

Outline for the progress report on

WG: Complex Study of the Gas Hydrates and Methane fluxes in the Indo-Pacific Region (CoSGas)

1. Introduction and justification

- a. Gas hydrates are important marine phenomena which significance is growing up from year to year but still studied poorly in marine expeditions due to the lack of international cooperation.
- b. Gas hydrates were found in many areas of the Western Pacific and Indian oceans. Numerous unique gas hydrate accumulations nowadays are object of many focused studies in different countries.
- c. Nature and evolution of the gas hydrate system in the lithosphere and hydrosphere, which in respect to environmental agent is one of the most uncertain and debatable problem of the World Ocean.
- d. Fluxes of methane from sea bottom are associated with gas hydrates located below surface sediments
- e. Methane fluxes from the marginal seas plays a significant climatic and social role, but remains one of the most debated topics in ocean sciences.
- f. Initiation of a long-term collaborative international project to study gas hydrates by Western Pacific and Indian oceans community on bases of mutual understanding, scientific, and administrative collaboration would be timely and efficient.

2. Timeframe and objectives

2021-2025

The goal of the WG is a preparation of the international project to study gas hydrates and methane fluxes in the Indo-Pacific region and their impact on climate, ecosystem and socio-economic development

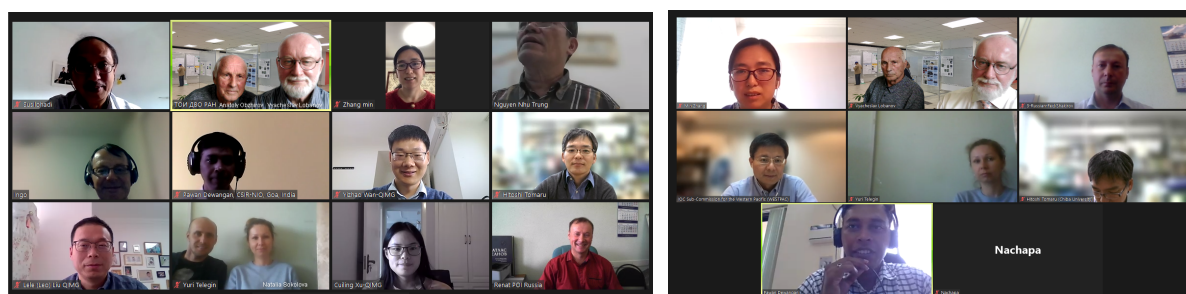
To achieve this the following outputs and outcomes are expected:

- established network of the researchers interested in gas hydrates and methane fluxes in the Indo-Pacific;
- generalization and complex interpretation of all accessible available gas fluxes, gas hydrate information from the Indo-Pacific region;
- report and inventory on the status of the gas hydrates studies and associated phenomena in the WESTPAC countries;
- raised awareness on the gas hydrates and methane problem in the Indo-Pacific region;
- preparation of a long-term international collaborative project under WESTPAC

3. Major activities, outputs & outcomes over the last intersessional period (May 2021-April 2023)

Major activities in 2021-2023:

- 1st CoSGas Meeting and introductory workshop, March 18, 2022, on-line;
- 1st CoSGas Workshop and conference “Recent advances and current challenges of gas hydrates and methane research in the Indo-Pacific region” , May 17, 18, 24, 2022, on-line.



Outputs & outcomes:

- a list of the WG members is formed (13 members and 5 observers),
- a network of the researchers interested in gas hydrates and methane fluxes in the Indo-Pacific is established,

- WG Action plan and key activities for the future are discussed
- preparation of the report on Gas-hydrates and methane in the Indo-Pacific Region is started

4. A summary of key achievements since its establishment

- establishment of a network of the researchers interested in gas hydrates and methane fluxes in the Indo-Pacific;
- beginning of generalization and complex interpretation of all accessible information on the methods, ongoing studies and results from the Indo-Pacific region.

5. Self-assessment on implementation against objectives

- delay in the beginning of activity caused by COVID and uncertainties how to arrange the 1st meeting
- good and fast start in Spring of 2022
- delay in the rest of 2022 caused by the sickness and passing away of the leading co-convenor Prof. A. Obzhurov

6. Problems encountered and recommended actions

Problems encountered

- lacking of experts from some WESTPAC countries
- weak activity caused by an absence of face-to face meetings and lack of direct and informal communication

Recommended actions

- request WESTPAC office to support in recruiting more members
- arranging a face-to-face meeting when it will be possible
- preparing a dedicated web site

7. Objectives to be achieved, if applicable, over the next intersessional period (May 2023- April 2025)

- report and inventory on the status of the gas hydrates studies and associated phenomena in the WESTPAC countries;
- raised awareness on the gas hydrates and methane problem in the Indo-Pacific region;
- preparation of a long-term international collaborative project under WESTPAC

8. Planned activities for May 2023- April 2025

[provide, in tabular form, the action items that should be included in the work plan and budget]

Program					Funding Required		Remark
	Activities	Objectives	Expected outputs/outcomes	Date and place	IOC	Other sources (i.e., from national or international)	
	1. Second workshop	Discussion on the preparation of the report. Main problems and challenges	The Report implementation plan	February, 2023, on-line	none	none	On-line
	2. Third workshop	Further discussion on the preparation of the report	Draft report	May, 2023, on-line	none	none	On-line
	3. Fourth workshop Face-to face	Discussion on WG report and new project on Gas-hydrates and methane studies under WESTPAC To develop the implementation plan	Draft project proposal	November, 2023, Bangkok, Thailand	9000	3000	travel for some members
	4. Fifth workshop	Finalization of the proposal for joint project under WESTPAC	Project proposal	March, 2024, online	none	none	On-line