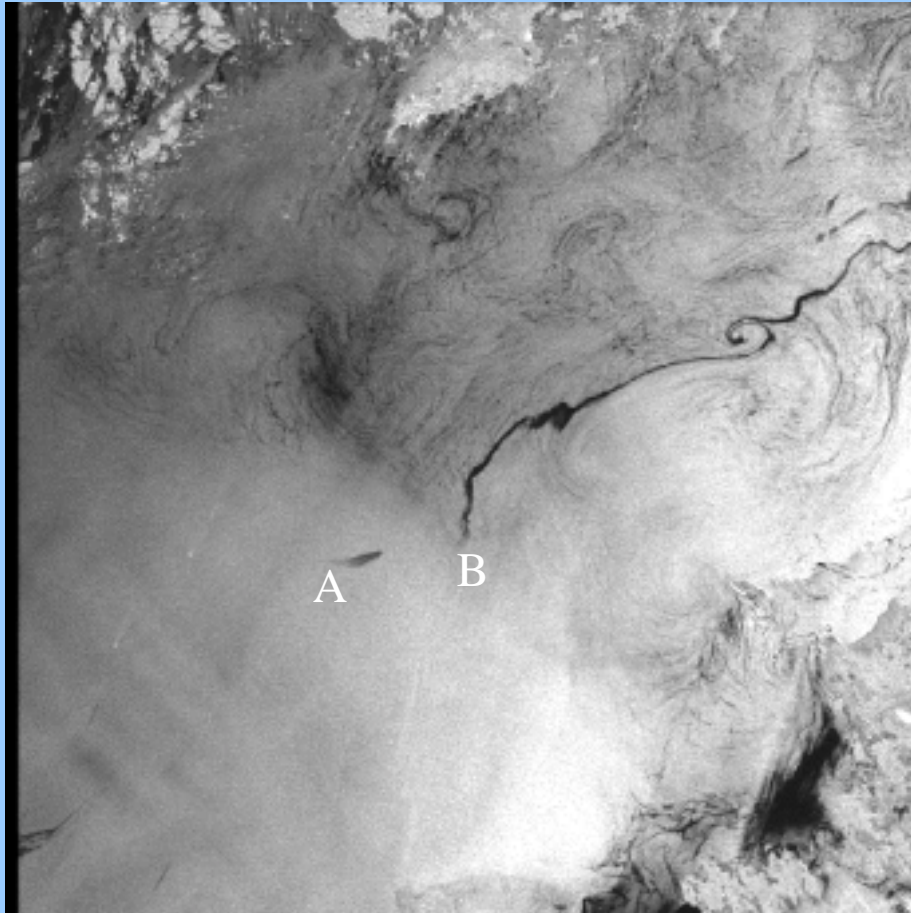


Slick discrimination using SAR Imagery



With satellite SAR imagery, oil spills and natural films can be detected with a resolution of a few hundred meters. Slick detection from SAR is typically limited to a wind speed ranging from 3-18 m/s. In some cases the discrimination between different slicks can be complicated. The example here shows an ERS-2 SAR image from Baltic Proper. Both slicks have been classified as oil spills using the slick discrimination algorithm. This is also verified from airborne monitoring.



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Slick types in SAR imagery

- Oil spills
- Other man-made pollutants
- Natural oil seepage
- Natural films
- Grease ice
- Threshold wind speed areas ($WS < 2-3\text{m/s}$)
- Rain cells
- Internal waves
- Current shear zones

