Australian Government
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# From Analysis Ready Data to account ready data

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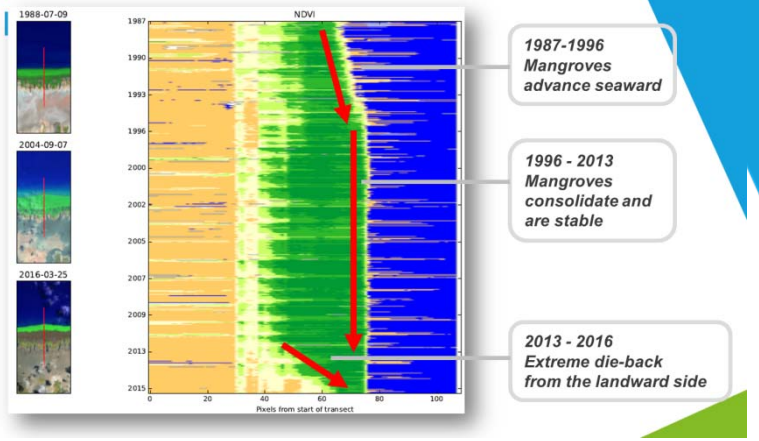
# Analysis Ready Data – some background

Observations from satellites are comprehensive, accessible, regular and high quality

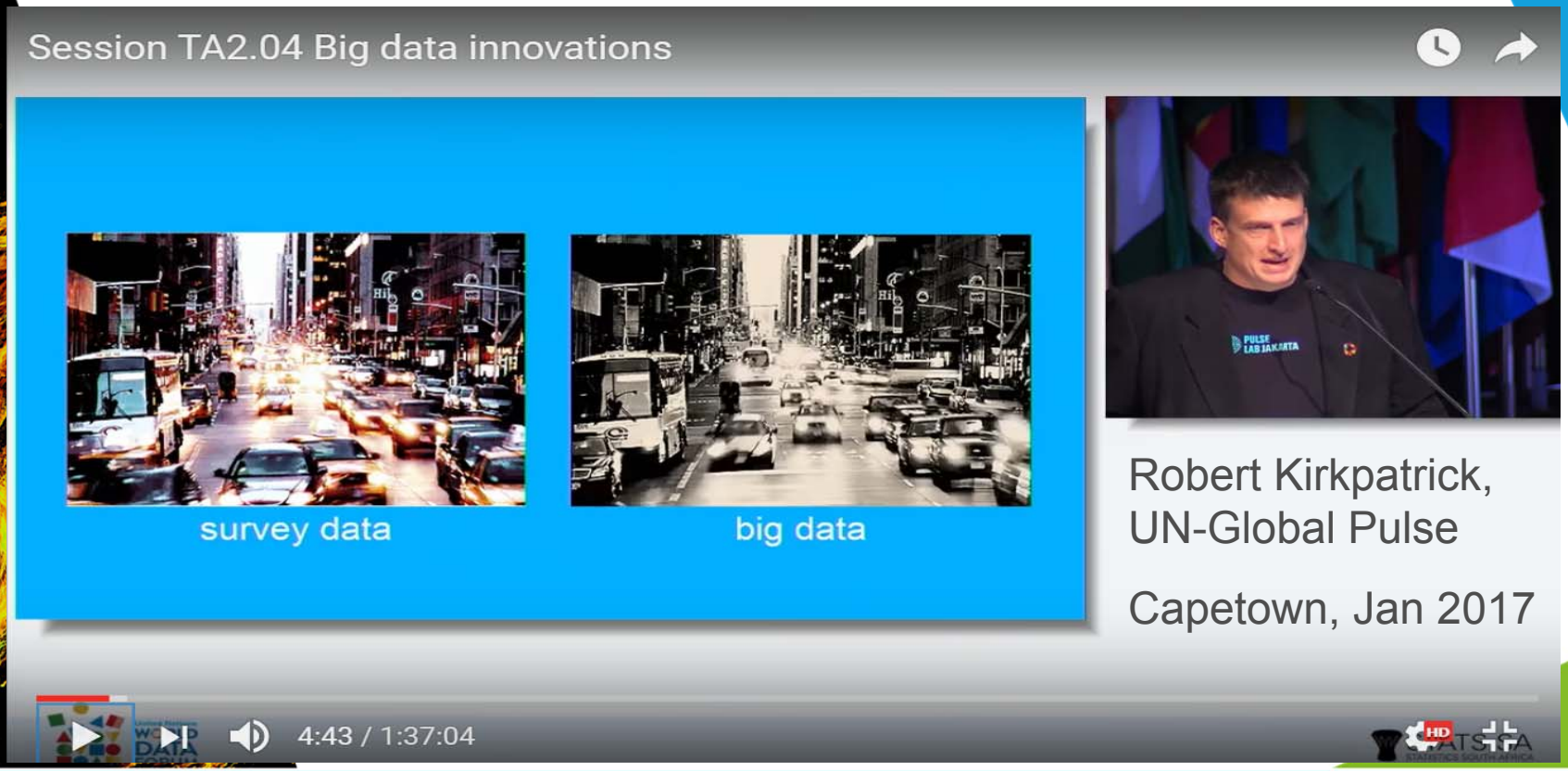
- Better capture the '*where*', and '*when*', as well as the '*what*'
- Helps with the '*why*', and with the
- 'what to do about it', and ultimately, with '*did it help*'.

