

Venus Newsletter #7 January 2020

1. Discovery Program Mission Selections Letter needs your signature

Dear Venus community colleagues,

Although we are midway through the current Discovery program mission selections, the Venus community is already looking ahead to the next New Frontiers solicitation. Because this call will come before the next Decadal Survey is completed, it will follow the recommendations of the 2013 Decadal Survey. Both the 2003 and 2013 Decadal Surveys recommended New Frontiers missions to Venus among candidates, as seen in the attached page from the 2013 document.

As formulated in the 2003 decadal document, the primary science objectives of this Venus In Situ Explorer mission were to examine the physics and chemistry of Venus's atmosphere and crust. But several subsequent advances in instrument technologies and mission capabilities now present compelling means to achieve overarching Venus science objectives without physically being in situ on the surface. An emphasis on what science is achieved rather than on where it is done is suggested. In short, the requirement for in situ concepts as described in the current Decadal survey is nearly two decades out of date.

We now recognize that several different types of missions (e.g., orbiters at various altitudes, aerial platforms, deep probes, short- and long-lived landers), are all capable of producing crucial and transformational measurements. So VEXAG is proposing two new goals to replace the six in the current VISE priority investigation. These new goals fully encompass the measurements we list above, and are of equivalent scientific importance. They are:

1. Examine the physics and chemistry of Venus to understand its current state and evolution, including past habitability.
2. Characterize the Venus surface-atmosphere interface and how it is shaped by physical and chemical processes.

Achieving either of these goals would produce transformative science and justify an entire New Frontiers mission. Therefore, we propose that this New Frontiers priority be renamed simply Venus Explorer in recognition of the wide variety of modern mission types that can address important Venus science questions.

VEXAG seeks to collect more than 500 signatures to a petition to headquarters to revise the language before the next New Frontiers call. Please, can you add your name to our petition? It only takes a minute:

https://docs.google.com/spreadsheets/d/1pP5rfYb7xhnd3TpsZ4tpw__gqhF6attKN4VvxpcAfIM/edit?usp=sharing

Many Thanks,

Darby Dyar, VEXAG Chair, on behalf of the VEXAG Steering Committee