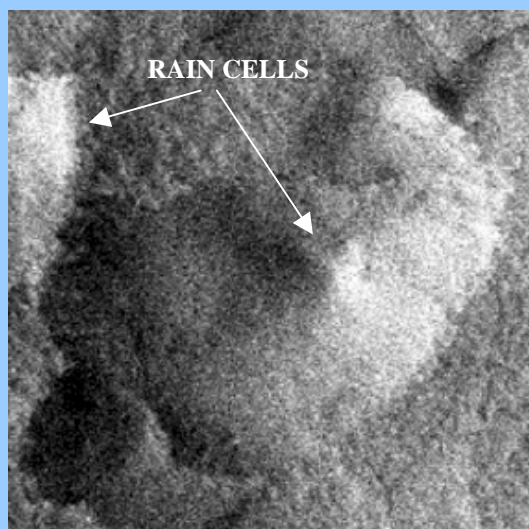
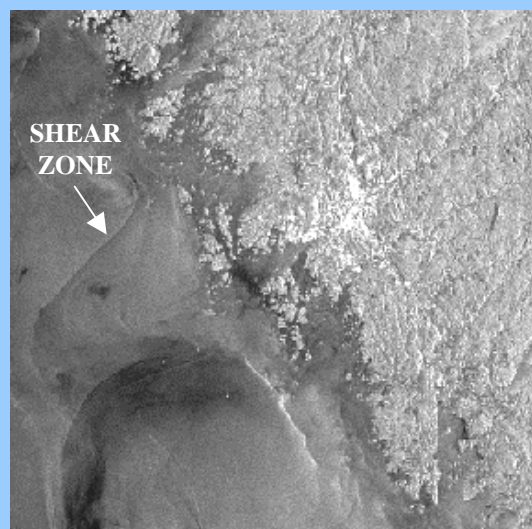
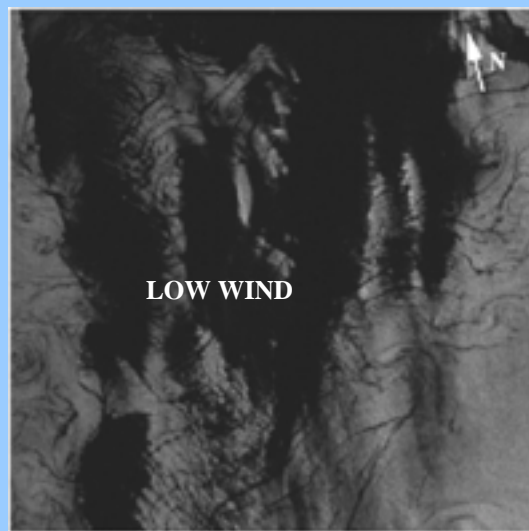
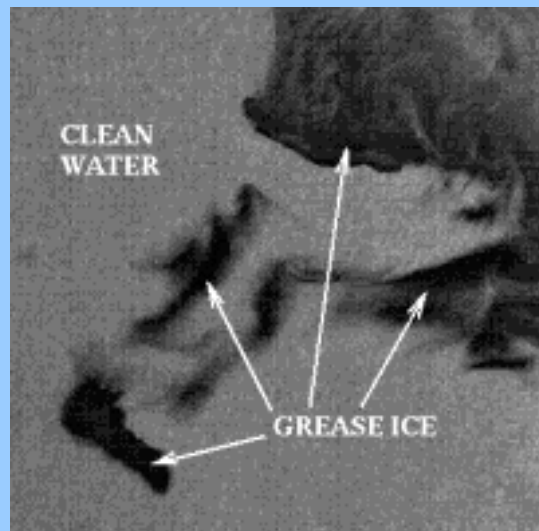


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Examples of slick types in SAR Imagery