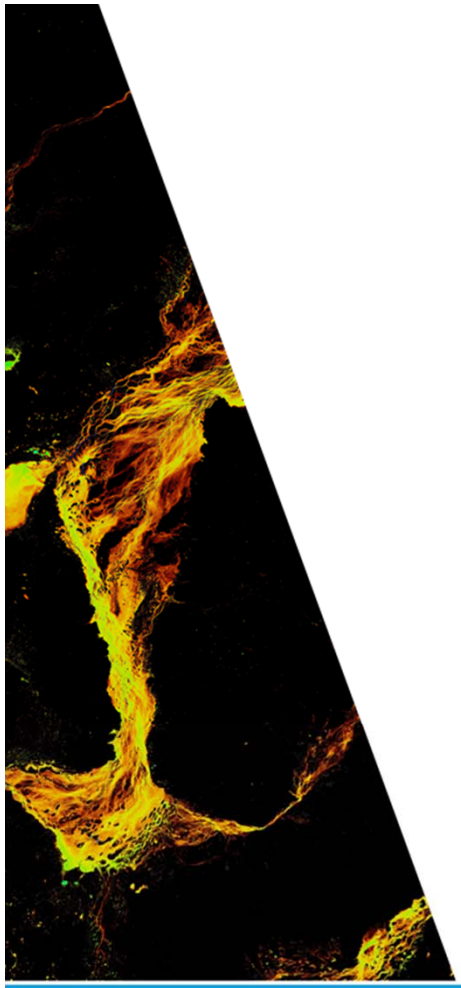



The supply chain for EO is complex, involving a lot of specialised pre-processing.

This is an impediment to data exploitation, and makes 'big data' exploitation impossible.

# Big data - “its more like a video” https://youtu.be/upC8dEYQiz0

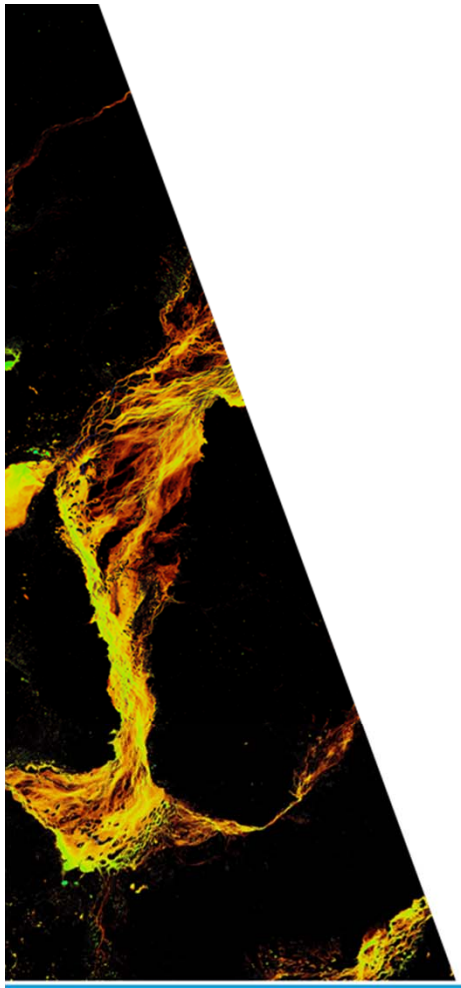




# Analysis Ready Data

CEOS Definition of Analysis Ready Data for Land (CARD4L) is user-centric:

*"… data that have been processed to a minimum set of requirements and organized into a form that allows immediate analysis with a minimum of additional user effort and interoperability both through time and with other datasets."*



