meets

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EGU General Assembly 2019

What is OpenPlanetary ?

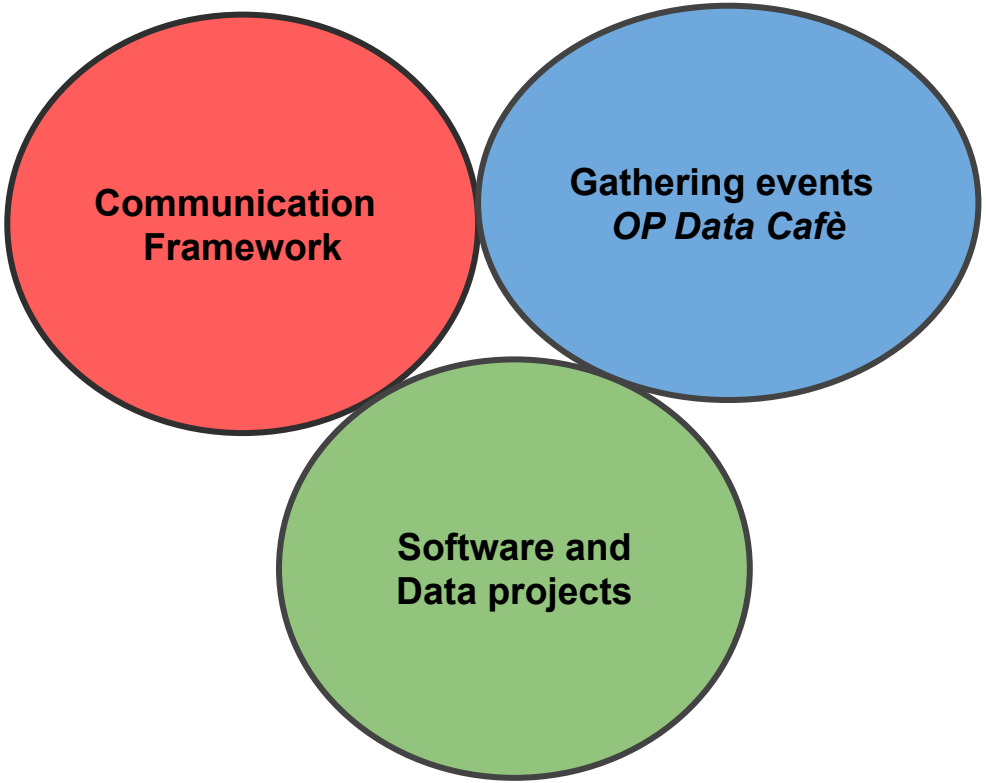
OpenPlanetary is a **non-profit organisation** which address the need of the **planetary science community** for **sharing ideas and collaborating** on common planetary **research** and **data analysis problems**, **new challenges**, and **opportunities**.

The story of a newborn

OpenPlanetary started back in **2015** from an initial participants effort to stay connected and share information related to and beyond the **ESA's first Planetary GIS Workshop**. It then continued during the **2nd USGS Planetary Data Workshop**, in Flagstaff - AZ, and aggregated more people.

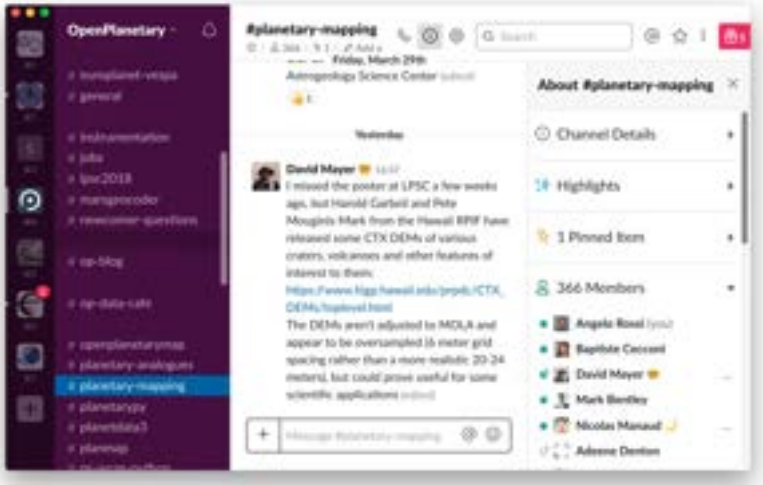
In **2018, we established as non-profit organisation** in order to provide us with a legal framework to sustainably fund our community framework, projects and activities, and better serve the planetary science community as a whole.