Grease ice, low wind,
shear zone, rain cells

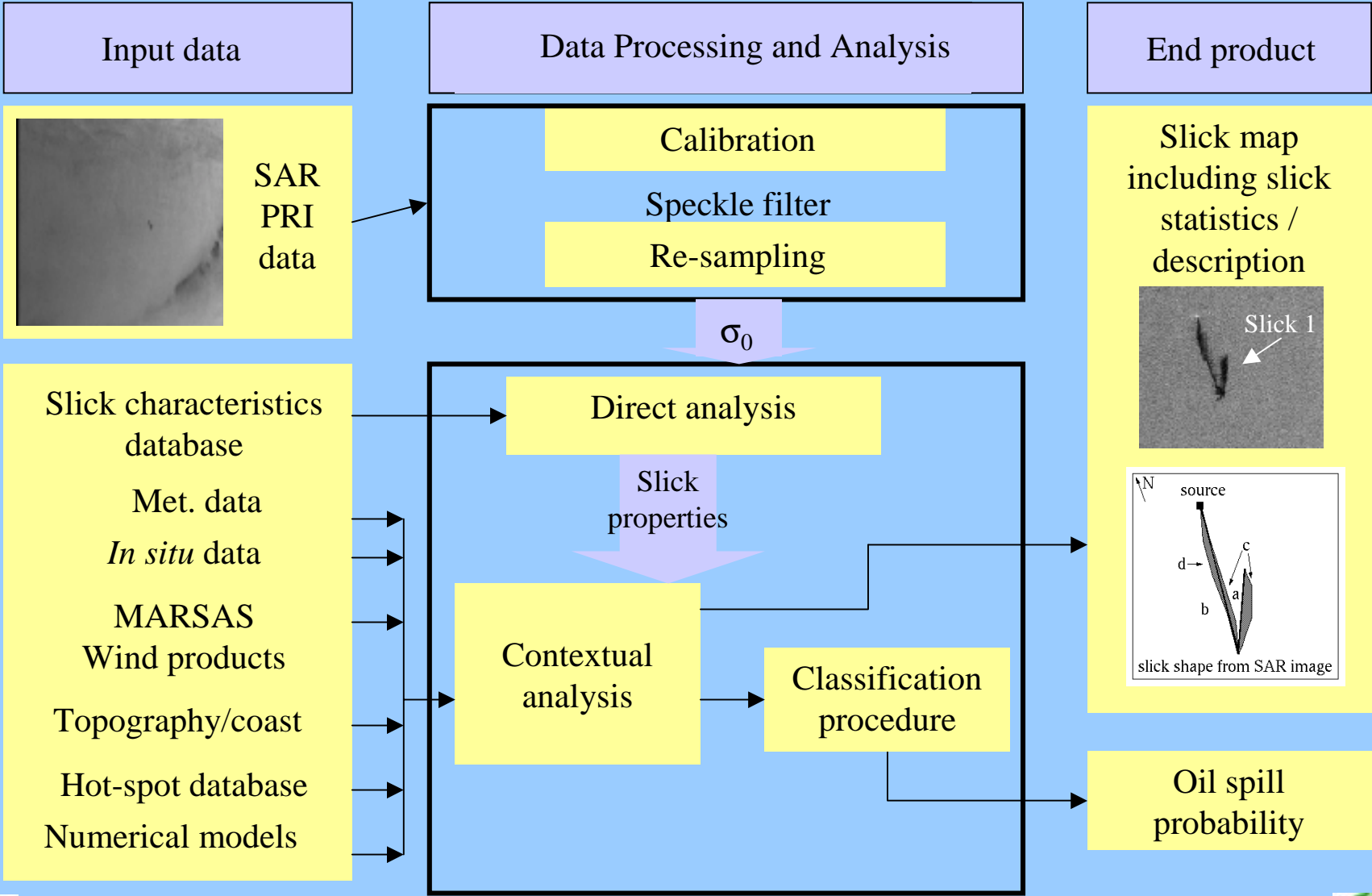


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Slick discrimination using ERS SAR PRI



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Slick discrimination using SAR Imagery

Product Summary:

Algorithm:	ERS SAR supervised slick discrimination algorithm
Input:	ERS LRI, or calibrated ERS-1/2 SAR PRI imagery.
Output:	Slick statistics, contextual analysis, slick type
Spatial resolution:	Dependent on the type of SAR image used (PRI or LRI)
Temp. resolution:	Typically every 3 days (dependent on site location)
Validation:	The algorithm has been validated in several projects and is in operational use
Accuracy:	N/A
Known limitations:	Need operator with experience in slick analysis

Producer: Nansen Environmental and Remote Sensing Center (NERSC)

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