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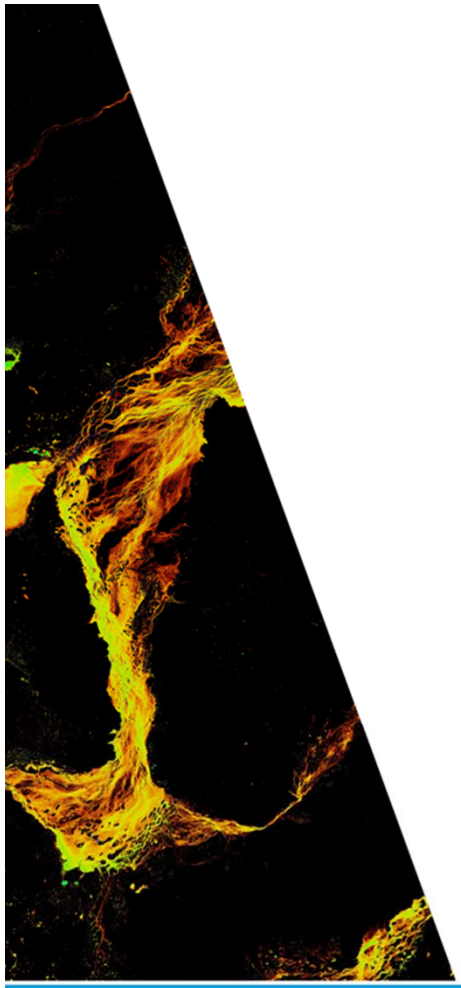
- ARD is about generic measurements of the land, and is not focussed on the instrument or platform

"CARD4L will therefore be *geophysical measurements that are comparable in space and time, with sufficient per-pixel (observation) metadata to enable users to select 'observations of interest' for their analyses.*"

- CEOS has identified a generic ARD 'framework'



# ARD ‘products’

Primary measurements that are in practice taken by the satellites that we are using

- Surface Reflectance
- Surface Temperature
- Surface Roughness

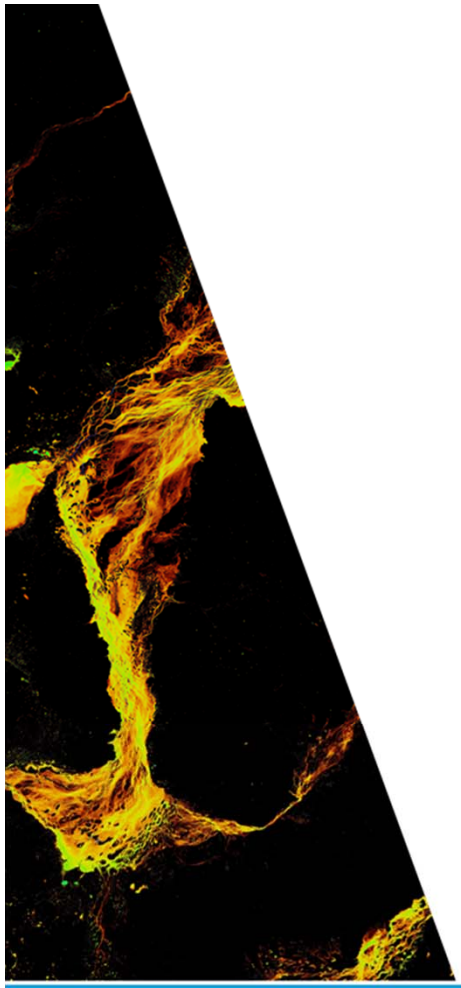
CEOS has agreed on Product Specifications for these

⇒ They become ‘standards’ / standard practice

⇒ Users can use data immediately

⇒ Users don’t need to be remote sensing experts (so much)

# ARD ‘products’



planet.

