LAND COVER CLASSIFICATION OF POLAND
PERFORMED EVERY YEAR BASED ON SENTINEL-2

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S2GLC – Sentinel-2 Global Land Cover

Phase I: 2016 – 2018
Phase II: extension 2018/2019

CBK PAN
IABG (Industrieanlagen Betriebsgesellschaft mbH)
EOXPLORE
University of Jena
Training
- based on existing LR databases
- random selection of points, separately for each tile and classification

Classification
- pixel-based classification, Random Forest
- Aggregation of single classifications
- Post-processing

Automation
- almost complete
- software prepared by CBK PAN
Phase I: 2016 – 2018
LC CLASSIFICATION – EUROPE 2017

Phase II: extension 2018/2019

CLASSIFICATION
815 Setinel-2 tiles, 15 000 images

VALIDATION
51 926 points spread randomly over 55 tiles

OA:
13 LC classes: **86.1%**
10 LC classes: **89.0%**

combined classes:
- vineyards
- cultivated and managed areas
- moors and Heathland
- herbaceous vegetation
- marshes
- peatbogs
S2GLC – Sentinel-2 Global Land Cover

https://s2glc.cbk.waw.pl/

geoportal.gov.pl
LAND COVER CLASSIFICATION OF POLAND USING S2GLC APPROACH

classification is performed every year since 2019,
a unique set of data illustrating land cover throughout the country is available free of charge (hundreds of thousands of downloads).

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validation points</td>
<td>10 597</td>
<td>11 860</td>
<td>13 080</td>
<td>17701</td>
<td>In progres</td>
</tr>
<tr>
<td>OverAll accuracy</td>
<td>87.2 %</td>
<td>79.9 %</td>
<td>84.3 %</td>
<td>85.6%</td>
<td>in progres</td>
</tr>
</tbody>
</table>
examples of land cover classification

construction of an expressway
examples of land cover classification

diging the Vistula spit

2019  2020  2021
examples of land cover classification

artificial islands in the Szczecin reservoir

2020

2021
Change Detection dedicated to S2GLC classification approach
CONCLUSION

- The results of the ESA S2GLC project are put to practical use;
- Land Cover classification of Poland is performed every year;
- Change Detection of LC will be implemented in the coming year.
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