

List of technical, intellectual & administrative synthesis services

In order to achieve the desired outcomes from analysis and synthesis activity—enhanced performance and productivity, trans-disciplinarity, theoretical and analytical understanding, conceptual and methodological advances—across the ecological, health and social sciences it is essential to ensure you have access to (adapted from Lynch *et al.*, 2015 and Baron *et al.*, 2017):

- (i) the time and environment for focussed thinking;
- (ii) active management of social dynamics to promote the development of teams;
- (iii) support and advice to facilitate data and information sharing;
- (iv) cutting edge computing, data management and informatics support;
- (v) organisational flexibility to respond to emerging needs;
- (vi) support for students, post-doctoral, and sabbatical fellows.

Service type	Service specification
(i) Time and environment for focused thinking ²² .	Dedicated time (24/7) and space away from daily distractions and responsibilities within an appropriately supported environment.
(ii) Active management of social dynamics to promote the development of teams.	Experienced staff who can work with the group to bridge discontinuities between group members, ensuring group ownership of the problem and the common goal, and aid in the development of team responsibility.
(iii) Support and advice to facilitate data and information sharing	Experienced staff who can provide support and advice for sharing (and acquiring) data and information not only within the group but with others outside the group who may have relevant information.
(iv) Cutting edge computing, data management and informatics support	Staff who can provide advice and assistance for aspects of the data workflow (data acquisition, storage, synthesis, analysis and publication of both quantitative and qualitative data), such as access to large High-Performance Computing facilities, licensing and publication advice.
(v) Organizational flexibility to respond to emerging needs	Support staff with broad expertise and understanding of the evolving needs of the teams as they work to address the trans-disciplinary questions posed.
(vi) Support for post-doctoral fellows.	A program of support for postdoctoral fellows, which will aid their retention, improve their performance, and develop career paths.

References presenting the importance of this type of support:

Baron et al. (2017) Synthesis centres as critical research infrastructure. *BioScience* 67(8): 750-59. doi: 10.1093/biosci/bix053

Lynch et al. (2015) Transdisciplinary synthesis for ecosystem science, policy and management: the Australian experience, *Science for the Total Environment*. 534: 173-184.

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²² This service has to be requested by all groups. All groups have to plan meetings in synthesis centers (groups are expected to meet (i) once or twice every year, and (ii) for 4 to 5 full working days up to two weeks each time)