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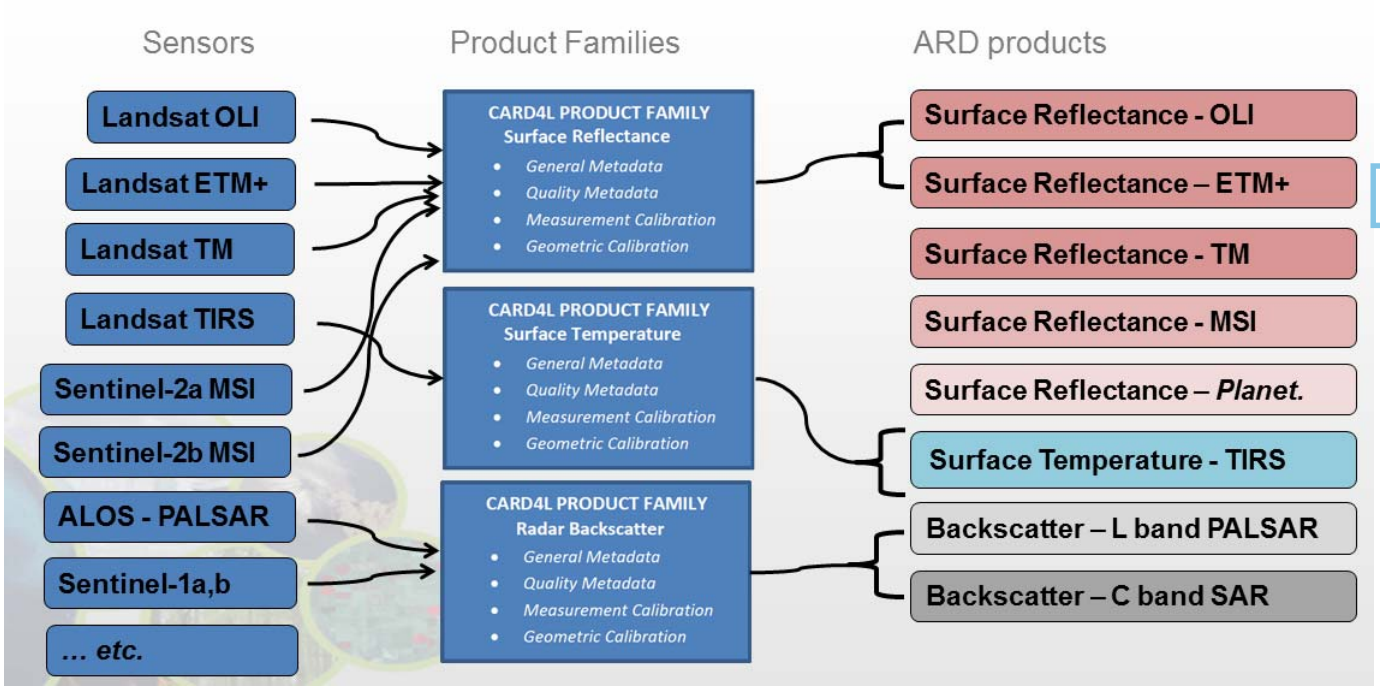
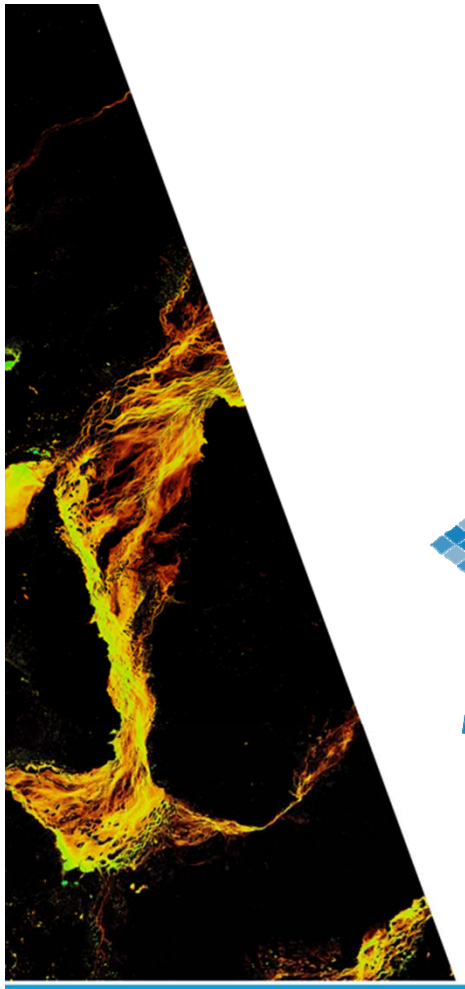
# PLANET SURFACE REFLECTANCE PRODUCT