The OpenPlanetary components



OP Framework

- Slack
- Github
- Twitter
- Blog
- Public Forum (to be launched later this year)



OP Data Cafés

Both **junior and senior scientists** are invited to share their **best practices, tools, science use cases and issues** during informal hands-on sessions at planetary science conferences. (so far EPSC)

- Problem-solving for planetary data handling/workflows
- Short hackathon
- Q&A & gathering of requirements:
  - e.g. on version control, planetary data processing tools, geoprocessing tools.


docker
BASH

OpenPlanetaryMap

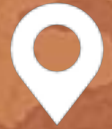
We are building the first Open Planetary Mapping and Social platform for planetary scientists, space enthusiasts, educators and storytellers to easily and collaboratively create and share location-based knowledge and maps of Mars and other planets of our Solar System.

Basemaps

Vector-based basemaps of solar system bodies that can serve as base layer for your web map interfaces and visualisations.

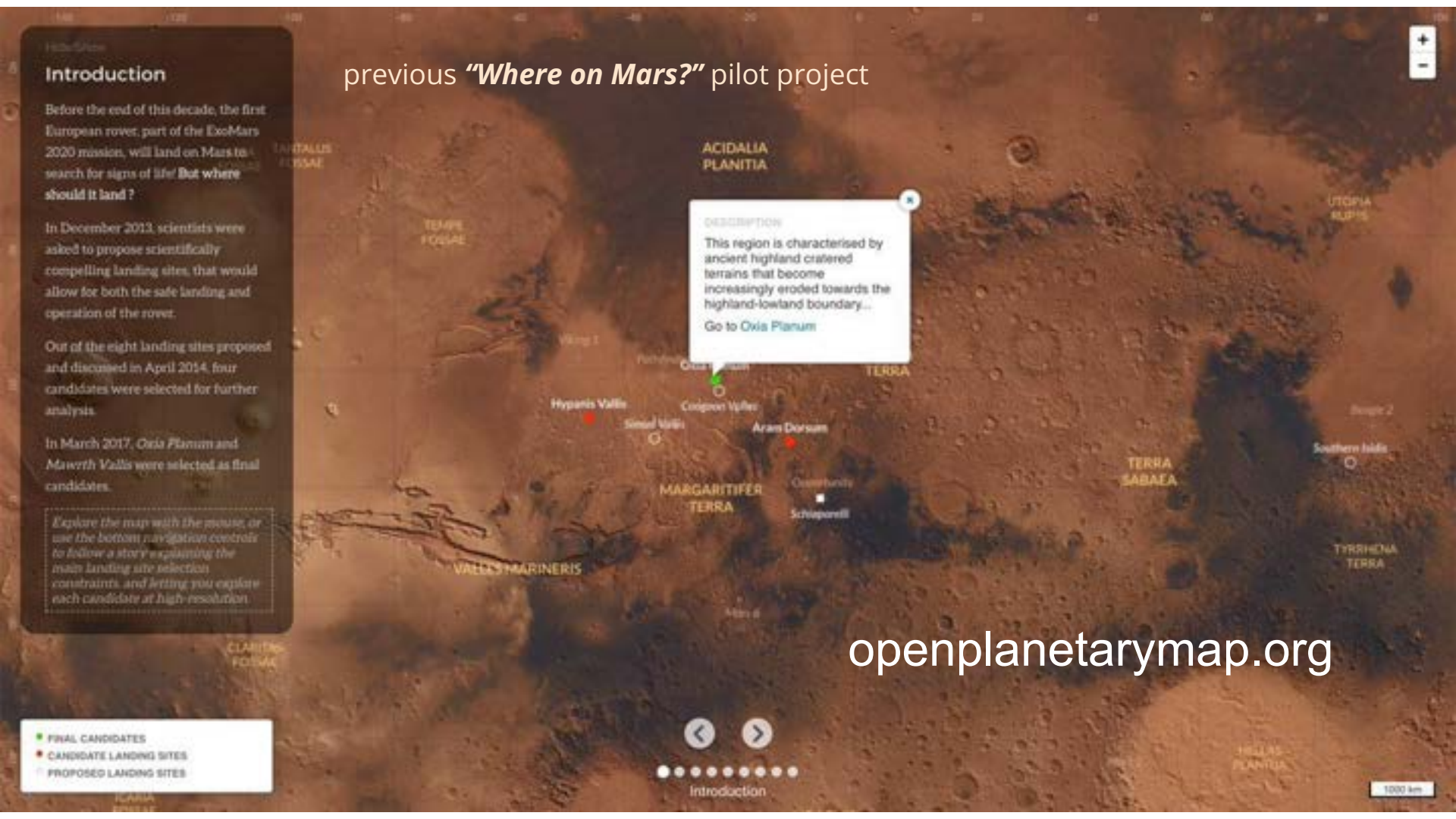
Datasets

Open repository of datasets related to planetary geography, topography, geology, weather, climate, scientific missions and discoveries, robotic and human exploration.



Places

Georefencing and geocoding web services that will make it easy to discover, search, share, discuss and crowdsource a public dataset of places on Mars and the Moon.

