspections and Closure ○ SCAT Data Management ○ SCAT Management, Planning and Safety
6	<p>Shoreline Treatment Options (focus on snow and ice)</p> <ul style="list-style-type: none"> • Natural Recovery • Physical Options <ul style="list-style-type: none"> ○ Washing ○ Removal ○ In Situ Treatment • Chemical/Biological Options <ul style="list-style-type: none"> ○ Surface Washing Agents (SWA) ○ Bioremediation <p>Waste Generation</p> <ul style="list-style-type: none"> • Remote area issues and the decision process
7	<p>Shoreline Response Program</p> <ul style="list-style-type: none"> • Planning • Preparation • Implementation • A Shoreline Response Plan