ALAN COLLISON & NICK WILSON | OCTOBER 2017


1987

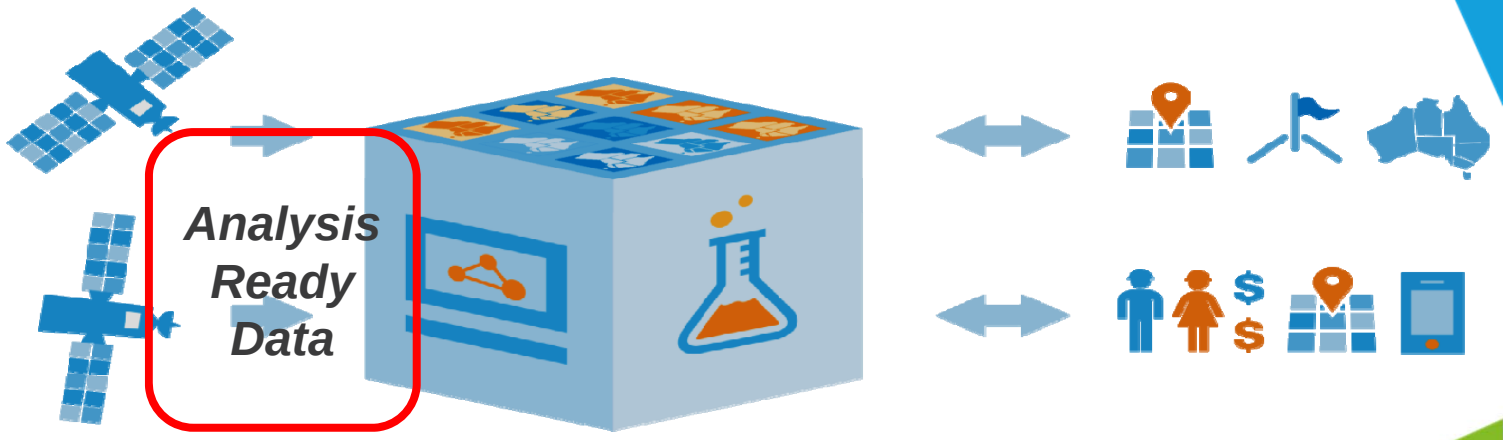
# ARD 'products'

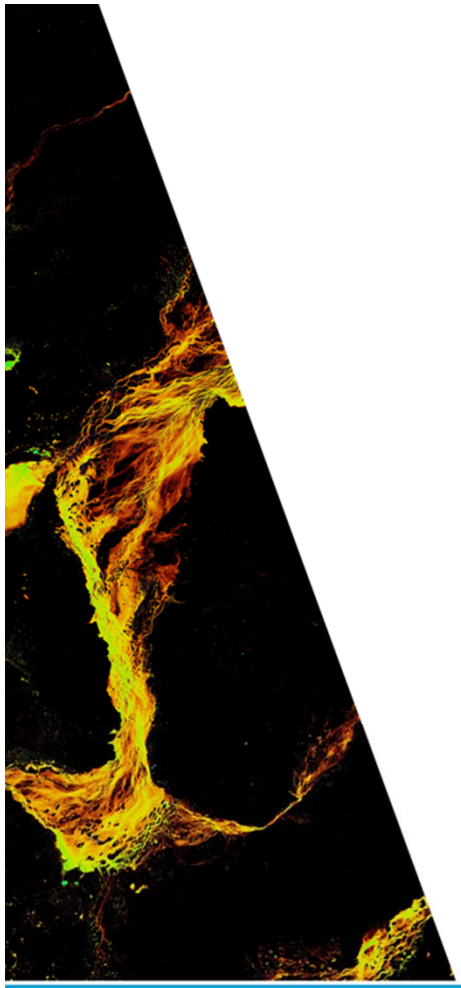




# ARD is the step *before* analysis

- Continue  Analysis Ready Data (ARD) ‘pipelines’. Government & commercial.

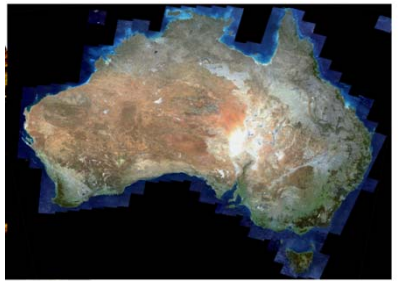




# What happens *after* ARD?

Whatever is needed in order to utilise these measurements in a useful manner:

- Statistical summaries
- Derive secondary standard mmts.
  - Surface Fractional Cover
- Combine with other measurements and models:
  - Water/Snow (WoFS/SoFS)
  - Hydrographs, etc.