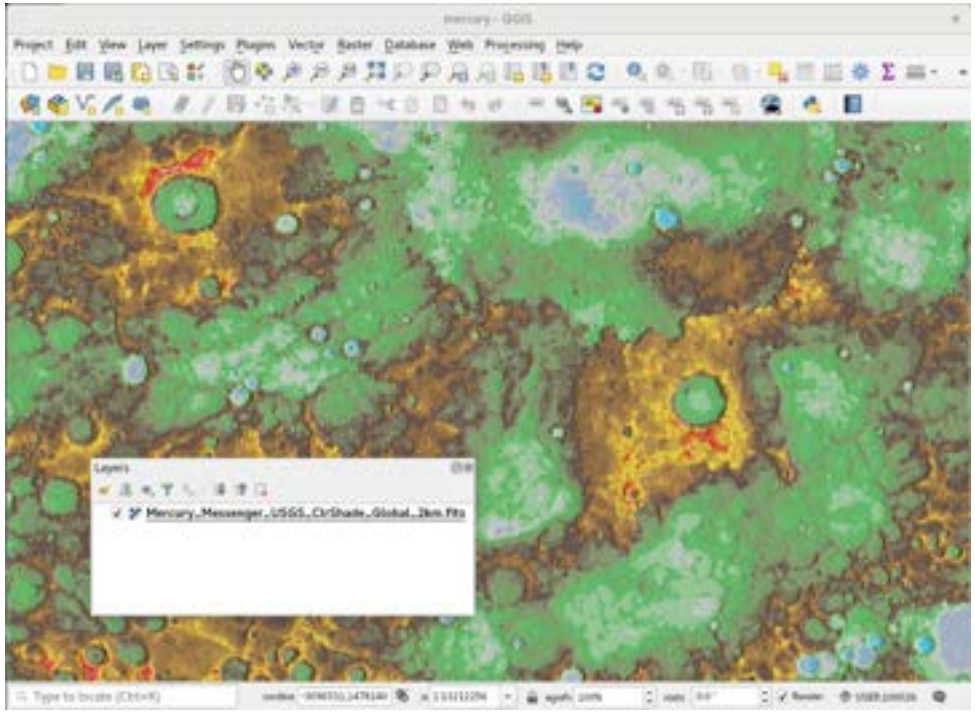

Introduction
Before the end of this decade, the first European rover, part of the ExoMars 2020 mission, will land on Mars to search for signs of life! But where should it land ?
In December 2013, scientists were asked to propose scientifically compelling landing sites, that would allow for both the safe landing and operation of the rover.
Out of the eight landing sites proposed and discussed in April 2014, four candidates were selected for further analysis.
In March 2017, Oxia Planum and Mawrth Vallis were selected as final candidates.
Explore the map with the mouse, or use the bottom navigation controls to follow a story explaining the main landing site selection constraints, and letting you explore each candidate at high-resolution.
previous "Where on Mars?" pilot project
ACIDALIA PLANITIA
TEMPE FOSSAE
UTOPIA BASIN
DESCRIPTION
This region is characterised by ancient highland cratered terrains that become increasingly eroded towards the highland-lowland boundary...
Go to Oxia Planum
TERRA
Hypanis Vallis
Aram Dorsum
MARGARITIFER TERRA
Schiaparelli
TERRA SABAEA
Southern Isidis
TYRRHENA TERRA
VALLES MARINERIS
openplanetarymap.org
FINAL CANDIDATES
CANDIDATE LANDING SITES
PROPOSED LANDING SITES
Introduction
1000 km

PlanetaryPy: Merging individual efforts

- Inspired by AstroPy - http://www.astropy.org
- Bundle planetary related packages together, e.g.
  - SpycePy - https://github.com/AndrewAnnex/SpiceyPy (mature → NASA JPL NAIFSPICE)
  - PlanetPy - https://github.com/michaelaye/planetpy
  - PlanetaryImage - https://github.com/planetarypy/planetaryimage
  - PlanetaryPy - https://github.com/planetarypy
- See the status e.g. on
  - https://github.com/USGS-Astrogeology/TSC/pull/36

OP / OSGeo and EuroPlanet RI Contact points

E.g. astro/geo interoperability: GeoFITS (Marmo et al., 2019; Minin et al., 2019)



10.1029/2018EA000388

10.1029/2018EA000405

OpenPlanetary and OSGeo

Similarities:

- tools and practices which promote ***reproducible research***: OpenScience
- curation of specific projects

Aspects specific to OP:

- data intensive / centered tools (from planetary missions' archives)

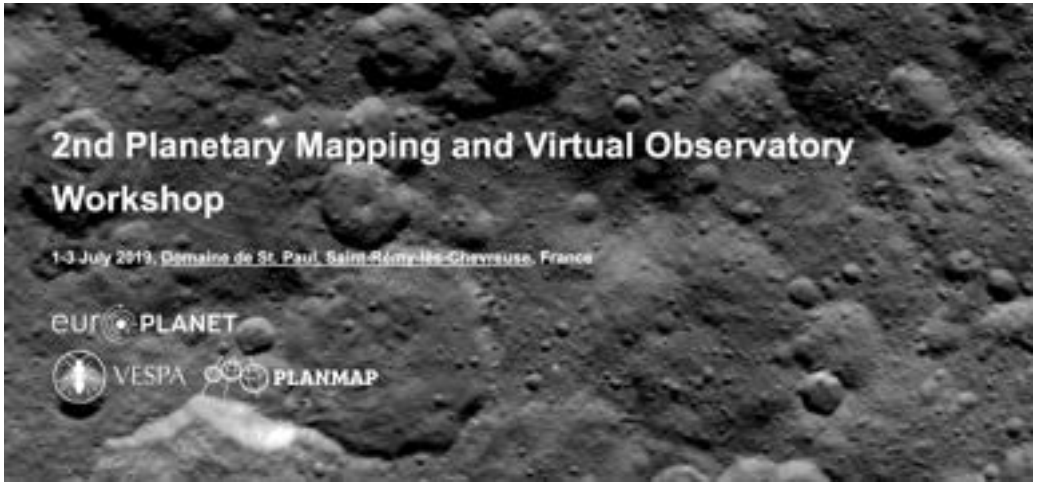
Aspects specific to OSGeo:

- software-development-intensive

Next events

2nd Planetary Mapping and Virtual Observatory Workshop - Paris - July 1-3 2019 Deadline for abstracts April 30th

European Planetary Science Congress - Geneve September 2019: OP Data Cafè



Get in touch !

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