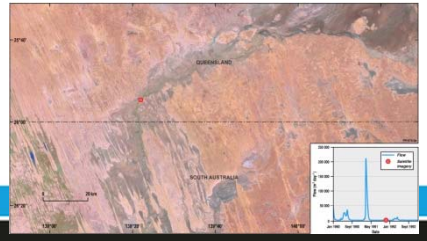
Median surface reflectance *for:*

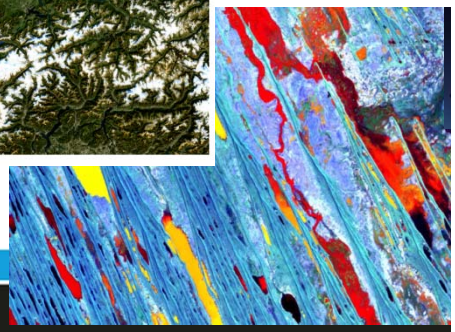
April-October

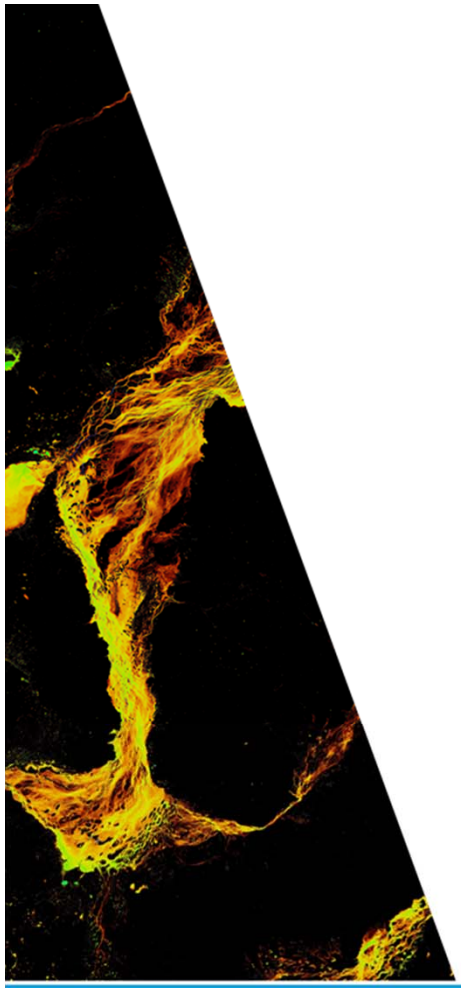
2014-15

About 1,000 satellite overpasses

About 10,000 traditional 'scenes'







# The overall flow to make use of EO data?

- Observations (from satellites)
- Measurements (analysis ready data)
- Derived measures (cover, water, snow, vegetation…)
- Combine with other measurements and models to make fit-for purpose products
- Spatial/temporal estimation / interpolation / aggregation
- Interpretation/classification/ account/report/review

**Pipe-line**

Space skills

Remote sensing skills

Applied remote sensing

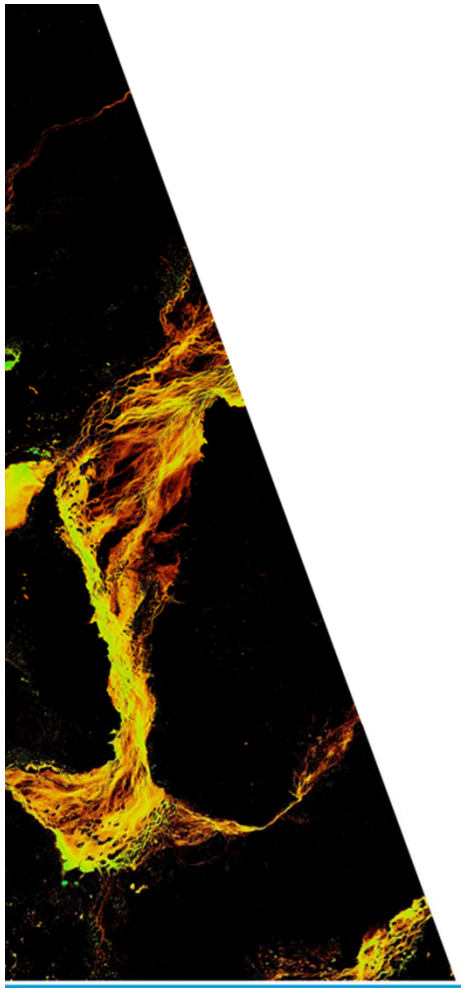
Applications and modelling

Spatial analysis

Statistics*

Accounting*

**if these are the correct terms*



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